

# THE FORMATION OF GENERALIZED TRUST BY FAMILY TIES AND SOCIO-ECONOMIC STATUS

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## ABSTRACT

The aim of this research was to elucidate the role of family ties and socio-economic status on the likelihood to trust general others. Although the effects of both factors have already been studied separately, this study will present the effects of both factors in one model. Based on earlier research, the strength of family ties is predicted to have a negative influence on the likelihood to trust general others. Theory implies socio-economic status to be positively related to general trust. As earlier studies show a correlation between socio-economic status and family ties, the third hypothesis compares the predictors and the fourth hypothesis tests an interaction effect. Data was obtained from the 2004 General Social Survey. Logistic regression was used to test the hypothesis and confirmed the first and second hypotheses. Socio-economic status predicted the likelihood to trust general others slightly better than the strength of family ties. The model with both socio-economic status and family ties included had the best model fit. Only the interaction effect fell short of significance.

*Keywords:* [general trust](#), [family ties](#), [socio-economic status](#), [social capital](#), [network ties](#).



## PREFACE

Trust is something we deal with every day. Whether it is with your partner, your close friends, family or in the supermarket, where you will not check whether the cashier has given you the right amount of change. The many variations and outcomes of trust make it a complex concept, sometimes so confusing that it almost resulted in me not having trust in any concept of trust. The more I've read about trust, the more questions popped into my head. Eventually I came up with a trust framework, that might make the concept a bit clearer.

Special thanks goes to my supervisor Wojtek Przepiorka, who was always willing to support.



# 1. Introduction

One of the most frequently studied, yet least understood concepts, is trust (Das and Teng, 2004). The simplest definition of trust is 'A' expects 'B' to do 'X'. Central to trust is that 'A' can never be a hundred percent sure that 'B' will act as expected. Instead of knowing with certainty what 'B' will do, 'A' has to trust (Frederiksen, 2012). 'B' can take several forms: it can be related to institutionalized trust, particular trust in specific others or generalized trust (Nannestad, 2008). Generalized trust is the trust an individual has in people whom one does not know well.

The function of generalized trust is closely related to social capital. According to Coleman (1988), social capital is the structure of relations between individuals that enables the achievement of certain resources. However, definitions of social capital vary from study to study: some define social capital as an individuals' social networks, others as the civic engagement in a society or the amount of general trust (Crudeli, 2006). While some studies thus see trust as a core component of social capital, others even use the generalized trust question as a single indicator (Delhey and Newton, 2003). Nonetheless, social capital is always dependent on general trust, as trust enables an individual to function within a social network or to participate in civic engagement.

Coleman (1988) declared social capital to have positive effects on human and physical capital. As generalized trust is a core component of social capital, it will indirectly affect other forms of capital. Therefore, generalized trust is an essential concept for understanding economic, social and political behavior (Ben-ner and Halldorson, 2010).

This study will try to elucidate the concept of generalized trust by first establishing the relationship between social capital and generalized trust. A closer look on trust will show that the decision to place trust consists of three components. The first component relates to the function of social capital: trust enables an individual to obtain resources, that could not have been acquired without trusting someone. The second and third element relate to factors influencing the decision to trust, namely strength of the relationship between 'A' and 'B' and 'A's socio-economic status. Earlier research has identified a negative effect of strong family ties on generalized trust (Alesina and Giuliano, 2014). People who are used to interacting within their strong kin ties are less likely to take the risk of trusting weak ties. Socio-economic status, on the other hand, shows a positive effect on the likelihood to trust general others (Hamamura, 2012). The higher ones socio-economic status, the better one can deal with the potential loss of resources due to misplaced trust.

Although studies thus show the influence of strength of family ties and socio-economic status on generalized trust independently, the combination of both factors on generalized trust remains unstudied. This study will address this combination by answering the main question: *'What are the effects of strong family ties and high socio-economic status on the likelihood of trusting generalized others?'*

The argument is presented in five parts. The first part contains the theoretical background. The relationship between social capital and generalized trust is presented, followed by a discussion of factors influencing the placement of trust. This discussion implies family ties and socio-economic status to determine the likelihood to trust general others. The mechanisms of these relationship are analyzed in the last part of the theory. The second section provides information on the GSS data set that was used for this study. The third part concerns the measurement and operationalization of the hypotheses. In the fourth segment, results of the analyses are presented. The last section consists of the conclusion which will answer the main question and a discussion in which limitations of this study and implications for further research are proposed.

## 2. Theory

### 2.1 Social capital: The importance of trust.

*“Social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors –whether persons or corporate actors- within the structure. Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible. ... Unlike others forms of capital, social capital inheres in the structure of relations between actors and among actors”*

(Coleman, 1988, p. 98).

From Coleman’s (1988) quote the following definition of social capital is created: social capital is the structure of relations between and among actors that enables the achievement of certain resources. Actors can actively use their social capital to achieve their interests. Therefore, social capital is of importance for other forms of capital, such as human or financial capital (Coleman, 1988).

The definition of social capital implies a focus on the social networks individuals can access. One way of addressing social networks is by looking at the strength of interpersonal ties and the resources these ties obtain. Granovetter (1973) sees the strength of a tie as the combination of the amount of time, the emotional intensity, the intimacy and the reciprocal services found in the tie. Based on this combination, ties are divided into three groups: strong, weak or absent. The essential finding of Granovetter’s (1973) research was that weak ties provide new information to the actor as these ties are connected to another core network, thereby being crucial for obtaining new resources. From this finding it can be stated that weak ties are necessary for acquiring social capital.

Two questions arise when concentrating on weak ties. Firstly, which factor determines having weak ties? Secondly, what determines whether an individual uses his or her ties? These questions bring up another aspect of social capital: trust. Trust can take different forms, two of them are particular and generalized trust (Nannestad, 2008). Particular trust refers to trust in a specific person whom we know well, or, someone that an individual has sufficient information on. Generalized trust is the expectation that people whom we do not know well, or do not know at all, will behave honestly

and responsibly (Bac, 2009). Particular trust thus refers to trust in strong ties and generalized trust to trust in weak ties. As weak ties are central to obtaining new information and resources, generalized trust is essential for accessing weak ties, thereby being a crucial component of social capital.

