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An Empirical Study of Group Psychology and its Economic Effects on the Restaurant Gratuity Market

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Abstract

Tipping is a mysterious phenomenon, being one of the few economic transactions which happens voluntarily, it globally takes different forms due to international and cultural influences. This paper combines an extensive literature study in the fields of economics and psychology, with thorough empirical research on tipping behaviour, to analyse this phenomenon. Investigation into the domains of conformity, herding behaviour, information asymmetry and reciprocity, allow for a broad perspective on the research that is done on tipping behaviour. Together with the various theoretical domains, tipping behaviour is empirically investigated in this paper using self-collected questionnaire data from 1000 customers at a specific Dutch restaurant. While the theoretical literature on tipping behaviour predicts that 'group psychology' has a strong effect on tipping behaviour, the results of this paper suggest that the amount of tipping by an individual is not significantly influenced by group membership. However, the level of service, the total bill, and the ability to declare the bill, are all significantly related to the amount of tipping. The results of this paper also depict that the Dutch customers base their tip to a larger extent on the actual perceived service than on a specific tipping norm. This suggests that the level of service is much more important in countries which are not restricted by fixed tipping norms, than in nations where this is the case. Hence, the individuals tipping behaviour is strongly influenced by culture as well as by socially accepted norms and traditions.

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Contents

1. General Introduction

Conformity is a well-known psychological phenomenon that describes how it is in the nature of individuals, to follow others when they feel to have less information about a certain topic. It was Solomon Asch (1951) that investigated how individuals were influenced by others around them. Asch (1951), found that people are more prone to herd the behaviour of others, in situations which are ambiguous, with relatively little guidelines on what the appropriate cause of action is. In such situations, individuals adapt to the group norms and standards, in order to provide the socially accepted behaviour. The theory of diffusion of responsibility, illustrates these influences of group effects on individual behaviour (Freeman et al., 1975). The theory states that with less responsibility for personal actions and less accountability, an individual surpasses intrinsic preferences for those of the group (Freeman et al., 1975). This means that people act on behalf of the group and hence have a different mind-set with respect to factors such as guilt and sociability. This can, for example, be observed with general group behaviour within criminal gangs and with the behaviour of football hooligans (Forsyth, 1990). Here well respected individuals, change their norms and values to suit those of the group. Hence their personality is substantially different around these group members, relative to situations when they act on their individual norms and values.

The scarcity of information, which enhances conformity behaviour, can be due to the fact that an individual is bound to the information that is available. Kahneman (2003) realised that one does not have perfect information about everything that happens and that it is therefore hard to be 100% certain about all the decisions that one makes. To become 100% informed about a particular decision, would simply consume too much time and effort. This drives individuals to use techniques which simplify problem solving (Ariely, 2008). These techniques are called heuristics and form the basis of many of the choices made in the global economy. Heuristics are used in a wide spectrum of problem solving, they for instance, allow individuals to draw the conclusion that a man in a white lab coat, can be trusted over a man in torn jeans and lead us to blindly follow someone who has proven to be good in a specific task.

The group effects which lead to conformity and herding behaviour, may also play a significant role in other areas of the economy. One of these areas is the restaurant tipping market (Section 2.). Within the tipping market, Cialdini (2009) found that the influence of information asymmetry is especially profound in group settings. Here the social impact of the group, may induce individuals to adapt their behaviour to the general accepted norms and values of the ones around them (Azar, 2003). The tendency for one to adapt one's intrinsic preferences, due to the influence of others, all depends on the information that is available (Asch, 1951) and on the status of the other group members (Bikhchandani et al., 1998). If this information availability is minimal, individuals will be forced to follow heuristics and signals that are given by the more influential group members. Apart from the group effects, the

receiving of good service may also influence the tipping strategy of an individual (Azar, 2009). Therefore, important questions within this thesis are: whether group effects always lead to the highest tipping strategy and if a high service level is always answered with a high tip.

Conformity, herding behaviour, information asymmetry and reciprocity, are thus closely linked to the group effects that are present in the tipping market. In this master thesis, these group effects are empirically analysed by research on the tipping behaviour in a specific restaurant. The resulting conclusions on the gratuity behaviour of individuals, will be based on the data of 1000 questionnaires, collected at this restaurant during a time span of three months. With the use of these questionnaires, the socio-economic characteristics and spending patterns of groups, with respect to the general tipping behaviour, will be analysed. Using these results, a comparison will be made with the general literature on group behaviour and also with the tipping norms that exist around the world. For instance, the United States implements a very different tipping norm, compared to the Netherlands. Where in the United States, tips are part of the waiter's salary and hence the waiters may have a very different objective when serving their customers.

This thesis will use the literature background, the results from the 1000 questionnaires and the resulting analysis, to formulate a conclusion on how group tipping behaviour, reflects on general economic and psychological theory. This paper hopes to add to the results that have already been found in this area and to provide a solid framework for future research.

2. Introduction to Tipping

Tipping is a phenomenon that goes back a long way and has always been an interesting type of economic behaviour due to its voluntary nature. Before the actual term 'TIP' was introduced, the custom of giving money was already in use. The concept of tipping was initially performed by feudal lords in the Middle Ages. These lords would toss handfuls of coins to beggars, in order to purchase a safe passage (Boyes, Sowell & Stewart Mounts Jr., 2004). In the early 16th century, German craftsman already asked for 'Trinkgeld' (drink money) for their apprentices. In the 18th century, the word 'tip' was finally introduced, as an abbreviation for: 'To Insure Promptitude'. This abbreviation was written, among other things, on the labels of boxes in English coffee houses (Wang, 2010). A contribution in such a box, would allow you to profit from efficient and quick services. In English pubs, customers showed their gratitude by writing on a piece of paper "To Insure Promptitude" and handing this, together with some coins, over to the waiter (Lynn & Latané, 1984).

Tipping initially made its appearance in the richer segment within Europe, where slaves and servants would be paid for their services. It was only in the late 1800's, that tipping spread to the United States, where before this time, there was no such thing as a servant class. The first Americans to use tipping, were the American's who had travelled to Europe and were keen to show that they were familiar with

the abroad customs. In addition to these wealthy Americans, the globalization of tipping was also largely the responsibility of slaves and unemployed labour. These last two groups were transported to various countries around the world, and were accustomed to receiving tips from their exploiters. Due to tipping being used in the context of slavery, it quickly received a negative image and it therefore did not take long before it was subject to political debate. This became so serious, that within a short time-frame, tipping was illegal in seven American states between 1909 and 1926. The anti-tipping laws were withdrawn in 1926, when tipping became an accepted norm, which was used broadly within the economy. Today, with many employers paying a wage which could only be adequate if filled with tips, tipping has amounted to 42 billion dollars within the United States (Azar, 2003).

Tipping is a widely used tool for evaluating quality, providing an incentive for workers to deliver good service and helping employers monitor their workers. Tipping has evolved from being a sign of gratefulness, to becoming a norm which is socially accepted in many global economies. While many restaurants and hotels incorporate a tipping fee into their prices, the venues that do not do this, still receive tips. This shows that people are internally incentivised to pay for the services that they receive. Reasons for this are: the embarrassment an individual feels if no tip is given, the ensuring of better future service, feelings of empathy and finally, the desire of people to conform to the social norms (Azar, 2003). According to Conlin, Lynn and O'Donoghue (2003), tipping is: 'the most effective way of providing service workers with rewards or incentives that enhance their performance'. To summarize, tipping incorporates many factors such as labour economics, social economics and behavioural economics, which will all be brought together in the rest of this paper.

2.1. Economics of Tipping

Within economics, efficiency and cost minimization play a central role. According to Lynn (2006), tipping has five main economic functions. These five functions are the: reduction of monitoring costs, attraction of good waiters to the service industry, motivation of server effort, evasion of taxes and increasing of profits via price discrimination (Lynn, 2006). These factors will be shortly discussed in the below paragraphs.

Tipping is an ideal way to monitor the service employees. Without paying for costly monitoring equipment, the height of the tip that is extracted, reflects the quality of the given service. Here the employer saves on transaction costs and allows the employee to enjoy more freedom when performing the job. Furthermore, tipping acts as a selection device. The employer can, on the basis of the tips, determine which waiters are good and which have a weaker performance. This sole selection aspect of tips, already means that better waiters are attracted to this profession. Hence, problems such as adverse selection, are reduced for the employer. On the other hand, in countries such as the United States, where tipping is sometimes done irrelevant of the given service, this monitoring system may be

inadequate (Section 2.2.). Nonetheless, the waiters are induced to provide more effort when delivering their service, due to the tips. Alongside this, a tip can also allow for the evasion of costly arguments about the delivered service, as this is usually already reflected in the financial amount that is given (Lynn, 2006).

Tipping also acts as a cost-minimization method for employers. By allowing the wage of employees to be largely dependent on the amount of tip given, the employer cuts his level of tax payments (Bodvarsson & Gibson, 1994). The fact that tips are frequently not declared (around 50% of tips) could also explain why many U.S. restaurants base a large part of a waiters salary on the received gratuities (Lynn, 2006). Finally, tipping may also allow for price discrimination. With a tip being a voluntary payment, customers who have less financial means, can leave a lower tip than customers with a more stable financial situation. Despite this, Lynn (2006) showed that income is negatively related to the level of tipping. The test done by Lynn (2006) showed a correlation of: $R = -.49$ ($p < .004$**) to highlight this.

2.2. Global Tipping Culture

When travelling abroad, the norms on tipping within a country could be a potential reason for confusion. Countries across the globe differ significantly on how they observe tipping. In the tipping guide of French and Butler (2011), an outline is given of the differences between the international tipping expectations. Below follows an outline of the main differences between cross-border tipping policies.

Table 1: Cross-border tipping differences

Country	**Tipping norm**
Africa	5% if no service charge (usually in loose coins)
Mainly in Asia	3 % in major cities
Japan & Korea	No tipping
Australia & New Zeeland	10% in fine restaurants only, otherwise no tip
United States of America, Canada & Mexico	15-20%
South America	10 - 15%
Mainly in Europe	10% if no service charge
France, Italy, Spain, Greece & Dominican Rep.	10% in addition to service charge
Argentina & Vietnam	Tipping is illegal

Sources: French & Butler (2011) & Lynn (2006)

As table 1 depicts, there exists a vast difference between the international tipping norms. Where tipping is fairly common in the United States and Europe, it may result in complications in Asia. In

Japan, for instance, a tip may result in the waiter chasing you in order to give the money back. Here tipping is not part of the culture and is related more to bribing. Hence, tipping would be seen as rude. Nonetheless, the awareness on tipping is becoming more pronounced around the world. In Australia and New Zeeland, for instance, tipping was seen as an unwelcome imported custom. These days, however, it is increasingly observed in the larger cities. In other parts of the world, tipping is much more common. In the south of Europe, for example, it is common to tip on top of the already included service charge. Where in France, the national law requires a tipping charge to be included in the bill (French & Butler, 2011).

Whilst tipping is a global phenomenon, giving the legal tip is sometimes much more important in one country than in another. This is certainly the case for the United States of America, where a tip is sometimes responsible for the complete salary of a service worker. The reasoning behind this, being that taxes on gratuities can sometimes be evaded with tips, whilst this is not as easy with a regular wage. Hence, tipping is a cheaper method for employers to pay their employees (Lynn, 2006). Furthermore, the fact that tips are part of a waiters salary, means that a tip is not only seen as the rent that needs to be paid for sitting at a table or the amount that is given for the quality of service and food, but also as an income measure for the waiters that are serving you (Freeman, Walker, Borden, & Latané, 1975; May, 1978). In The Netherlands however, waiters earn at least a minimum wage and the tip is thus seen as a fringe benefit. This means that customers may be more critical with respect to the tips that they give and that a 15% tip may not be a standard that is always implemented. Therefore, the results of the studies done in the United States by Freeman et al. (1975), as well as those of Lynn & Latané (1984), where the average level tipped was 15,02% and 15,06% respectively, cannot be generalized as a global result.

The differences between these parts of the world, can have many explanations. One is that the customers in the different areas of the world, have a different level of awareness on the social tipping norms (Lynn, 2006). Such a level of awareness, could increase with more educated and wealthy individuals, in contrast to those who are of lower socio-economic class. Nonetheless, this reasoning still does not explain why tipping in Japan is so uncommon.

Another explanation, is that consumers place different values on the consequences and functions of tipping, in different countries. For example, the differences between countries may be attributed to the consumers valuing masculine traits, such as: achievement, materialism and traditionalism, over feminine traits such as: sociability. The rewarding of service could, in this case, be seen as important for ones status within the group. Tipping is hence, more common in countries where masculinity is valued over femininity. Along with this, tipping may allow for an increased feeling of power over the service personnel, by the consumers (Lynn, 2006). This increased feeling of power, means that tipping will be less prevalent in countries where the inhabitants have a lower tolerance for authority and status

differences among people (Lynn, Zinkhan and Harris (1993). Along with power differences, tipping also allows for an increased distance between the worker and the consumer. The reason for this difference, is that the worker is dependent on the good willingness of the consumer, making the service worker more vulnerable in this respect. Hence, tipping reduces social relationships and will accordingly be less common, in countries where residents place a higher value on social relationships, relative to economic efficiency. Finally, tipping allows for consumers to have more control over the financial situation of service workers. This leads to tipping being more common in countries with intolerance for uncertainty (Lynn, Zinkhan and Harris (1993). Lynn, Zinkhan and Harris (1993) as well as Lynn (2006), furthermore showed that tipping is more prevalent in countries that are more communistically, than individualistically structured.

The differences between the Japanese tipping culture and that of the U.S., can therefore be explained by the cultural values which are placed on various traits. Where status as well as power differences are very important in Japan, people in the U.S. are of the belief that everyone starts at the same level and everyone has the potential to achieve great power. In other words, to achieve the 'American Dream' (Lynn, 2006). In order to investigate these differences and the role of global tipping, the following hypothesis will be investigated in the research of this paper:

Hypothesis 1. *The social norm of a 15% tip is followed to a smaller extent by the Dutch, relative to foreigners.*

3. Theoretical Background

To design a solid framework for the later discussion of the research results, this paper will first introduce the relevant theoretical background. The forces that are at work when tips are given from within a group, can be explained by an interesting variety of economic and psychological theories. Where an individual, for example, may base his or her choice purely on the provided service and food when sitting alone, the situation may be totally different when sitting together with other individuals. This section will therefore analyse the relevant theories on conformity, herding behaviour, information asymmetry and reciprocity to form a strong basis for the analysis of the empirical research.

