

# **Can lying be a good thing?**

## **A closer look at a possible relation between social lies and social group size**

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### **1. Introduction**

Many studies have been done on lying, but some parts of this phenomenon are still one big mystery. When we set out to do some research on the topic of this paper we were struggling to find directly relevant information. People researched different parts of our topic but never as a whole. The following paragraphs are a little overview of research relevant in some way to our topic and how it helped us with our very own research. It shows the thought process that helped us reach our final research question.

#### **1.1 Why do we lie?**

The big aspect of research on lying. Hurkens and Kartik based their research on the hypothesis that people are one of two kinds: either they never lie, or they lie whenever they prefer the outcome obtained by lying over the outcome obtained by telling the truth (Hurkens and Kartik, 2009). The reasons why people lie can be connected to the type of lie they tell. Generally, we split lies into two groups: the everyday lies and the serious lies. Compared to serious lies, everyday lies have way less impact and importance. The truths covered by serious lies are often distressing, shameful, immoral, or illegal. Everyday lies, in contrast, are more often lies about feelings, preferences, opinions, ordinary achievements and failures, routine actions, plans, and whereabouts (DePaulo et al., 1996).

#### **1.2 Different social groups, different lies?**

In 2004, DePaulo et al. conducted what they call “diary studies” of lying. In these studies, participants were asked to keep a diary of the lies they told along with detailed information about to whom they lied and what their relationship with that person is. This process yielded some interesting results and supported the notion that lying is indeed a part of our daily life (DePaulo et al., 2004). The study indicated that everyday lies are relatively infrequent in close relationships. People tell more lies per social interaction to the people in their lives to whom they feel less close emotionally. Furthermore, when people lie to partners who they have a close relationship with, they are more likely to tell altruistic lies intended to benefit their partners rather than self-serving lies designed to benefit themselves (DePaulo and Kashy, 1998). This was the first time we started thinking about whether we tell different lies to different social groups and what the relation between frequency of lying and social groups is.

#### **1.3 The role of social networks?**

When speaking about social groups and their size, we must not fail to mention the most contemporary means of social interactions - social networks. As is discussed later in the method part of this paper, we incorporated this popular field into the scenarios in our questionnaire. Earlier this year, Scissors et al. conducted some very interesting research on what social value the Likes on Facebook hold. They chose to focus on Likes because it is the easiest means of getting feedback on Facebook. Incoming and outgoing feedback signal investment in social relationships by maintaining interpersonal bonds, keeping older relationships active, and grooming new ones. From their study we learned that although a Like is

merely a one click action, it can give us valuable insights into our social lives. We started to wonder, whether lying and Likes are somehow connected. Scissors et al. also found that people desire feedback most from close friends, romantic partners, and family members other than their parents (Scissors et al., 2016). This again made us think about the telling of lies within different social groups and how it affects them.

#### **1.4 What types of lies can we classify?**

In one of the previous paragraphs we have distinguished everyday lies and serious lies. We found a study from 2004 by DePaulo et al. which summarises the types of lies rather well. In this study, they asked participants to write down the most serious lie that they have ever told and the most serious lies that were told to them. The authors then classified the gathered lie samples by the different motives behind them. The two main motives were: personal advantage and psychological reasons. They further divided these two groups. Lies told for personal advantage include instrumental lies (least justifiable and most interpersonally damaging), lies to avoid punishment and blame and entitlement lies (most carefully planned). Lying for psychological reasons then includes lies told to protect the liar, identity lies, hurtful lies and lies told to protect others (DePaulo et al., 2004). The category of lies told to protect others was particularly interesting to us as it relates most to the whole social aspect of our research. This study also gave us the impulse to define our own version of the term “social lies” for the purpose of our research. Our very own category of lies if you will. This definition is introduced and discussed in the research question part of this paper.

