



Social ties and generalized trust: a study in three countries

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Abstract

In this article we provide evidence that social ties (family, friends and acquaintances) have significantly different effects on generalized trust. We build upon generalized trust research by Ermisch & Gambetta (2010) and Putnam (2000). Ermisch & Gambetta find evidence that strong family ties inhibit generalized trust. Putnam on the other hand claims that associational participation generates generalized trust in America. We claim that these two views can be combined on a theoretical level – in addition to our own theoretical arguments - to better explain how social ties affect generalized trust. We perform a multivariate regression analysis on ESS wave 1 (2002) data from the Netherlands, the United Kingdom and Italy. Firstly we find that family ties have a negative effect on generalized trust in the Netherlands and the United Kingdom, as Ermisch and Gambetta claim. Secondly we find that friendship ties have a positive effect on generalized trust in all countries. Finally we find that acquaintance ties have a positive effect on generalized trust in the Netherlands and the United Kingdom.

Keywords

Generalized trust, social ties, family ties

Introduction

Trust is seen as a social lubricant, its effects on cooperation seem to be wholly positive (Nannestad, 2008). Without a basic level of trust many social interactions become impossible, prominent sociologist Niklas Luhmann (1988) even takes it as far as saying that we need a basic level of trust to leave the house without a weapon. Yamagishi & Yamagishi state that “trust provides a solution to the problems caused by social uncertainty.” (p. 131). Arrow (1974) also discusses the social function of trust: “Trust is an important lubricant of a social system. It is extremely efficient; it saves people a lot of trouble to have a fair degree of reliance on other people's word.”(p. 23). Simple interactions such as buying a secondhand book from eBay or lending someone your phone to call someone would be impossible without trust.

The apparent indispensable nature of trust in our social reality has resulted in many studies on the subject. A large amount of trust research is about generalized trust, or trust in the generalized other and what the mechanisms behind its workings are. A niche within generalized trust research is on how generalized trust is generated or inhibited by certain social ties. Ermisch and Gambetta (2010) find evidence that strong family ties inhibit generalized trust while any other sort of tie generates generalized trust. The theoretical idea behind these findings is that *outward exposure* (any sort of contact with people outside of one's family) has a positive effect on one's generalized trust because *outward exposure* consists of less assured interactions thus requiring (and generating) generalized trust. We argue that although Ermisch and Gambetta's findings are valuable, their theoretical argument is not complex enough to research the different effects of different sorts of social ties on generalized trust.

Putnam's book *Bowling Alone* (2000) is another work that claims certain social interactions have an effect on generalized trust. Putnam argues that associational membership goes hand in hand with trust in America, when associational membership is lower so is generalized trust and vice versa. Putnam's claims are usually not backed up by statistical tests though, he uses examples to illustrate his point that he sees as indicators for America's declining social capital. Sønderkov (2010) disputes Putnam's intuitively pleasing notion that associational membership generates generalized trust. He argues that people having higher trust participate more in associations and that the positive effect of trust on participation is merely a feedback effect. While we cannot test Putnam's causal claim, we can directly test the claim that associational participation (we use the term voluntary organizational participation) and generalized trust are positively associated.

By combining Ermisch and Gambetta's theoretical framework with Putnam's claims we propose an extended theoretical argument in which four levels of social interaction (family, friends, acquaintances and strangers) have different effects on generalized trust instead of the two (family or non-family) proposed by Ermisch and Gambetta. We build upon Ermisch and Gambetta's research in the United Kingdom by using the 2001 ESS sample from the United Kingdom. We also use the 2001 ESS sample from the Netherlands and Italy and compare the three to see whether the effect of social ties on generalized trust is different between these three countries. Our main research question is:

What is the effect of different social ties (family, friends and acquaintances) on generalized trust?

Theory

Generalized trust

In his book *Bowling Alone* (2000), Putnam argues that trust has two forms, he calls these thick and thin trust.

Putnam's thick trust is trust based on personal experience with the trustee. Thin trust however is the act of trusting an individual outside of one's social circle (an individual one has no prior knowledge of pertaining to his/her

trustworthiness). Thin trust has been researched by numerous authors and has been given many different names, we choose to refer to trust in individuals outside of one's social circles as *generalized trust* (Uslaner, 2002; Ermisch & Gambetta, 2010; Sønderskov, 2011). Generalized trust is an important part of social life because it gives people the

opportunity to interact with people outside of one's inner social circle. Robinson and Jackson (2001) cite Coleman in their paper: *Is trust in others declining in America?:* "People form 'a standard estimate of the probability of trustworthiness, p^* , for the average person [one] meets' (Coleman, 1990, p. 104)." (p. 119). The trust one has in the general population is not unconditional though, not many people (if any) would trust a total stranger to borrow their car for a weekend for example. Hardin (1992) explains trust as a three-part relation: "A trusts B to do x" (p. 154).

When a fellow camping-goer asks to borrow a hammer for their tent, one that has higher generalized trust is likely to lend his or her hammer because they trust the other to return it. However if the same person would ask to borrow one hundred euros the generalized trustee might refuse. In these examples "to do x" (to return the hammer or to return one hundred euros) is what decides whether or not the trustee will trust or not.