3.1. Conformity

Conformity is the name given to the process of adapting private ideas and actions, to those of the group. Hence, when an individual conforms, the individuals' mind-set is changed to suit what the group thinks and feels (Asch, 1951). The change in an individual's mind-set can happen permanently or temporarily. In the case of conformity, there is a long lasting adaption of ones mind-set, whilst in the case of compliance, only a short-term adaption occurs (Forsyth, 1990). An individual complies if he or she is under pressure by the rest of the group, to act in a way that is in conflict with the behaviour what the individual wishes to portray (Forsyth, 1990). According to Bovard (1951), the degree of conformity to a certain norm which has been adapted by a group, is the function of three variables. These variables are: the types of personality that exist between the members of a group, the outline of the situation and the way that the internal relationships are defined. Here the 'situation' relates to the context of the task that is being performed by the agents. Within the empirical analysis of this thesis, the outline of the situation variable, is the tipping behaviour within a specific restaurant. The other two variables which are highlighted by Bovard (1951), will be discussed in the next two sections. The first section, will provide a background on the conformity between different types of personality and internal relationships. The second section, will formulate the effects that conformity has on intrinsic and group norms, in the restaurant gratuity market..

3.1.1. Personality and Internal Relationships

The personality differences between individuals, play a significant role in who will be followed by the rest of the group, when a tipping decision is made. Asch (1951) investigated the relationship between individual and group preferences, by conducting an experiment in an artificial group setting. This setting included one experimental subject, who was unconsciously influenced by the choices of seven individuals acting to also be experimental subjects. Asch (1951), describes in his paper how this setting, provoked 'a relation of radical conflict with all the other members of the group'. Asch (1951), found that information played an important role with respect to conformity. He observed in his experiment, that more informed individuals seemed to conform to a lesser extent than uninformed

individuals. A striking result was that the individuals who falsely signalled to have a lot of information, were sometimes blindly followed. These results were further supported by Duetsch & Gerard (1954), who found that the mere presence of a group, can already significantly change the behaviour of individuals.

The results from the above experiments, both highlight that the level of conformity, depended heavily on the personalities of individuals (Asch, 1951; Duetsch & Gerard, 1954). The experiments showed that more motivated individuals, were more prone to rely on their own judgment when making a decision. Less motivated individuals, on the other hand, seemed to conform relatively more. Gender also played a large role with conformity. Here men were more prone to rely on their own judgment when more masculine topics were presented. Whilst women, conformed less on feminine topics. With respect to gender differences in tipping behaviour, Boyes et al. (2004), additionally find that men are more prone to social pressure with respect to tipping, than is the case with women. Whaley (2011) indicates that the social pressure to conform, gives rise to a positive level of tipping, as the group members are afraid to be singled out when giving a lower tip. Stillman and Hensley (1980), confirm these results with their research on this phenomenon, by finding that all male groups tip more than all female groups.

The effect of gender and conformity on the level of tipping, will be tested by the following hypothesis:

Hypothesis 2. *All male groups give larger tips than all female groups.*

3.1.2. Intrinsic and Group Norms

As was highlighted in the previous section, individuals have the tendency to conform to others who seem to have more information. The intrinsic preferences of the individual, will play an important role in deciding if the individual conforms to large normative groups or to smaller subcultures (Bernheim, 1994). Bernheim (1994), states that these intrinsic preferences, can either be different to those of the general public (heterogeneous) or similar to the perceptions of the majority of the group members (homogenous) . In this respect, there are two types of norms, namely: 'transitory norms' and 'persistent norms' (Bernheim, 1994). The 'transitory norms', are norms which are obeyed by relatively few individuals within a population. The 'persistent norms', on the other hand, are norms which are followed by a large percentage of the population. The 'persistent norms', hence, are linked to more homogenous preferences, whilst heterogeneous preferences correlate with 'transitory norms'. The 'persistent norms' are usually supported by pooling equilibria, where a change in preferences will only alter the social norm with strong coordinated equilibrium shifts. Within these pooling equilibria, agents are driven to conform to certain norms in order to maintain a certain status. Conforming to this central group equilibrium, allows for greater intrinsic utility than what is obtained by support for one's individual preferences. The status that an individual achieves when being part of a group, is dependent

on the public perceptions of an individual's believes about a certain norm. As this cannot be directly observed, a small change in the agents' behaviour, will already lead for the group to deduce that the individuals' status is not genuine and hence will lead to significant damage for the individual's popularity within the group (Bernheim, 1994). Individuals with strong intrinsic preferences will, nonetheless, still choose to deviate. For these agents, the penalties that they receive for leaving the group, are lower than the intrinsic utility that they experience. With 'transitory norms', the equilibrium is subject to constant change and a small deviation in preferences, will already shift the group norm. Here the group is composed of many more subsets and the perceptions of the social norm are much more decentralized within the social structure. The social structure and possible deviations from this, will have a strong influence on the group effects of tipping. Where individuals may choose to obey the group norm, or to risk expulsion by following their own intrinsic preferences. This dilemma, will be further explained in the next two sections, where the social impact of joining a group is analysed.

3.1.3. Diffusion of Responsibility

The theory of diffusion of responsibility, is a theory which tries to explain why individuals act in a certain way, when finding themselves to be in public situations. Diffusion of responsibility consists of the notion that the responsibility within a particular situation, is shared between the group members that are present (Freeman et al., 1975). Accordingly, one feels less personal responsibility to take a given action and may mask behind the group decision. Along with the feeling of reduced responsibility, individuals also tend to feel less accountability for the choices that are made and the actions that are taken. These feelings of reduced accountability may, for example, be dominant if the group decides to not give a tip. The resulting guilt and shame that may be experienced from this choice, is much greater if one is in a small group or alone, than if one is backed by many others. Diffusion of responsibility is thus a tool to benefit from the groups success and to experience a feeling of protection when the situation is more difficult. However, the risk still remains that the sharing of responsibility, does not lead to an adequate and efficient solution. Therefore, a more optimal solution would be for one group member, to take the sole responsibility for the particular decision (Freeman et al., 1975). Because if no member enjoys full responsibility, no member will be inclined to perform accordingly.

The effect that diffusion of responsibility has on tips, is analysed by various authors. Freeman et al. (1975), for example, find that there is an inverse relationship between group size and individual tip height. Conlin, Lynn & O'Donoghue (2003), on the other hand, find a coefficient of 1.763 between the variables of group size and tip height per person. This conveys that with every additional group member, the tip height increases each person's tip by 1.763 points. The finding of Conlin, Lynn & O'Donoghue (2003) is, additionally, supported by Bodvarson & Gibson, 1997. Whaley (2011), find

that tipping and group size are positively related, due to social pressure. These findings are consistent with the studies of Lin (2007) and Azar (2006; 2007).

The 'drive theory' posed by Zajonc in 1965 (Forsyth, 1990), also supports the idea that a larger group can have a positive effect on the tip height. This theory claims that groups can facilitate the outcome of a dominant response. If, for instance, tipping is the dominant response, this will be facilitated by the group. However, when responsibility is shared, the response that is facilitated may be less representative for the preferences of each individual.

Another social impact theory which is of significant influence in the context of a group, is the mere apprehension theory (Hogg & Vaughan, 2002). This theory holds that an individual can be influenced by the mere idea that he or she is being evaluated. This effect could also be seen in the conformity experiments done by Asch (1951) and Deutsch & Gerard (1954) described in section 3.1.1. of this paper. The Mere apprehension theory, in the context of restaurant tipping, translates to the feeling of social pressure when deciding on the amount that has to be tipped. This would especially play a large role if the individuals' status is sensitive to the perceptions of the other group members. For example, this may well be the case, if an individual is dining with his boss or family in law.

In order to, therefore, investigate the effect of social impact on the level of tipping, the following hypothesis will be tested in this paper:

Hypothesis 3. *Groups give a lower average tip compared to the tip level of individuals.*

3.1.4. Free Rider Effects

Having discussed the theory of 'diffusion of responsibility' in the previous section, it is a small step to make the link with the effects of free riding. Where an individual shared the risk within diffusion of responsibility, the individual enjoys a minimal risk when taking advantage of free riding. Here an individual exerts minimal effort but still profits from the accomplishments of the rest of the group. According to Boyes et al. (2004), free riding is most likely to occur if monitoring is not fully possible. On that account, it can be expected to see more free riding behaviour in situations where the individual dines with a sufficiently large group, who enjoy a negligible internal relationship. As the internal relationship is hard to objectively measure, only the effects of a sufficiently large group on free riding, will be investigated. This investigation falls under hypothesis 3 (Section 3.1.3.), where the tipping levels of groups are compared with those of individuals.

Along with profiting from direct table-companions, an individual may also be induced to adapt his or her payment behaviour, if the costs are subsidized by a third party, such as the individuals' employer. Ineson & Martin (1999), however, find that 78% of customers who come to a restaurant for reasons of

leisure, leave a tip. With business dinners that can be declared, on the other hand, only 60% of the individuals leave a tip. The authors explain their research by categorizing the business customers in four categories, namely: 'those who tip because they can claim on expenses, those who do not tip despite being able to claim on expenses, those who do tip despite not being able to claim on expenses and finally those who do not tip because they cannot claim on expenses. The authors highlight that the effect of the first group of business customers (those who tip because they can claim on expenses), is not substantially larger than the effects of the other groups. The authors also stress that the speed of service is much more important for business dinners, whilst social pressure and monitoring possibilities, are secondary to this. The effects of social pressure and monitoring, are nonetheless, a strong predictor of free riding with respect to tips when individuals are present for reasons of leisure.

To summarize, the level of social pressure on tipping, may greatly influence the amount of free-riding behaviour. With large groups, the other members can namely not observe your tip. Therefore, individuals have an increased tendency to profit from free rider behaviour (Azar, 2003b.). With business dinners, however, the role of free riding behaviour may not be of the same importance. To test if this is in fact really the case, the following hypothesis will be investigated:

Hypothesis 4. *Business diners that can be declared, allow for lower tipping.*

3.2. Herding Behaviour

As was discussed in section 3.1., group effects may lead to conflicting situations for the individual, when choosing to follow either ones intrinsic preferences or those of the group. If the individual follows his or her individual preferences, the resulting outcome may be more efficient, but also cause a loss of popularity within the group (Bikhchandani et al., 1998). Following the group norms, however, may lead to an outcome which is not intrinsically preferred. The following sections will investigate the weights of these two options in the decision model of the individual.

3.2.1. Reputational Concerns

To analyse the group effects with a certain tipping choice, the situation is best related to that of an investment decision in a specific market. If there are, for example, two agents in this market, the second agent will tend to look at the first agent (Bikhchandani et al., 1998). Mimicking the first agent will suggest that both agents have received identical signals. This would strengthen the reputation of the second agent and may cause the second agent to ignore any negative information which is present, in order to make the choice that the first agent made. This causes herding to occur (Swank & Visser, 2003). If, however, the second agent does not care about the possible reputational loss, the individual may choose to base the final decision on instincts.

Another reason for individuals to mimic each other's choices, when tipping, arises from the 'sharing the blame effect' (Scharfstein & Stein, 1990). If the final tipping choice, for example, is lower than the accepted norm, the agents will not have to face the responsibility for the particular tip, themselves. Therefore the blame will be spread over all the agents and felt to a much lower extent by a single individual, as was described in the section on diffusion of responsibility (Section 3.1.3.).

Hence, the individual needs to evaluate how high he or she values the reputational effects and intrinsic preferences, when making a decision within a group setting. To investigate how the influence of reputation played a role between the 1000 respondents, the following hypothesis will be tested:

Hypothesis 5. *People who shared their bill, gave less tip.*

3.2.2. Herding in Larger Groups

So far, the emphasis has been laid on decision models including two agents. However, herding behaviour can really be seen at work if we include more agents. As can be seen when we observe the tipping behaviour of larger groups. This gives rise to the phenomenon of 'informational cascades' (Bikhchandani et al., 1998). An informational cascade usually arises when three or more agents are included in the decision making process. The third agent, will then base his or her decision on the choices made by agent one and two. If these two agents made a positive judgment (even if one of these was made on the basis of a coin flip), the third agent is more likely to also make a positive choice, hence starting an 'Up' cascade. If the final choice would have amounted to a negative settlement, a 'Down' cascade would be started. Here a positive judgement, can be related to a tip which is closer to that of the social norm and a negative judgement can be related to one that is further away from this norm. The more agents there are making a particular decision, the stronger the cascade becomes. For example, if your neighbour conveys a particular tipping strategy to you, you may not be directly willing to follow this. If eight people in the group, however have made this tipping choice, you will be much more prone to do the same. This is regardless of the fact that these eight people may also just be following the one initiator sitting next to you. Bikhchandani et al. (1998) differentiate between 'fashion leaders' (initiators in a decision making process) and followers. According to the paper of Bikhchandani et al. (1998), players with a larger reputation, act as leaders on a more frequent basis than individuals with a lower reputation.

Bikhchandani et al. (1998) also emphasize the relevance of the order in which positive and negative signals are received by the agent. If the fourth agent receives the pattern of 'HHLL', where 'H' is a positive signal and 'L' is a negative signal, then a 'Down' cascade will be started, as the last two signals are negative. An 'Up' cascade will start when the agent receives the signals in the order of 'LLHH', as the last two signals are positive. If the agent, however, receives the pattern of 'LHHL', then the likelihood of either a positive or a negative decision equals 0.5. The cascade will then be

triggered by the fifth agent, as this agent will have either two positive signals or two negative signals to base the investment on. Bikhchandani et al. (1998), highlight that cascades or any types of herding behaviour, may easily start when decisions are made in ambiguous situations. In this case, either an action is adopted or rejected, with no mid-way solution. This makes it easier for other individuals to conform and not choose a different path to their predecessors. This crude filter becomes cruder as the process goes on and the initial herding information fades with every next agent making a related decision. Hence, leading to a certain moment where the reasoning for the initial choice is not available anymore and the agents base their full decision on their predecessors. The following of others, is thus highly dependent on the amount of information that is available about your predecessors choice. How individuals adapt to situations with little information and hence a high level of information asymmetry, will be discussed in the following chapter.

3.3. Information Asymmetry

It would be impossible to conduct all the research necessary to make a fully informed decision about something. Fully informed decisions would demand too much time and effort, which simply isn't available. It is therefore not strange that people take shortcuts, relying on sole pieces of information in order to make a particular decision. These general ideas are also present in the tipping market, where individuals are sometimes forced to rely on the signals of others and their previous experience, to formulate a tipping decision. This chapter will present the mechanisms and methods which individuals use to compose their final tipping decision.