#### **1.5 Lying as part of the social brain hypothesis?**

A fundamental part of our Social Technologies course was the social brain hypothesis. In 2007, Dunbar and Sultz wrote an article for the Science magazine in which they stated that among primates, relative brain size correlates with many aspects of social complexity, including, amongst others, the frequency of tactical deception (Dunbar and Sultz, 2007). This seemed right up our alley so we looked up the research they were referring to for further information about this topic. That brought us to a paper from 2004 by Byrne and Corp, who showed that the use of tactical deception within primates is well predicted by the neocortical volume. They define tactical deception as “acts from the normal repertoire of the agent, deployed such that another individual is likely to misinterpret what the acts signify, to the advantage of the agent” (Byrne and Corp, 2004). As we can see, tactical deception is not exactly the same as lying. However, it carries some aspects of it and this research is a nice way to connect back to the topic of our course.

#### **1.6 Maintaining social groups**

We can all confirm the fact that maintaining our social bonds requires effort and is certainly not an easy task. Dunbar et al. discovered that the size of our neocortex correlates to the size of our social group (Gamble et al., 2014). Simply speaking, the bigger our brain, the bigger our social group. The bigger our social group, the harder it is to keep up the social bonds within it. We turn to different kinds of “social technologies” to keep the interactions and connections within our social groups going, hence maintaining the social group as a whole. Within our research, we were curious to see whether lying could be one of these technologies.

#### **1.7 Social group size**

In the 1990s Dunbar proposed what we call Dunbar’s number. Its value is 150 and it is supposed to represent the cognitive limit to the number of people with whom a person can maintain social relationships that are stable. Dunbar came up with it by using the average human brain size and extrapolating the results of primates (Gamble et al., 2014). In current times where we have tools such as social networks to help us maintain social relationships, the number 150 seems pretty small. We were aiming to incorporate this concern into our research which is why (as will be further discussed in the method section of this paper), we included some questions in our questionnaire which might give us clues about whether the number holds up or not. Furthermore, as a fundamental part of our research, we want to explore whether social lying relates to the size of our social group (Dunbar’s number).

## 1.8 Research question

The research question that we ask is: **Does social lying relate to the size of our social group?**

As stated above, much research has been done on the topic of lying, but as far as we know, there has been no research on the relation of lying, maintaining social groups and the social group size. Furthermore, lying is often portrayed as a negative aspect of life, so we wanted to see if our research could show it in a more positive light as something that could also be seen as beneficial.

*Our definition of the term “social lies” encompasses the following:*

1. *Lies that a politeness standard requires, and which are usually known to be untrue by both parties.*
2. *Lies that make us or others feel good.*
3. *Lies told to avoid hurtful truths.*
4. *Small/innate lies which are usually sent electronically.*

## 1.9 Hypothesis

As social lying would help to avoid social conflict and accommodate others' self-deception (Ford, C. V., 1999), we thought social lying can also help with maintaining our big social group. So we are testing the following hypothesis:

*H1: Social lying relates to how big our social groups are.*

We have chosen to remain optimistic with our hypothesis, hoping that we can find a correlation between social lying and our social group sizes.

## 2. Method

To test the hypothesis, we made a questionnaire. Within this questionnaire, we first scaled the participants' willingness to tell a “social lie” in their daily life using a scale of 1 to 5 in five different scenarios. We asked them to fill in the size of their real life friends group along with friends group size on social media such as Facebook. We also asked their opinions on “social dishonest information” towards themselves and people around them. Finally, we analyzed the data we gathered from the questionnaire and tested if there is a correlation between the “social lying” scale and social group size (friends group size).

### 2.1 Study population

First, we sent the questionnaire to our very own social groups (friends and family). This didn't give us a satisfactory number of participants so we expanded and made posts in three rather large Facebook groups. Most of the group members were students of Leiden University. In addition, we distributed the questionnaire amongst students in several buildings of the university campus. The majority of our participants are thus white Dutch university students. Among all 110 participants, 108 participants filled in their gender and 53.7% were female ( $n = 58$ ), 43.5% were male ( $n = 47$ ) and 2.8% chose “Other” ( $n = 3$ ). The main component (61.8%) of the population were people between 18 – 24 years old ( $n = 68$ ). Furthermore, 34.5% of the population was 25 – 34 years old ( $n = 38$ ) and 3.6% above 35 years old ( $n = 4$ ).