In their influential article *Trust and Commitment in the United States and Japan* Yamagishi & Yamagishi (1994) discuss the distinction between trust and assurance (conceptually close to Putnam's thin and thick trust). They state that: "Trust is, ... an expectation of goodwill and benign intent. Assurance, on the other hand, is defined here as an expectation of benign behavior for reasons other than goodwill of the partner." (p. 132). In other words, assurance is knowing the other party will be trustworthy because it is in their own interest to be. We claim that a large degree trust based interactions in one's life will generate generalized trust whilst a large degree of assurance based interactions do not.

Family ties and outward exposure in relation to generalized trust

Family ties are known to influence one's generalized trust (Ermisch & Gambetta, 2010; Alesina & Giuliano, 2009; Herreros, 2015). Ermisch & Gambetta and Alesina & Giuliano find that strong family ties are associated with lower generalized trust. Alesina & Giuliano also state that political participation is consistently less for people with strong family ties than for people without strong family ties. Ermisch & Gambetta argue that strong family ties are associated with lower generalized trust due to a lack of *outward exposure*. Outward exposure is "... interaction with others" (p. 366) with others being anybody outside of one's family and group (inside one's inner social circle) according to Ermisch & Gambetta (2010). In their article Ermisch & Gambetta conclude: "... Trust is positively affected by *any* factor that promotes exposure to experiencing the behavior of others' beyond one's family circle." (p. 375).

On the other hand Ermisch & Gambetta also argue that the effect of outward exposure on generalized trust is indirect, in the sense that interacting with more strangers can lead to learning to estimate who is trustworthy and who is not. When one is better at estimating one's trustworthiness he or she can become more trusting in general. Outward exposure could be the mechanism which explains why Alesina & Giuliano find a negative effect of strong family ties on trust as well as a negative effect of strong family ties on political participation. Political participation is a form of outward exposure and strong family ties inhibit these activities. There are many other forms of outward exposure than just political participation. Putnam (2000) argues that "... people who trust others are all-round good citizens, and those more engaged in community life are both more trusting and trustworthy." (p. 137). Engagement in community life is what Ermisch & Gambetta would call an example of outward exposure because community life usually takes place outside of one's inner social circle. We believe that Putnam's argument that engagement in community life positively affects trust works via the same mechanism as Ermisch & Gambetta's outward exposure argument. Engagement in community life is an example of experiencing the behavior of others' beyond one's family circle and thus a positive influence on one's generalized trust.

According to Ermisch & Gambetta (2010) individuals with weak family ties are more motivated and have more opportunities to experience outward exposure. The motivation the individuals with weak family ties have is that they want to fill the void of social interaction left by weak family ties. There are also more opportunities to experience outward exposure when there is little to no time spent on family interactions.

Outward exposure, in our eyes, is the number of uncertain interactions one has. Uncertain interactions are interactions in which one has uncertainties concerning the outcome of the interaction, thus requiring trust instead of assurance to complete the interaction. We argue that interactions based more on trust lead to more generalized trust. One can have uncertain interactions with anyone, even their inner circle, however this will happen more often when dealing with very unfamiliar people. Assuming most uncertain interactions (or being outward exposed) end on a positive note, they lead to more generalized trust.

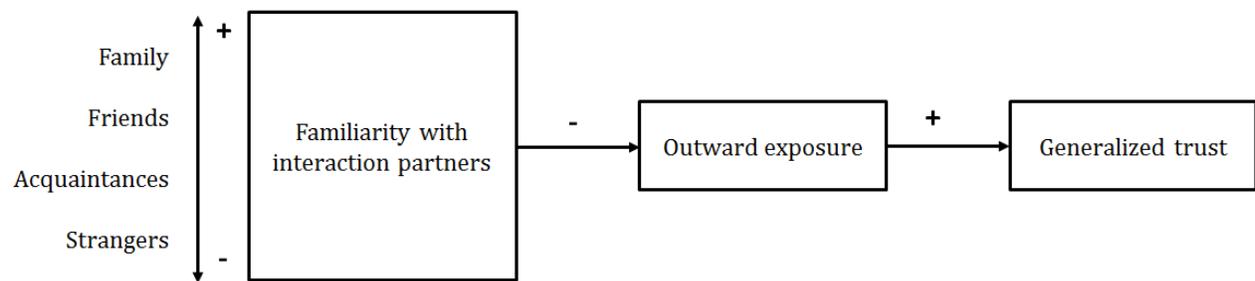
Time is also a relevant aspect seeing as interactions cost time and one has a limited amount of time in a day. Many interactions with familiar interaction partners will limit the amount of interactions with unfamiliar interaction partners and vice versa. When one has many interactions with familiar interaction partners, due to time constraints there will be a lack of unfamiliar interaction partners, or outward exposure, resulting in a lower degree of generalized trust one has.

Distinction between family and friends & acquaintances

Ermisch & Gambetta (2010) place group and family ties in one category and anything else in another category in their research. This is based on Yamagishi, Cook and Watabe's (1998) claim that "... strong and stable social relations (such as family ties and group ties) promote a sense of security within such relations but endanger trust that extends beyond these relations."(p. 166). Putnam however specifically argues that engagement in community life has a positive effect on trust. We argue that these two views can be used together to better explain generalized trust than when studied separately.