3.3.1. Heuristics

Heuristics are mechanisms which can be used to catalyse our decision making process (Cialdini, 2009). The most common types of heuristics are called 'Judgment Heuristics' (Kahneman, Slovic & Tversky, 1982) and can be seen in almost every decision that is made. The deduction that a high price means a high quality level, or that a busy restaurant is better than an empty restaurant, all reflect examples of judgement heuristics. Cialdini (2009) calls our dependence on heuristics 'automatic responding' and the making of decisions with full information 'controlled responding'. Where the second response type is much less common then the first, when we make choices which do not matter as much to us. If the choice, however, has a bigger impact on our daily life, we tend to focus more on the details and we are hence more prone to do research before we make our decision. The increase in research effort, relates to the case of 'controlled responding'. The question then, is how greatly valued a tip is by the customer. If the customer actively bases the tip on the service that the waiters give, the situation of 'controlled responding' may be much more pronounced. However, if a customer sticks to a specific tipping norm or percentage, 'automatic responding' will be more prevalent.

Heuristics also influence tipping behaviour in other areas. They additionally provide guidelines on what is generally accepted in a particular social situation and signal what is accepted in a specific location. A restaurant with a very luxurious atmosphere, for example, may signal different tipping norms than a simple diner.

3.3.1.1. *Cost of Effort*

As highlighted in the previous section, heuristics are used to make the lives of individuals easier. As tipping is a costly and voluntary act, individuals will not want to spend a high amount of effort in practicing this behaviour. Hence, simplifying the methods of tipping, may be very crucial. Accordingly, May (1978) found that people who pin, give a larger tip. The reasoning for this was that here the boundaries are lower for increasing the amount that you add on top of a particular bill and hence it is easier to tip. Additionally, in countries such as the U.S., paying by credit card is much more common. This has the advantage that the customers have the benefit of a delayed payment and hence may be less concerned with the addition of a tip to their bill (Lynn, 2006). Alongside this, the sole possibility for customers to pay with a credit card, may also induce customers to tip. Feinberg (1986), for example, found that customers paid a higher tip if they were presented with a credit card symbol (Lynn, 2006). This effect, strangely, also evoked customers to give a larger 'cash' tip.

The phenomenon of reduced effort leading to higher tips, will be tested by the following hypothesis:

Hypothesis 6. *Charge customers leave larger tips than cash customers.*

3.3.2. Bounded Rationality

As described in section 3.3.1. , simple heuristics facilitate many automatic decision processes. The mere uncertainty that drives the dependency on heuristics, appears in many situations both inside and outside of the market place. This uncertainty that exists when we make our decisions, is seen by economists as 'bounded rationality'. David Dequech (2001) describes this 'bounded rationality' as:

> *'the type of rationality that people resort to when the environment in which they operate is too complex relative to their limited mental abilities'.*

In other words, bounded rationality describes how the rationality of an individual, is limited to: the information an individual has, the cognitive capacity of an individual and the time which is available to make a particular decision. Dequech (2001), further describes the views of Simon (1986), whom states that these limitations, lead to a satisfying strategy rather than an optimizing strategy for finding solutions. Additionally, the limited cognitive capacity of human beings, makes it impossible to find a suitable amount of alternatives for every problem that one is faced with. Hence, leading to a 'bounded' strategy. Kahneman (2003), goes on to make a distinction between intuition and reasoning. Where the

first comes to mind spontaneously and is a parallel process, whilst reasoning is more a slow process which must be fully cognitively handled. A reasoned tipping decision, for instance, would be present if the group tipping strategy was discussed before entering the restaurant. An intuitive decision, on the other hand, would reflect the uninformed decisions that are made when the bill is received. In the last situation, the individuals will only receive information from the actions and communication of other group members.

3.3.3. Pluristic Ignorance

Just like with heuristics and strategies that result from bounded rationality, pluristic ignorance focusses on the tendency of individuals to adapt their behaviour to that of the general public (Freeman et al., 1975). Here, for example, one privately may interpret the service in a restaurant to be of a high level, but will adapt the cognitive model to account for the fact that no one else seems to be interpreting it in such a way. Consequently, an intervention will not occur as all the 'bystanders' employ the group response. Pluristic ignorance can therefore have a significant impact on the outcome of a particular decision. The false perception that one's ideas are insignificant, may lead to a situation where highly supported ideas and actions are not implemented. Soong and Granovetter (1988) refer to this as the 'spiral of silence'. The 'spiral of silence' illustrates that one view may dominate the public scene, whilst the other views disappear from public awareness. Pluristic ignorance and the related 'spiral of silence', therefore, explain how private norms may be kept silent to account for the falsely perceived group norm. On the other hand, if alone, one may be more likely to stick to his or her private views and therefore the final decision may be significantly different.

3.4. Tipping – Service Puzzle

Reciprocity illustrates the tendency of giving something in return for what has been received (Cialdini, 2009). Within the tipping market, reciprocal behaviour is reflected by the tip that is given for a particular service which an individual or group receives. Azar (2009), however, finds that a high level of service is not always reciprocated with a comparable tip. Furthermore, Azar (2009) finds that an increase in tipping, is not always followed by an increase in the level of service quality. Nonetheless, the average service quality provided by the waiters, is generally uninfluenced by these fluctuations in tipping. Azar (2009) calls this the 'tipping-service puzzle' and accordingly formulates three reasons to explain its occurrence. The first reason is that waiters will get a positive intrinsic feeling out of providing a high level of service. Secondly, the monitoring of management to insure a high service quality level, will induce waiters to implement a sufficient standard of service. Finally, the waiters will be motivated to avoid complaining customers, as their complaints to the management will possibly have negative future effects.

To investigate how the service puzzle and general reciprocal behaviour influences tipping levels, the following hypothesis will be tested:

Hypothesis 7. *Perceived service has no relation with the amount tipped.*

3.4.1. Group Size and Reciprocity

With respect to group size, the mechanism of reciprocity is influenced by several additional factors. In section 3.1.3. the hypothesis was formulated that: 'Groups give a lower average tip compared to the tip level of individuals' (Hypothesis 3.). To explain these group effects with the notion of reciprocity, tipping needs to be seen as an equitable adjustment to the service that is received. A waiter namely needs to exhibit relatively less effort per person for large groups, than for individuals (Lynn & Latané, 1984; Snyder, 1976). Furthermore, the provided service is distributed among much more individuals when looking at groups and hence the per person service cost is also much lower. The customers therefore, reward the lower service cost with a lower tip. This is reflected in Adam's Theory of Equity (1965), where the level of input should equal the level of output. Additionally, the waiter will already expect this lower reward and hence the service efforts for larger groups will already compose of a smaller initial value relative to that given to a table with a lower occupation. This in a way, works like the self-fulfilling prophecy, as this vicious circle leads to a lower final outcome for both parties (Azar, 2007).

The distributional effects of tipping, are especially dominant when individuals share the bill. This is usually a common phenomenon with larger groups. As stated above, the combined payment of a bill, will evoke a lower effort level from the waiter. This finding is supported by Elman (1976) and Snyder (1976), who found that a larger bill, especially with multiple orders on it, means that there is a greater cost to finding out who ordered what and hence a greater cost of dividing the tip. This greater cost is reflected in a smaller value for the final amount that is given.

To investigate the impact of group size on the perceived service level, the following hypothesis will be tested:

Hypothesis 7.1. *Groups have lower perceptions of service than individuals.*

4. Methodology

4.1. Company Analysis: Strandpaviljoen ‘t Centrum

Strandpaviljoen ‘t Centrum is a beach restaurant located in the Dutch town of ‘Katwijk ZH’. This town lies in between The Hague and Amsterdam. The restaurant of interest, is located on the beach in the centre of the town. The restaurant currently operates on a seasonal basis, meaning that it is open from the months March till the end of October. In this time period, the restaurant is open every day from 09:00 in the morning, till the ‘last round’ at 23:00 at night. The customer profile varies per month. In the spring and summer holiday, the restaurant attracts many national and international customers . The months around these times are quieter times for the restaurant, with mainly local customers. The company profile outlines that the restaurant has around 75 tables and employs around 40 people per season. From these 40 employees, the ones responsible for the service section, are the most important in the research of this paper. Within this group, a distinction needs to be made between the so called ‘mobile lopers’ and the other service personnel. The ‘mobile lopers’ are the ones that have the authority to take orders and to receive the payments of the customers. The ‘mobile lopers’ are allowed to keep 15% of the given tip directly, the rest of the tip goes into a general fund which is distributed between all the employees at the end of each month. On a typical summer day, there will be three to four ‘mobile lopers’ walking around, each responsible for their own part of the restaurant. Apart from the ‘mobile lopers’, the restaurant also has service personnel who have fixed positions behind the bar and personnel who’s responsibility it is to serve and collect the drinks.

4.2. Method of Research

My research at this restaurant began in the month of June (2011) and ended in the month of September (2011), when I had collected 1000 useable surveys. On the first day of June, the service employees of restaurant Strandpaviljoen ´t Centrum, where informed about my research procedure and began collecting the questionnaires. Here, initially, only the ‘mobile lopers’ were authorised to hand out the questionnaires, while at a later stage, all service personnel were allowed to hand out the questionnaires. The questionnaires comprised of one A4 sheet of paper and where handed out together with a plain empty envelope. The questionnaire and envelope were solely given to *one* of the customers sitting at the table, at the time that they requested their bill. In this way, it was made sure that all the questions on the questionnaire could be filled in correctly, thus including the height of the bill and the tip height. The questionnaire was available in three languages, namely: Dutch, German and English, with the right language being chosen by the waiters. The questionnaire included a short summary, the specific questions and a short end-note on the conditions necessary for winning the dinner check (Section 4.3. & 9.3.). The questionnaire also highlighted the importance of privacy and hence the customer was asked to seal the questionnaire in the attached envelope when done. Once the

specific customers left, the envelopes where picked up by the waiters and placed in a box at the office of the restaurant manager. This box was emptied by the researcher on regular basis.

4.3. Overview of Questions

This section provides an overview and a related reasoning, on the questions that were formulated on the questionnaires (Section 9.3.).

Dinner check: The main way to lure customers into filling in the questionnaire, was by providing an opportunity for them to win a free dinner for two people at the restaurant. This was, accordingly, the title of the questionnaire and at the end of the questionnaire, customers were given the opportunity to fill in the necessary details. A side note that was given in the introduction, was that the questionnaire did have to be completely filled in, in order to be included in this competition.

Introduction: In the introduction, the research and researcher were introduced. Alongside this, the emphasis was laid on the minimal amount of time that this questionnaire would require (one to two minutes). Furthermore, the introduction also highlighted the fact that all the details of the customer would be kept private. This was done so that questionnaires would be filled in honestly and completely.

Question 1: In this question the customer was asked to fill in the average age level of the group. As only one customer per table filled in the questionnaire, a prediction needed to be made on what the average age would be. A person in the lowest and a person in the highest age group, would hence result in a combined age category of ‘five’ (26-30 years). The customers had seven categories to choose from.

Question 2: This question investigated how many men, women and children were present within the group.

Question 3: Here the customers were questioned about their education. The education level that needed to be filled in, was that of the highest educated individual in the group. The possible education levels were: ‘Primary/secondary education’, ‘Lower practical’, ‘Higher practical’ and ‘Scientific’.

Question 4: This question inquired on the possibilities for declaration. Customers who were dining/drinking on behalf of their work and whom could claim the dinner / drinks, filled in 'Yes' in this question.

Question 5: This question was interested in the social relationship of the group members. People who were single, circled the option 'single' in this question. If the desired group set-up was not present, the customers could fill in their set-up in the option 'other'. The 'other' option led for the variable 'Family' to be included in the analysis. Combinations of groups were also possible, leading to nine final group composition types. These were: 'Single', 'Partner', 'Friends', 'Colleagues', 'Family', 'Partner & Friends', 'Partner & Colleagues', 'Friends & Colleagues' and 'Friends & Family'.

Question 6: This question inquired on the total bill that was received. This question, together with that of 'Tip Height', made it important that the questionnaire was filled in after the final payment had been made. The question about 'Total Bill' contained categorical options as this meant that customers would experience lower boundaries to give an answer. By the indirect nature of the question, the sensitivity of the question was reduced. However, this did mean that no direct result was given for 'Total Bill', leading to an average per category to be used in the analysis. In other words, the category of: 20 to 50 euro's was transformed into a total bill of 35 euro's.

Question 7: This question consisted of two parts. The first noted if the customer had paid the total bill, or if the customer had shared the bill with the rest of the group. The second part allowed the customer to answer if he or she had paid by cash or by debit card.

Question 8: This question gave the customers the opportunity to rate the level of service that they had received. The customers were given the option of five scale levels for this.

Question 9: This question was extremely important for the final analysis. It namely asked how much tip the customer had given. Like the situation that was discussed for the question on 'Total Bill', this question was also divided into categories. These resulting 9 categories were then divided by two, in order to analyse the final results.

Question 10: This question allowed the customers to express their feelings on how they determined their given tip. The question provided the customers with five fixed options, these were: 'Fixed Amount', 'Dependant on Service', 'Rounding of the Amount', 'Fixed Percentage', 'Dependant on Food', and 'other'. The options were allowed to be combined, leading to 10 final categories.

4.4. Survey Analysis - Notes

Before the analysis of the results is presented, this paper will first provide some notes on the method of research and the processing of the final data.

The first note is concerned with the categorical nature of this survey. The survey was designed to retrieve the maximum amount of information, whilst still remaining easily and widely accessible. These last two points, meant that the questionnaire needed to be designed in a way that customers would still be motivated to fill in their details. In order to establish this nature, questions such as 'Age', 'Total Bill' and 'Tip Height', were formulated in categories. Additionally to the ease in which these categories could be circled, this method also allowed for an indirect acquisition of information. Especially with the variable of 'Tip Height', customers could be driven to lie about their answer or even ignore the question completely, if they directly needed to fill in their tip height. Due to filling in a category, the boundary to reveal this information, was reduced. The consequence of this, however, was that the analysis became more difficult. To overcome this, the average value per category was taken and hence the results could be analyzed in a more simple way.