### 2.2 Questionnaire

The questionnaire has been divided into three parts. In the first part, we asked our participants to fill in their genders and ages. For the second part, our participants needed to read five different short

scenarios and after reading each one of them, they were asked to choose how much the scenario reflects their own personalities (on the scale of 1 - not at all like me to 5 - very much like me). And then for the data analysis, we added up all five scenarios scores each participant got to represent the Among these five scenarios, three of them were made so that the higher the number on the scale the participant chose, the more likely they were to tell a "social lie" to their friends or people around them. In order to make the questionnaire more flexible, two of the scenarios reflect the opposite cases, which means the higher the number on the scale chosen the lower possibilities that the participant will tell a "social lie". Furthermore, two of the scenarios were about online communication situations.

The five scenarios were:

1. My friend bought a new shirt, and he/she asked for my opinion on it. Even though I didn't really like it, I still said "yes, you look good."
2. My friend posted something on a social network such as Facebook. I sometimes click the "like" button, even though I don't really "like" the content.
3. I have been invited to attend a party. On my way out I said to the host: "Thank you for having me, it was a great party", no matter what I actually thought about it.
4. My friend sent me a joke in an online conversation (such as Whatsapp or Messenger). If I don't think it's funny, I'll never give positive feedback such as "haha".
5. My friend recommended me a movie/book they really like and asked my opinion on it afterwards. If I didn't like it, I will just say "I didn't like it.", even if it's awkward.

For the third part of the questionnaire, we first asked the participant to grade how social they thought they were, on a scale of 1 (unsocial) to 5 (very social). And then we had two questions on how many close friends (people that you would go to for emotional support) and friends (people that you keep in regular contact or spend free time with) they had. Followed by two questions concerning online social media, asking how much time the participant spent on social media every week and how many friends they have on social media (such as Facebook friends). Lastly, we asked two questions on the opinions the participants had on whether it was important to say a "social lie" in order to make others feel good as well as whether it is important for others to do the same to the participants themselves.

The whole questionnaire is available in the Appendix of this paper.

### **3. Results**

#### **3.1 Overview**

As the sample size is relatively small ( $n = 110$ ), the data we accumulated was unfortunately not normally distributed (Table 1). We first normalized the data in Excel by the mean of zero and the standard deviation of one. After that a normalization regression analysis was done on the normalized dataset of Sum of scenarios with Friends sum and Social media friends sum. The result turned out to be insignificant for both Sum of scenarios – Friends sum,  $p = .875$  (Table 2) and Sum of scenarios – Social media friends sum,  $p = .526$  (Table 3). This result shows that there is no relationship between the willingness of a participant to tell a "social lie" to their friends (Sum of scenarios) and how big his/her social group (Friends sum) or online social group (Social media friends sum) is.

After testing for the relationship between the Scenarios score and Social group size. We also performed a standard regression analysis on each of the remaining two sets of data. And some of the results showed significance (see Other findings). In addition to that, we compared the data difference between the female and male participants.

**Table 1.** Overview of the data accumulated.

	Social scale	Close friends	Friends	Friends sum	Time on social media per week	Social media friends sum
Mean	3.436364	4.668182	13.60909	18.27727	8.2	365
SD	0.879331	2.230244	7.063473	8.242238	4.789762	193.9775

	Opinions on social lie on others	Opinions on social lie on themselves	Opinions SUM	SUM of Scenarios	Online scenario
Mean	3.672727	3.236364	6.909091	13.25455	4.9
SD	1.010032	1.1356	1.933181	3.393674	1.73703

### 3.2 Other correlations

We found correlations between Social scales (from the question how social do you think you are?) and Friends sum ( $p = .017$ ) as well as Social scales and Social media friends ( $p = .001$ ). Which means that for our participants, the size of their social group both in real life and social media relates to how social they think they are. The bigger the social group size the higher the social score given.