Hamamura (2012) confirms generalized trust to be essential for the creation of social capital. As reported by Delhey and Newton (2003), individuals with high levels of generalized trust tend to be happier, wealthier and better educated. On the national level, countries with higher levels of generalized trust tend to have a higher average income and have shown to be safer than countries with low levels of general trust.

## **2.2 Trust: a closer look**

Research on trust lacks a concrete definition of the concept. Ben-ner and Halldorson (2010) define trust as the voluntary transfer of a good or a favor to someone, with future reciprocation expected, but not guaranteed. Frederiksen's (2012) definition of intersubjective trust is predominantly investigated as the weighing of material and symbolic costs and risks against potential benefits.

A trust relationship consists of a trustor and a trustee (Ben-ner and Halldorson, 2010). Coleman (1990) assumes both parties to be purposive: they both want to satisfy their interests. If the trustor (A) decides to trust, he believes that the trustee (B) will not take advantage of 'A'. Yosano and Hayashi (2005) call this trustfulness: the estimated value of trustworthiness an actor feels toward the objects. Whether the trustor decides to keep or break the trust determines the trustworthiness. In this article the focus lies on the trustfulness, as this should determine whether someone will trust and thereby make use of his weak ties. Coleman (1990) discusses important aspects of the placement of trust. First, trust allows the trustor to do something that would not have been possible without the trustee. Second, if the trustee is trustworthy, the trustor is better off than if he had not trusted. If the trustee is not trustworthy, the trustor is worse off than before placing the trust. Third, by placing trust, the trustor places resources at the disposal of the trustee. A rational actor will place trust if the gain is higher than the expected loss. According to Ermisch and Gambetta (2008), A's decision to trust involves three phases. First, 'A' considers their benefit of trusting by comparing their possible returns to the risk of the trust not being fulfilled. Second, 'A' considers the possibility 'B' will act as expected. Lastly, 'A's willingness to take the risk of being exploited is of importance (Ermisch and Gambetta, 2008). Combining the elements of trust proposed by Coleman and Ermisch and Gambetta leads to the following factors in the decision to place trust:

**Figure 1: Placement of trust components**

1. Benefits and losses	→ 2. Relationship A and B	→ 3. Individual Resources
Trust allows A to do something that would have been impossible without B. A has to consider the potential benefits and losses of the trust situation.	If 'B' is trustworthy A is better off, 'A' has to consider the possibility 'B' will act as expected	'A' places resources at proposal of 'B', 'A' has to define his willingness of being exploited

*Note:* Based on Coleman (1990) and Ermisch and Gambetta (2008).

Inspection of table 1 reveals that step 1, considering the benefits and losses of the trust situation, refers to the function of generalized trust and social capital. Trusting general others enables the actor to do something that would not be possible without his social connections. An individual will only decide to trust when the expected benefits of trust are higher than the potential losses. The second step concentrates on the relationship between the trustor and the trustee, thereby focusing on the tie connection between the trustor and the trustee. Yosano and Hayashi (2005) argue that the stronger the tie, the greater the expectation that the trustee will act as expected. The first strong ties an individual develops are usually within the family (Khodyakov, 2007). The second step implies that whether or not an individual decides to trust general others, could be influenced by the strength of the family ties. The mechanism of this statement will be discussed in the following section. The third aspect concerns the resources an individual has access to. Whether or not an individual is willing to lose his resources, is dependent on the amount of resources he has in his possession. The relative loss would be smaller for an individual with a large amount of resources. As individuals within the higher ranks of society have more resources than individual with a lower social rank, it is expected that people with a higher socio-economic status are more willing to trust. The theory on socio-economic status and the likelihood to trust general others is discussed in part 2.4.

### 2.3 Family ties and trust

The second step of table 1 refers to the possibility that the trustor thinks the trustee will act as expected. According to Yosano and Hayashi (2005) the stronger the tie between the trustor and the trustee the greater the expectation that the trustee will act as expected. Strong tie relationships with their family are in most cases the first ties people develop in their lives (Khodyakov, 2007). The particular trust that is formed by these relationships will influence how generalized trust is developed.

The most extreme version of strong family ties is 'amoral familism'. Banfield (1958) introduced the term to describe a situation in which individuals maximize the material of the nuclear family and expect others to do the same for their family. The ethos of 'amoral familism' captures offensive and defensive measures in dealing with non-family members (Banfield, 1958). Offensive



measures bear on exploiting non-family members when possible, thereby reflecting an ethos of low trustworthiness. Examples of defensive measures are stubbornness, suspicion, secrecy and lying towards non-family members. These measures decrease both the trustworthiness and trust levels towards individuals outside the nuclear family, by that decreasing the trust in people outside the strong tie network. Alesina and Giuliano (2009) confirm this theory: by raising individuals to trust their close family members, they are simultaneously taught to distrust general others. Strong family ties are therefore associated with a lack of generalized trust (Alesina and Giuliano, 2009).

The mechanism behind this association is explained by the ‘emancipation theory’ (Yosano and Hayashi, 2005). The emancipation theory states that the creation of general trust will be weakened when commitment relations with family members are strong (Yosano and Hayashi, 2005). Central to a trust situation is the social uncertainty that is present. Social uncertainty is the inability of the trustor to detect whether the trustees’ intentions are honest (Yamagishi and Yamagishi, 1994). This uncertainty can be reduced in committed relationships for three reasons. First, individuals in committed relationships have sufficient information on the other to more accurately predict the partners intentions. Second, the emotional attachment between the trustor and trustee can be used as ‘hostage’ to provide deterrence against breaking the trust. Third, the trustor and trustee have mutual control over each other, which makes it harder for both sides to be dishonest (Yamagishi and Yamagishi, 1994). Numerous reasons keep the trustor from trusting outside these commitment relationships, with the most important reason being that the social uncertainty would be higher outside the family relationships (Yamagishi and Yamagishi, 1994). The stronger the family ties, the lower the social uncertainty. That is, the stronger the family ties, the higher the relative social uncertainty in weak tie connection. Commitment to strong family ties thus leads to a vicious circle of distrust to weak tie connections. Individuals who do not trust outsiders stay in their commitment relationships, thereby avoiding the connections with outsiders and creating even more distrust to strangers (Yamagishi and Yamagishi, 1994). Ermisch and Gambetta (2008) therefore call commitment relationships with family ties alternative solutions to the risk of being exploited by strangers.