The second note is related to the values for service rating. As can be seen in section 5. of this paper, the values for 'Service rating' are quite high. This is largely due to the good work of the service workers, but may also include some bias. The bias stems from the way that the surveys were distributed. In many cases, the service personnel were free to choose who they gave the questionnaire to. If customers had already complained a significant amount, the likelihood that they would also be handed a questionnaire decreased substantially. This meant that questionnaires were frequently given to 'satisfied' customers, but less frequently to 'angry' customers. Hence, the final result may be more positive than what would be observed in reality. In order to correct for this bias, the distribution methods were altered to some extent. Where initially only 'mobile lopers' were allowed to distribute the questionnaires, later also other service personnel were allowed to distribute the questionnaires. As the 'other' service personnel did not directly receive the tip, they were less influenced by the type of customers that the questionnaire was given to.

5. Analysis

5.1. Descriptive Statistics

Below a summary of statistics is provided. The two variables, 'Tip Height' and 'Total Bill' have, like stated in section 4.4., been averaged per survey category. This implies that the maximum and minimum are the average of the, respective, lowest and highest category that was presented in the survey. The average of three euro's for 'Tip Height', does provide an indication that the average tip was relatively low. This also holds for the average bill, as this is also skewed to the left. The value for 'Tip per person' depicts that the customers averaged just above one euro per person tip. Where the maximum value of the variable 'Tip per person', lies outside the range of the other variables seen in 'figure 1.' below. Here it can be seen that three values are responsible for this high maximum, whilst the majority of the results are situated below the value of 'six euro's'. These three outliers are, additionally, responsible for the relatively higher mean value of 'three euro's'.

The variable 'Tip Reasoning' brings out two popular answers. These two factors that determined the tip of customers were: the quality of food that was ordered (Option 2.) and the level of service that was received (Option 5.). Finally a relatively high value for 'Service Rating' can be observed. This means that on average customers valued the level of service as 'Good' (Value 4.). This value can be explained by the general level of service, but also due to possible bias in the results (Section 4.4.).

Table 2. Descriptive statistics

	Number	Minimum	Maximum	Mean
Tip Height (€)	1000	0	25	3
Total Bill (€)	1000	0	250	60
Tip per person (€)	1000	,00	9,50	1,0095
Tip / Bill (%)	1000	,00	1,27	,0718
Age (Years)	1000	12	65+	(31-50)
Tip Reason	1000	-	-	(2 & 5)
Service Rating	1000	1	5	4.169
Valid N (listwise)	1000	-	-	-

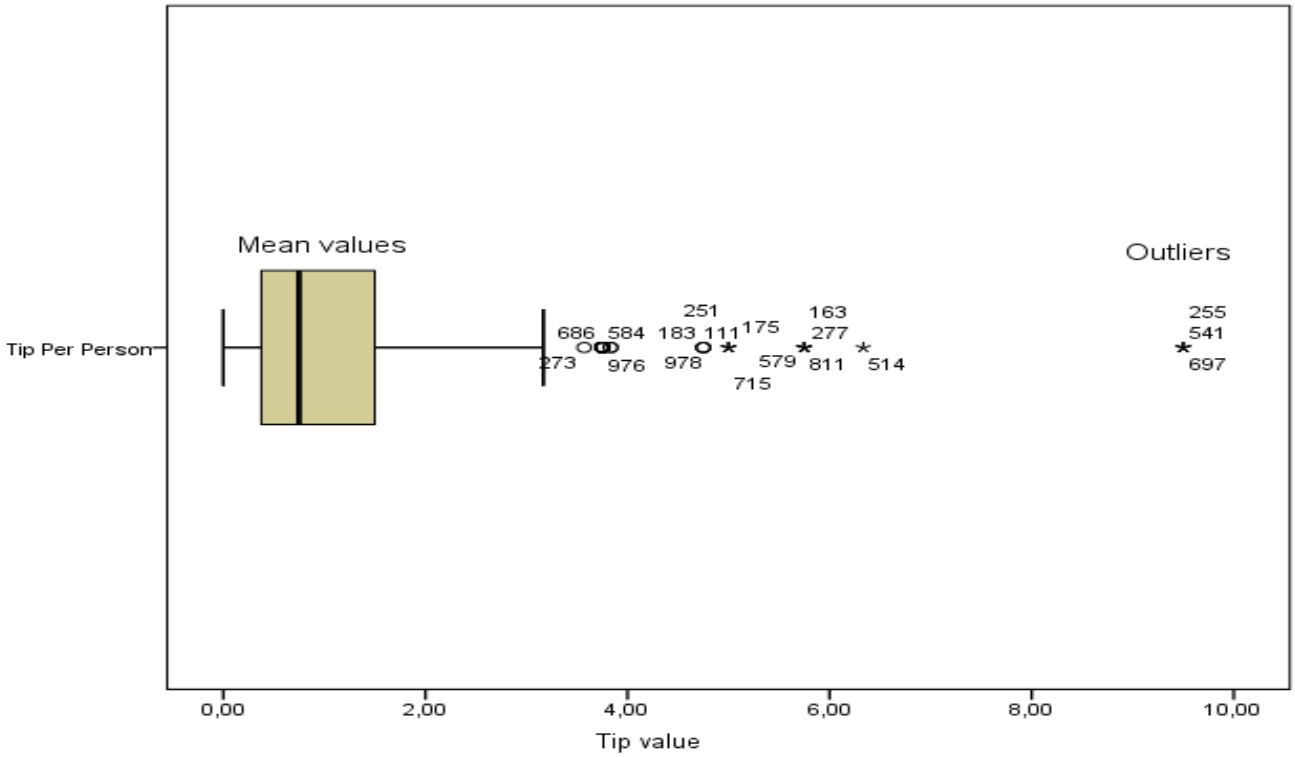

Figure 1. Boxplot distribution of 'Tip per person'.

5.2. ANOVA Calculations

The next sections will contain short regressions and descriptive statistics for each of the hypotheses which have been formulated in the theoretical part of this thesis. In order to control for all the relevant data, section 5.4. will provide an ANCOVA, in which all the separate results are combined into one regression. This will allow for the relevant conclusions to be drawn from the 1000 analysed questionnaires. Results with a significance level of one star (*) mean that the results are significant at a level of 10%, whereas two stars (**) relates to a 5% significance level and three stars (***) relates to the strongest 1% significance level.

The ANOVA (Analysis of Variance) test that was done on the results, measures the spread of the means in a given test (Ellis, 2006). A significant result from an ANOVA with a significance level below 5%, for example, depicts that the means of two or more groups, are significantly different from each other. If the test is not significant, on the other hand, the averages of the two groups are very similar or the standard deviation is very high. An ANOVA incorporates a value for the 'between' variance of groups, named the 'SS Between' and a result for the within variance in a group, named: the 'SS Within'. The 'SS Total', represents the value of the 'SS within' and the 'SS between' added together. To calculate these values, the 'Sum of Squares' is needed. The 'Sum of Squares' is the squared variance per observation. For the 'SS between' and 'SS within', the degrees of freedom must also be known (Ellis, 2006). The degrees of freedom for the between group variation (SS Between), is one less than the total number of groups. Whilst, the degrees of freedom for the within group variation (SS Within), is one less than the total number of observations. Dividing the 'Sum of Squares' of the between group and within group variation with the degrees of freedom per variation variable, allows

for the respective 'Mean Square' variables. The 'Mean Square' variable for between groups divided by that of the variable for within groups, gives the F-statistic. A high F-statistic means that there is more difference between the groups than within the groups (Ellis, 2006). This is evidence against the standard null hypothesis of similar means.

5.3. Regression Results

Hypothesis 1. *The social norm of a 15% tip is followed to a smaller extent by the Dutch, relative to foreigners.*

To objectively test this hypothesis, the descriptive statistics of the total tipping percentages with respect to the relevant bill size, are first displayed. The variable 'Tip/Bill' has been calculated by dividing the measure of 'Tip Height' by the values of 'Total Bill', to achieve the percentage tipped per bill. This variable portrays the percentage that people tip relative to their bill size.

Table 3. Descriptive statistics for hypothesis 1 with respect to total bill size and tip percentage

Bill Size	Mean Tip / Bill (%)	Number of cases
5	.17	104
15	.11	156
35	.06	348
65	.05	194
115	.05	132
200	.02	47
280	.03	19
Average total	.07	1000
F = 47.223	P-value =.000***	

With a significant results for the ANOVA test: $F(6, 993) = 47.223$, $p = .000$, the means of the two variables are significantly different from each other. This significant result, is further described by the outline of the various percentages per bill size. From these it can be seen that the highest tip percentage is given with the lowest bill heights. Where a total bill of five euro's, relates to a tip percentage of 17%. In other words, on a bill of five euro's, consumers give an average tip of 85 cents. The tip percentages marginally decrease with an increase of bill height. Hence, customers with a very large bill, tip only 3% extra on average. This is far below the so called '15% norm'. A side note is that for the bills above 200 euro's , a substantial smaller amount of results have been found. Nonetheless, it can solely be said that customers with a bill size of maximum 15 euro's, are the only customers who,

on average, stay close to the '15% norm'. In order to investigate if the total effects for nationality are closer to this 15% norm, table 4 is presented below.

Table 4. Descriptive statistics for the per country tip percentages

Nationality	Mean Tip / Bill (%)	Number of cases
Dutch	.07	901
German	.08	84
English	.09	15
Total average	.07	1000
F =.758	P-value =.469	R^2 =.002

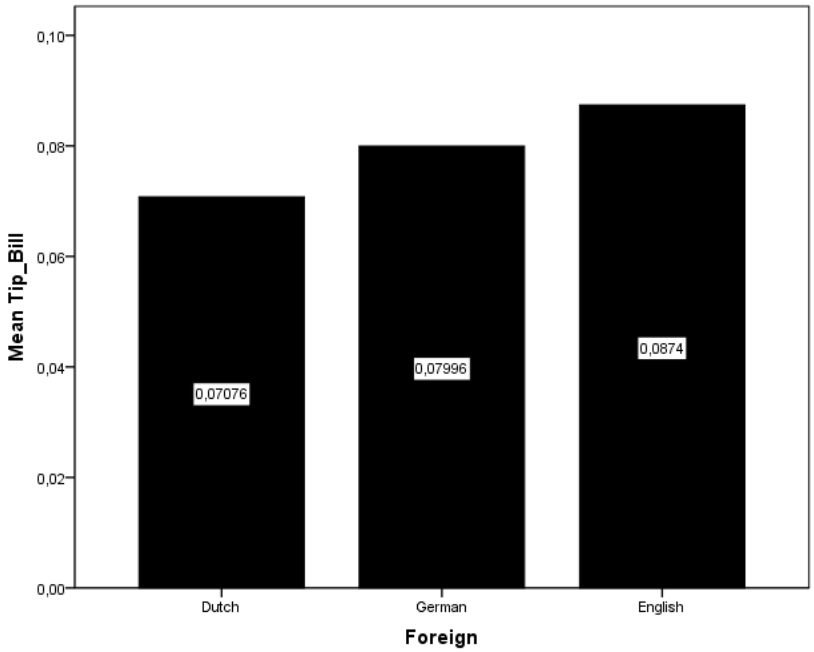

Figure 2. Graphical results hypothesis 1.

The above table and graph show the results from the foreign questionnaires, compared with the results from the Dutch questions. The mean values of variable 'tip/bill', depict that the English and German customers were slightly more generous with respect to their tip heights. With an average percentage of seven, the English were the most generous. The ANOVA result gives an F(2, 997) value of .758 and a corresponding P-value of .469. Hence, the means are not significantly different from each other.

Hypothesis 2. *All male groups give larger tips than all female groups.*

Table 5. Descriptive statistics for gender with respect to tip level

Sex	Number of cases	Tip per person (€)
Only Male	46	1.2217
Only Female	161	.9910
Total Average	1000	1.0095
ANOVA	1000	1.061 (.346)

(Dependant variables: Tip per person)

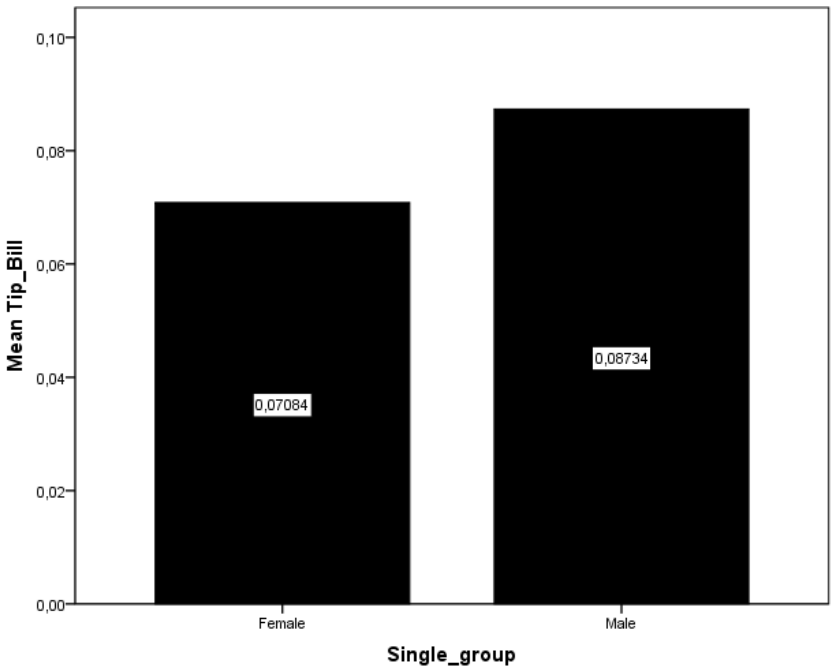

Figure 3. Graphical results hypothesis 2.

The above table presents a comparison of tipping levels with respect to gender. For this analysis and for tables 8, 9, and 10, the individual tipping level will be used. The variable 'Tip Height', namely provides a weak result, due to it not taking into account the group size. Hence, the resulting effect may be much higher for larger groups than for smaller ones, solely due to the size of the group. Additionally, figure 3 shows the gender comparison on the variable tip/bill. The graph shows that males (8.7%) tipped more relative to the bill size than females (7.1%).

Even though table 5 depicts an insignificant effect for 'tip per person' ($F(2, 997) = 1.061$, $p(.346)$), the average tipping results for groups with only men, are strongly higher than groups with only females (1.22 euro's compared with .99 cents). The insignificant result, is most likely the cause of the small data set for the two gender groups (46 men, 161 women).