Correlation can also be found between Friends sum and Social media friends sum ( $p = .001$ , Table 4). Which means in our study population, the bigger your social group is the more social media friends you will possibly have. And the time our participants spend on social media correlates with their social media friends group size ( $p = .011$ , Table 5). That means that the more social media friends (such as Facebook friends) you have the more time you will spend on social media every week.

### 3.3 Gender differences

For the data analysis, we also separated the data by the population gender so we could take a close look at the difference between males and females within this topic (Table 6). And the result showed that in our study population, female participants were more likely to consider themselves as more social than male (Social scale mean is higher by 0.185). And male participants have showed to have more close friends than females (Close friends mean is higher by 0.468) as well as more friends (close friends and regular friends combined) in general (Friends sum mean is higher by 0.437).

Interestingly enough, although males and females hold similar opinions on whether we should tell a “social lie” in order to make people around them feel good (female mean is slightly higher by 0.099). But when it comes to making themselves feel good, compared to the males female participants expected people to tell them the “social lies” even when they were not true (Opinions mean higher by 0.198).

Another interesting find is that, even though males and females have almost the same amount of social media friends (mean difference of 1.533), the time female participants spend on social media is significantly longer (Time mean is higher by 1.613 hours per week). And most importantly judging by the sum of the five scenarios scales, female participants were more willing to tell a “social lie” than males (Scenarios mean is higher by 0.849).

However, we need to point out that except for the time on social media difference, other differences are rather minor. And considering our limited sample size, the differences can highly likely just be noise.

**Table 6.** Gender differences on different sets of data

	Social scale	Close friends	Friends	Friends sum	Time on social media per week	Social media friends sum
Min (Female)	2	1	3	4	2	0
Min (Male)	1	2.5	3	5.5	1	25
Max (Female)	5	8.5	28	36.5	16	600
Max (Male)	5	8.5	28	36.5	16	600
Mean (Female)	3.5254	4.4576	13.6271	18.0847	8.8474	364.8305

	Opinions on social lie on others	Opinions on social lie on themselves	Opinions SUM	SUM of Scenarios	Online scenario
Min (Female)	2	1	3	7	2
Min (Male)	1	1	2	5	2
Max (Female)	5	5	10	22	9
Max (Male)	5	5	10	19	9
Mean (Female)	3.6949	3.3051	7	13.5932	5.1864
Mean (Male)	3.5957	3.1064	6.7021	12.7447	4.5106

## 4. Discussion

Unfortunately, we have found no relationship between the willingness to tell a “social lie” and the social group size. This makes our hypothesis false. We suspect that the reason we haven’t found a relation might be due to the limitations that we were facing. These are discussed in their own section below. Even though we did not find a correlation for our hypothesis, we used the data to perform further analysis and were able to find correlations between how social people thought they were and the amount of friends they have on social networks. Furthermore, we were able to find correlations between the size of the social group in real life and the amount of friends on social media and also between the time spent on social media and the amount of friends on social media. We also compared gender data to gain more insight. However, except for the time spent on social media the differences between male and female participants that we found were of minor character.

### 4.1 Limitations

Based on the results and overall experience while carrying out our research we have encountered a few limitations. The first ones are limitations of the questionnaire. Some of the answers to our questions are interval based. This is always complex because it is hard to determine the correct ranges of the intervals so that they serve the correct purpose and also it became a problem when we were analyzing the data as we did not know the exact number so we chose to use the mean of each interval which is statistically less accurate. Furthermore, mainly due to a lack of experience, it was very challenging to come up with questions and scenarios for our questionnaire in order to gather the correct type of data which would help us uncover the answer to our research question. We felt that some of our scenarios could have some culture-based bias. Also, to cover all of the social lying situations, probably more than 5 scenarios

would have to be used, but on the other hand that would make the questionnaire longer and participants might not be willing to fill it in. The ordering of the questions in the questionnaire could also be a source of bias. We deliberately avoided the terms “lying” or “lies” in our questionnaire as we felt that they would have a negative connotation and could also be a source of bias.