The relationship between strong family ties and generalized trust has mainly been studied on a macro-level. Alesina and Giuliano (2014), showed societies based on weak ties to be associated with greater exchanges outside the kin network and having higher levels of general trust. Reallo, Allik and Greenfield (2008) found that countries with lower levels of trust in weak ties are characterized by high levels of familism. Societies that scored low on familism reported significantly higher levels of trust in weak ties. On the individual level, Ermisch and Gambetta (2010) showed general trust to be more likely for those individuals who do not see their family very often.

**Figure 2:** *Hypothesis 1, direct relationship between family ties and general trust.*



The theory study thus indicates a negative relationship between family ties and general trust on a macro level, with indications of the same mechanism for individuals. The influence of family ties on generalized trust for individuals is shown in figure 2 and will be tested by the following hypothesis:

*H1 The larger the proportion of strong family ties, the smaller the likelihood to trust general others.*

## **2.4 Socio-economic status and trust**

The third step of the placement of trust (figure 1) considers the actual placement of resources and the corresponding willingness of the trustor to lose his resources when trust is betrayed. To place resources, logically, resources are needed.

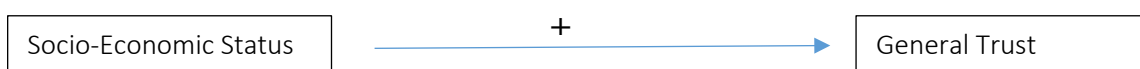
Introduced by Newton and Delhey (2003), the ‘success and well-being theory’ declares that the relative risk of losing resources is higher for individuals with less resources than for individuals with a high amount of resources. Individuals who possess a great amount of resources can lose a part of their resources without being concerned about meeting their basic needs for living (Hamamura, 2012) Available resources thus function as a protection against the risk of betrayal in a trust situation.

Resources that can induce the risk of being exploited range from having enough financial saving to insurance and extensive social security (Hamamura, 2012). These resources are captured in the term socio-economic status. Indeed, several studies have demonstrated a positive correlation between high socio-economic status and trust in general others. The study of Glaeser, Laibson, Scheinkman and Scouter (2000) showed general trust levels to be significantly higher among the richer and well-educated individuals in a society. Hamamura’s (2012) findings also showed a positive relationships between social class and generalized trust, although these results were only found in wealthy societies

Earlier research thus points to a positive relationship between the amount of resources, thus socio-economic status and levels of general trust. This theory is portrayed in figure 3. The second hypothesis is:

*H2: The higher an individual’s socio-economic rank, the larger the likelihood to trust general others.*

**Figure 3:** *Hypothesis 2, Direct effect of socio-economic status on General Trust*



## 2.5 Family ties and Economic Status

The theory has thus far predicted a negative effect of strong family ties on generalized trust and a positive effect of socio-economic status. Both factors act as a buffer against the risk of betrayal in a trust situation: family ties by reducing social uncertainty through commitment relationships and socio-economic status by acting as a back-up against loss of resources. Although studies have confirmed these effects independently from each other, little work has been done on the combination of strength of family ties and socio-economic status on generalized trust.

Granovetter (1973) has shown the importance of generalized trust, as weak tie connections provide individuals with new information and resources that cannot be found within strong tie relationships. As weak ties enable individuals to gain resources, the successful use of weak ties should increase one's socio-economic status. Indeed, research has found social capital to contribute to improve one's economic well-being (Coleman, 1988; Zhang, Anderson and Zhan, 2011). Social capital has proven to be especially important for low-income people as it is more accessible to them than other forms of capital (Zhang et al., 2011).

However, although social-capital might be a more accessible form of capital for these lower-income individuals, that does not mean they actually make use of weak tie connections. The theory of socio-economic status has already shown low-income individuals to be less likely to trust general others. Furthermore, some studies show a negative correlation between strong family ties and socio-economic status, thereby indicating an interaction between the strength of family ties and socio-economic status on generalized trust.

Banfield (1958) stated that the ethos of 'amoral familism' is the moral basis of a backward society. The extreme reliance on family ties prevents the development of institutions outside the strong family ties network, thereby lowering the level of development in a region. On a micro-level, Alesina and Giuliano (2014) found family ties to determine fundamental economic attitudes. Individuals with strong family ties prefer more regulated labour markets and are less likely to move away from home for a better job offer. Moreover, individuals coming from strong ties show lower levels of labor for women, young adults and older people (Alesina and Giuliano, 2014). However, there could be one situation when family ties are related to higher levels of trust: if the family is in the higher ranks of society, the negative influence of family ties could be balanced by their socio-economic status.