Hypothesis 3. *Groups give a lower average tip compared to the tip level of individuals.*

Table 6. Regression results hypothesis 3

Regression	Model	B coefficient	Std. error	Significance
1	Group	1.036	.523	.048**
2	Group	.300	.465	.519
	Total Bill	.024	.001	.000***

Dependant variable: Tip Height R_1: 0.063, R_2: .468)

Table 6 displays the results for the first regression. The coefficient for 'group' obtains a value of 1.036 in the first model. This result is significant, but quite meaningless as we do not control for the total bill. To control for this, a hierarchical regression is taken, giving a coefficient of .300 for the variable 'group'. This value is not significant, allowing for the conclusion that individuals who are part of a group, do not have a significant effect on the total amount that is tipped. The value of strongly significant coefficient value of 'total bill' (0.024), shows that an increase in total bill affects the tip value. More specifically, a one euro increase in total bill, increases the tip height for a group by 2.4 eurocents.

A possible explanation for the insignificant effect between 'group' and 'tip height' could be that, in this regression, no attention is paid to the individual tipping level. Due to the fact that groups are perceived irrespective of their size, a larger groups tipping behaviour may be largely different to that of a small group. Hence, this may cause for noise in the regression results. To account for this, the next regression will focus on the individual tip level in a group. Furthermore, the correlation coefficient is significantly stronger. This stronger correlation is due to the significant effects between total bill and tip height.

Table 7. Regression hypothesis 3 with tip per person

Regression	Model	B coefficient	Std. error	Significance
1	Group	-.731	.184	.000***
2	Group	-.829	.182	.000***
	Total Bill	.003	.001	.000***

Dependant variable: Tip Per Person (R_1: 0.125, R_2: 215)

Table 7 depicts the results for the dependant variable: 'Tip per Person' regressed on the independent variable: 'Group'. Whereas no relationship with total tip could be seen in the previous results, now a significant negative coefficient can be seen when looking at the tip height per individual. This means that people who are part of a group, give - .829 euro's less tip than individuals who are not part of a group. In other words, being part of a group is negative for the tip that a person individually gives. With a significance level of 1%, we can also conclude that this result is highly significant, with or

without controlling for total bill. The correlation of .215 between the three variables, shows that again the results have a small amount of correlation with each other.

Hypothesis 4. *Business diners that can be declared, allow for lower tipping.*

Table 8. Descriptive statistics for business declaration and tipping

Business Declaration	Number of cases	Tip per person (€)
Yes	12	1.8792
No	988	.9990
Total Average	1000	1.0095
ANOVA	1000	8.995 (.003***)

(Dependant variables: Tip per person)

The above table depicts the relationship between business declaration and tip levels. In the case of individual tips, the F(1, 998) of 8.995, highlights that there is a significant relationship between per person tip and the declaration of one's dinner. Where individuals who could declare their dinner, gave a significantly higher tip (1.8792 euro's compared to .990 euro's). A side note to these results, is that again the dataset for individuals who could claim their bill, was greatly lower than the amount that could not (988 compared to only 12 who could). This makes it hard to draw a strong conclusion from this result.

Hypothesis 5. *People who shared their bill, gave less tip.*

Table 9. Descriptive statistics for bill distribution on tip level

Bill Distribution	Number of cases	Tip per person (€)
Shared	193	.8537
Single	807	1.0468
Total Average	1000	1.0095
ANOVA	1000	5.669 (.017**)

(Dependant variables: Tip per person)

The analysis in the above table, portrays the influence of sharing the bill with the group members, relative to paying the bill individually. The results show that a shared bill, led to a significant lower tip per person (85 cents) whilst not sharing led to a tip per person of 1.05 euro's ($F(1, 998) = 5.669$, $p(.017)$).

Hypothesis 6. *Charge customers leave larger tips than cash customers.*

Table 10. Descriptive statistics for charge payments on tip level

Pinned	Number of cases	Tip per person (€)
No	800	1.1129
Yes	200	.9837
Total Average	1000	1.0095
ANOVA	1000	2.599 (.107)

(Dependant variables: Tip per person)

The results for the comparison between customers who paid with a debit card and customers who paid with cash, are shown above. These results depict that the customers who paid by cash, gave a higher tip per person (1.11 euro's) than the customers who paid by pinning (98 cents). The results are, however, insignificant ($F(1, 998) = 2.599$, $p(.107)$) and hence no real conclusions can be drawn from this. Here, unfortunately, the group sizes differ greatly (200 'yes' against 800 'no'). This makes it hard to find significant results.

Hypothesis 7. *Perceived service has no connection with the amount tipped.*

Table 11. Regression results for tip height on service level

Model	B coefficient	Std. Error	Significance
Constant	.401	.612	.513
Service	.557 (β = .120)	.145	.000***

(Dependant variable: Tip Height, R^2 .014)

The results of hypothesis 7, indicate the regression results of the variables 'Service'(independent variable) and 'Tip Height'(dependant variable). The coefficient of .557 indicates that an increase of service by 1, increases the tip by .557 (56 cents). As service rating has a different unit of measure than 'Tip Height', the β-value is included. This provides a standardized measure and indicates that if the rating would increase by 1, then the tip height would increase by .120. The correlation of these two variables is quite low, with a value of 1.4%, whereas the significance is high, with a value of 1%.

Hypothesis 7.1. *Groups have lower perceptions of service than individuals.*

Table 12. Regression results for group membership on service level

Regression	Model	B coefficient	Std. Error	Significance
1	Group	.008 (β = .113)	.002	.944
2	Group	.054 (β = .015)	.115	.641
	Total	-0.21(β = -.069)	.010	.031**

(Dependant variable: Service, R_1 .002; R_2 .068)

Where the previous results showed the relationship between 'Service' and 'Tip Height', this table initially presents a regression on 'Group' (independent variable) and 'Service' (dependant variable). The first regression, however, gives an insignificant result of .944. This insignificant result, can be attributed to the composure of the variable 'group'. As this variable makes no distinction between two-people-groups and larger groups, the results may vary too extensively, for a significant result. This is additionally highlighted with a very low correlation of .002, showing no real relationship between the variables.

If the variable 'total' is added to the regression, a very different result is found. In the second model, controlling for 'total' has a slightly positive effect on the significance of 'group' (.641 compared to .944). Furthermore, the hypothesis is supported by the variable 'total' with a significant p-value of .031. The β-coefficient of -.069, sustains the hypothesis that an increase in group size, reduces the service rating.

5.4. Results Total Regression

The table below, shows an ANCOVA (Analysis of Covariance) analyses. An ANCOVA, like an ANOVA (Section 5.2.), evaluates whether the population averages on the dependent variable, differ across the levels of the independent variable(s). The difference is, however, that an ANCOVA controls for the differences in covariates. Where a covariate is quantitative variable which is used to remove external influences from the dependant variable. This allows for a decrease in the variance within groups. The below table will thus present a total regression, controlling for all possible variables and including the total amount of customers, as covariate.

Table 13. ANCOVA with Dependant Variable: Tip Per Person

Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	247,661	30	8,255	10,246	,000***
Intercept	34,068	1	34,068	42,285	,000***
Total	41,327	1	41,637	51,679	,000***
Service	16,639	4	4,160	5,163	,000***
Group	,838	1	,838	1,040	,308
Education	2,313	3	,771	,957	,412
Relationship	13,416	8	1,677	2,081	,035**
Business Declare	2,599	1	2,599	3,226	,073*
Bill Distribution	,336	1	,336	,417	,519
Pinned	,157	1	,157	,195	,659
Foreign	,793	2	,396	,492	,612
Total Bill	158,653	6	26,442	32,819	,000***
Only Male	,367	1	,367	,455	,500
Only Female	1,652	1	1,652	2,050	,152
Error	780,710	969	,806		
Total	2047,492	1000	R^2 = .241, Adjusted R^2 = .217		
Corrected Total	1028,371	999			

Independent variables: Total amount of people (covariate), Service level, Group membership, Education level, Social relationship with group, Business declaration, Bill sharing, Pin or cash payment, Nationality and Total bill height.

5.4.1. Discussion ANCOVA

Hypothesis 1. *The social norm of a 15% tip is followed to a smaller extent by the Dutch, relative to foreigners.*

The above ANCOVA depicts that the nationality of the respondents, is not significantly related to tipping, F (2, 969) = .492, p = .612. A much larger amount of Dutch respondents (901 Dutch, 84 German and 15 English respondents), could well be the cause for this (Section 5.3., Table 4). Additionally, the tipping percentages for the three nationalities, had little variance. Again causing a low significant result. The descriptive statistics, however, show that there is some support for the hypothesis. Showing that the English had the highest average percentage tip (9%), then the Germans (8%) and the Dutch had the lowest (7%).

Hypothesis 2. *All male groups give larger tips than all female groups.*

Both the ANCOVA results (Male: F(1, 969) = .455, p(500), Female: F(1, 969) = 2.050, p(.152)) as the partial regression results (F(2, 997) = 1.061, p(.346)), show that gender is an insignificant predictor of tipping levels. The reasoning behind this, is most likely that groups with only one gender were very scarce within the dataset. The descriptive statistics, however, portray that the results for groups with only men, are strongly higher than groups with only females (1.22 euro's compared with .99 cents). This provides some support for the hypothesis.

Hypothesis 3. *Groups give a lower average tip compared to the tip level of individuals.*

The regression result for group membership, F (1, 969) = 1.040, p = .308, shows no significant relationship with tipping levels. This is in contrast with the partial regression (Section 5.3.,Table 7), where a significant negative relation was found between the two (supporting the hypothesis). The reason for this is that the effect of 'Group' is moderated by the other control variables. These variables provide a relatively more significant prediction, than 'Group'. Furthermore, like stated in section 5.3. (Table 6), more focus should be laid on individual tipping levels. The ANCOVA regression does this, by controlling for possible individual effects via the covariate 'Total' (F (1, 969) = 51.679, p = .000). These effects are however, not taken into account by the variable 'group'. Additionally, due to the insignificant results and absence of a negative relationship between group size and tip height in the ANCOVA, no direct free-riding effects can be seen (Section 3.1.4.). It may well be possible that free riding is present, but as there is only an inverse relationship between group size and tip height in the partial regression, the total effects are either compensated by other group members or the amount of free riding was negligible.

Finally, the variable 'Total Bill', is strongly significant with respect to tipping levels, F (6, 969) = 32.819, p = .000. This result was also seen in the partial regression, where 'Total Bill' had a slightly positive effect on the 'Tip Height' (Section 5.3., Table 6).

Hypothesis 4. *Business diners that can be declared, allow for lower tipping.*

The ability to declare the bill is, like with the partial regression result (Section 5.3., Table 8), significant (F (1, 969) = 3.226, p = .073). Hence, even though the difference in group size (988 no declaration, 12 declarations) is extensive, the declaration of one's bill, is a strong predictor for tipping levels. The result of the ANCOVA is, however, in contrast with the hypothesis. Where this paper finds that business dinners allow for higher tipping. The first possible reason for this difference, is that the amount of results received from 'business customers' in this paper, is far less than in the paper of Ineson & Martin (1999, Section 3.1.4.). Secondly, this difference can be explained by the fact that the types of restaurants may differ between this paper and that of Ineson & Martin (1999) . Where here the restaurant was located on the beach and aimed at tourists, the restaurant used by Ineson and Martin (1999) was located more in a business district. Hence, the types of customers defined by Ineson and Martin (1999), may differ between the two restaurants. This location may attract more customers from the first group (those who tip because they can claim on expenses), whilst the location chosen by Ineson and Martin (1999), may attract more customers from the 4th group type (those who do not tip because they cannot claim on expenses). Finally, the time factor highlighted by Ineson and Martin (1999) in section 3.1.4., may be much more important in a business district than in a restaurant on the beach.

Hypothesis 5. *People who shared their bill, gave less tip.*

The data for 'Bill distribution', do not relate significantly to the amount that is tipped, F (1, 969) = .417, p = .519. This is most likely due to the large differences in data size between the two levels (807 single payments relative to 193 shared payments). Nonetheless, the descriptive statistics (Table 9) support the hypothesis, finding that customers who shared their bill were responsible for a lower tip per person with respect to tables where only one person paid the bill.

Hypothesis 6. *Charge customers leave larger tips than cash customers.*

Paying by debit or by cash, is not significantly related with tipping levels, F (1, 969) = .195, p = .659. This is, again, most likely due to the large differences in data size between the two levels (800 cash payments relative to 200 debit payments). If the focus is laid on the partial results (Table 10), which were significant, than it can be seen that the hypothesis is not supported. The partial regression, namely depicts that cash customers leave a larger tip. This was also reflected by the customers who

filled in the 'other' section, with respect to their tipping reason. Here 25 people claimed that, due to the fact that they paid by pin, they could not tip. Where some customers had the false perception, that when paying by debit card, a possible cash tip was not possible.

The possible differences between these results and that of the established literature, may be attributed to cultural differences with respect to the use of debit and credit cards (Section 3.3.1.1.). Where, for example, the United States is a country in which it is more preferred to pay by credit cards, within The Netherlands, this is not that common (Lynn, 2006).

Hypothesis 7. *Perceived service has no connection with the amount tipped.*

The above ANCOVA provides a significant prediction for the perceived service level, F (4, 969) = 5.163, p = .000, this corresponds with the results for the partial regression with 'Tip Height'(section 5.3., Table 11). Hence, it can be said that there is a significant positive result between tipping levels and the satisfaction with the level of provided service. This is in contrast to the hypothesis and the findings by Azar (2009), stated in section 3.4. As Azar's (2009) research is done mainly in the United States, the cultural differences may have a strong influence on the results (Section 2.2.). Hence, the effect of service quality may well be larger in countries where the tips can be fully determined by the customer, such as The Netherlands.

5.4.2. Additional Results

Education level, does not provide a significant prediction for the amount that is tipped, F (3, 969) = .957, p = .412. This can be attributed to the fact that the different educational groups, were largely similar with respect to their tipping means (Section 9.1., Table 16). Hence, no significant effect is observed between the various educational levels.

The social relationship with the other group members, is however, a significant predictor of tipping levels, F (8, 969) = 2.081, p = .035. With these groups, the variance between the average tipping levels, are much greater (Section 9.1., Table 14). Hence, the group effects do have a significant predictive effect.

5.4.3. Survey Notes

In the questionnaire, the consumers were also given the opportunity to post their own reasons for their tipping choice (section 4.3.). In this reasoning, various interesting results appeared. These results will shortly be discussed in this section.

