

Generalized Trust Through Civic Engagement? Evidence from Five National Panel Studies

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According to a popular version of social capital theory, civic engagement should produce generalized trust among citizens. We put this theory to the test by examining the causal connection between civic engagement and generalized trust using multiple methods and multiple (prospective) panel datasets. We found participants to be more trusting. This was mostly likely caused by selection effects: the causal effects of civic engagement on trust were very small or nonsignificant. In the cases where small causal effects were found, they turned out not to last. We found no differences across types of organizations and only minor variations across countries.

KEY WORDS: volunteering, voluntary associations, membership, social trust

Generalized or social trust is an important ingredient for positive human relationships. Trusting individuals are more satisfied with their lives (Alvarez-Díaz, González, & Radcliff, 2010; Helliwell, 2003), have more positive social relationships (Ferres, Connell, & Travaglione, 2004), perform better in education (John, 2005), and are in better health (Fujiwara & Kawachi, 2008a, 2008b). Trust also seems important at the macro level: nations with high levels of trust have lower levels of corruption (Uslaner, 2002), a higher quality of government (Bjørnskov, 2006), lower levels of crime (Halpern, 2001; Rosenfeld, Messner, & Baumer, 2001), higher levels of participation in elections (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997) and higher levels of economic growth (Dearmon & Grier, 2009; Knack & Keefer, 1997; Whiteley, 2000).

Whether the above mentioned correlations actually represent causal relations is something that is, and should be, disputed, but it seems safe to state that trust is something worth investing in, something we would like to maintain, or, if possible, enhance. According to a popular version of social capital theory, civic engagement—such as membership of voluntary associations or volunteering—offers a way to accomplish this (Brehm & Rahn, 1997; Claibourn & Martin, 2000; Jennings & Stoker, 2004; Paxton, 2007). Moreover, some claim that the relation between the two is reciprocal: “[. . .] civic engagement, and trust are mutually reinforcing” (Putnam, 2000, p. 137), or in other words: civic engagement leads to increased generalized trust, and this higher level of trust in turn increases the inclination to participate in voluntary associations. In this view, voluntary associations and the like are assumed to be a special type of social network, which composition is heterogeneous, where activities are typically cooperative, and where participants’ sentiments are

usually positive due to the fact that the voluntarily chosen activities they perform represent their interests and/or hobbies.

Empirically, many issues remain unresolved in this line of research. One of those issues is that the causality of the relation between trust and civic engagement has not been examined thoroughly. The vast majority of studies are based on cross-sectional data. As we argue more fully in the theoretical section, there are pressing reasons to investigate the relationship between trust and civic engagement longitudinally. There are several plausible selection effects that pose a threat to previous conclusions about civic engagement and trust. Our main aim in the current article is therefore to find out whether civic engagement indeed causes trust, and if so, what kind of civic engagement is the most productive. To do so we consult five different (prospective) panel datasets from four different countries, and we employ strict, dynamic models to test the relationship under different circumstances. We contribute to the literature by answering three questions: (1) To what extent does civic engagement enhance generalized trust? (2) Does the increase of generalized trust occur immediately, or does it need some time to emerge? (3) Is the effect of civic engagement on generalized trust different across countries and types of voluntary associations?

Theory

Rotter (1967) defined trust as the “expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon” (p. 651). In exchange situations, trust is helpful: it lowers transaction costs, and goals may be attained more efficiently when there is mutual help (Coleman, 1990). This results in repeated transactions and further enhancement of interpersonal trust. However, social interactions also occur between parties that do not know each other. In those cases, *generalized* trust—defined by Stolle (2001a) as “an abstract preparedness to trust others and to engage in actions with others” (p. 205)—facilitates cooperation. In the next section, we explain why many scholars are interested in this type of trust, and why some of them assert that civic engagement breeds generalized trust.

Why Civic Engagement Furthers Generalized Trust: Socialization

The origin of the argument that civic engagement promotes trust is the classic work of Alexis de Tocqueville, who argued that the best way to align the divergent interests of people towards the common good is to have them participate in democratic decision making (Tocqueville, 1835–40/2000). Such participation not only occurs in local politics but also in voluntary associations. Thus, one of the propositions in this “Tocquevillean paradigm” (Warren, 2001) is that through interactions in “secondary associations,” people learn to bridge differences, subscribe to democratic values more strongly, and learn how to organize collective action. Putnam (2000), who is probably the most well-known advocate of this school, stresses the value of leisure associations in this regard (such as the celebrated bowling club) because of their horizontal organization and extensive face-to-face interaction. He claims that: “Internally, associations and less formal networks of civic engagement instill in their members habits of cooperation and public spiritedness, as well as the practical skills necessary to partake in public life” (2000, p. 338). Generalized (or social) trust is an essential part of cooperation and an indicator of that public spiritedness.

According to this reasoning, voluntary associations are a special kind of social networks because of the nature of their activities and the freely chosen participation, which create “[. . .] opportunities for positive experiences with others under the ‘controlled’ circumstances of shared interest” (Anheier & Kendall, 2002, p. 350). The positive experiences with others are in turn expected to influence mental dispositions, such as values and attitudes, and possibly also generalized trust. In the political socialization literature, these “beneficial formative effects” (Rosenblum, 1998, p. 48) of voluntary

associations are often referred to as *spill-over effects*. The mechanisms of the proposed spill-over effect strongly resemble an idea that is known in social psychology as the *contact hypothesis*. In this literature, it is examined how certain interactions can positively adjust stereotypes and prejudices, breaking down social categorizations of in- and out-group (Brewer & Gaertner, 2001; Rothbart, 2001). In the original formulation, it was argued that this process is stimulated when: (1) integration has the support of authority, fostering social norms that favor intergroup acceptance, (2) the situation has high acquaintance potential, promoting intimate contact among members of both groups, (3) the contact situation promotes equal status interactions among members of the social groups, and (4) the situation creates conditions of cooperative interdependence among members of both groups (Allport, 1954). A recent review of research on the contact hypothesis yielded considerable support for the contact hypothesis (Pettigrew & Tropp, 2006).

Voluntary associations and organizations are contexts that meet Allport's criteria relatively well. Trust can be seen as a positive expectation about people's intentions in social-dilemma situations. Within a voluntary association, a participant often experiences that his fellow participants are keeping their promises, are exhibiting willingness to cooperate, and are sacrificing personal resources for the public good. In other words, the positive expectation of trust is reinforced.

Why Civic Engagement Does Not Further Generalized Trust

The hypothesis that civic engagement fosters trust has been challenged both on theoretical as well as on methodological grounds (Nannestad, 2008; Sturgis, Patulny, & Allum, 2009; Uslaner, 2002). Uslaner is the fiercest critic of the socialization hypothesis and calls the view that civic engagement can create trust simply "a mistake" (Uslaner, 2002, p. 4). We discuss the theoretical arguments first and deal with the methodological issues later. Trust is a fairly stable personality trait of individuals, Uslaner argues, and it is established in individuals before they start participating in organizations. This view is supported by a wealth of evidence. Trust is indeed a fairly stable personality characteristic of persons (Bekkers, 2012; Bleidorn, Kandler, Riemann, Angleitner, & Spinath, 2009; Claibourn & Martin, 2000; Uslaner, 2002), even in adolescence (Flanagan & Galloway, 2008; Flanagan & Stout, 2010). Recently, twin studies have provided evidence for the idea that trust may also have a substantial genetic component (Hiraishi, Yamagata, Shikishima, & Ando, 2008; Shikishima, Hiraishi, & Ando, 2006; Sturgis et al., 2010). Though the fact that trust is heritable does not rule out the possibility that trust is also influenced by civic engagement, it does limit the scope for socialization effects.