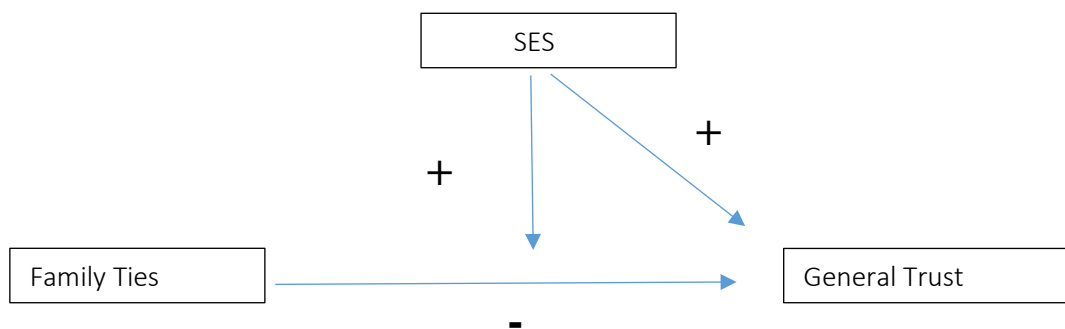
Along these lines, the decision whether or not to trust generalized others is influenced by both family ties and socio-economic status. However, from a theoretical point socio-economic status should better predict the likelihood to trust generalized others, as it can balance the negative influence of family ties. The third hypothesis concentrates on the comparison of strong family ties and socioeconomic status:

H3: *Socio-economic status is a better predictor for the likelihood to trust generalized others than the strength of family ties.*

Furthermore, the theory shows an indication towards an interaction effect family ties and socio-economic status on generalized trust. The interaction effect is presented in figure 4. This will be tested in the fourth hypothesis:

H4: *Family ties and socio-economic rank have an interaction effect on the likelihood to trust general others.*

**Figure 4:** *Direct and indirect effects of family ties and socio-economic status on general trust*



### 3 Data

The data for this study was obtained from the website of the General Social Survey. The General Social Survey (GSS) has been monitoring social change of the American society since 1973 (Smith, Marsen and Hout, 2015). The GSS includes information on standard demographic variables, attitudinal questions and special topics of interest. As the GSS is the only survey that has tracked the opinions of Americans for over 40 years, it is one of the most frequently analyzed datasets in the social sciences (Glaeser et al., 2000). In the 2004 version, respondents were asked about their strong tie connections. As this question is needed for the conceptualization of strong and weak family ties, this study works with the GSS 2004 version.

The General Social Survey has been conducted during February, March and April of 2004. The standardized interviews were carried out by computer-assisted personal interviewing (CAPI). This system was introduced to the GSS in 2002 and replaced the pencil and paper interview system. Advantages of the CAPI-system are the prevention of administration errors and reducing inadvertently skipped question by the computer aspect, but still having the advantage of a human interviewer who reads the questions to the respondent (Tourangeau and Smith, 1996). Should the respondent not understand the question correctly, specifications inform the interviewer of the intent of

the question (Smith et al., 2015). However, by retaining the exact wording for every question, interviewer bias is tried to be reduced.

From 2004, the demographic sampling frame was used to allocate the respondents. Areas were categorized according to population size, which results in three categories: large counties with high density population, small counties (< 30,000 population) and intermediate counties. This new demographic approach has increased the certainty stratum by 45 percent (Smith et al., 2015). Respondents must meet the requirements of being over 18 years old and English speaking. Moreover, quota sampling based on sex, age and employment status is used. These quotas request a rough fifty-fifty division in gender, with the note that there should be an adequate proportion of employed and unemployed women for the location. The population of men should represent the correct proportion of age over and under 35 in the specific location. A total of 2812 interviews were completed. Of the respondents 45.5 percent were male, leaving 54.5 percent of the respondents being female. The average age of the respondents was 45,69 years.

## 4 Method

### 4.1 Dependent Variable

The operationalization of social trust is commonly based on the standard survey question: *generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?* (Bjornskov, 2004; Bulloch, 2013; Ermisch et al., 2009; Huang, Maasen van den Brinck and Groot, 2011; Glaeser et al, 2000; Johnson and Mislin, 2012; Sturgis and Smith, 2010). The question measures the generalized trust (Sturgis and Smith, 2010).

While this is the most often used survey-question to measure trust, the question is also vague, abstract and hard to interpret (Glaeser et al, 2000). Variations might arise due to differences in beliefs about the trustworthiness of people, differences in what it means to trust and differences in the conceptualization of most people. Johnson and Mislin (2012) agree, they state that the interpretation of 'most people' can be interpreted differently in various circumstances. They thereby point out it being unclear whether the GSS question captures an internally valid measure or a predictor of general trust behavior. Bulloch (2013) addresses another problem with the GSS question; it does not specify what the object of trust is. The object of trust may be important for the decision to trust or not. One might be willing to trust B concerning resource Y but not on resource Z. A different problem is evaluated by Sturgis and Smith (2010), they propose that while answering the question, respondents can either think about their personal experiences with others or about future trust situations. Their study shows, indeed, significant higher trust levels of respondents who assess the question by thinking about their personal experience. Others, like Johnson and Mislin (2012), find support for the interpretation that the general trust question does measure trust.

Although the imperfections of the standard trust question are clear, the great advantage of using the general trust question is the comparability to other studies. Keeping the imperfections in mind, trust is conceptualized by the question: *generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?* Almost half of the respondents (1348) did not answer the question. Four answer categories were provided by the General Social Survey: 1= Always Trusted, 2= Usually Trusted, 3=Usually not trusted, 4= Always not Trusted. The answer categories 1 and 4 were only chosen by respectively 3 and 9 percent of the respondents. Therefore, a dichotomous variable was conducted with former answer categories 1 and 2 being '1 can trust' and answer categories 3 and 4 being '0 cannot trust'.

## **4.2 Independent Variables**

*Family Ties* was measured by the proportion of kin in the strong network ties. Respondents were asked to name those people with whom they discussed important matters in the past months. These people make up the core social network, being our strong ties (McPherson, Smith-Lovin and Brashears, 2006). Then, respondents were asked to name the relationship between themselves and the first 5 people mentioned. Presented options for this question were spouse, parent, sibling, child, other family, co-worker, member of group, neighbor, friend, advisor and other. To conduct the strength of family ties, the number of strong ties was calculated first. As respondents could only specify the first 5 ties named, the maximum of this variable is 5 with a minimum of 0. Second, the answer options spouse, parent, sibling, child and other family were specified as kin ties. A new variable was made by dividing the number of family ties by the number of strong ties the respondent mentioned. This variable measures the proportion of kin with '0' being no strong ties within the network and '1' meaning all strong ties mentioned are kin ties.