Unlike Ermisch & Gambetta we argue that there is a distinction in the effect on generalized trust between the ties they would classify as outward exposure (friendship ties, ties with acquaintances and interactions with strangers). We argue that the distinction is relevant because the different social ties have different effects on generalized trust. We also claim that the familiarity with one's interaction partner influences the number of uncertain interactions one has with them and thus the degree of *outward exposure* that comes with that type of tie. The more familiar one is with their interaction partner the fewer uncertain interactions they have thus the degree of outward exposure is low. Family is, on average, the most familiar interaction partner in one's life and therefore inhibits outward exposure. Interactions with friends are very familiar but less familiar than with family. Interactions with acquaintances are slightly familiar but far less familiar than with family or friends. Interactions with strangers are unfamiliar and thus less familiar than all other types of interactions. Outward exposure can be seen as a sum of all ties with family, friends, acquaintances and strangers one has where family and friends influence outward exposure, and thus generalized trust, negatively whilst acquaintances and strangers influence outward exposure positively.

Figure 1: Effect of familiarity with interaction partners on generalized trust via outward exposure



From the aforementioned arguments the following six hypotheses have been derived:

1. Stronger family ties lead to lower generalized trust
2. Stronger friendship ties lead to lower generalized trust
3. More interactions with acquaintances lead to higher generalized trust
4. More interactions with strangers lead to higher generalized trust
5. Stronger family ties have a stronger negative effect on generalized trust than stronger friendship ties
6. More interactions with strangers have a stronger positive effect on generalized trust than more interactions with acquaintances

Although social interactions with strangers are very interesting theoretically the dataset does not allow us to test any kind of hypothesis concerning the effect of interactions with strangers on generalized trust, therefore hypotheses 4 and 6 cannot be tested.

Data & methods

Data

We use the first wave of the European Social Survey (2002). The first wave of the European Social Survey (ESS) is a survey carried out in 22 European countries. The ESS has two goals: the first is “to monitor and interpret changing public attitudes and values within Europe and to investigate how they interact with Europe's changing institutions” (ESS round 1, European Social Survey, 2016, p.21). The second is “to advance and consolidate improved methods of cross-national survey measurement in Europe and beyond.”

We use the samples for the Netherlands, the United Kingdom (England, Wales, Scotland and Northern Ireland) and Italy from round one of the ESS. The Dutch sample of the ESS makes use of random probability sampling in two stages whilst the UK's sample makes use of random probability sampling in three stages and Italy's sample uses random probability sampling in four stages. The ESS targets a response rate of 70% for every country. the response rate was 67.9% in the Netherlands, 55.5% for the United Kingdom and 43.72% for Italy.

The main themes of the ESS are: immigration, citizenship, trust, politics, social values, exclusion and religion. The main questionnaire was taken using computer assisted personal interviews (CAPI). After removing all respondents which did not answer all relevant questions (this reduced our N from 6150 to 5725) and after applying weights, which will be discussed later, the Dutch sample consists of 2120, and the sample from the United Kingdom consists of 2482, whilst the Italian sample consists of 1123, the data of all three countries consists of 5725 respondents.

Measurement of trust

Like many research studies before us we use the generalized trust question: “Generally speaking, do you believe that most people can be trusted or can't you be too careful in dealing with people?” (Ermisch & Gambetta, 2010; Uslaner, 2002; Putnam, 2000; Herreros, 2015; Robinson & Jackson, 2001). Next to this question we use the questions “Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?” and “Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?” All three questions can be answered on a scale from 0 to 10, with 10 indicating the most generalized trust. The three questions first appeared in Rosenberg's *Misanthropy and political ideology* (1956) which were part of a five-item “faith in people” scale. The three questions we use try to measure trust in the general population instead of people one already knows and is thus a good indicator of generalized trust. Uslaner argues in his book; *The Moral Foundations of Trust* (2002), that after performing a factor analysis on the generalized trust question (“Generally speaking, do you believe that most people can be trusted or can't you be too careful in dealing with people?”) it loaded strongly on trust in strangers and not at all on trust in friends and family. He does this to defend the question as a useful indicator for measuring generalized trust.

We computed the average of these three questions into one variable called GenTrust (Generalized Trust) with a scale from 0 to 10 with 10 indicating the highest possible generalized trust. The Cronbach's Alpha for the GenTrust scale is an acceptable .721 with three items.

Measurement of family, friends and acquaintances

We use the questions “How important is each of these things in your life. Firstly...” “...family?” and “...friends?” to measure family ties and friendship ties. Each question can be answered on a scale from 0 to 10, with 10 indicating extreme importance. Measuring family ties and friendship ties using these questions is not ideal, however it is the best indicator available in the dataset. One could argue that an orphan would find family extremely important since he is lacking one but this does not indicate strong family ties. However on average we assume that the more important one finds his or her family the stronger the ties with them is, as is the case for friendship ties. We use the self-reported participation in voluntary organizations - a form of community life as discussed by Putnam (2000) - as a measurement for ties with acquaintances. This is because we assume that interactions within voluntary organizations take place largely among acquaintances. We use the question “For each of the voluntary organizations I will now mention, please use this card to tell me whether any of these things apply to you now or in the last twelve months, and, if so, which?”. This question has twelve categories: including sport clubs, political parties, organizations for humanitarian aid, religious organizations and social clubs. On each of these categories the respondent can indicate whether one or more of the following applies to them concerning the organization in question: none, member, participated, donated money and voluntary work. We have used member, participated and voluntary work as a measurement of active participation within the voluntary organization and thus as a measurement of ties with acquaintances. The dataset allows us to control for whether a respondent has personal friends within the voluntary organization. By doing this we believe that we have a proper distinction between voluntary organizations in which you have friends and voluntary organizations in which you have acquaintances.