People who assume that other people are fundamentally honest and willing to cooperate are more likely to think that the goals of voluntary associations can be reached by working together. Because they are less likely to think that the collective effort will fail, they are more likely to contribute (Kerr & Harris, 1996). Laboratory studies reveal that trust facilitates cooperation in a variety of social-dilemma situations (Brann & Foddy, 1987; De Cremer, Snyder, & Dewitte, 2001; Parks, Henager, & Scamahorn, 1996; Wrightsman, 1992). Trust is a helpful predisposition because the decision to trust causes others to reciprocate that trust (Kelley & Stahelski, 1970; Rotter, 1967). In sum, it takes trust to engage in social relationships and to make them productive. Thus, trust is likely to be an important precondition for civic engagement.

Stolle (2001a) concluded that "people who trust more self-select into certain types of associations" (p. 233) after she failed to find a relationship between length of membership and trust. In line with this argument, Bekkers and Bowman (2009) recently showed that decisions to start and stop volunteering are dependent on preceding levels of trust. Specifically, people with higher levels of trust are more likely to start volunteering and less likely to quit than people with lower levels of trust. Taking such selection processes into account potentially reduces the estimated effect of civic engagement on trust. A similar finding emerges from studies on the contact hypothesis: because

prejudice reduces contact, a failure to take selection into account leads to an overestimation of the effect of contact on prejudice (Binder et al., 2009).

Although the evidence of selection into and out of volunteering based on trust seems convincing, it does not necessarily rule out the possibility that civic engagement furthers trust. Even fairly stable personality traits of individuals are open to change (Roberts & DelVecchio, 2000; Roberts & Mroczek, 2008). In fact, when advocates of virtuous circles of civic engagement are correct, both processes should occur. However, additional issues have been raised that are likely to constrain the impact of civic engagement on trust. One problem is that the impact of civic engagement on the lives of most people is generally not very great (Newton, 1999). Much more time is spent in the context of work, the household, or more informal types of social interaction (Van Ingen, 2008). This raises the question of whether the experiences in voluntary associations are salient enough to change people's mental dispositions, which could be one of the reasons why spill-over effects are not often found (Stolle, 2001a). A second issue is that the idea that voluntary associations represent pleasurable interactions in a heterogeneous social context may be overoptimistic (Roßteutscher, 2005). This idea is also supported by empirical findings: in a rare study of the social networks of voluntary associations McPherson and Smith-Lovin (1987) found that interactions between people with dissimilar backgrounds are the exception, and homophily tends to be the rule.

Previous Research

Previous studies on the association between trust and civic engagement have almost exclusively used cross-sectional survey data. Virtually all of these studies found a positive relation between civic engagement and trust, although the strength of the relationship may vary across countries (Delhey & Newton, 2003). Pichler and Wallace (2007) found trust to be closely related to voluntary association membership in the European countries they studied.

The results of previous research are consistent with the hypothesis that trust increases with civic engagement. Members of voluntary associations display higher levels of trust than nonmembers (Brehm & Rahn, 1997; Claibourn & Martin, 2000; Paxton, 2007; Sønderskov, 2010; Stolle, 1998, 2001b; Stolle & Rochon, 1998; Wollebæk & Strømsnes, 2008). In addition, individuals who are actively participating in voluntary associations tend to have higher levels of trust than passive members (Welch, Sikkink, & Loveland, 2007; Wollebæk & Strømsnes, 2008). Finally, people who volunteer for nonprofit organizations tend to display higher levels of trust than nonvolunteers (Bekkers & Schuyt, 2008; Brown, 1999; Caputo, 2009).

As far as we know, only four studies have been published that used panel data to test the effect of civic engagement on trust. Claibourn and Martin (2000) analyzed data from the Michigan Socialization Study, spanning a considerable period of time (1965–82). The authors found a weakly positive effect of membership on trust, but a negative effect of a lagged membership variable, while no effect of trust on membership was found.

In the second study, changes in trust over a period of nine months were examined in a national telephone survey of Americans (Gross, Aday, & Brewer, 2004). The study found that volunteering was not correlated with social trust when a lagged trust variable was included. Without the lagged trust variable, however, volunteering was a significant predictor of trust.

The third study examined the longitudinal relationship between engagement in volunteering and generalized trust in a biennial panel study spanning six years among a national sample of adults in the Netherlands (Bekkers, 2012). The study showed that changes in volunteering are not related to changes in trust. The results also show that trust is higher among volunteers mainly because of selective exit: persons with low trust are more likely to quit volunteering. While this study casts considerable doubt on the existence of a virtuous circle linking civic engagement to trust, it did not investigate the more common forms of civic engagement such as memberships. Also, the level of

panel attrition from the survey was relatively high, limiting the potential to detect longitudinal effects of volunteering.

Finally, Jennings and Stoker (2004) used longitudinal cohort data to test the effects of different types of involvement on trust and vice versa. They found many insignificant effects, which is probably partly due to the long time between the measures (8, 9, and 15 years). They did not use panel models though: neither the dependent nor the independent variables captured (within-person) changes (in trust and involvement).

How the Current Study Improves on Previous Studies

The main threat to the validity of the conclusion that civic engagement enhances generalized trust in studies based on cross-sectional data is that there are many plausible third variables that could cause a spurious relation. Some of these factors are commonly measured (e.g., education), and some of them are usually not measured (e.g., personality traits or prosocial values). Therefore, a solid empirical test should take into account this observed and unobserved heterogeneity. Fixed-effects and first-difference (change score) regression models solve part of the heterogeneity problem, by controlling for time-invariant effects (Allison, 2009). This makes these techniques currently the best option when analyzing the relation between civic engagement and trust.

In our models, we employ fixed-effects regression and an adapted version of first-difference regression. The latter is discussed in technical terms in the data and methods section, but conceptually it boils down to comparing the change in trust of those who start participation in a voluntary association with the change in trust of those who remain nonparticipants (a [quasi-] control group). If the argument about civic engagement is correct, one should observe an increase in trust (relative to the change in trust in the reference group) after the “event” of entering an association. In our view, this approach is conceptually clearer than fixed-effects regression, as it does not assume that exit effects are similar to entry effects and does not assume that every additional membership adds the same amount of trust. However, fixed-effects regression has the advantage of more statistical power. We therefore present the results of both types of analyses in the results section.

This article contributes to the literature not only by conducting a stricter and clearer statistical test. We also identify four sources of variation that create further opportunities to test the civic-engagement-further-trust hypothesis. First, we examine two types of civic engagement: membership of voluntary associations and volunteering. Second, we examine an immediate effect (after 0.5 year of participation on average) and a somewhat later effect (after 1.5 years of participation on average). Third, we analyze different types of voluntary associations. And fourth, we study different countries.