Further limitations came from our sample. While analysing the data, we have discovered that our sample is too narrow. Since the majority of our participants were white Dutch university students, we might have encountered some cultural bias again. Some cultures might for example be more straightforward and honest while talking to friends etc. We believe that these limitations could be prevented by gathering a more diverse sample. The questionnaire would then probably have to be extended so it would include information on the cultural background of the participant.

## **5. Conclusion**

Our results have raised some further questions. For example, since we found a correlation between the number of friends on social networks and time spent on social networks, meaning that the more friends you have on social networks the more time you spend on them, it might be interesting to research what kind of actions we perform on social networks and how they relate to maintaining the number of friends. Also, since the number of our social media friends keeps increasing with time, does that mean that in the future we will be spending more time on social media maintaining these kinds of social relationships?

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## Appendix

**Table 2.** Regression analysis of Sum of scenarios and Friends sum

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1.2E-15	0.096214	-1.3E-14	1	-0.19071	0.190713	-0.19071	0.190713
STD SUM FRI	-0.0152	0.096214	-0.15797	0.874779	-0.20591	0.175514	-0.20591	0.175514

**Table 3.** Regression analysis of Sum of scenarios and Social media friends sum

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1.2E-15	0.096045	-1.3E-14	1	-0.19038	0.190377	-0.19038	0.190377
STD FB FRI	0.061177	0.096045	0.636965	0.525495	-0.1292	0.251555	-0.1292	0.251555

**Table 4.** Regression analysis of Friends sum and Social media friends sum

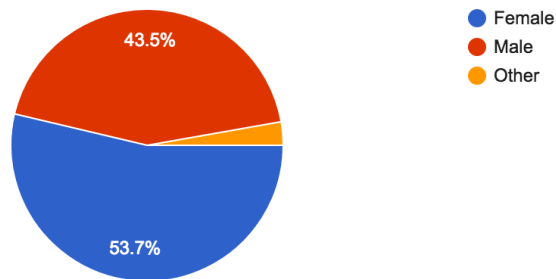
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-2E-16	0.091951	-2.2E-15	1	-0.18226	0.182262	-0.18226	0.182262
STD FB FRI	0.294733	0.091951	3.205337	0.001774	0.112471	0.476995	0.112471	0.476995

**Table 5.** Regression analysis of Social media friends sum and Time spent on social media

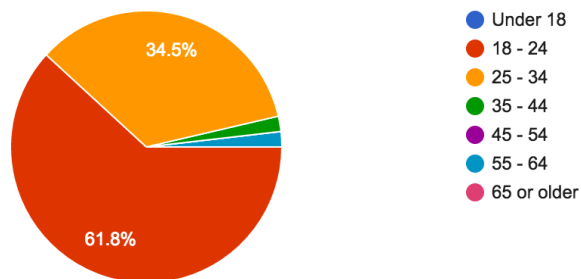
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1.5E-17	0.093374	-1.6E-16	1	-0.18508	0.185083	-0.18508	0.185083
STD TIME ON SM	0.24163	0.093374	2.587774	0.010988	0.056547	0.426713	0.056547	0.426713