Control variables

We used the following control variables to control whether the effect we find for family ties on trust is caused by family ties and not by other variables: gender, age, income satisfaction, religion, urban, years of education, having children, friends within voluntary organizations and divorced. These control variables are often used in previous literature as they have an influence on trust, family ties, friendship ties and voluntary organizational ties (Curtis et al., 1992; Curtis et al., 2001; Sønderskov, 2011; Ermisch et al., 2009). We have operationalized religion as self-reported belonging to any particular religion or denomination. Whilst gender, age, income, religion and years of education are common control variables in the social sciences, urban, divorced, friends within voluntary organizations and having children may need more explaining in the context of ties and generalized trust. We use urban as a control variable because living in an urban environment enables one to interact with strangers more than living in a rural area does. Next to this, family ties are weaker in urban areas than they are in rural areas (Hofferth & Iceland, 1998). We use being divorced as a control variable as research has shown that being divorced has a positive influence on generalized trust (Ermisch & Gambetta, 2010). Being divorced forces one to interact with strangers as they have lost a large part of their social life. One could imagine that in a bad break up family or friends have chosen to cut the ties with one of the two divorcees. To form new social ties one needs to interact with people that are strangers to begin with. Controlling for having friends within voluntary organizations is done to be able to show the difference between voluntary organizations in which the respondent has friendship ties and voluntary organizations

in which the respondent does not have friendship ties. By controlling for having friends within organizations we can make sure the effects of ties with acquaintances and friendship ties on generalized trust can be analyzed separately. We use having children as a control variable because we assume one considers family more important when they have one or more children. We find that in our sample this is indeed the case; ($b=.323$, $t=8.776$, $p<.001$). People who have had or have children in their household score .323 higher on the question “How important in your life is family?”

Table 1: Summary statistics (non-centred, N per variable=5725)

	Mean	S.D.	Min.	Max.
Gen. Trust	5.316	1.739	0	10
Imp. Family	9.149	1.515	0	10
Imp. Friends	8.318	1.692	0	10
Parti. V.O.	4.694	2.954	0	28
Female	.513		0	1
Age	45.280	17.836	15	98
Inc. satisfaction	3.323	.711	1	4
Religious	.517		0	1
Urban	.646		0	1
Yrs. of education	12.469	3.973	0	40
Children	.681		0	1
Divorced	.067		0	1
Friends in V.O.	1.245	1.436	0	9

Analyses

Before performing our analyses we have weighted the data set in order to correct for differences in inclusion probabilities, sampling errors and possible non-response errors. We have used the post-stratification weight given by the ESS.¹ The post-stratification weight is a more sophisticated weighting strategy than the design weights that the ESS also gives. The post-stratification weight is computed using information from the European Union Labour Force Survey. Next to applying the weights we have also centered all variables with multicollinearity problems, namely age, income satisfaction, years of education and having friends within voluntary organizations. Another reason for centering was being able to evaluate the effects on the average instead of, for example, a child with the age of 0 or someone with 0 years of education (Kraemer & Blasey, 2004).

We start our analysis with a multiple linear regression with generalized trust as the dependent variable and importance of family and friends, and self-reported participation in voluntary organizations as the independent variables for all three countries separately. This results in models 1, 3 and 5. Secondly the control variables are added to the prior models to create models 2, 4 and 6.

¹ We use the manual provided by the ESS named “Weighting European Social Survey Data” to correctly apply weights. The manual was accessed on the 30th of May 2017 and is available via the following URL: https://www.europeansocialsurvey.org/docs/methodology/ESS_weighting_data_1.pdf

The included control variables are: gender, age, income satisfaction, religion, urban living, years of education, having children, being divorced and friends within voluntary organizations in which one participated.

We then include the Netherlands, the United Kingdom and Italy in one model by using interactions to be able to compare the estimates between the three countries. We pool the Netherlands and the United Kingdom because we find no significant differences between the main effects in the two countries whilst we do find a difference for the two countries with Italy which can be seen in the appendix. Our seventh model is also a multiple linear regression with generalized trust as the dependent variable and importance of family and friends, and self-reported participation in voluntary organizations as the independent variables. In this model the Netherlands and the United Kingdom were pooled and compared to Italy in one model by using interaction terms. Our eighth model is the same as our seventh model with addition of our control variables.

We use a variation on the Wald test to calculate whether there is a significant difference between the estimates for importance of family and importance of friends over all models to be able to answer our fifth hypothesis. This variation calculates whether there is a significant difference between two estimates (within one model) instead of a significant difference between one estimate and 0 (Wheeler, 2016). We use the covariance matrixes for the variables per regression to fill in the second half of the formula. The answer to the formula can be used as a z-score for the probability of a difference between B_1 and B_2 . The formula we use is as follows:

$$W = (B_1 - B_2) / \sqrt{(\text{Var}_1 + \text{Var}_2 - 2 * \text{Cov}_{1,2})}$$

Table 2: Multiple linear regression of generalized trust estimated separately per country