Data and Methods

For most analyses, we used the data of the Swiss Household Panel (SHP). These data have several advantages: a large number of waves, a consistent design, and high-quality measures. We provide a detailed description below. We performed analyses on other datasets to examine whether the relationships observed in the Swiss data are observed in other countries as well. Though many datasets include measures of trust and civic engagement, we only used datasets that (1) were panel data (with at least two waves) and (2) were nationally representative. The following datasets met these criteria: the British Household Panel Survey (BHPS), the Giving in the Netherlands Panel Survey (GINPS), the Longitudinal Internet Studies for the Social Sciences (LISS), and the

Household, Income and Labour Dynamics in Australia Survey (HILDA). For a description of these surveys, we refer to their websites.¹

Swiss Household Panel (SHP)

The SHP aims to study “the dynamics of changing living conditions and representations in the population of Switzerland” (Voorpostel et al., 2009, p. 3), by way of a yearly survey which started in 1999. Because trust was not included in the first waves of the study, we use the second sample of the panel—which was taken in 2004—consisting of 3,654 individuals from 2,538 households. Our analyses include five waves of measurement (2004–2008). The participation rate in the last round was still 66% (or 2,410 individuals). The attrition was found to be correlated with factors such as age, having children, citizenship, political and social participation, and satisfaction, although compared to other representative panel surveys, the SHP is “[. . .] not particularly selective with respect to important socio-demographic or -economic variables” (Lipps, 2007, 63). It also seems unlikely that this selective attrition biased our findings, because the analyses we used are unaffected by omitted time-invariant factors (such as several of the abovementioned variables; see explanation below).

Dependent Variable

Generalized trust was measured with the following question: “Would you say that most people can be trusted or that you can’t be too careful in dealing with people?” It was followed by answer categories 0 (“Can’t be too careful”) to 10 (“Most people can be trusted”). Table 1 shows the descriptive statistics of the most important variables in the SHP data. The average level of trust was 5.7.

Independent Variables

We analyzed two forms of civic engagement: voluntary association membership and volunteering. Membership of voluntary associations was measured with the question: “I will now read out a list of associations and organizations. Could you tell me if for each of them you are an active member, a passive member or not a member?” The answer categories were the following: (1) local or parents association, (2) sports or leisure association, (3) organization involved in cultural activities, music, or education, (4) syndicate, employees association, (5) political party, (6) organization concerned with protection of the environment, (7) charitable organization, (8) women’s association, and (9) tenants’ rights association. Our membership variable is a count of (any type of) memberships in these associations. On average, the SHP respondents reported 1.5 memberships.

Volunteering was measured with the question “Do you have honorary or voluntary activities within an association, an organization or an institution?” (yes / no), which was accompanied by the following explanation: “Voluntary activities relating to private initiative, such as helping neighbors, at local fetes are not included here; payments for meetings, expenses or payment of symbolic amounts are not considered as forms of remuneration” (Swiss Household Panel, 2010, p. 332). Of the SHP respondents, 33% reported volunteering activities.

The distinction between membership and volunteering is relevant, since they generally represent different types of activities. Volunteering is often seen as a more demanding and productive kind of participation (Wilson, 2000). However, this should not necessarily lead to more positive participation effects, since this kind of participation also comes with more obligations and duties, which may not always be positive experiences.

¹ BHPS: <http://www.iser.essex.ac.uk/survey/bhps/>; GINPS: <http://giving.nl/>; LISS: <http://www.lissdata.nl/lissdata/>; HILDA: <http://www.melbourneinstitute.com/hilda/>.

Table 1. Descriptive Statistics SHP (pooled)

	N Obs./(persons)	Mean	Std. Dev.	Minimum	Maximum
Generalized trust between within	13,564 (4,445)	5.724	2.477 2.234 1.366	0	10
Volunteering (dummy)	13,629 (4,452)	0.324	0.468	0	1
Membership (count)	13,631 (4,451)	1.528	1.400	0	5
Education	16,486 (4,455)	4.813	3.041	0	10
Health	13,658 (4,453)	4.053	0.673	2	5
Employed	13,658 (4,455)	0.697	0.459	0	1
Partner	13,624 (4,451)	0.733	0.443	0	1
Transitions	Volunteering N/(%)	Membership N/(%)			
<i>Two-wave</i>					
Stay uninvolved (00)	4,910 (58)	1,485 (18)			
Entry (01)	691 (8)	810 (10)			
Exit (10)	675 (8)	791 (9)			
Stay involved (11)	2141 (25)	5,333 (63)			
<i>Three-wave</i>					
Stay uninvolved (000)	2,832 (53)	668 (12)			
Entry (011)	236 (4)	304 (6)			
Exit (100)	264 (5)	224 (4)			
Stay involved (111)	1,177 (22)	3,224 (60)			
Late entry (001)	247 (5)	217 (4)			
Entry and exit (010)	210 (4)	184 (3)			

Note. Some respondents contributed more than one transition to the dataset.

Control Variables

“Education” was constructed as a quasi-continuous variable with 11 categories of achieved or current educational levels, ranging from incomplete compulsory school (0) to university (10). “Partner” is a dummy variable that captures whether respondents had a partner, regardless of whether they were living together or not. The health variable represents respondents’ self-assessed overall health on a 4-point scale: (1) “not well at all” / “not very well,”² (2) “so, so (average),” (3) “well,” (4) “very well.” “Employed” is a dummy variable that captures the difference between being actively employed (1) versus being unemployed or not in the labor force (0). Prior research has demonstrated that all of these variables relate to both trust and civic participation, which means that one runs the risk of finding spurious effects without the proper controls.

Analytical Strategy

We used several types of regression analysis to examine the relation between civic engagement and trust. First, to mimic analyses based on cross-sectional data, we perform between-regressions, which are based on the (within-person) averages of civic engagement and trust (across waves, for each respondent). In other words, these analyses only use between-person variation.

Second, we perform fixed-effects regression, which is based on within-person variation (i.e., variation over time) only, which is the preferred technique of analyzing panel data when selection

² These categories were combined because very few respondents indicated feeling “not well at all.”

effects are likely to affect the examined relationship (Allison, 2009). In order to be able to use the multiple waves of measurement, both the dependent variable and the independent variables are subtracted from the within-person means of these variables (which is the standard fixed-effects approach). The difference between the results of the between- and fixed-effects regressions is an indication of the extent to which selection accounts for the relation between civic engagement and trust.

Third, we use a first-difference approach (change scores) with different transition groups. The dependent variable is the change in generalized trust between two consecutive waves (first difference). Our independent variable is the onset of membership or volunteer work: the group that became involved is compared to the group that remained uninvolved (a quasi-control group). Since a respondent can go through more than one of these transitions in five years, ordinary least squares (OLS) estimation of our models would produce biased standard errors (Allison, 2009). We therefore opted for generalized least squares estimation (using Stata's `xtreg` command with the `-pa` option), taking into account the correlated errors.

The following are the four possible transitions when two waves of measurement are used:

- 1) remain uninvolved (T1 = 0; T2 = 0),
- 2) become involved (T1 = 0; T2 = 1),
- 3) become uninvolved (T1 = 1; T2 = 0), and
- 4) remain involved (T1 = 1; T2 = 1).