It is important to control for the absolute network size, to make sure that the influence of strong family ties is dependent on the number of kin, and not on the absolute number of strong ties. The variable 'networksize' was created by counting the people named for the question with whom the respondent discusses important matters. Previous Research (Yucel, 2013) reported that the more siblings an individual has, the greater the chances of a kin based social network. As the number of siblings could therefore influence the number of family members mentioned, the number of siblings a respondent has functions as a second control variable for the strength of family ties.

*Socio-economic status (SES)* can be measured by objective and subjective variables (Wakefield, Sani, Madhok, Norbury and Dugard, 2015). The objective measurement corresponds to variables such as income, education, employment and occupation. Several limitations are linked to this objective measure. For example, occupation is not relevant for retired individuals, high education does not necessarily result in high income and high income does not always correlate with high prestige of occupation. Furthermore, Hamamura (2012) argues that objective measurements are not

the same in different cultures or locations, for instance, college education may be a norm for one population, but a sign of elite-status in a different population. Alternatively, socio-economic status can be measured by subjective variables. Wakefield et al. (2015) explain subjective socio-economic status (SSS) as a person's belief about his location in a status order. Respondents have to place themselves at an imaginary socio-economic status ladder featuring ten rungs, comparing themselves to others in society (Adler, Epel, Castellazo and Ickovics, 2000). Advantages of this method are the involvement of past experiences, current circumstances and future prospects (Wakefield et al., 2015).

Central to the subjective measurement is whether individuals regard themselves to have a 'higher' or 'lower' status than others (Netuveli and Bartley, 2012). This is important because it places an individual's socio-economic rank in a particular context. The GSS survey was taken in the United States, a large country, having many different meso and macro-contexts. However, with subjective rank, the respondents rank themselves regarding to their own environment. Expecting trust relationships to occur in the environment of the respondent, implies subjective rank to be more robust against differences in region and social groups. Objective measures would thus not present a valid image of the socio-economic rank. The objective measures are however significantly correlated to subjective rank, all having a positive effect.

Socio-economic status will be measured by the answer respondents give on the GSS question: *In our society there are groups which tend to be towards the top and those that are towards the bottom. Here we have a scale that runs from top to bottom. Where would you put yourself on this scale?* The scale has a minimum of 1 and a maximum of 10, with 10 corresponding to the highest possible rank.

### **4.3 Control Variables**

Four predictors function as control variables. *Age* measures the age of the respondent when answering the survey questions. To participate in the General Social Survey respondents have to be 18 years or older, therefore age has a minimum value of 18. The maximum answer category was named '89 or older'. The mean of the reported age is 45,69 years.

Gender is measured by the answer categories male or female. A dummy is made named *Female*, indicating that the reference category is male. Approximately 55 percent of the respondents was female, leaving 45 percent of the respondents to be male.

As explained in the previous section, two variables are chosen to control for the strength of family ties. *Networksize* is the number of strong ties named by the respondent. As respondents could not identify more than 5 close ties, the range for this variable has a minimum of 0 and a maximum of 5. *Siblings* is measured by the total number of siblings one has. Respondents were not given a limit in number, which resulted in some respondents reporting up to 29 siblings. These answers were considered outliers. However, to reduce loss of information, the siblings variable was recoded into

having the answer category '11 or more siblings'. This implies a range with a minimum of 0 and a maximum of 11. *Income, occupation and education* are the control variables for socio-economic rank. Income is measured as the respondents income in dollars divided by a hundred. Occupation is measured with the occupational prestige score of Duncan SEI. Duncan SEI ascribes scores to different occupations. The more points ascribed, the higher the occupational standing in a society (Caston, 1989). Occupation scores have a range from 17,10 tot 97.20. Education is measured by the total years of education a respondent has followed, with a minimum of 0 years and a maximum of 20. Descriptives of the adopted variables are displayed in table 1.

**Table 1: Descriptives and Missings of dependent and independent variables**

	Mean	Std. Deviation	Minimum	Maximum	Missing
<i>Trust</i>	,4816	,49983	0	1	1348
<i>Family Ties</i>	,5869	,38636	0	1	1747
<i>Rank</i>	6,6310	1,84825	1	10	1636
<i>Networksize</i>	1,9951	1,66343	0	5	1386
<i>Age</i>	45,96	16,804	18	89	9
<i>Female</i>	0,5448	,49808	0	1	0
<i>Siblings</i>	3,4760	2,65074	0	11	5
<i>Income *</i>	260,1978	289,69483	3,02	1340,08	1124
<i>Occupation</i>	50,8045	19,72449	17,10	97,20	164
<i>Education</i>	13,6982	2,88920	0	20	2

*Note:* Income is divided by 100. N=2812.

#### 4.4 Missing Data

Inspection of Table 1 reveals high missing values for the variables 'trust', 'family ties', 'rank' and 'networksize'. As 'networksize' and 'family ties' are related, the respondents for these missing values are the same. Applying a filter for valid 'family ties' showed that 1346 of the filtered respondents did also not answer the general trust question. The filter for valid 'family ties' also excluded 1476 missing values for the socio-economic rank question, leaving 160 'socio-economic rank' missing values. The EM correlations between 'family ties' and 'rank' of the remaining 160 missing values do not appear to be significant (chi-square=1,379 , df=3, p=.502). The insignificance of Little's test indicates a random distribution of the remaining missing values. All missing values were filtered out, leaving the data with 903 valid values. As income, occupation, and education are only used in one model, the missings were not filtered out for the other analyses. The model with these factors included shows 578 valid responses.



## 4.5 Analyses

Generally, regression analysis is used when a study concerns the prediction of the relationship between a response variable and one or several independent variables (Hosmer and Lemeshow, 2000). However, when the dependent variable is dichotomous, logistic regression is nowadays the standard method of analysis (Hosmer and Lemeshow, 2000; Peng, Lee and Ingersoll, 2002). As trust is measured by the binary answers ‘0= no trust’ and ‘1=trust’, multiple logistic regression is applied to disentangle the relationship between the strength of family ties, socio-economic status and generalized trust.