	The Netherlands				The United Kingdom				Italy			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Constant	5.802***	.039	5.574***	.092	5.462***	.041	5.740***	.101	5.088***	.140	4.768***	.227
Imp. Family	-.035	.022	-.036	.022	.000	.029	.027	.029	.092*	.041	.074	.042
Imp. Friends	.112***	.024	.101***	.024	.139***	.021	.135***	.022	.181***	.031	.163***	.031
Parti. V.O.	.073***	.012	.033*	.016	.074***	.011	.046*	.019	.150***	.037	.075	.057
Gender (1=Female)			.113	.068			-.065	.068			.107	.108
Age			.001	.002			.017***	.002			.003	.004
Inc. satisfaction			.221***	.050			.127**	.048			.355***	.076
Religious			-.002	.071			-.070	.069			.211	.128
Urban			-.192***	.067			-.222**	.076			-.179	.110
Yrs. of education			.043***	.010			.034**	.011			.040**	.013
Children			.243**	.080			-.173*	.080			.116	.082
Divorced			.050	.154			-.116	.114			.084	.273
Friends in V.O.			.042	.032			.013	.036			.045	.073
N		2120				2482				1123		
Adjusted R squared	.029		.054		.036		.070		.070		.100	

Note: ***p<.001; **p<.01; *p<.05

Table 3: Multiple linear regression effects of pooled countries in comparison with Italy on generalized trust

	The Netherlands & The United Kingdom				Interaction terms for Italy			
	Model 7		Model 8		Model 7		Model 8	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Constant	7.760***	.396	7.290***	.456	-2.672***	.375	-2.522***	.401
Imp. Family	-.059***	.017	-.049**	.017	.151***	.041	.123**	.042
Imp. Friends	.133***	.016	.127***	.016	.048	.033	.035	.033
Parti. V.O.	.078***	.008	.043***	.012	.073*	.035	.032	.054
Gender (1=Female)			.022	.049			.085	.111
Age			.010***	.002			-.007	.004
Inc. satisfaction			.190***	.035			.165*	.079
Religious			-.047	.051			.258*	.128
Urban			-.273***	.051			.094	.113
Yrs. of education			.039***	.007			.001	.015
Children			.036	.058			.081	.095
Divorced			-.120	.093			.204	.268
Friends in V.O.			.019	.024			.026	.071
N					5725			
Adjusted R squared	.102		.128		.102		.128	

Note: ***p<.001; **p<.01; *p<.05

Results

Family ties

Our first hypothesis states that stronger family ties lead to lower generalized trust, therefore the higher one scores on importance of family the lower one's generalized trust will be according our first hypothesis. Model 1 for the Netherlands in table 2, without control variables, does not support our first hypothesis as there is no statistically significant effect ($b=-.035$, $t=-1.589$, $p=.112$). Model 2 for the Netherlands in table 2, including control variables, also does not support our first hypothesis as there is no significant effect ($b=-.036$, $t=-1.636$, $p=.102$). Also when adding multiple control variables there is no effect for importance of family on generalized trust.

Model 3 for the United Kingdom in table 2, without control variables, does not support this hypothesis ($b=.000$, $t=.016$, $p=.987$). We find an extremely small and non-significant effect of importance of family on generalized trust in model 3. Model 4 for the United Kingdom in table 2, including control variables, also does not support our first hypothesis ($b=.027$, $t=.933$, $p=.351$).

Model 5 for Italy in table 2, without control variables, does not support our first hypothesis ($b=.092$, $t=2.258$, $p<.05$). Although this effect is significant on the $\alpha=.05$ level, it shows a positive effect of importance of family on generalized trust instead of the negative effect we hypothesized. Model 6 for Italy in table 2, including control variables, also does not support our first hypothesis ($b=.074$, $t=1.763$, $p=.078$). When adding control variables for Italy the effect of importance of family on generalized trust is no longer significant.

Model 7 for the Netherlands and the United Kingdom in table 3, without control variables, supports our first hypothesis ($b=-.059$, $t=-3.471$, $p<.01$). Model 8 for the Netherlands and the United Kingdom in table 3, including control variables, also does support our first hypothesis ($b=-.049$, $t=-2.883$, $p<.01$). There is a significant negative effect of importance of family on generalized trust when pooling the Netherlands and the United Kingdom. When the control variables are added the effect is less negative but still highly significant.

Model 7 for Italy, compared to the Netherlands & the United Kingdom, without control variables, show a significant difference between the aforementioned countries ($b=.151$, $t=3.664$, $p<.001$). There is a significant difference between Italy and the pooled countries, the main effect is non-significant in Italy (model 6) though. Model 8 for Italy, compared to the Netherlands & the United Kingdom, including control variables, show a significant difference between Italy and the Netherlands & the United Kingdom ($b=.123$, $t=2.919$, $p<.01$). Thus the results for Italy do not support our first hypothesis, both effects are positive where we expected them to be negative in our first hypothesis.

Most effects of family ties on generalized trust which have been found are not significant and can thus be interpreted as no effect. However when combining the samples from the Netherlands and the United Kingdom we see a significant negative effect of family ties on generalized trust with and without control variables. An individual scoring 10 on importance of family scores an average of .490 lower on generalized trust than an individual scoring 0 on importance of family in the pooled Netherlands and United Kingdom sample with control variables (model 8). We find limited support for our first hypothesis.