Firstly, a certain amount of customers explicitly stated that they solely tipped on the guidelines of a specific percentage. Six customers stated this percentage to be 10%, whilst two customers always tipped 5%. In contrast to this, 16 customers claimed to never give tips. Where five gave the reason for this to be the fact that they, themselves, also didn't get a tip if they performed well at work. Along with this, these customers also believed that the waiters already received enough wage. Appearance was another common reason for tipping (14 surveys). Mainly male groups (10 surveys), claimed that the appearance of the service personnel, influenced their tipping level. Finally, a very interesting phenomenon was that in 14 cases, the customers left an extra tip after having filled in the questionnaire. This tip was given on top of the bill and tip which had already been paid. The questionnaire thus induced the customers to give a tip, or even tip an additional amount. Filling in the questions, in these cases, made the customers aware that they were expected to tip and also may have given certain customers feelings of guilt, for not having tipped (Azar, 2009). This is discussed in greater extent within the discussion part of this paper (section 6.).

Informal discussions with the service-employees of the restaurant, also shed some light on the tipping motivations of the customers. The frequent visiting customers, seemed to have a stronger bond with the restaurant and certain personnel. This meant that the specific customers returned on certain days and gave on average a higher tip. This was unfortunately not directly tested, and hence cannot be directly confirmed. Nonetheless, it is an observation which is supported by Ben-Zion and Karni (1977), who found that customers who visit a certain establishment less often, tip less than customers who visit the same establishment frequently. Bodvarsson and Gibson (1994) as well as Lynn and Grassman (1990) enhance this result in their studies on the economics of tipping (Section 2.1.). Nonetheless, Azar (2007) finds that customers do not tip more for the expectation of future service quality. He finds that the tip is not based on this, but on the actual experience at the establishment.

6. Discussion

Tipping is a mysterious phenomenon for many economists. It is a voluntary payment, which is sometimes given irrespective of the quality of the service which is rendered. It even seems irrational in this respect, especially for a customer who will never return to the specific establishment in the near future. For such a customer, the costs seem to be much greater than the benefits of the exchange. Tipping can only be rationally explained, if it is seen as a dynamic game with many external influences. The outcome of the game depends on: the future expectation of the customer on the services that will be received, the behaviour of others in the group and the other group members' future service expectation (Bodvarsson & Gibson, 1997). But if these conditions are negative or not known, the economic predictions become much more difficult and the psychological influences will need to be taken into account.

One type of psychological influence, which helps explain tipping, is the notion of reciprocity, You would, for example, expect a restaurant with many infrequent visits, to experience a lower level of tipping than a restaurant with many loyal customers. This expectation would be based on the sole fact that a tip is given after the rendered service and hence is not necessary in this respect. In a one-shot game, therefore, an agent only visits the restaurant once and has no incentive to pay extra. Whilst if a consumer is planning to visit the restaurant frequently, the importance of a good image will be much more crucial. This due to the decrease in information asymmetry for the service personnel, with frequent visiting customers. Linked to this is the expectations of the waiters. With many infrequent visitors, who give lower tips, waiters will also provide lower service. Because for them, like for the customers, there is no incentive to build on a good image. Whilst with loyal customers, the waiters will be much more incentivized to maintain the established relationship. Hence leading to a negative service-tip spiral for certain groups of customers.

Bodvarsson and Gibson (1997) write: 'The act of tipping ... is irrational, but supporting the rule of tipping by leaving tips is rational.' In other words, leaving a tip so that the norm of tipping is maintained, is rational. Bodvarsson and Gibson (1997) also state that the tip size can be greatly explained by neo-classical economics, as long as the waiter perceives the tip, as the customers' intention to buy the given service. In this case, the benefit of tipping is that the service personnel will keep on expecting tips and hence the negative tip-spiral will not be entered. Unfortunately, this opens the door for free-rider behaviour. Customers that know that others will keep on tipping due to this reason, can profit from their tips and the resulting positive relationship with the service personnel. This is also seen in groups, where a few group members may end up paying for the rest of the group.

Central to tipping, is the problem of information asymmetry. This problem causes groups to herd and conform to certain leaders who signal to have overcome this problem. In a situation where no leader is

appointed, responsibility is shared, causing a lack of action in a critical situation. The use of tips can, however, also solve the problem of information asymmetry for employers. Here tips can be used to convey the type of employee and hence tips become an informative tool to monitor workers. For such a tool to be effective, however, the customers need to be given sovereignty in their tipping choices and the tips should therefore not be restrained by a fixed tip percentage. Additionally, Azar (2004), states that in an optimal system, employers should even encourage customers not to tip for bad service, hence indirectly making the customer the monitor of service quality. If forced by a fixed-gratuity, however, the tip would not reflect the true experience of the customers. The question, therefore, is if a fixed-gratuity, like seen in many U.S. restaurants, is profitable. As a fixed tip level, deteriorates the function of being a reward for exerted effort and hence may have a detrimental effect on the quality of restaurants. In contrast to this, the fixed-gratuity does allow employers to save on wage costs, by allowing the tip to take up a large part of the waiters pay check. Alongside this, it can be argued that, due to the nature of tipping, only workers whom are good at delivering service, will be attracted to the restaurant. This means that the problem of adverse selection is curbed and that monitoring will also have a lower priority. Furthermore, a fixed gratuity must also be accepted by the customers, as they are suddenly forced to pay for service. If the results of this thesis are taken into account, it can be seen that many customers base their tip on the perceived quality of the food and service rendered. In addition to this, the tipping percentages that were shown in the results, are on average half of the 15% tip norm that is required in the U.S. This reflects the Dutch tipping culture, where a fixed-gratuity, may not be as happily received as it is in the U.S. The discussion, therefore has many opposing arguments, which highlight both sides of the debate. Nevertheless, there is a possible mid-way solution for restaurants that do not already implement a fixed-gratuity. This solution would be to analyse the effect of a fix-tip height for large groups. If all groups with six or more diners are forced to give a certain tip, the information asymmetry is greatly reduced and the average tip will also increase significantly. Additionally, the problems of diffusion of responsibility and pluristic ignorance will also be reduced. Causing the uncertainty to diminish and insuring that the individuals who want to ´stiff´ (not pay a tip), are placed under increased social pressure.

The differences between cultures is further highlighted in Azar (2003), where an interesting discussion is presented on the social norms of tipping. Within the U.S., the norms of tipping are increasing, due to the utility that people derive out of tipping the norm or even tipping above this. This, however, differs between cultures, as can be seen in the section on global tipping cultures (section 2.2.). In The Netherlands, for example, the quality of service seems to have a greater importance than feelings of empathy for the wages of waiters. The cultural differences between tipping, can be explained by the differences in cultures around the world. Bodvarsson and Gibson (1997), state that this is due to ‘social conventions’ and ‘social institutions’. Social conventions are the manners which individuals have and hence are mainly self-enforcing. Social institutions, on the other hand, arise in the group

setting. Due to social institutions, individuals conform to the group norm, sometimes at the cost of their intrinsic preferences.

Another interesting discussion point, is the effect on customers from incremental hints about tipping. Via artificial changes to the tipping environment, the tip level can increase, as well as the service quality. Azar (2005) found, for instance, that high tips for low quality service, may increase service quality and social welfare. Additionally, Azar (2003b.) states that a simple ´thank you´ or drawing on the dinner check, can already significantly increase the level of tipping. These small signals that convey how appreciated a tip is, are already strong enough to trigger a positive response from the customers. This was also supported by the results from this paper, where the questionnaire already triggered awareness about tipping. This resulted in several customers deciding to give a tip or to even increase their earlier amount, after having filled in the survey. With this knowledge, it may well pay-off to exploit this phenomenon. If a simple questionnaire can already trigger customers to tip, there must be many other possibilities to increase the tipping level. Such possibilities could include: a poster in the restrooms about tipping around the world or a placemat with information on the history of tipping. Furthermore, a questionnaire can also minimize the cultural boundaries on tipping, for restaurants in touristic areas.

7. Conclusion

Even though the partial regression gave a significant result, the total regression shows that tipping is not significantly related to group membership. The level of service, the total bill and declaration possibilities, however, are significantly related to the tipping level of an individual.

7.1. Further Research

Small extensions to the research of this paper, would be the inclusion of different variables within the same research design. A variable for visitor frequency could then be included to objectively investigate if a difference exists between tipping with loyal customers and with one-shot customers. Furthermore, the research field could be extended, to also incorporate different restaurants on the beach. Here various restaurants could function as a control group to account for weather changes and touristic holidays. A problem with such a method, however, is that every restaurant will differ in its profile and hence a direct comparison will be difficult to make. Another small extension could be the addition of an employee survey. Via this medium, the employees will also be given the chance to reflect and give their perspective on the tipping policies of customers. Unfortunately, due to the time span of the research done in this thesis and due to the seasonal boundaries, there was no possibility to include this within the research frame of this paper.

A larger interesting extension to this paper could be a comparative analysis of the foreign tipping norms, to those of The Netherlands. A similar study to that of the one composed in this paper, could be

accompanied by significantly different results when implemented abroad. For example, similar research at a restaurant in Japan, would allow for interesting conclusions when the results are compared to those of this study. Along with the analysis of the international tipping norms, the research on tipping culture, can also be made more interactive. As discussed in the section on global tipping culture (section 2.2.), a possible extension would be to give customers a 'Tipping-Knowledge quiz'. If this quiz would be given to half of the tables, the other half could function as a control group. The final tip values of the 'quiz' group could then be compared to that of the control group. Allowing for the awareness-effect of the quiz, to be objectively investigated. This study could, of course, also be repeated in various different countries.

Finally, another possible extension would be test the effect of imposing a fixed-gratuity for larger groups. If large groups (six or more diners), are forced to pay a fixed tipping percentage, the information asymmetry will be greatly reduced and the members will be forced to conform to the obligatory norm. The effect of such a group-gratuity, will be especially interesting in countries where fixed tipping is not standard. As in these countries, the differences in tipping after this measure, will be much more significant.

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9. Appendix

9.1. Additional Results

Table 14. Descriptive statistics for social relationships on tip level

Relationship	Number of cases	Tip per person (€)	Tip Height (€)
Single	21	1.8929	1.8929
Friends	220	.83580	2.7170
Family	243	.88570	3.1512
Partner	444	1.1342	2.3795
Colleagues	13	1.3373	5.8462
Friends & Family	6	.27320	1.8750
Friends & Colleagues	10	.75000	1.6500
Partner & Friends	41	.93990	3.7012
Partner & Colleagues	2	1.0000	3.2500
Total Average	1000	1.0095	2.7218

In the above table, the 9 table composition results are compared relative to the variables for 'Tip per person' and 'Tip Height'. When solely focussing on the means for the individual tip heights (Tip per person), it can be seen that customers who are not part of a group, give the highest tip. These people average a 1.89 euro tip per person. With respect to the group results, the customers who are 'colleagues', give the most tip per person (1.33 euro's). The customers who's social relationship is 'friends' with family members, on the other hand, are responsible for the lowest average tip per person (.27 cents). With respect to the results for the total tip given, it can be logically deduced that customers who were alone, had the lowest total tip. This tip value was only composed of the customers own tip and hence was exactly the same to the value for 'Tip per person' (1.89 euro's). The groups, on the other hand, had more people contributing to the tip. Of course these cannot be directly compared, as some groups may have composed of more people than others. Nonetheless, it can be seen that the groups with 'colleagues' gave the highest tip on average (5.85 euro's), whilst the groups of 'friends and colleagues' the least (1.65 euro's). Furthermore, the most common social group present was people who were each other's partner. The least common groups were: 'Friends & family' and 'Partner & Colleagues'.

Table 15. Age groups relative to tip levels

Age (Years)	Number of cases	Tip per person (€)	Tip Height (€)
12-18	12	.5729	1.4375
19-21	43	.8814	2.5291
22-25	49	1.0375	2.3776
26-30	88	1.0316	2.7699
31-50	383	.9011	2.7513
51-64	282	1.0988	2.7119
65 +	143	1.1760	2.9161
Total Average	1000	1.0095	2.7218

Like a comparison between the various social groups, the various age groups can also be related. Here it can be seen that the youngest groups gave the least tip per person (57 cents), whilst the oldest groups gave the highest tip per person (1.18 euro's). With respect to the total tip given, it can be seen that tips from tables with the highest age on average, again were the greatest (2.92 euro's). Whilst groups with the lowest average age gave the lowest tip on average (1.44 euro's). The most common age group dining at this restaurant was the people who were 31 to 50 years old, whereas the youngest group of 12 to 18 years was the least common.

Table 16. Educational groups relative to tipping levels

Education	Number of cases	Tip per person (€)	Tip Height (€)
Primary	99	1.0329	2.3939
MBO	257	.9394	2.3794
HBO	434	1.0313	2.9280
WO	210	1.0392	2.8690
Total Average	1000	1.0095	2.7218

Finally, the groups will be compared on the basis of educational background. The groups where the highest education was lower practical education (MBO) had the lowest tip per person (94 cents). The groups with the highest education, namely that of university level (WO), had the highest tip (1.04 euro's). A side note, however, is that the higher practical education (HBO) and primary school educational groups, also gave roughly the same tip per person as the university group. With respect to the total tip given, it is the higher practical education groups that had the highest total tip (2.93 euro's). Though this could be dependent on the fact that these groups were larger on average, than the other groups. The lower practical educational group was still responsible for the lowest total tip (2.38

euro's). With respect to case distribution, the higher practical groups were the most common, whilst the primary educated groups the least.