As Table 1 shows, most people did not change between two waves but remained either participant or nonparticipant (84% for volunteering; 81% for membership). These proportions are reasonably similar across the different datasets we use. Despite the low percentage of respondents that changed, we still have a considerable number of respondents in the most important transitions, which is due to the fact that we stacked the different waves (1–2, 2–3, etc.; see below).

The effect of the participation “treatment” then equals the effect in the entry group (B) minus the effect in the reference group (A) of the uninvolved: $\Delta\text{Trust}(B) - \Delta\text{Trust}(A)$. In Table 1, the frequencies of these transitions are displayed. In a subsequent analysis, we also analyze more complicated transition patterns (three-wave design):

- 1) Stay uninvolved (000),
- 2) Entry (011),
- 3) Exit (100),
- 4) Stay involved (111),
- 5) Late Entry (001), and
- 6) Entry and Exit (010).

Apart from the first differences, we also compute the change in trust in two years time (i.e., 2006–2004, 2007–2005, and 2008–2006) in the latter transitions. There is little known about the timing of the effect of civic engagement on trust (in both theory and research). However, since the theoretical mechanism requires getting to know fellow participants and establishing relationships with them, the effect cannot occur over night. Also, it seems unlikely that civic engagement would produce ever more and more trust when participation is prolonged (for more than a few years). In other words, when theory and common sense are combined, the range of 0.5 to two years of participation seems the optimal period of testing effects on trust.

There are several ways to model longitudinal multiple-membership effects, with different strengths and weaknesses. What the most suitable kind of analysis is likely differs across applications. The key issue is finding the most appropriate way to reduce the information in Table 2, which

Table 2. Change in Membership Count Between Two Waves

Wave 1	Wave 2					
	0	1	2	3	4	5
0	/	/	/	/	/	/
1		+1	/	/	/	/
2		-1	/	/	/	/
3			/	/	/	/
4				/	/	/
5					/	+1

shows the two-wave case with 0–5 memberships for each respondent. With a maximum of five memberships, there are 36 possible transitions, which is too much to analyze separately with most data. There are several ways to reduce the information in Table 2. We employ two different methods.

The *fixed-effects approach* reduces all this information to one parameter: the change in the membership count. It is important to note that—as a consequence—the fixed-effects regressions have a few “hidden” theoretical assumptions. First, all the transitions on the diagonal (the grey cells in Table 2) are assumed to have the same effect. Whether this is theoretically correct depends on whether late effects are likely to occur. If they do, someone who had four memberships and maintains those memberships is likely to experience a participation effect, whereas someone who stays uninvolved (0 → 0 memberships) should obviously show no participation effect. Second, gaining (or losing) one membership is assumed to have the same effect regardless of the number of initial memberships, for example going from one to two memberships has the same effect as going from four to five memberships (the +1s in Table 2). In our case, it seems unlikely that this is true. However, in practice, if going from four to five memberships has an effect (although smaller than going from one to two), it may still be desirable to pool those transitions for the sake of power. Third, exit effects are assumed to have the same effect as entry effects, but then reversed (cf. the +1 and –1 in Table 2). Unfortunately, we know of little research on exit effects, which makes it hard to judge whether this is plausible a priori. One could also test these assumptions empirically. However, due to the low number of cases in the extreme cells, some of the estimates involve a lot of uncertainty. The fixed-effects approach also has advantages: it is parsimonious and uses all the information in Table 2.

The latter is not true for our second method. The *first-difference approach* with nonparticipants as reference group only uses the information in the first row of Table 2: it compares the change in trust of those who went from zero to at least one membership (cells with the diagonal lines) to the change in trust of those who remained uninvolved (cell with the horizontal lines). This second approach is theoretically less restrictive, which probably makes it the preferred approach in many applications. However, this comes at the expense of power: fewer cases are used to calculate the effect. This means that if the assumptions of the fixed-effects approach are correct, our first-difference regression with transition groups is *not* the preferred method.

Results

Participants Are More Trusting Than Nonparticipants

Figure 1 shows the average generalized trust scores for different categories of respondents, based on the pooled data of the SHP. Volunteers and nonvolunteers clearly showed different levels of trust: volunteers were 0.85 (6.30–5.45) points more trusting, which corresponds to a standardized difference of 0.34 (SDs trust; see Table 1).

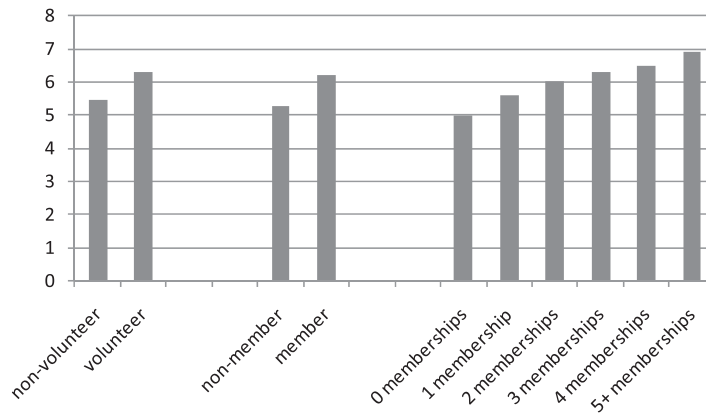


Figure 1. Average generalized trust score by participation (SHP pooled).

Members of voluntary associations were also more trusting than nonmembers, and the difference was of similar effect size as in the case of volunteering. This result stands in contrast to the hypothesis that the intensity of civic engagement is positively related to trust. Volunteering is a more intense form of civic engagement than membership. Note, however, that in this sample, it is reasonably common to have multiple memberships. The accumulation of memberships is clearly linked to trust: there is an almost linear relationship between the number of memberships and trust. The difference between those without memberships and those with five memberships or more is substantial: 1.91 points trust.

These outcomes strongly support the idea that participants in voluntary associations are more trusting than nonparticipants and are in line with findings from previous studies based on cross-sectional data. However, as argued in the previous section, we have to use the longitudinal information of the data for a better empirical test.

The between-regressions in Table 3 look at differences between respondents (regression on pooled averages), similar to Figure 1, but with four control variables added to the model. Without the controls (not shown in the output), the effects of volunteering and membership were: $b = 1.125$ and $b = 0.488$. The inclusion of the control variables diminished the effect sizes of civic engagement somewhat (to $b = 0.957$ for volunteering; $b = 0.413$ for membership). In other words, the group that started participating was selective with regard to education, having a partner, health, and employment. Nonetheless, the effects remain strong: the standardized effect of membership on trust equals $0.26 (0.413 \cdot 1.400 / 2.234)$, and the standardized dummy effect of volunteering equals $0.43 (0.957 / 2.234)$ or 0.20 when fully standardized. Although it is possible to extend this approach by adding more control variables, it is unlikely that all relevant variables are measured in the survey. A more efficient method is to use fixed-effects regression, which also controls for unobserved heterogeneity caused by time-invariant factors.

Civic Engagement Hardly Enhances Trust

The fixed-effects regression model corresponds to our intuitive idea of causality: it examines the relation between changes in X and changes in Y. Comparing the between-regressions and fixed-effects regressions in Table 3 is instructive: the observed correlation between civic engagement and trust turns out to be mainly due to between-person variation, not to within-person variation. In other words, the causal effects, examined in the fixed-effects regressions, are much smaller than the cross-sectional correlations. And for both volunteering and membership, they are also no longer significant.