Friendship ties

Our second hypothesis states that stronger friendship ties lead to lower generalized trust, therefore the higher one scores on importance of friends the lower one's generalized trust will be according to our second hypothesis. Model 1 for the Netherlands in table 2, without control variables, does not support our second hypothesis ($b=.112$, $t=4.664$, $p<.001$). Model 2 for the Netherlands in table 2, including control variables, also does not support our second hypothesis ($b=.101$, $t=4.176$, $p<.001$). There is a significant positive effect of importance of friends on generalized trust in the Netherlands, the effect is relatively high even after adding control variables.

Model 3 for the United Kingdom in table 2, without control variables, does not support our second hypothesis ($b=.139$, $t=6.467$, $p<.001$). Model 4 for the United Kingdom in table 2, including control variables, also does not support our second hypothesis ($b=.135$, $t=6.281$, $p<.001$). The effects in the United Kingdom are slightly stronger than in the Netherlands but follow the same general trend. Both effects are positive and significant.

Model 5 for Italy in table 2, without control variables, does not support our second hypothesis

($b=.181$, $t=5.915$, $p<.001$). Model 6 for Italy in table 2, including control variables, also does not support our second hypothesis ($b=.163$, $t=5.233$, $p<.001$). In all three countries we find a relatively strong and very significant positive relationship between importance of friends and generalized trust.

Model 7 for the Netherlands and the United Kingdom in table 3, without control variables, does not support our second hypothesis ($b=.133$, $t=8.134$, $p<.001$). Model 8 for the Netherlands and the United Kingdom in table 3, including control variables, also does not support our second hypothesis ($b=.127$, $t=7.767$, $p<.001$).

Model 7 for Italy, compared to the Netherlands & the United Kingdom, without control variables, does not support our second hypothesis, there is no difference in effect of importance of friends on generalized trust between Italy and the Netherlands & the United Kingdom ($b=.048$, $t=1.483$, $p=.138$) Model 8 for Italy, compared to the Netherlands and the United Kingdom, including control variables, also does not support our second hypothesis ($b=.035$, $t=1.064$, $p=.287$). When pooling the countries the effects stay significant and positive, there is no significant difference between the Netherlands & the United Kingdom and Italy in models 7 and 8.

All effects of friendship ties on generalized trust which have been found are positive, most effects are highly significant. An individual scoring 10 on importance of friends scores an average of 1.270 higher on generalized trust than an individual scoring 0 on importance of friends in the pooled Netherlands and United Kingdom sample with control variables (model 4). We find no support for our second hypothesis, on the contrary, the results find a positive effect for friendship ties on generalized trust.

Ties with acquaintances

Our third hypothesis states that more ties with acquaintances lead to higher generalized trust, therefore the higher one scores on participation in voluntary organizations the higher one's generalized trust will be according to our third hypothesis. Model 1 for the Netherlands in table 2, without control variables, supports our third hypothesis ($b=.073$, $t=6.269$, $p<.001$). Model 2 for the Netherlands in table 2, including control variables, also supports our third hypothesis ($b=.033$, $t=2.112$, $p<.05$). The effect of ties with acquaintances on generalized trust in the Netherlands is positive and significant, also when adding control variables.

Model 3 for the United Kingdom in table 2, without control variables, supports our third hypothesis ($b=.074$, $t=6.561$, $p<.001$). Model 4 for the United Kingdom in table 2, including control variables, also supports our third hypothesis ($b=.046$, $t=2.407$, $p<.05$). In the United Kingdom, the effect of ties with acquaintances on generalized trust is positive and significant, with and without control variables.

Model 5 for Italy in table 2, without control variables, supports our third hypothesis ($b=.150$, $t=4.102$, $p<.001$).

Model 6 for Italy in table 2, including control variables, does not support our third hypothesis ($b=.075$, $t=1.312$, $p=.190$). The effect of ties with acquaintances on generalized trust in Italy is positive and significant in model 5 but non-significant in model 6 when control variables are added.

Model 7 for the Netherlands and the United Kingdom in table 3, without control variables, supports our third hypothesis ($b=.078$, $t=9.340$, $p<.001$). Model 8 for the Netherlands and the United Kingdom in table 3, including control variables, also supports our third hypothesis ($b=.043$, $t=3.483$, $p<.001$). The effect of ties with acquaintances on generalized trust in the pooled countries is positive and significant in model 7, in model 6 when control variables are added the effect is smaller and significant. Model 7 for Italy, compared to the Netherlands & the United Kingdom, without control variables, supports our third hypothesis, Italy has a significantly higher effect from participation in voluntary organization on generalized trust ($b=.151$, $t=3.664$, $p<.05$). Model 8 for Italy, compared to the Netherlands and the United Kingdom, including control variables, has no significant difference in effect from participation in voluntary organization on generalized trust ($b=.032$, $t=.587$, $p=.557$).

All significant effects of participation on generalized trust which we have found are positive, most effects are highly significant. An individual scoring 36 on participation in voluntary organizations scores an average of 1.548 higher on generalized trust than an individual scoring 0 on participation in voluntary organizations in the pooled Netherlands and United Kingdom sample with control variables (model 8). We find strong support for our third hypothesis.