9.2. Graphs

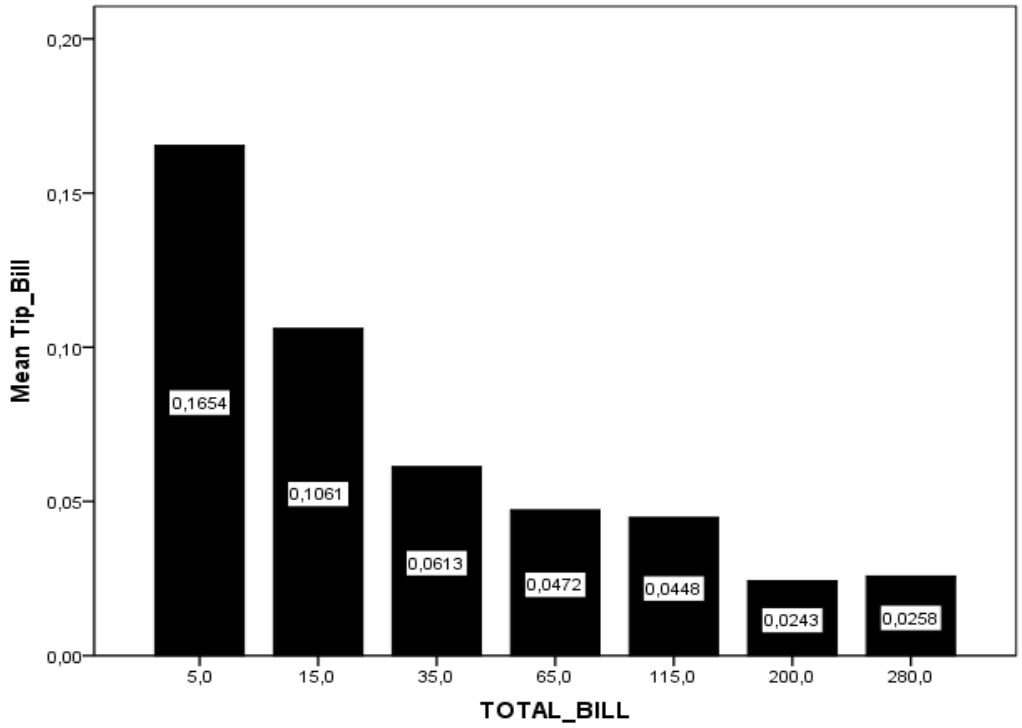

Figure 4. Graph on the relationship between bill size and tip height.

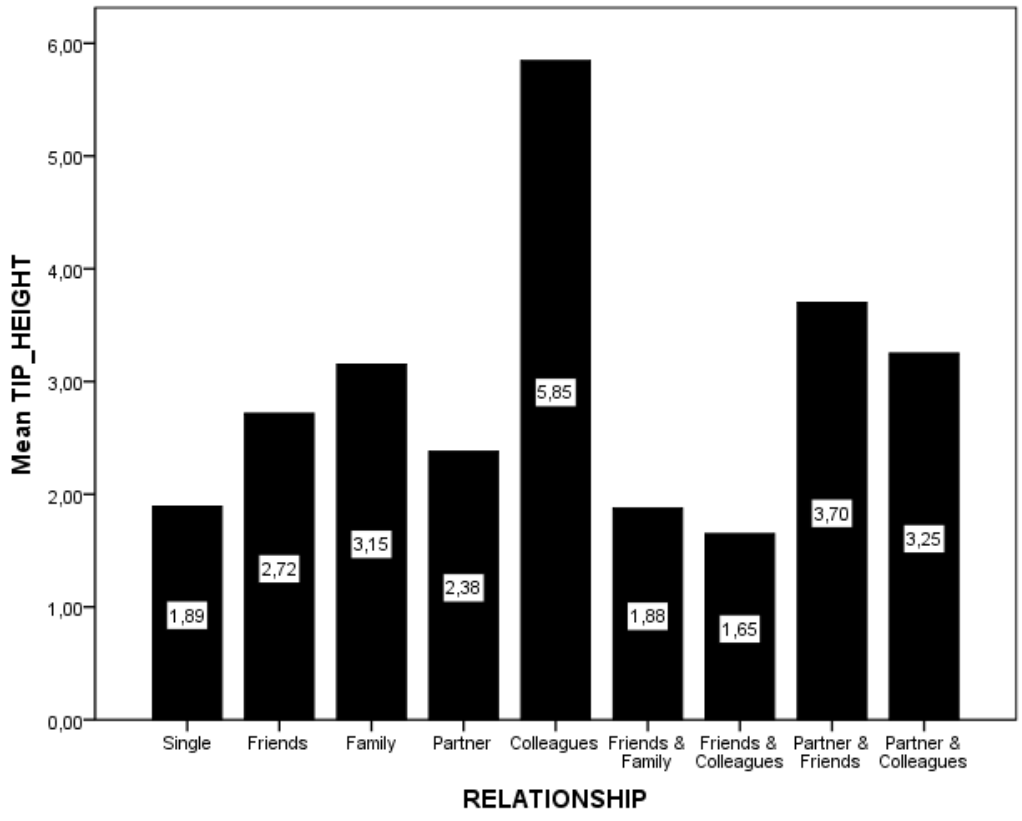

Figure 5. Graph on the social relationships and value tipped (Total Tip).

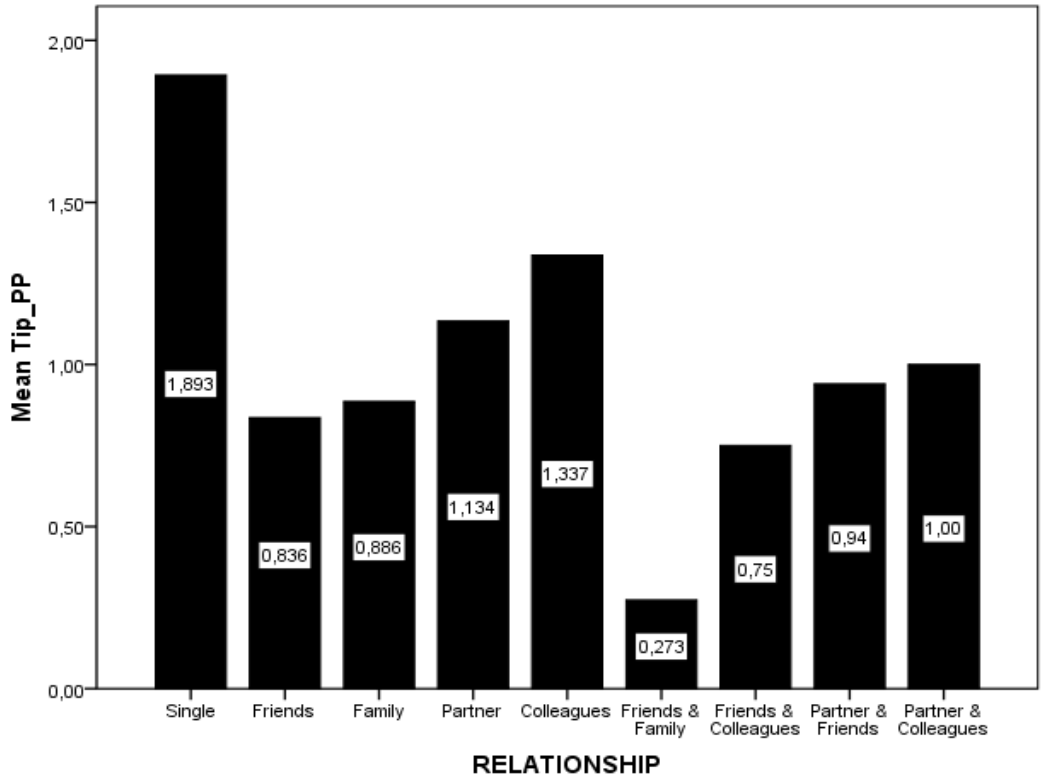

Figure 6. Graph on the social relationships and value tipped (Tip per Person).

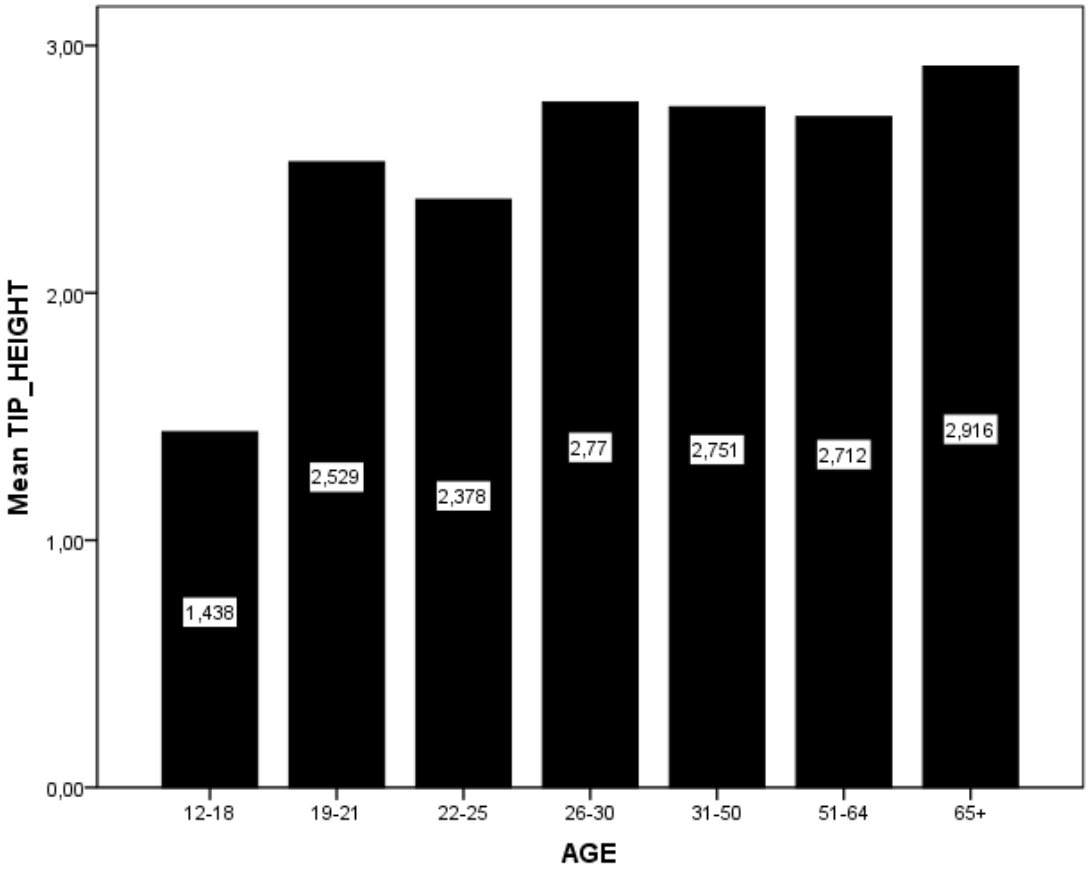

Figure 7. Graph on the relationship between age and total tip.

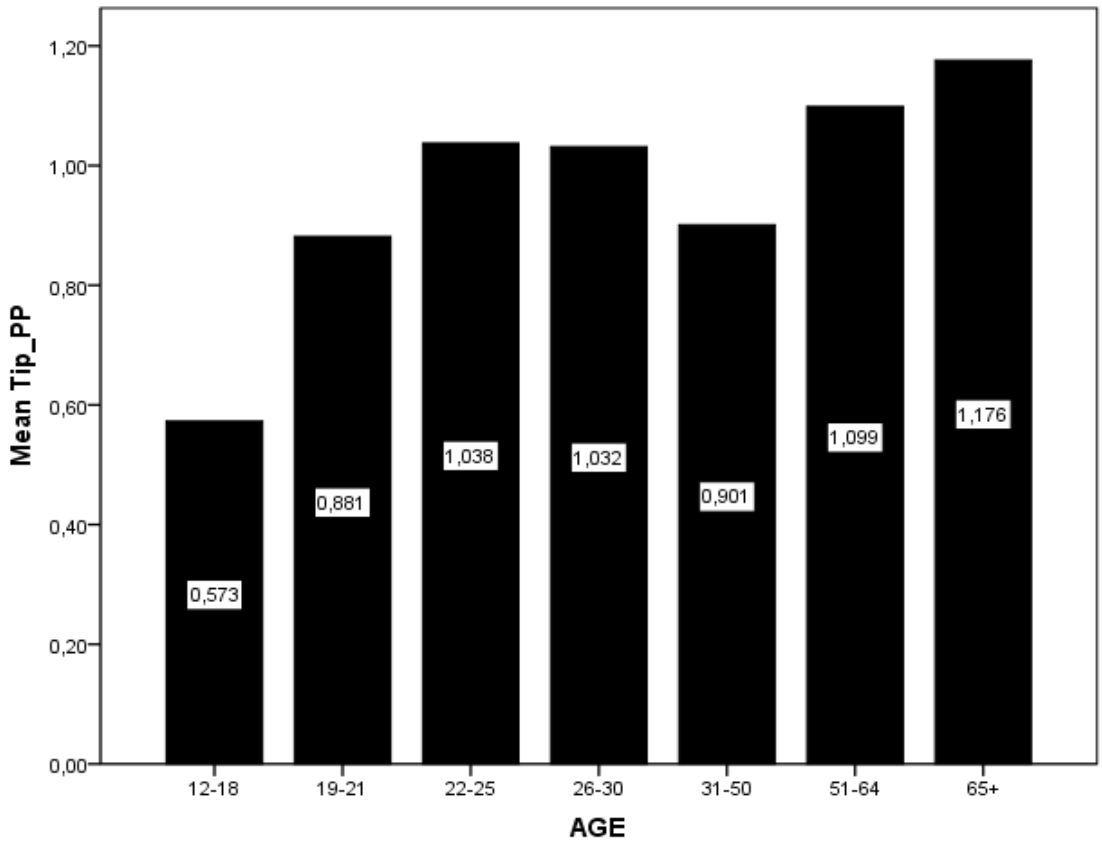

Figure 8. Graph on the relationship between age and tip per person.