Table 3. Regression of Generalized Trust on Volunteering and Membership (SHP pooled; regression coefficients and standard errors)

	Generalized Trust (volunteering models)			Generalized Trust (membership models)		
	Between-Regression	Fixed-Effects Regression	First-Difference Regression	Between-Regression	Fixed-Effects Regression	First-Difference Regression
Volunteering (dummy)	0.957** (0.080)	-0.053 (0.058)				
Membership (count)				0.413** (0.028)	0.037 (0.021)	
Participation transition:						
Remain uninvolved (ref)			0			0
Entry/Start			-0.021 (0.079)			0.178* (0.086)
Exit/Quit			0.039 (0.079)			0.038 (0.086)
Remain involved			-0.000 (0.037)			0.109* (0.045)
Education	0.120** (0.011)	0.007 (0.031)	0.009 (0.005)	0.089** (0.012)	0.008 (0.031)	0.007 (0.005)
Partner	-0.244** (0.081)	0.016 (0.077)	0.012 (0.037)	-0.262** (0.080)	0.015 (0.077)	0.009 (0.037)
Health:						
not well (ref)	0	0	0	0	0	0
so, so/average	0.367 (0.296)	0.016 (0.130)	0.326* (0.142)	0.293 (0.201)	0.023 (0.131)	0.310* (0.142)
well	1.142** (0.267)	0.060 (0.131)	0.191 (0.129)	1.109** (0.265)	0.064 (0.131)	0.173 (0.129)
very well	1.329** (0.274)	0.066 (0.137)	0.159 (0.132)	1.278** (0.271)	0.069 (0.137)	0.138 (0.132)
Employed	-0.027 (0.081)	-0.208** (0.069)	0.138** (0.036)	0.005 (0.080)	-0.206** (0.069)	0.133* (0.036)
Intercept	3.784** (0.081)	5.344** (0.207)	0.141** (0.137)	3.676 (0.263)	5.263** (0.209)	0.083 (0.140)
N (obs/persons)	13,532/4,437	13,532/4,437	8,325/2,971	13,534/4,436	13,534/4,436	8,327/2,971

Note. The fixed-effects regressions (models II and V) are controlled for year of measurement (dummy variables). The first-difference models (models III and VI) are controlled for “equation number” (1 = 2005–2004, 2 = 2006–2005, etc.). * $p < .05$; ** $p < .01$.

The entry-versus-uninvolved models are the cleanest test of the civic-engagement-enhances-trust hypothesis. The results are similar to the fixed-effects regression for volunteering but slightly different for membership. Volunteering did not enhance generalized trust ($b = -0.021$ n.s). Membership showed a significant effect on trust ($b = 0.178$) but again of small effect size (standardized dummy effect = .08).

In sum, the evidence for a causal effect of civic engagement on generalized trust is limited. We were unable to find an effect for volunteering and found only a small effect for membership. This is remarkable given the “conventional wisdom” that volunteering is a stronger form of civic engagement than membership. Despite the statistical significance of the membership effect, its practical significance can be questioned.

The Initial Increase in Trust Does Not Last

In Table 4, we extend the approach of comparing transition groups to the three-wave case, which gives us the chance to distinguish between short-term and prolonged participation.

Table 4. Change in Trust by Transition (deviations from reference group and standard errors; SHP pooled)

	Trust (Δ One Year)		Trust (Δ Two Years)	
	Volunteering	Membership	Volunteering	Membership
<i>Three-wave transitions</i>				
Stay uninvolved (000)	Ref.	Ref.	Ref.	Ref.
Entry (011)	0.129 (0.135)	0.296* (0.132)	-0.157 (0.151)	0.222 (0.152)
Exit (100)	0.110 (0.129)	0.044 (0.153)	0.123 (0.144)	-0.037 (0.172)
Stay involved (111)	0.060 (0.053)	0.162* (0.068)	0.024 (0.073)	0.146 (0.090)
Late entry (001)	-0.002 (0.133)	0.242 (0.156)	-0.016 (0.149)	0.361* (0.174)
Entry and exit (010)	0.115 (0.142)	-0.018 (0.161)	-0.075 (0.160)	0.121 (0.185)
N (obs/persons)	5,291/2,247	5,293/2,248	5,297/2,252	5,299/2,253

Note. Models are controlled for equation number, education, (having a) partner, health, and (being) employed. The patterns of the transition groups correspond to: (1) participation and (0) no participation in the different waves; e.g., 001 means that the respondent started to participate between the second and third wave. * $p < .05$; ** $p < .01$.

We start with the immediate effects. In line with Table 3, volunteering (model 1) showed no significant effect, regardless of the transition pattern under study. The results for membership (model 2) are more interesting. The entry effect now represents the group that was uninvolved in the first wave, started to participate between the first and the second wave, and prolonged participation between the second and third wave (pattern 011). The immediate effect (difference T1-T2) for this group is somewhat larger ($b = 0.296$) than the effect we found in Table 3 without the distinction between prolonged and short-term participation. Table 4 also shows the reason why. The entry effect in Table 3 (pattern 01) included two groups: those who would decide to remain a member (pattern 011 in Table 4) and those who would decide to quit a year later (pattern 010). The latter group shows no trust effect at all in Table 4 ($b = -0.018$).

Models 3 and 4 in Table 4 focus on the development of trust over a somewhat longer period (two years). The results are different from the previous ones. Over a period of two years, the positive entry effect of membership on generalized trust diminishes and drops below significance levels. In other words, the effect of participation on trust was only experienced by those who prolonged their participation, and it seems to have been a temporary boost. The significant trust effect among those who entered between the second and third wave of measurement (pattern 001) in model 4 is in line with the idea of a temporary, immediate increase in trust. Interestingly, this group already experienced a (nonsignificant) increase in trust before they became a member ($b = 0.242$; see model 2), which may be an indication of reversed causality.

No Differences Between Types of Voluntary Associations

Table 5 displays average trust levels of individuals with different levels of activity in different types of associations. A clear overall pattern emerges: the differences between nonmembers and passive members³ were generally larger than the differences between passive and active members. Active and passive members were (roughly) equally trusting in most cases. There is no evidence that

³ Note that passive membership may have a different meaning depending on the type of association; e.g., in the case of environmental organizations, it probably refers to giving financial support only, while in the case of sports clubs, passive members could also be former active members who are—for whatever reason—currently inactive.

Table 5. Average Trust by Type of Association and Type of Participation (SHP; pooled)

	Local or Parents	Sports or Leisure	Culture	Syndicate	Political Party	Environment	Charitable Organization	Women	Tenants Rights
Not a member	5.9	5.8	5.7	5.9	5.9	5.8	5.8	5.9	5.9
Passive member	6.3 ¹	6.1 ¹	6.5 ¹	6.3 ¹	6.5 ¹	6.6 ¹	6.4 ¹	6.5 ¹	6.0 ¹
Active member	6.4	6.2 ²	6.5	6.1	6.4	6.3	6.5 ²	6.6	5.9
First-difference effect any membership ³ (SE)	0.030 (0.099)	0.073 (0.076)	0.001 (0.076)	-0.076 (0.101)	0.134 (0.131)	0.115 (0.088)	0.076 (0.069)	0.091 (0.122)	0.239 (0.125)

¹Average passive > nonmember (*t*-test; $p < .01$ [one-sided]).