## Full Questionnaire (Graphs generated by Google Forms)

**Gender** (108 responses)

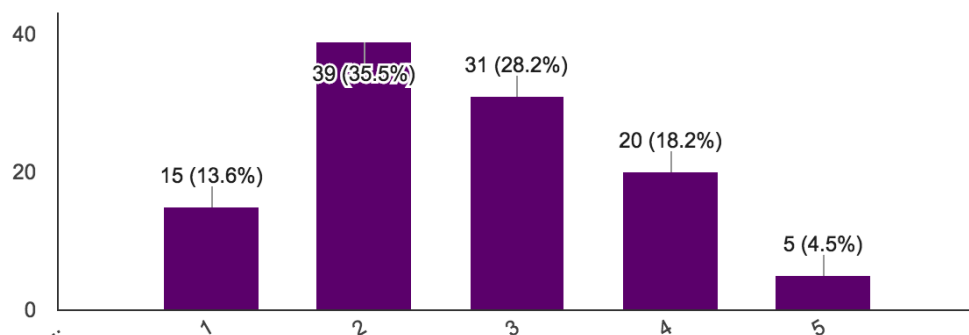


**Age** (110 responses)

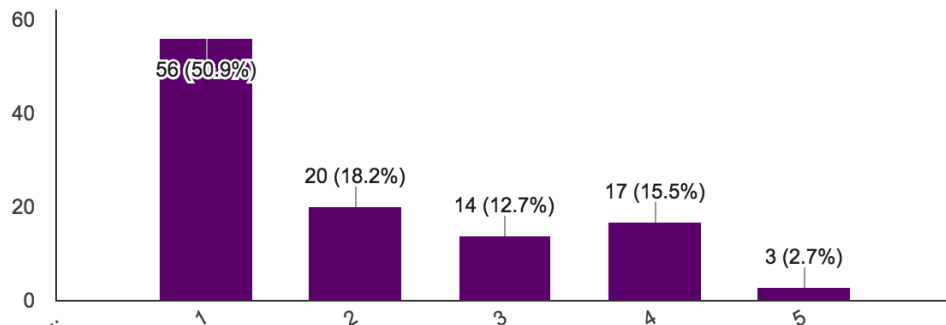


**My friend bought a new shirt, and he/she asked for my opinion on it. Even though I didn't really like it, I still said "yes, you look good."**

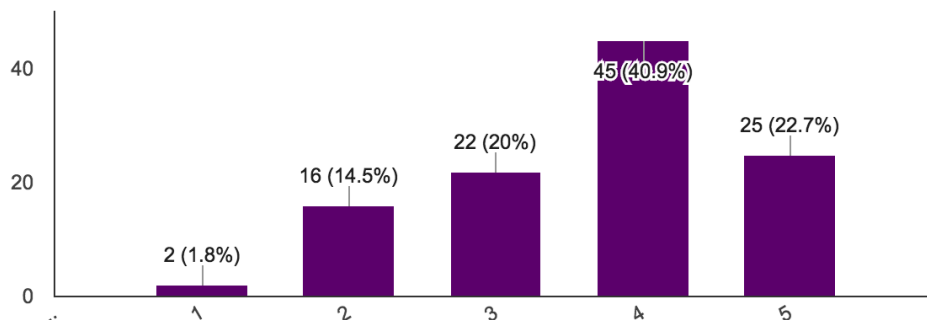
(110 responses)



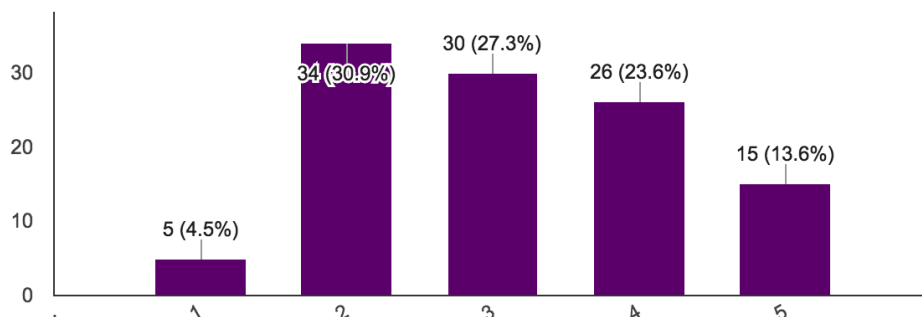
My friend posted something on a social network such as Facebook. I sometimes click the "like" button, even though I don't really "like" the content.  
(110 responses)