Table 4: Wald test for the difference between Imp. of family & Imp. of friends on generalized trust

	W
Model 1	-2.916*
Model 2	-3.498*
Model 3	-3.461*
Model 4	-2.652*
Model 5	-1.487
Model 6	-1.457
Model 7 (NL & UK only)	-6.974*
Model 8 (NL & UK only)	-6.355*

Note: *p<.05

Difference between family and friendship ties

Our fifth hypothesis states that stronger family ties have a stronger negative effect on generalized trust than stronger friendship ties. Whilst the results show that friendship ties do not have a negative effect on generalized trust, we can still test whether the effect of family ties on generalized trust is significantly lower than the effect of friendship ties on generalized trust, which is what we aimed for with our fifth hypothesis. We use the Wald test, the results of which can be found in table 4, to test our fifth hypothesis.

In models 1 and 2 for the Netherlands, without and with control variables, we find support for our fifth hypothesis. The Wald test indicates that importance of family has a significantly lower effect on generalized trust than importance of friends. In models 3 and 4 for the United Kingdom, without and with control variables, we again find support for our fifth hypothesis. The Wald test indicates that importance of family has a significantly lower effect on generalized trust than importance of friends. In models 5 and 6 for Italy, without and with control variables, we find no support for our fifth hypothesis. The Wald test indicates that importance of family does not have a significantly different effect on generalized trust in comparison with the effect of importance of friends on generalized trust. The relatively small differences in effects of importance of family and friends on generalized trust are reflected in models 5 and 6 in table 2. In models 7 and 8 for the pooled sample for the Netherlands and the United Kingdom, without and with control variables, we find very strong support for our fifth hypothesis. The Wald test indicates that importance of family has significantly lower effect on generalized trust than importance of friends. The scores for model 7 and 8 are extremely high, indicating a large difference in effects for family versus friends.

In models 1, 2, 3, 4, 7 and 8 we find support for our fifth hypothesis seeing as importance of family has a significantly lower effect than importance of friends has. Only in model 5 and 6 for Italy, no support is found for our fifth hypothesis, the effect of importance of family on generalized trust is not significantly different than the effect of importance of friends on generalized trust.

Control variables

We choose to discuss the significant estimates of the control variables in model 8 to avoid the unnecessary complexity that would result from discussing model 2, model 4 and model 6 *and* model 8 with the Netherlands and the United Kingdom pooled and the interaction terms for Italy. We only discuss the differences in estimates in Italy if they are significantly different to the estimates in the Netherlands and the United Kingdom.

Age has a positive effect on generalized trust ($b=.010$, $t=6.230$, $p<.001$). Older people score higher on generalized trust on average than younger people. This is in line with Robinson and Jackson's article *Is Trust in Others Declining in America? An Age-Period-Cohort Analysis* (2001). Household income satisfaction also has a positive effect on generalized trust ($b=.190$, $t=5.376$, $p<.001$). Italy has an even higher effect of income satisfaction on

generalized trust than the Netherlands and the United Kingdom ($b=.165$, $t=2.100$, $p<.05$). The more satisfied one is with his or her household income, the higher their generalized trust on average. Living in an urban area has a negative effect on generalized trust ($b=-.273$, $t=-5.365$, $p<.001$). This is in line with a finding in Ermisch and Gambetta's article *Do strong family ties inhibit trust?*. Finally, years of completed full-time education has a positive effect on generalized trust ($b=.039$, $t=5.187$, $p<.001$). The higher one's level of education the higher his or her generalized trust is on average.

Adjusted R squared

The adjusted R squared for model 1 is .029, meaning the independent variables in the Netherlands explain 2.9% of the variance in generalized trust. The adjusted R squared for model 2 is .054, meaning the independent variables including control variables in the Netherlands explain 5.4% of the variance in generalized trust.

The adjusted R squared for model 3 is .036, meaning the independent variables in the United Kingdom explain 3.6% of the variance in generalized trust. The adjusted R squared for model 4 is .070, meaning the independent variables including control variables in the United Kingdom explain 7.0% of the variance in generalized trust.

The adjusted R squared for model 5 is .070, meaning the independent variables in Italy explain 7.0% of the variance in generalized trust. The adjusted R squared for model 6 is .100, meaning the independent variables including control variables in Italy explain 10.0% of the variance in generalized trust.

The adjusted R squared for model 7 is .102 meaning the independent variables in the Netherlands & the United Kingdom in comparison to Italy explain 10.2% of the variance in generalized trust. The adjusted R squared in model 8 is .128, meaning the independent variables in the Netherlands & the United Kingdom in comparison to Italy explain 12.8% of the variance in generalized trust.

Conclusion

Our study uses ESS data for the Netherlands, the United Kingdom and Italy to research whether different social ties (family, friends and acquaintances) have different effects on generalized trust. We contribute to existing research by specifying the different effects of different social ties. Earlier research, for example by Ermisch & Gambetta (2010) focused only on family ties and *any* other factor that promotes exposure to experiencing the behavior of others whilst our research has split the *any* other factor up in two different social ties, namely friends and acquaintances. Furthermore we have tested the claim by Robert Putnam (2000) that associational participation generates generalized trust. Next to this we propose a new definition for *outward exposure* namely, the amount of uncertain interactions one has. This definition shows, in our eyes, best why *outward exposure* is positively associated with generalized trust. A Wald test was performed to see whether the effects of family ties and friendship ties were different and the results showed that they did differ.