²Average active > passive member (*t*-test; $p < .01$ [one-sided]).

³Control variables are similar to Table 3.

* $p < .05$; ** $p < .01$.

engagement in leisure associations yields greater effects than engagement in other associations. Additionally, we performed regression analyses similar to Table 3 (entry vs. noninvolved) to see whether entering specific types of associations would boost generalized trust (bottom row of Table 5). In line with the descriptive results in the first three rows of Table 5, we found no socialization effects of membership on trust.

The fact that differences between nonmembers and passive members are larger than differences between passive and active members also speaks against positive socialization effects of civic engagement. Active members should display higher levels of trust because they are more likely to have positive social interaction and cooperative experiences.

Differences Between Countries?

In order to assess the generalizability of our findings, we also analyzed the effect of civic engagement on trust in other countries. Next to the data from Switzerland in our main analyses, we analyzed data of panel studies from the United Kingdom (BHPS), the Netherlands (LISS and GINPS), and Australia (HILDA). The results are presented in Table 6.

The results from the different panel studies are fairly consistent. In the between-regressions, we found strong positive effects between membership and volunteering on the one hand and trust on the other, but we found much weaker relations in the fixed-effects and first-difference models. The strongest causal effect in the table was the volunteering effect in the United Kingdom. This effect was not detected in the data from Australia and the Netherlands. All the other effects were not significant and very small (standardized effects < .05), regardless of the type of analysis.

Discussion and Conclusions

Putnam (2000) argues that “the causal arrows among civic involvement, reciprocity, honesty, and social trust are as tangled as well-tossed spaghetti” (p. 137). For some researchers, this is a reason to combine measures of civic engagement and trust into one scale or factor, which is usually labeled “social capital.” In the current article, we followed the opposite approach and attempted to disentangle the spaghetti by performing several strict empirical tests of the proposed causal effect of civic participation on generalized trust. In summary, our findings offer little support for the idea that civic engagement plays an important role in the creation of generalized trust. We found some evidence of small, short-term effects, but those effects turned out not to last in the Swiss data. So we conclude that civic engagement brings trusting individuals together, but it does not enhance generalized trust in the long run. In other words, voluntary associations seem to be “pools of democracy” rather than “schools of democracy” (Van der Meer & Van Ingen, 2009).

Table 6. Civic Engagement and Generalized Trust in the United Kingdom, the Netherlands, and Australia (regression coefficients and standard errors)

	Between Regression	Fixed-Effects Regression	First-Difference Regression
United Kingdom (BHPS):¹			
Membership	0.097** (0.003)	0.006 (0.003)	-0.006 (0.010)
Volunteering	0.182** (0.009)	0.033** (0.006)	0.049** (0.010)
Netherlands (LISS):²			
Membership	0.174** (0.011)	0.011 (0.014)	0.048 (0.159)
Volunteering	0.558** (0.030)	0.046 (0.027)	0.017 (0.099)
Netherlands (GINPS):³			
Volunteering	0.226** (0.026)	-0.014 (0.031)	0.018 (0.047)
Australia (HILDA):⁴			
Volunteering	0.485** (0.031)	0.034 (0.028)	0.039 (0.057)

¹Fifteen waves, interval one year. Generalized trust: range 0–1; mean 0.38; SD 0.49. Membership mean 0.82. Volunteering mean 0.21.

Standardized membership effect -0.01; Standardized volunteering effect 0.10.

²Two waves, interval one year. Generalized trust: range 0–10; mean 6.07; SD 2.11.

Membership mean 2.69. Volunteering mean 0.37.

Standardized membership effect 0.03; Standardized volunteering effect 0.01.

³Four waves, interval two years. Generalized trust: range 1–5; mean 3.14; SD 0.74.

Volunteering mean: 0.42.

Standardized volunteering effect 0.02.

⁴Three waves, interval one year. Generalized trust: range 1–7; mean 4.68; SD 1.39.

Volunteering mean: 0.18.

Standardized volunteering effect 0.03.

Note. The computed means are overall means (across all waves). The standardized effects are based on the first-difference regression, and calculated by dividing the coefficient by one standard deviation of the dependent variable (i.e., they are standardized dummy effects; they are not fully standardized). In other words, they indicate the change in standard deviations trust as a result of becoming a member or volunteer.

* $p < .05$; ** $p < .01$.

So why is there no causal relation between civic engagement and trust while there is considerable correlation between the two? In the theoretical section, we already discussed several possible reasons. We did not find support for the idea that trust does not change much during one’s life. On the contrary, our respondents showed substantial within-person variation in trust. It seems more likely that civic engagement and trust are correlated because they are part of the same “social syndrome”: those who subscribe to prosocial values, who have good social skills, and who are generally outgoing are more likely to be both more civically engaged and trusting.

To be sure, we do not mean to say that civic engagement is unimportant; it means that we should start thinking about the relation between trust and participation in a different way. Societies may benefit from domains in which trusting and involved citizens are brought together; many forms of political and nonpolitical collective action require cooperation between citizens of this type, such as direct governance in which voluntary associations play a role in policy making, or informal civic initiatives, such as efforts to clean the neighborhood or raise money for charity (see Fung, 2003 for a discussion of how associations enhance democracy). In this sense, voluntary associations can be important recruitment bases for “good citizens.”

Our study does provide a warning against considering civic engagement as an antidote for societal issues or democratic deficits, such as a lack of trust or lack of political involvement and interest. Although there are more outcomes that need to be studied besides generalized trust, caution seems to be needed in regarding voluntary associations and the like as a special kind of social networks. Unfortunately, our data did not enable us to examine this matter thoroughly, but future research may want to assess to what extent the social networks of voluntary associations are heterogeneous and to what extent activities are cooperative and sentiments positive. What we tested was a proposed consequence of these characteristics, and based on that test, we are inclined to think that at least some of the premises about voluntary associations are implausible.

A few shortcomings of our study deserve to be discussed. First, measurement error is a potential threat to our conclusions. The validity of the measurement of trust has been criticized by several authors (Glaeser, Laibson, Scheinkman, & Soutter, 2000; Miller & Mitamura, 2003; Uslaner, 2002). To the extent that this error is stable over time, for instance, because respondents have an idiosyncratic interpretation of the survey items that they apply in each wave, this source of error is subsumed in the unit effects that fall out of the equation in the fixed-effects (and first-difference) models. In the alternative case of errors that vary from wave to wave, the question is whether these errors are correlated with trust and participation and in which direction. If the errors are random they do not bias the estimates. But if the errors are correlated systematically with trust and participation, the effects of participation on trust are biased. At present, there is no way to check whether this is the case.