I have been invited to attend a party. On my way out I said to the host: "Thank you for having me, it was a great party", no matter what I actually thought about it.  
(110 responses)

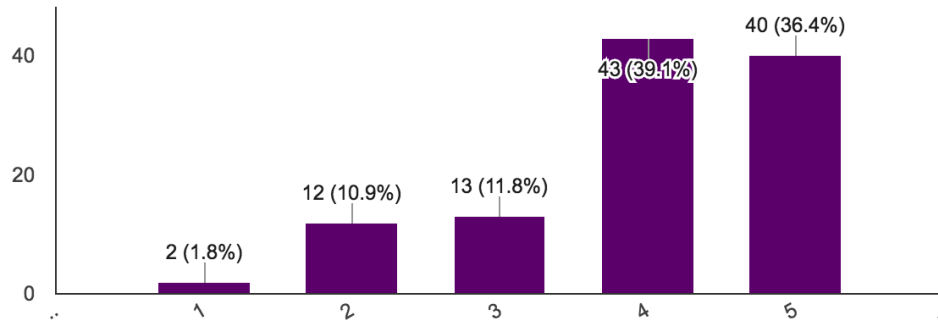


My friend sent me a joke in an online conversation (such as Whatsapp or Messenger). If I don't think it's funny, I'll never give positive feedback such as "haha".  
(110 responses)

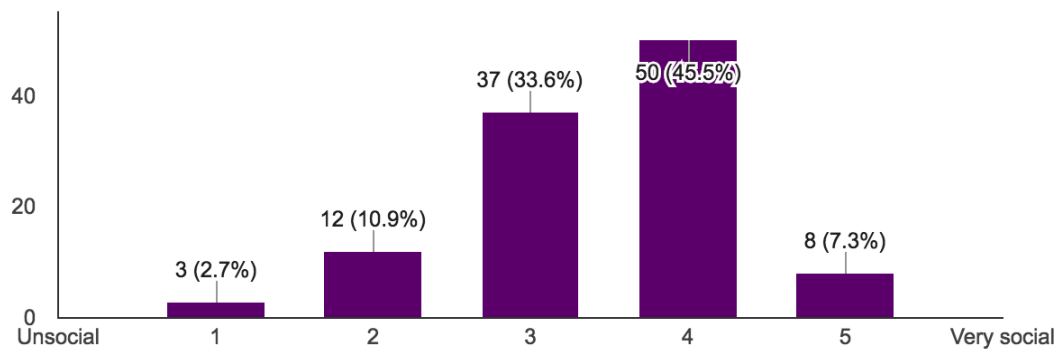


My friend recommended me a movie/book they really like and asked my opinion on it afterwards. If I didn't like it, I will just say "I didn't like it." , even if it's awkward.

(110 responses)

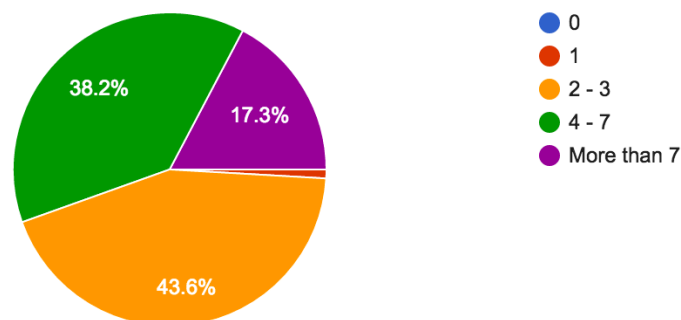


How social do you think you are? (110 responses)

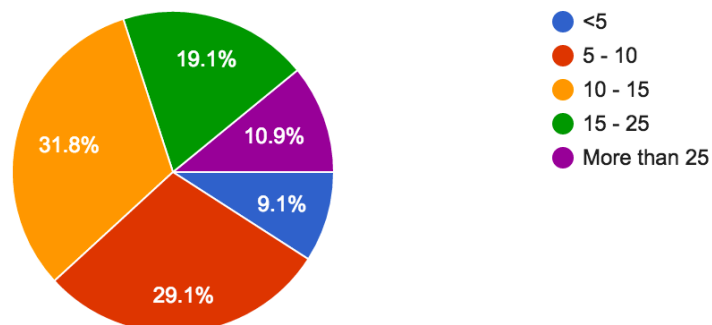


How many close friends (people you would go to for emotional support) do you have?