Logistic regression does not assume independent variables to be normally distributed, instead it assumes the same probability is maintained across the range of the independent variable (Peng et al., 2002). This binomial assumption can be taken as robust if the bivariate correlations of the independent variables do not exceed  $r > 0,9$  (de Vocht, 2010). The analysis of Pearson’s ‘R’ did not show any correlations which point to a dependence of two variables. Furthermore the correlations showed trust to positively correlate with social rank, strong network ties, age, income, occupation and education. Only family ties and being a female had a significant negative correlation with general trust. Family ties correlated positively with being female and being older of age. Family ties were negatively related to social rank, income and education. Correlation between occupation and family ties was not significant. Socio-economic rank correlates positively with age, income, education and occupation. The correlation between family ties and socio-economic rank was not significant, although it did show a negative correlation.

**Table 2:** Pearson Correlations of dependent and independent variables

	Trust	Family Ties	Social Rank	Network	Female	Age	Siblings	Income	Occup.	Educ.
Trust	1									
Family ties	-,110 **	1								
Social Rank	,137 **	-,018	1							
Network	,192 **	-,188 **	,051	1						
Female	-,111 **	,067 **	-,053	,035	1					
Age	,110 **	,009 *	,137**	,077*	-,040	1				
Siblings	-,059	,087	-,118**	-,068*	,017	,114**	1			
Income	,247 **	-,083 *	,151 **	,114**	-,234**	,224**	-,090*	1		
Occupation	,249 **	-,059	,181 **	,197**	-,055	,085*	,247**	,412**	1	
Education	,252 **	-,128 **	,166 **	,242**	-,050	-,044	,304**	,326**	,580**	1

Note: \* Correlation significant at  $p < .05$ , \*\* Correlation significant at  $p < .01$ , N=903, except for income: N=583.

Five models were logistically regressed on generalized trust, while keeping the control variables constant. The Wald-Statistic was used to obtain significance for the coefficients. Moreover, the odds are interpreted to test the hypotheses. The first model concerns the first hypothesis, testing whether strong family ties significantly affect the chances of answering 'yes' on the generalized trust question. In the second model, the family ties variable is replaced by the subjective social rank of a respondent to test the second hypothesis. A third model was conducted to test whether adding income, education, and occupation influences the effect of subjective social rank. Income and education proved to be significant for predicting generalized trust. However, adding the control variables to the model made subjective rank insignificant, indicating that both of the variables are included in social rank. The control variables will therefore not be used in the other models. The sibling variable was also excluded in the following models, as it did not show a significant effect in the first and second model. The fourth model includes both the strength of family ties and a respondents subjective socio-economic rank. The -2 Log Likelihoods of model 1, 2 and 4 compared to determine which model best fits the data (Lancsar, Louviere and Flynn, 2007). The interaction effect of family ties and subjective socio-economic rank is added in the fifth model. The results are presented in table 3.

## 5 Results

### **Hypothesis 1 – Model 1**

*The larger the proportion of strong family ties, the smaller the likelihood to trust general others.*

Logistic regression analysis was conducted to predict trusting most people, using the proportion of family ties mentioned by the respondent. Model 1 showed to be significant against the constant only model (chi square= 62,3,  $P < .001$ ) with a -2 Log Likelihood of 1189,6. The model predicted 60,2 percent of the generalized trust correctly. The Wald-test showed a significant negative influence of the number of strong family ties on generalized trust with every increase of strong family ties to decrease .371 in the log of the odds ( $p = .043$ ). The corresponding odds ratio was ,690, indicating the chances of reporting to trust are .310 times lower for every increase of family ties. The number of strong family ties mentioned was controlled for by the general strong ties respondents mentioned. The number of strong ties affects generalized trust significantly with an increase of ,261 to the logit ( $p < .001$ ). Along with these findings, the model showed women to be significantly less likely to trust generalized others than men ( $B = -.467$ ,  $p = .001$ ). Age has a positive significant effect on the likelihood to trust generalized others ( $B = ,013$ ,  $p = .004$ ). The number of siblings one has does not significantly affect the chances of trusting generalized others, although it does show a negative correlation.

## Hypothesis 2 – Model 2 and 3

*The higher an individual's socio-economic rank, the larger the likelihood to trust general others.*

Model 2 shows the results of logistic regression testing for the effect of socio-economic status on the chances of trusting 'most other people'. The second model reports to explain significantly more than the constant only model with chi-square=68,5,  $p < .001$  and -2 Log Likelihood of 1183,3. The model was able to predict 60,8 percent of the outcomes correctly. Rank showed to positively influence the chance to trust general others ( $p = .001$ ). Every one unit increase in rank increases the change in odds by ,124. The corresponding odds ratio is 1,132, meaning that every increase of rank makes the possibility to trust 1,132 times more likely. Except for the number of siblings, the control predictors show significant relationships. The number of strong ties and age are positively related to generalized trust with respectively  $B = ,277$ ,  $p < .001$  and  $B = ,011$ ,  $p = .013$ . Females show lower chances of trusting most people than males ( $B = -,469$ ,  $p = .001$ ).

To control for subjective rank, the third model includes the objective measures of socio-economic status income, education and occupation. Pearsons' correlations (Table 2) show significant correlations between each of the variables and subjective rank. The logistic regression model reports income and occupation to have a significant positive effect of the change in the log odds (income:  $B = .001$ ,  $p = .025$  and occupation  $B = .014$ ,  $P = .015$ ). Education does not have a significant effect, although with  $p = .063$  the variable is worth mentioning. Not surprisingly, adding the variables to the model makes the influence of rank insignificant ( $B = .054$ ,  $p = .307$ ). As rank should consist of these three variables, the model indicates that rank indeed includes income and occupation. Therefore, the objective measures of socio-economic status are left out in further analysis.