Second, another problem that threatens the validity of our conclusions is selective attrition. Survey participation itself is a form of volunteering that depends on trust (Abraham, Helms, & Presser, 2009). This problem poses itself more prominently in a panel study in which participation is required in multiple waves of the survey. The least trusting people will be the least likely to continue participation over a large number of waves. It would probably require a full study to try to assess the possible bias resulting from this selective attrition, which is beyond our current purpose. Our preliminary idea is that respondents who do not participate and who experience a decrease of trust are more likely to drop out of the survey than others, and this may overestimate the growth of trust in the control group. As a consequence, the participation effect is underestimated (as it is the difference in trust growth between the two groups). However, we are convinced that the large sample sizes of the datasets we used provided us with sufficient statistical power to find small effects as well, compensating for the somewhat smaller effect size.

Despite these shortcomings, we are confident about the validity of our findings, especially since our empirical tests included many variations in research design, such as different kinds of civic engagement, different samples, and different timing of the effect. The results were consistent across these variations: the causal effect of civic engagement on trust was either nonsignificant or small. In our view, to look at effect size is more important than to look at significance levels. The large samples that were studied increase the chances of finding significant but very small effects. There appears to be only one finding that is not fully in line with the other results: although its effect size is still small, the effect of volunteering in the United Kingdom was considerably larger than any other effect we found. It is beyond the scope of the current study to explain why this is the case, but examining what is special about volunteering in the United Kingdom deserves to be a task of future research.

As indicated in one of the previous sections, there are plausible arguments to support the finding that civic engagement is not an important breeding ground for trust. For most people, civic engagement is not an important part of everyday life. And the fellow participants with whom interactions take place are usually very similar in terms of social background, not representing “people in general.” As a result, civic participation may further trust in fellow participants, but that trust is unlikely to convert into *generalized* trust.

What are the implications of this conclusion for future research? There are several possibilities, of which we briefly outline two. First, our conclusions are based on (averages of) the general

populations of the countries we studied. Strictly speaking, our findings do not exclude the possibility that civic engagement breeds trust for small segments of those populations. For example, immigrants who recently moved to a country may enhance the trust in their fellow citizens by extensive participation in voluntary associations. In addition, it is possible that adolescents, whose attitudes and values are more open to change, experience greater effects of civic engagement. In other words, future studies may want to examine whether there are special circumstances under which civic engagement does breed trust. Second, the attention may be shifted to other determinants of generalized trust, such as education or upbringing, or life course events. Our research indicated that there was a reasonable variation of trust within respondents, and it seems unlikely that this would all be random variation. Finally, in line with our plea for a different way of thinking about civic engagement and trust, future studies may want to examine the mobilization function of voluntary associations more extensively. What are the opportunities of having pools of involved and trusting citizens, and what kinds of collective action can be facilitated? With this article, we hope to stimulate further studies that enhance our knowledge of the causes and consequences of participation in voluntary associations and similar social networks.

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REFERENCES

- Abraham, K. G., Helms, S., & Presser, S. (2009). How social processes distort measurement: The impact of survey nonresponse on estimates of volunteer work in the United States. *American Journal of Sociology*, *114*(4), 1129–1165.
- Allison, P. D. (2009). *Fixed effects regression models*. Los Angeles, CA: Sage.
- Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.
- Alvarez-Díaz, A., González, L., & Radcliff, B. (2010). The politics of happiness: On the political determinants of quality of life in the American states. *Journal of Politics*, *72*(3), 894–905.
- Anheier, H., & Kendall, J. (2002). Interpersonal trust and voluntary associations: Examining three approaches. *British Journal of Sociology*, *53*(3), 343–362.
- Bekkers, R. (2012). Trust and volunteering: Selection or causation? Evidence from a 4 year panel study. *Political Behavior*, *32*(2), 225–247.
- Bekkers, R., & Bowman, W. (2009). The relationship between confidence in charitable organizations and volunteering revisited. *Nonprofit and Voluntary Sector Quarterly*, *38*(5), 884–897.
- Bekkers, R., & Schuyt, T. (2008). And who is your neighbor? Explaining denominational differences in charitable giving and volunteering in the Netherlands. *Review of Religious Research*, *50*(1), 74–96.
- Binder, J., Zagefka, H., Brown, R., Funke, F., Kessler, T., Mummendey, A., et al. (2009). Does contact reduce prejudice or does prejudice reduce contact? A longitudinal test of the contact hypothesis among majority and minority groups in three European countries. *Journal of Personality and Social Psychology*, *96*(4), 843–856.
- Bjørnskov, C. (2006). The multiple facets of social capital. *European Journal of Political Economy*, *22*, 22–40.
- Bleidorn, W., Kandler, C., Riemann, R., Angleitner, A., & Spinath, F. M. (2009). Patterns and sources of adult personality development: Growth curve analyses of the NEO PI-R scales in a longitudinal twin study. *Journal of Personality and Social Psychology*, *91*(1), 142–155.
- Brann, P., & Foddy, M. (1987). Trust and the consumption of a deteriorating common resource. *Journal of Conflict Resolution*, *31*, 615–630.
- Brehm, J., & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science*, *41*(3), 999–1023.
- Brewer, M. B., & Gaertner, S. L. (2001). Toward reduction of prejudice: Intergroup contact and social categorization. In R. Brown & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology*. Malden, MA: Blackwell.
- Brown, E. (1999). The scope of volunteer activity and public service. *Law and Contemporary Problems*, *62*(4), 17–42.