The hypothesis that stronger family ties lead to lower generalized trust is only supported with the results for the pooled sample of the Netherlands and the United Kingdom. This might be explained by the less than optimal operationalization of family ties, which will be discussed later. Only the results from the pooled sample for the Netherlands and the United Kingdom confirm earlier findings by Ermisch & Gambetta (2010) and Alesina and Giuliano (2009), the rest of our results do not. The causality that Ermisch & Gambetta were able to show was unfortunately not possible to test with the data we have used.

The second hypothesis, which states that stronger friendship ties lead to lower generalized trust is all but confirmed. Every single result indicates a significantly positive relationship between friendship ties and generalized trust whilst we hypothesized that the relationship would be negative. Friendship ties show to have the strongest effect of all social ties on generalized trust which is in line with one of Ermisch & Gambetta's (2010) conclusions which stated that "trust is positively affected by any factor that promotes exposure to experiencing the behaviour of others beyond one's family circle" (p.375).

The third hypothesis, stating that more interactions with acquaintances lead to higher generalized trust is supported by the results from all models except for the model for Italy including control variables. This is in line with findings from Robert Putnam's book *Bowling Alone* (2000), he stated that associational membership generates generalized trust and our research shows that the more one actively participates in voluntary organizations, a form of organizational participation, the higher his or her generalized trust. Although Putnam claims that there is a causal relationship, we again did not have a suitable data set to test this.

The fifth hypothesis, which states that family ties have a stronger negative effect on generalized trust than friendship ties have, is supported by the data for all models except for the two models in Italy. The results show that there is no difference between the effect of different social ties on generalized trust in Italy whilst that difference does exist in the Netherlands and the United Kingdom separately and when the countries are pooled. The results in Italy suggest that family and friendship ties have no different effects on generalized trust.

The control variables used were often based on previous literature, age showed to have a positive effect on generalized trust which confirms earlier research by Robinson & Jackson (2001). This could imply that the more *outward exposed* one has been, the higher one's generalized trust. Income satisfaction also has a positive effect on generalized trust, meaning the more satisfied one is with his income, the higher the generalized trust. This is in line with Ermisch & Gambetta's (2010) research. Adding to this the control variable urban living has a negative effect on generalized trust, this also is in line with Ermisch & Gambetta's (2010) article. The effect of years of education on generalized trust was also positive, indicating that the more years of education one has followed, the higher one's generalized trust. Other control variables used showed no significant results.

Discussion

The first, and in our eyes the biggest, point of improvement we would like to have been able to make would be a different measurement of strength of family and friendship ties. The ESS wave 1 data set contained three questions which measured generalized trust well, however the measurement of strength of family ties and friendship ties was far from ideal. The only questions related to strength of family and friendship ties were questions which asked the respondent how important family and friends in their life are. One could have very little contact with his family but still find that contact very important. The question does not measure actual strength of ties but only how important family is to the respondent. This is something that one should keep in mind when reading our results section.

Researchers following up on our research would be greatly helped by a social network analysis or by using survey questions which are actually able to measure how many uncertain interaction one has on a regular basis.

The second point that researchers could improve compared to our study would be a longitudinal study or an experiment to be able to show causality. Our research is based on one sample from 2002 and therefore we cannot test whether it is the strength of social ties that causes generalized trust to form or the other way around. Ermisch and Gambetta (2010) conducted an experiment which ensured that they were able to show a causal relationship and therefore we do have reason to believe it is family ties that inhibits generalized trust, however we have not tested it ourselves and so it cannot be concluded from our research.

The third point of discussion is the effect of friendship ties on generalized trust, where we expected a small negative relationship between the two, the effect was the highest positive effect of one of the social ties. This is unexpected as *outward exposure* in our definition is the number of uncertain interactions one has. One would expect that with friends one has fewer uncertain interactions than with acquaintances. Therefore it is interesting to research whether friends bring you into contact with more people one can have uncertain interactions with. It could very well be that this is the reason that friends have such a positive effect on generalized trust and it is thus worth researching by future scholars.

The third point of discussion is the interesting results we find in Italy, contrary to our initial believe, the effect for importance of family on generalized trust were positive where a negative effect was expected. For us this result was especially surprising because in Italy family is more important than most other European countries (especially the Netherlands). It would be interesting to see what the results would be if actual strength of ties would be measured instead of importance of family and friends.

A final improvement for future research would be the addition of a question whether one has had his or her trust violated in recent times. This seeing as that will influence one's generalized trust greatly and could thus influence results greatly.

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Appendix

Interaction terms for United Kingdom & Italy in comparison with the Netherlands on generalized trust

	Interaction terms UK				Interaction terms IT			
	Without control		With control		Without control		With control	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Imp. Family	.035	.023	.063	.037	.127**	.044	.109*	.045
Imp. Friends	.027	.033	.035	.033	.070	.038	.062	.038
Parti. V.O.	.001	.017	.013	.025	.077*	.036	.042	.055

Note: ***p<.001; **p<.01; *p<.05

Interaction terms for Netherlands & Italy in comparison with the United Kingdom on generalized trust

	Interaction terms NL				Interaction terms IT			
	Without control		With control		Without control		With control	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Imp. Family	-.035	.037	-.063	.037	.092	.047	.047	.048
Imp. Friends	-.027	.033	-.035	.033	.043	.035	.027	.036
Parti. V.O.	-.001	.017	-.013	.025	.076*	.036	.029	.056

Note: ***p<.001; **p<.01; *p<.05