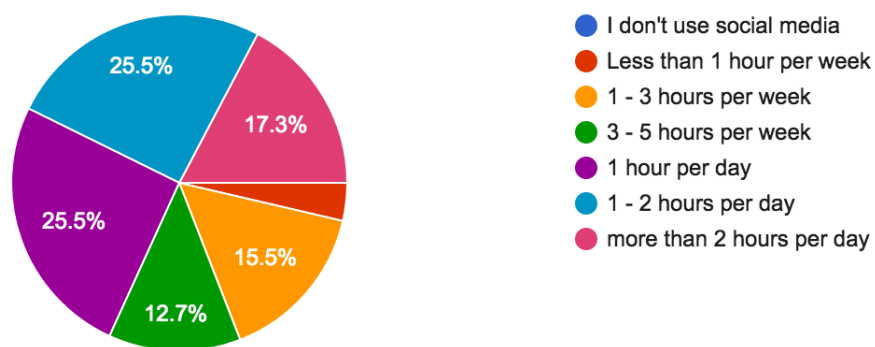
(110 responses)



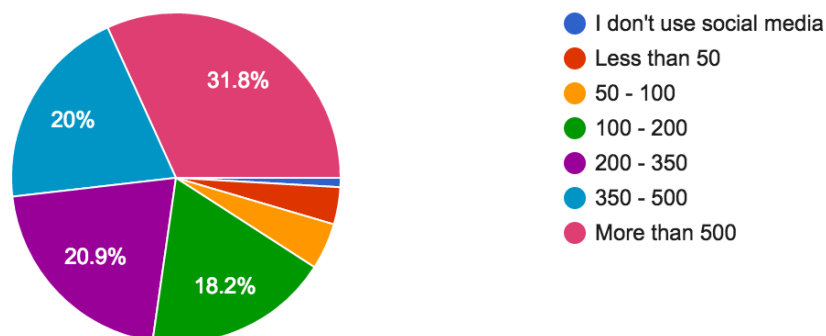
How many friends (people you keep in regular contact or spend free time with) do you have?  
(110 responses)



How much time do you spend on social networks (Facebook/Whatsapp/Instagram/Messenger etc.) ?  
(110 responses)

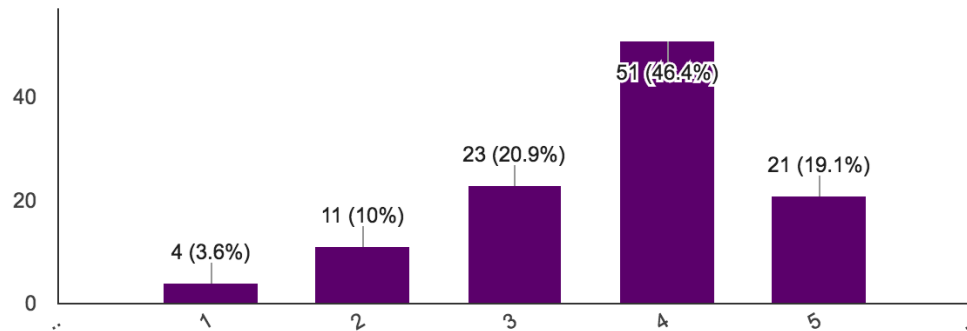


How many friends do you have on Facebook or other social networks?  
(110 responses)



Sometimes, it's important to say something in our social life to make others feel good, even though it's not true.

(110 responses)



Sometimes, it's important to hear someone say something to make you feel good, even though it's not true.

(110 responses)