**Table 3: Logistic regression on dependent variable General Trust**

	Model 1			Model 2			Model 3			Model 4			Model 5		
	B	SE	EXP (B)	B	SE	EXP (B)	B	SE	EXP (B)	B	SE	EXP (B)	B	SE	EXP (B)
Family ties	-,371 *	,183	,690							-,389 *	,184	,678	-,473 *	,196	,623
Social Rank	-			,124 **	,039	1,132	,054	,053	1,056	,131 **	,039	1,140	,137 **	,039	1,147
Interaction	-												,129	,100	1,138
Networksize	,261 **	,051	1,298	,277 **	,051	1,319	,228 **	,066	1,256	,262 **	,051	1,300	,263 **	,052	1,301
Female	-,467 **	,140	,627	-,469 **	,140	,626	-,480 *	,187	,619	-,451 **	,141	,637	-,451 **	,141	,637
Age	,013 **	,004	1,013	,011 *	,004	1,011	,013	,007	1,013	,010 *	,004	1,011	,011 **	,004	1,011
Sibling	-,048	,028	,953	-,040	,028	,961	,021	,039	1,021						
							,001 *	,000	1,001						
							,014 *	,006	1,014						
							,081	,044	1,084						
Constant	-,649	,286	,522	- 1,661	,362	,190	-3,487	,725	,031	-1,561	,365	,210	-1,560	366	,210
Nagelkerke R	,089			,097			,190			0,101			0,103	,	
Chi Square	62,3 **			68,5 **			88,7 **			70,9 **			72,5 **		
-2 LL	1189,6			1183,3			712,6			1180,9			1179,3		
N	903			903			578			903			903		

*Note:* -2 LL= -2 Log Likelihood at the end of the model. \* Wald- Test significant at p<.05, \*\* Wald-Test significant at p<.01 , Income is divided by 100. Significance of constant is not displayed

### **Hypothesis 3 – Model 4**

*Socio-economic status is a better predictor for the likelihood to trust generalized others than the strength of family ties.*

In the fourth model, both the proportion of family ties and socio-economic rank are included. The model shows to have a significant effect compared to the constant only model with chi-square=70,886 and  $p < .001$ . The -2 Log Likelihood is 1180,9, thereby being lower than the -2 Log likelihoods of model 1 and 2. The model predicted 59,7 of the cases correctly. The proportion of family ties still has a significant negative effect on the logit ( $B = -.389$ ,  $df=1$ ,  $p = .020$ ). The odds ratio implies for every family tie increase respondents are 0.322 times less likely to trust general others. Rank still has a significant positive effect on the log odd while keeping the other variables constant ( $B = .131$ ,  $P = .001$ ). With every increase in rank, chances of trusting general others are 1,14 times more likely. Both effects thus are significant in predicting the chances of trusting. To decide which predictor better fits the data, the chi-square outcomes of model 1 and 2 are compared (Lancsar et al., 2007). The family ties model has a -2 Log Likelihood=1189,6 and socio-economic rank -2 Log Likelihood=1183,3. The lower the -2 Log Likelihood, the better the model fits the data. Applying this comparison show socio-economic rank to have a lower -2 Log Likelihood, therefore this model has a better fit on the data. However, comparing the model with only socio-economic rank to the fourth model where both family ties and socio-economic rank are included, shows model four to even better fit the data. Although the difference is small (model4, -2 Log Likelihood=1180,9), this implies that adding both family ties and socio-economic rank to the model has the best fit of predicting generalized trust.

### **Hypothesis 4 – Model 4**

*Family ties and socio-economic rank have an interaction effect on the likelihood to trust general others.*

Interaction terms between number of strong kin ties and socio-economic rank are included in the fourth model. The Wald criterion demonstrates that the interaction variables do not significantly contribute to the prediction of the chances of trusting. Adding the interaction to the model made the effect of strong family ties even stronger ( $B = -.472$ ,  $p = .016$ ), respondents with strong family ties were 0,337 times less likely to trust general others. The effect of rank is still significant ( $B = .137$ ,  $p < .001$ ), increasing the chances to trust by 1,147 times per every unit increase.

## 6 Conclusion and Discussion

The purpose of this study was to disentangle the formation of generalized trust by answering the main question ‘*What are the effects of strong family ties and high socio-economic status on the likelihood of trusting generalized others?*’.

The placement of trust was unraveled, resulting in three components. The first component relates to the function of general trust; it is needed to obtain access to new resources. Only individuals who want help from others will consider trusting their weak tie relationships. Whether or not someone is eventually placing trust in weak ties is dependent on two factors: strong family ties and socio-economic status. Previous research shows individuals with stronger family ties to be less trusting of general others (Alesina and Giuliano, 2009; Ermisch and Gambetta, 2010; Yamagishi and Yamagishi, 1994; Yosano and Hayashi, 2005). The underlying mechanism is captured by Yamagishi and Yamagishi’s (1994) emancipation theory: family ties reduce the social uncertainty in a trust situation. Getting used to this reduced uncertainty hinders individuals from trusting general others. The first hypothesis *the larger the proportion of strong family ties, the smaller the likelihood to trust general others* was confirmed, as results showed strong family ties to have a significant negative effect on the likelihood of trusting general others.

The second hypothesis is *the higher an individual’s socio-economic rank, the larger the likelihood to trust general others*. Based on the success-and-well-being theory, individuals within the higher ranks of society have more back-up resources and can therefore better carry the possible loss of resources (Newton and Delhey, 2003). The relatively smaller risk of trusting makes individuals with higher socio-economic status more likely to trust. Indeed, the second hypothesis was confirmed by the analyses: the higher ones socio-economic rank, the more likely the individual is to trust general others.