- Caputo, R. (2009). Religious capital and intergenerational transmission of volunteering as correlates of civic engagement. *Nonprofit and Voluntary Sector Quarterly*, 38(6), 983–1002.
- Claibourn, M. P., & Martin, P. S. (2000). Trusting and joining? An empirical test of the reciprocal nature of social capital. *Political Behavior*, 22(4), 267–291.
- Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Belknap Press.
- De Cremer, D., Snyder, M., & Dewitte, S. (2001). The less I trust, the less I contribute (or not)? The effects of trust, accountability and self-monitoring in social dilemmas. *European Journal of Social Psychology*, 31, 93–107.
- Dearmon, J., & Grier, K. (2009). Trust and development. *Journal of Economic Behavior & Organization*, 71, 210–220.
- Delhey, J., & Newton, K. (2003). Who trusts? The origins of social trust in seven societies. *European Societies*, 5(2), 93–137.
- Ferres, N., Connell, J., & Travaglione, A. (2004). Co-worker trust as a social catalyst for constructive employee attitudes. *Journal of Managerial Psychology*, 19(6), 608–622.
- Flanagan, C. A., & Gallay, L. (2008). Adolescent development of trust. Circle Working Paper 61.
- Flanagan, C. A., & Stout, M. (2010). Developmental patterns of social trust between early and late adolescence: Age and school climate effects. *Journal of Research on Adolescence*, 20(3), 748–73.
- Fujiwara, T., & Kawachi, I. (2008a). A prospective study of individual-level social capital and major depression in the United States. *Journal of Epidemiology and Community Health*, 62, 627–633.
- Fujiwara, T., & Kawachi, I. (2008b). Social capital and health a study of adult twins in the U.S. *American Journal of Preventive Medicine*, 35(2), 139–144.
- Fung, A. (2003). Associations and democracy: Between theories, hopes, and realities. *Annual Review of Sociology*, 29, 515–539.
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. (2000). Measuring trust. *Quarterly Journal of Economics*, 115(3), 811–846.
- Gross, K., Aday, S., & Brewer, P. R. (2004). A panel study of media effects on political and social trust after September 11, 2001. *Harvard International Journal of Press/Politics*, 9(4), 49–73.
- Halpern, D. (2001). Moral values, social trust and inequality: Can values explain crime? *British Journal of Criminology*, 41, 236–251.
- Helliwell, J. F. (2003). How's life? Combining individual and national variables to explain subjective well-being. *Economic Modeling*, 20(2), 331–360.
- Hiraishi, K., Yamagata, S., Shikishima, C., & Ando, J. (2008). Maintenance of genetic variation in personality through control of mental mechanisms: A test of trust, extraversion, and agreeableness. *Evolution and Human Behavior*, 29, 79–85.
- Jennings, M. K., & Stoker, L. (2004). Social trust and civic engagement across time and generations. *Acta Politica*, 39(4), 342–379.
- John, P. (2005). The contribution of volunteering, trust, and networks to educational performance. *Policy Studies Journal*, 33(4), 635–656.
- Kelley, H. H., & Stahelski, A. J. (1970). Social interaction basis of cooperators' and competitors' beliefs about others. *Journal of Personality and Social Psychology*, 16, 66–91.
- Kerr, N. L., & Harris, S. E. (1996). Why do cooperators cooperate? Efficacy as a moderator of social motive effects. In W. B. G. Liebrand & D. M. Messick (Eds.), *Frontiers in social dilemmas research* (pp. 101–116). Berlin, Ger.: Springer.
- Knack, S., & Keefer, P. (1997). Does social capital have an economic pay-off? A cross country investigation. *Quarterly Journal of Economics*, 112, 1251–1288.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Trust in large organizations. *American Economic Review*, 87, 333–338.
- Lipps, O. (2007). Attrition in the Swiss household panel. *Methoden—Daten—Analysen*, 1(1), 45–68.
- McPherson, J. M., & Smith-Lovin, L. (1987). Homophily in voluntary organizations: Status distance and the composition of face-to-face groups. *American Sociological Review*, 52(3), 370–379.
- Miller, A. S., & Mitamura, T. (2003). Are surveys on trust trustworthy? *Social Psychology Quarterly*, 66(1), 62–70.
- Nannestad, P. (2008). What have we learned about generalized trust, if anything? *Annual Review of Political Science*, 11, 413–436.
- Newton, K. (1999). Social capital and democracy in modern Europe. In J. V. Deth (Ed.), *Social capital and European democracy* (pp. 3–24). London, UK: Routledge.
- Parks, C. D., Henager, R. F., & Scamahorn, S. D. (1996). Trust and reactions to messages of intent in social dilemmas. *Journal of Conflict Resolution*, 40, 133–150.
- Paxton, P. (2007). Association memberships and generalized trust: A multilevel model across 31 countries. *Social Forces*, 86(1), 47–76.

- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*(5), 751–783.
- Pichler, F., & Wallace, C. (2007). Patterns of formal and informal social capital in Europe. *European Sociological Review, 23*(4), 423–435.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin, 126*(1), 3–25.
- Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions in Psychological Science, 17*(1), 31–35.
- Rosenblum, N. L. (1998). *Membership and morals: The personal uses of pluralism in America*. Princeton, NJ: Princeton University Press.
- Rosenfeld, R., Messner, S. F., & Baumer, E. P. (2001). Social capital and homicide. *Social Forces, 80*(1), 283–309.
- Roßteutscher, S. (2005). The lure of the associative elixir. In S. Roßteutscher (Ed.), *Democracy and the role of associations: Political, organizational and social contexts* (pp. 3–24). London: Routledge.
- Rothbart, M. (2001). Category dynamics and the modification of outgroup stereotypes. In R. Brown & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology* (pp. 45–64). Malden, MA: Blackwell.
- Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality, 35*, 651–665.
- Shikishima, C., Hiraishi, K., & Ando, J. (2006). Genetic and environmental influences on general trust: A test of a theory of trust with behavioral genetic and evolutionary psychological approaches. *Japanese Journal of Social Psychology, 22*(1), 48–57.
- Sønderskov, K. M. (2010). Does generalized social trust lead to associational membership? Unravelling a bowl of well-tossed spaghetti. *European Sociological Review, 27*(4), 419–434.
- Stolle, D. (1998). Why do bowling and singing matter? Group characteristics, membership, and generalized trust. *Political Psychology, 19*(3), 497–525.
- Stolle, D. (2001a). Clubs and congregations: The benefits of joining an association. In K. S. Cook (Ed.), *Trust in society* (pp. 202–244). New York, NY: Russell Sage Foundation.
- Stolle, D. (2001b). “Getting to trust”: An analysis of the importance of institutions, families, personal experiences and group membership. In P. Dekker & E. Uslaner (Eds.), *Social capital and participation in everyday life* (pp. 118–133). London, UK: Routledge.
- Stolle, D., & Rochon, T. R. (1998). Are all associations alike? Membership diversity, associational type and the creation of social capital. *American Behavioral Scientist, 42*, 47–65.
- Sturgis, P., Patulny, R., & Allum, N. (2009). Re-evaluating the Individual level causes of trust: A panel data analysis. Working Paper, Essex University.
- Sturgis, P., Read, S., Hatemi, P. K., Zhu, G., Trull, T., Wright, M. J., et al. (2010). A genetic basis for social trust? *Political Behavior, 32*, 205–230.
- Swiss Household Panel. (2010). Individual questionnaire Wave 10 [Electronic Version]. Retrieved from <http://www.swisspanel.ch/spip.php?rubrique137&lang=en>
- Tocqueville, A. D. (2000). *Democracy in America*. Chicago, IL: University of Chicago Press. (Original work published 1835–1840)
- Uslaner, E. (2002). *The moral foundations of trust*. Cambridge, UK: Cambridge University Press.
- Van der Meer, T., & Van Ingen, E. (2009). Schools of democracy? Disentangling the relationship between civic participation and political action in 17 European countries. *European Journal of Political Research, 40*(2), 281–308.
- Van Ingen, E. (2008). Social participation revisited: Disentangling and explaining period, life-cycle and cohort effects. *Acta Sociologica, 51*(2), 103–121.
- Voorpostel, M., Tillmann, R., Lebert, F., Weaver, B., Kuhn, U., Lipps, O., et al. (2009). *Swiss Household Panel user guide (1999–2008), Wave 10, December 2009*. Lausanne, Switz.: FORS.
- Warren, M. E. (2001). *Democracy and association*. Princeton, NJ: Princeton University Press.
- Welch, M. R., Sikkink, D., & Loveland, M. T. (2007). The radius of trust: Religion, social embeddedness and trust in strangers. *Social Forces, 86*(1), 23–46.
- Whiteley, P. (2000). Economic growth and social capital. *Political Studies, 48*(3), 443–466.
- Wilson, J. (2000). Volunteering. *Annual Review of Sociology, 26*(1), 215–240.
- Wollebæk, D., & Strømsnes, K. (2008). Voluntary associations, trust, and civic engagement: A multilevel approach. *Nonprofit and Voluntary Sector Quarterly, 37*(2), 249–263.
- Wrightman, L. S. (1992). *Assumptions about human nature* (2 ed.). Newbury Park, CA: Sage.