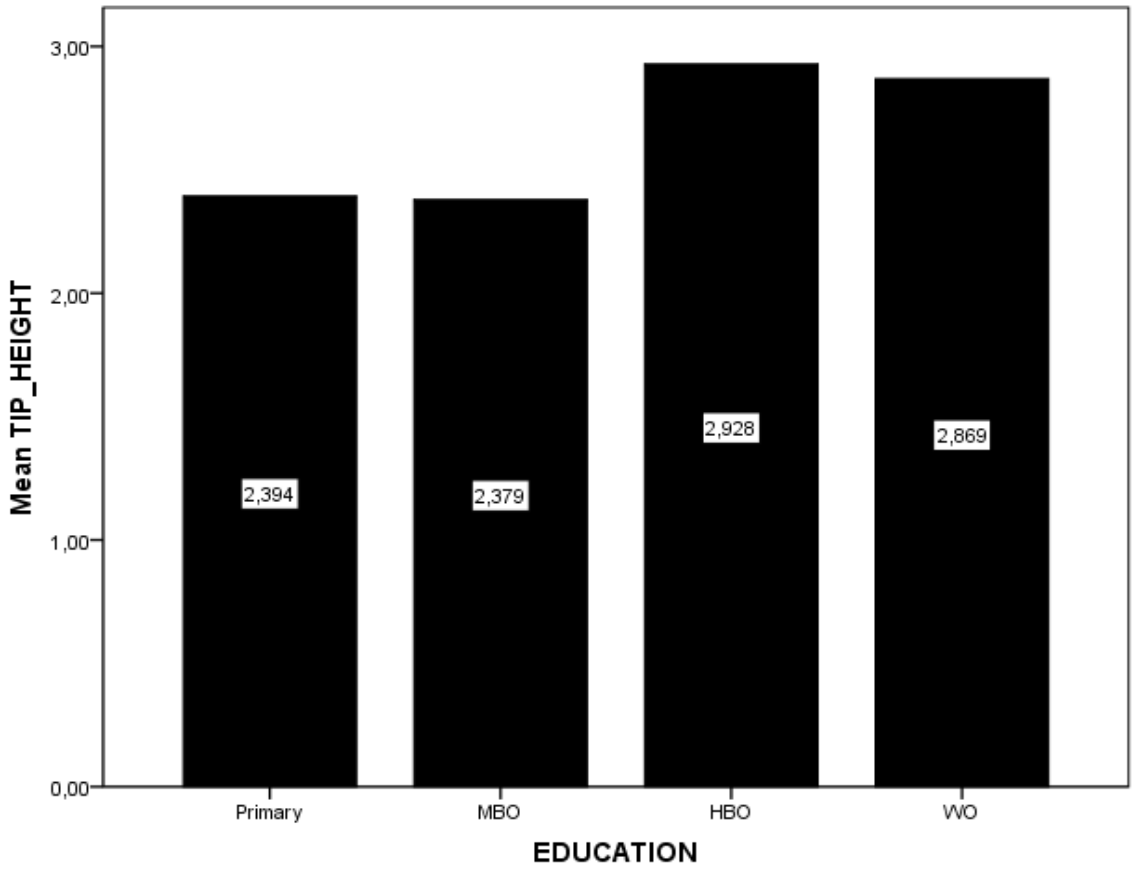

Figure 9. Graph on the relationship between education and total tip.

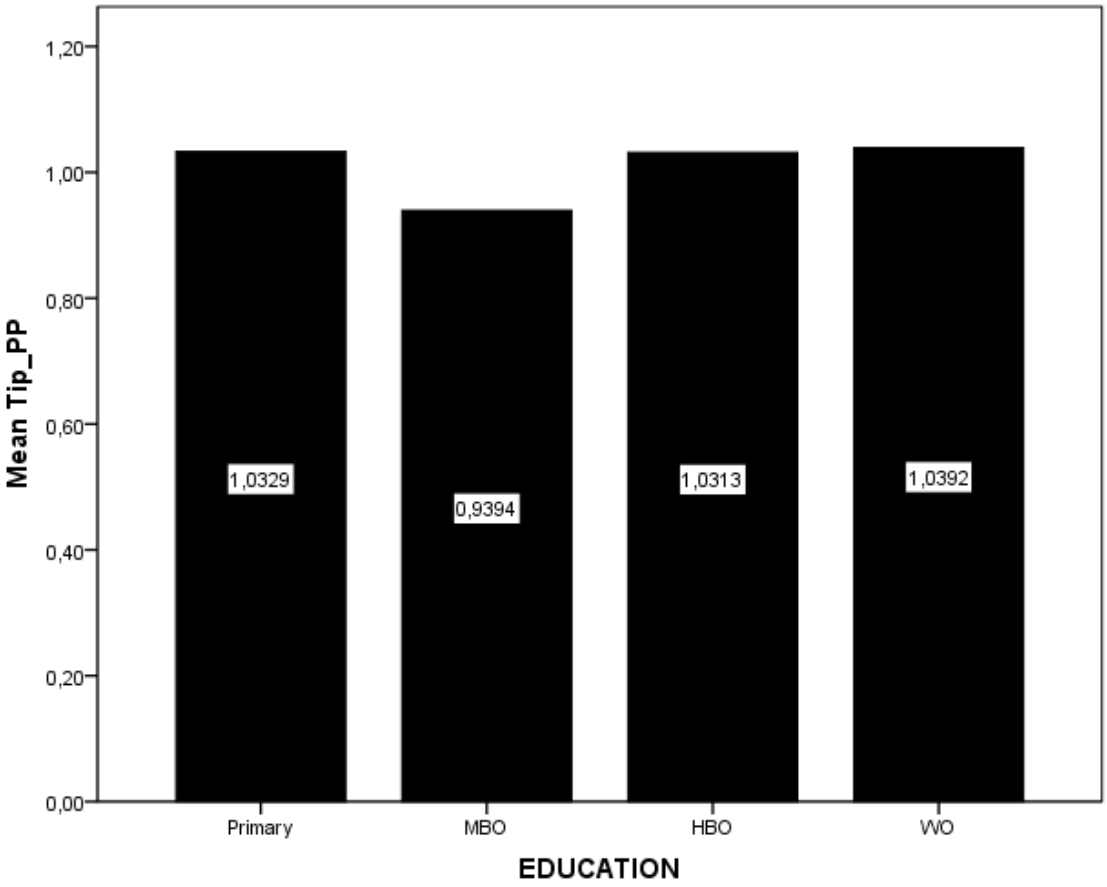

Figure 10. Graph on the relationship between education and tip per person.

9.3. Questionnaires

Maak kans op een diner bon voor 2 personen!

Geachte gast van strandpaviljoen 't Centrum, mijn naam is Maarten Jumelet en ik doe voor mijn afstudeeropdracht aan de Erasmus Universiteit Rotterdam een onderzoek bij dit restaurant. Het zou mij helpen als u ***1-2 minuten*** *de tijd neemt om de onderstaande enquête in te vullen!* ***Uw gegevens zullen volledig anoniem blijven.*** *Door deze vragenlijst volledig in te vullen, maakt u tevens kans op een diner bon voor 2 personen bij 't Centrum! Mocht u aan tafel zitten met meerdere personen, dan zou het fijn zijn als één persoon deze enquête zou kunnen invullen!*

Alvast bedankt!

1. Wat is de gemiddelde leeftijd van uw tafelgezelschap (exclusief kinderen onder 12 jaar)?
   (graag omcirkelen) (12-18) (19-21) (22 – 25) (26-30) (31-50) (51 -64) (65 +)

2. Wat is de samenstelling van uw gezelschap:
   a. *Aantal*: (mannen): ……. (vrouwen): …… (Aantal kinderen <12 jaar): …….

3. Wat is de hoogst genoten opleiding bij u aan tafel (omcirkel een antwoord):
   (Basis/Middelbaar onderwijs) (MBO incl. Meao e.d.) (HBO) (WO) (Anders……..…)

4. Bent u hier zakelijk of privé?:
   a. (Indien zakelijk) Kunt u het diner declareren? (graag omcirkelen) (Ja) / (Nee)
   b. (Indien privé): wat is uw sociale relatie met de groep? (Meerdere antwoorden mogelijk) (Uw partner) (Vriend(en)) (Collega('s))
      (Anders:…..……..)

5. Wat was de hoogte van uw totale rekening? (Omcirkel een antwoord)
   (€0 tot €10) (€10 tot €20) (€20 tot €50) (€50 tot €80) (€80 tot €150) (€150 tot €250) (> €250)

6. Heeft u alles betaald of heeft u de rekening gedeeld? (Omcirkel een antwoord)
   (Eén rekening) (Gedeelde rekening) 6.a. → *Heeft u hierbij gepind?* (Ja) / (Nee)

7. Wat vond u van de bediening? (Omcirkel een antwoord)
   (Zeer Goed) (Goed) (Gemiddeld) (Slecht) (Zeer Slecht)

8. Wat was de hoogte van de fooi die u heeft gegeven? (Omcirkel een antwoord)
   (€0) (€0.05 tot €1) (€1 tot €2) (€2 tot €4) (€4 tot €6)
   (€6 tot €9) (€9 tot €14) (€14 tot €24) (>€24)

9. Hoe bepaalt u de hoogte van de fooi? (Meerdere antwoorden mogelijk)
   (Vast bedrag) (Afhankelijk van het eten) (Afronden van het bedrag)
   (Vast percentage) (Afhankelijk van bediening) (Anders… ……..)

----------Diner Bon----------

→ Wilt u kans maken op een diner bon voor 2 personen, vul dan op de onderstaande regel uw email adres
in:…….....

Wilt u op de hoogte gehouden worden van de onderzoeksresultaten?: (Ja) (Nee)
Zou u zo vriendelijk willen zijn dit formulier in de bijgevoegde envelop te plaatsen. De inhoud van de enveloppen is volledig anoniem en wordt alleen door mij persoonlijk bekeken.

Gewinne ein Essen für zwei Personen!

Lieber Besucher des Strandpavillon 't Centrum, ich heiße Maarten Jumelet. Für meine Abschlussarbeit mache ich eine Untersuchung bei diesem Restaurant. Sie können mir dabei helfen, wenn Sie sich ***1-2 Minuten*** *Zeit nehmen, um diese Fragen zu beantworten!* ***Ihre Angaben bleiben dabei anonym.*** *Indem Sie diese Fragen vollständig beantworten, haben Sie die Chance, einen Essensgutschein für zwei Personen zu gewinnen bei 't Centrum! Falls Sie an diesem Tisch mit mehreren Personen sitzen, reicht es, wenn eine Person die Fragen beantwortet.*

Im Voraus schon herzlichen Dank!

Was ist das durchschnittliche Alter Ihrer Gruppe (ausgenommen Kinder unter 12 Jahren)?
Bitte umkreisen Sie: (12-18) (19-21) (22 – 25) (26-30) (31-50) (51 -64) (65 +)

Wie setzt sich die Gruppe zusammen:
Anzahl: (Männer): ……. (Frauen): ……. (Kinder <12 jaar): …….

Bitte umkreisen Sie den umfangreichsten Abschluss von jemanden in Ihrer Gruppe:
(Haupt-/Realschule) (Abitur) (Fachhochschulabschluss)
(Diplom/Universitärer Ablschuss) (Sonstige……..…)

Sind Sie privat oder geschäftlich hier?
(Sofern geschäftlich) Können Sie das Essen absetzen? (bitte umkreisen) (Ja) / (Nein)
(Sofern Privat): Was ist die Beziehung zu Ihrer Gruppe? (Mehrere Antworten sind möglich)
(Ihr Partner) (Freund(e)) (Kollege(n)) (Sonstige:…..…….)

Wie hoch ist Ihre Rechnung? (bitte umkreisen)
(€0 bis €10) (€10 bis €20) (€20 bis €50) (€50 bis €80)
(€80 bis €150) (€150 bis €250) (> €250)

Haben Sie die Rechnung bezahlt, oder haben Sie sie geteilt? (bitte umkreisen)
(Eine Rechnung) (Geteilte Rechnung) 6.a. → *Haben Sie mit Karte bezahlt?* (Ja) / (Nein)

Wie fanden Sie die Bedienung? (bitte umkreisen)
(Sehr gut) (Gut) (Zufriedenstellend) (Schlecht) (Sehr schlecht)

Wie viel Trinkgeld haben Sie gegeben? (bitte umkreisen)
(€0) (€0.05 bis €1) (€1 bis €2) (€2 bis €4) (€4 bis €6)
(€6 bis €9) (€9 bis €14) (€14 bis €24) (>€24)

Wie bestimmen Sie das Trinkgeld? (Mehrere Antworten sind möglich)
(Fester Betrag) (Abhänging von dem Essen) (Aufrunden des Betrages)
(Fester Prozentsatz) (Abhängig von der Bedienung) (Sonstige:……..……..)

----------Essensgutschein----------

→ Für die Chance, ein Essen für 2 Personen zu gewinnen, füllen Sie bitte die folgende Zeile aus mit ihrer Email-Adresse:…….....
Möchten Sie informiert werden über die Ergebnisse dieser Untersuchung?: (Ja) (Nein)
Seien Sie so freundlich und stecken Sie die Blätter in den beiliegenden Umschlag. Der Inhalt der Umschläge bleibt volkommen anonym und wird nur von mir betrachtet.

Have the opportunity of a free dinner for 2 people!

*Dear customer of restaurant Strandpaviljoen 't Centrum, my name is Maarten Jumelet and I' am conducting research at this restaurant for my undergraduate thesis at Erasmus University Rotterdam. For this research, I would like to ask you to take **1-2 minutes** to fill in the questionnaire below! **Your details will remain** anonymous and secure! Along with this, filling in a complete questionnaire, will allow you to have the chance of winning a dinner for 2 at beach restaurant 't Centrum! If you occupy this table with multiple people, it would help me if one person would fill in this questionnaire!*

Thanks in advance!

1. What is the mean age of you and your table company (excluding children below 12 years)?
   (Please circle) (12-18) (19-21) (22 – 25) (26-30) (31-50) (51 -64) (65 +)

2. What is the composition of your table company?:
   a. *Number of*: (males): ……. (females): …… (Children <12 years): …….

3. What is the highest level of attained education at your table? (Please circle one answer):
   (Primary/Secondary education) (Lower practical) (Higher practical)
   (Scientific) (Others……)

4. Are you here for private or business reasons?:
   a. (If business) Can you declare your dinner? (please circle) (Yes) / (No)
   b. (If private): What is your social relation to the group? (Multiple answers possible)
      (Your partner) (Friend(s)) (Colleague('s)) (Other……..)

5. What was the total height of your bill? (Please circle one answer)
   (€0 to €10) (€10 to €20) (€20 to €50) (€50 to €80)
   (€80 to €150) (€150 to €250) (> €250)

6. Did you share or pay the whole bill? (Please circle one answer)
   (One bill) (Shared bill) 6.a. → Did you pay with a debit card? (Yes) / (No)

7. What did you think of the service? (Please circle one answer)
   (Great) (Good) (Average) (Poor) (Bad)

8. What was the height of the tip you gave? (Please circle one answer)
   (€0) (€0.05 to €1) (€1 to €2) (€2 to €4) (€4 to €6)
   (€6 to €9) (€9 to €14) (€14 to €24) (>€24)

9. How do you determine the height of the tip? (More answers possible)
   (Fixed amount) (Depends on the food) (Rounding of the total amount)
   (Fixed percentage) (Depends on the service) (Other:……..)

----------Dinner Check----------

→ Do you want to have the chance of the winning the dinner check? Please fill in your e-mail address:…….....

Do you want to be kept up to date with the research results?: (Yes) (No)

Please place the questionnaire in the attached envelope, this is strictly viewed by me personally.