The third and fourth hypothesis focus on measuring the influence of family ties and socio-economic rank in one model. According to previous research and logic reasoning, strong family ties and socio-economic factors should influence each other. Due to strong family ties, individuals are less likely to trust general others, thereby being less likely to make use of social capital. Social capital has shown to have an important influence on others forms of capital (Coleman, 1988). Indeed, strong family ties are related to lower economic outcomes (Alesina and Giuliano, 2009). On the other hand, socio-economic status has shown to positively affect the trust in general others. Having strong family ties could thus be balanced by having a high-socioeconomic status. The third hypothesis ‘*Socio-economic status is a better predictor for the likelihood to trust generalized others than the strength of family ties*’ was confirmed by comparing the likelihood ratio of model 1 and 2. Socio-economic status better predicted the likelihood to trust general others than family ties. However, model 4, with both family ties and socio-economic rank, showed to have the lowest -2 Log likelihood, thereby predicting the data best. The interaction effect in model 5 did not show to be significant. It is therefore concluded

that the effect of family ties is not dependent on the level of socio-economic status, or, the effect of socio-economic status on generalized trust is not dependent on the strength of family ties.

To answer the main question: strong family ties have a negative effect on the likelihood to trust while socio-economic rank influences general trust positively. Socio-economic rank has shown to better predict generalized trust than family ties, although putting both variables in one model shows to even better predict the likelihood to trust general others. However, an interaction effect between socio-economic status and family ties seems unlikely. The combination of family ties and socio-economic status in as well the theory as the analyses makes this study an important contribution to the trust-research field. Nonetheless, as every early research, this study has its limitations.

As proposed in the method section on generalized trust, it is questionable whether the ‘most people can be trusted’ question actually measures generalized trust. ‘Most people’ is interpreted differently by individuals. Most individuals actually think of friends or acknowledges when they respond to the question (Sturgis and Smith, 2010). This has serious implications for the validity of the trust question, as the probability of not measuring trust in weak ties is high. The presented model should be tested again with a more specified ‘general trust’ question. Nevertheless, as most studies on generalized trust use the ‘most people can be trusted’ question, the results of this study are comparable to other generalized trust studies, thereby still increasing the knowledge in the trust-research field.

The conceptualization of the strong tie network as well showed some limitations. The GSS 2004 only allowed respondents to specify five of their strong-tie contacts, which creates an unreal cut-off point. This is of importance not only for the general number of strong ties, but more specifically for the number of kin ties. Especially in large families it would not be abnormal to have more than five family members with whom one has a close relationship. Moreover, the GSS dataset did not provide any information on the weak-tie relationships respondents have. Consequently, the number of strong ties could not be compared to the number of weak ties a respondent is connected to. This limitations has two consequences. First, it could not be tested whether a high number of family ties actually correlate with a low number of weak ties. Second, it could not be established whether having a large number of weak ties correspond to higher levels of general trust. While these analyses are not of great importance for this study, they should be taken into account for further research as an expansion of the current model.

Socio-economic status was measured as a respondents subjective socio-economic rank. The advantages of this conceptualization have been discussed in the method question. As this research tried to grasp the main effects of socio-economic status on the likelihood of trusting generalized others, the individual aspects of socio-economic were not discussed. Socio-economic status is a broad concept, having many influencing factors. As this research showed socio-economic rank to have a positive influence on generalized trust, further research is needed to specify the crucial elements of socio-economic status on trust. The third model showed income and occupation to have a significant

effect, while education fell short of significance. However, education strongly influences one's career, thereby influencing both income and occupational status.

The last limitation regards the generalization of the outcomes. Previous research has revealed the formation of generalized trust to be dependent on several macro level variations. Alesina and La Ferrara (2002) reported generalized trust to be largely dependent on legal institutions. Legal institutions differ per country, or in the case of the United States, even by state. According to Hamamura (2012), social rank captures resources that can induce the risk of being exploited, thereby not only referring to financial savings, but also insurance and extensive social security. Insurance might be an important aspect for respondents of the United States, in other countries, such as the Netherlands, it would be abnormal to not have social insurance. The effect of social rank could thus be lower in other countries than the United States. Furthermore, Hamamura (2012) has shown social class only to be predictive to generalized trust in wealthy societies. Wealth does not only differ between societies, but also between regions in a country. Although this problem is partially addressed by measuring social rank subjectively, cross country research is needed to apply the current model to other countries than the United States.

Several implications for further research derive from this study. Banfield explained 'amoral familism' to be a hinder for both trustfulness and trustworthiness. This paper focused on the trustfulness of respondents: whether or not someone is likely to trust generalized others. However, according to Banfield, individuals with strong family ties should not only be less trusting, they should also be less trustworthy. The effects of strong family ties and socio-economic on trustworthiness have to be tested, to study the reciprocity of trust.

The theory on the relationship between trust and socio-economic status and family ties showed both factors to be important as they decrease the risk in trust. This raises the question whether the decision to trust is really about trusting the other, or whether it is fundamentally about reducing one's risk in a trust situation.

Furthermore, this study concentrated on the influence of family ties and socio-economic status in 2004. Banfield first recognized the negative influence of family ties on social capital in 1958. Trends in family size, however, show families to decrease in number (Yucel, 2013) As families are getting smaller, logically the amount of strong family ties should decrease as well. Longitudinal research of the strength of family ties on trust is needed to unravel the changing influence of family ties on generalized trust. Besides, a closer look on strong family ties is of importance. Factors that determine whether one has strong or weak ties are to be studied to explain the formation of strong family ties.

Lastly, the interaction model fell short of significance. However, this does not prove strong family ties and socio-economic status to be unrelated. Path-model analysis is needed to specify the influence of family ties on socio-economic status or the influence of socio-economic status on family ties regarding trust. The causality in the current model is not clear. Additionally, an individual's



generalized trust could again influence the strength of his family ties or his socio-economic status. This study should function as a stepping stone for further analysis of the family ties, socio-economic status and generalized trust relationship. The importance of this relationship is clear when bringing back in social capital. Social capital enables individuals to achieve certain ends, thereby not being only of importance for inequalities between individuals, but as well for societies as a whole.

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