

Association Memberships and Generalized Trust: A Multilevel Model Across 31 Countries

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This paper presents a large-scale, comprehensive test of generalized trust across 31 nations. I pay particular attention to the theory and measurement of voluntary associations in promoting trust, hypothesizing that voluntary associations connected to other voluntary associations are more beneficial for the creation of generalized trust than associations isolated from other associations. The theory is tested with a multi-level, cross-national model, including both individual-level and country-level variables to predict the placement of trust. At the individual level, I find that membership in connected associations creates more trust than membership in isolated associations. At the national level, having more connected voluntary associations increases trust, while having more isolated associations decreases trust.

"Trust is one of the most important synthetic forces within society."

Georg Simmel (1950 [1906]:318)

Trust is often viewed as the glue that binds a social system together. As Luhmann (1988) points out, we need a basic level of trust to leave the house in the morning without a weapon. Trust is cited as a source of social order (Parsons 1937), a lubricant for cooperation (Arrow 1974), and a source of efficiency in economic and non-economic transactions (Coleman 1988). At the national level, trust is positively related to many outcomes, from democracy (Uslaner 1999; Putnam 2000; Paxton 2002) to economic development (Fukuyama 1995; Tolbert, Lyson and Irwin 1998). Trust is also an essential component of social capital (Putnam 1993; Paxton 1999), which is the latest refinement of classic sociological ideas such as *Gemeinschaft*, civil society and civic culture.

A growing number of studies ask who trusts and why (Delhey and Newton 2003; Whiteley 1999; Newton 1999; Stolle and Rochon 1999; Brehm and Rahn 1997; Shah 1998; Uslaner 2002), but two important issues remain to be addressed. First, most studies of trust remain at the individual level, using variables such as education, age or association memberships to predict individual trust, without considering the larger social and institutional structures in which individual trust is embedded. For example, democracy can promote trust, and totalitarianism can decrease it (Rosenberg 1995). Whereas contextual factors have been found

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to be important for other pro-social behaviors such as association membership (Curtis et al. 2001; Schofer and Fourcade-Gourinas 2001) and the donation of blood (Healy 2000), the effect of contextual factors on individual-level trust is relatively neglected.¹

Second, although social capital theory suggests that one of the most important possible explanations of trust is voluntary association membership, previous research does not acknowledge diversity across association types. Recent theory and research suggests that not all voluntary associations are positive in their effects (Paxton 2002; Warren 2001; Stolle 1998; Stolle and Rochon 2001; Kaufman 2003; Browning, Feinberg and Dietz 2004; Beyerlein and Hipp 2005). For example, ethnic separatist groups are likely to exacerbate societal cleavages and interfere with the production of generalized trust. A lack of attention to types of association may partially explain why empirical evidence for an effect of voluntary associations on trust has been mixed (e.g., Newton 1999; Whiteley 1999; Stolle and Rochon 1999; Uslaner 2002).

This research examines generalized trust with a large, multi-level, cross-national study. The article begins with a theoretical rationale for the production of trust that takes into account the importance of both individual factors and social and institutional structures. The role of voluntary associations in promoting trust is emphasized. Previous research has produced inconsistent results and has been vague in explaining why membership should have an effect on generalized trust. These difficulties are addressed here by making the distinction between *connected* and *isolated* associations (originally suggested by Paxton 2002). Using network and social identity theory, I hypothesize that voluntary associations connected to other voluntary associations are more beneficial for the creation of generalized trust than voluntary associations isolated from other voluntary associations. I test this theory with a multi-level model, including both individual-level and country-level variables to predict the placement of trust. The *World Values Survey* (1990) dataset provides information from 35,144 individuals in 31 countries.

The Production of Generalized Trust

Barber (1983) defines trust as a set of “socially learned and socially confirmed expectations that people have of each other, of the organizations and institutions in which they live, and of the natural and moral social orders that set the fundamental understandings for their lives.” The focus of this paper is on trust in *generalized* others. As suggested in Barber’s definition, in addition to trusting friends, neighbors or institutions, trustors form a “standard estimate” of the trustworthiness of the average person – someone who is not a friend, not even an acquaintance (Robinson and Jackson 2001). Yamagishi and Yamagishi (1994) call this type of trust “general trust” as it reflects “a belief in the benevolence of human nature in general.” Other authors call it “depersonalized trust” (Yuki, Maddux, Brewer and Takemura 2005).

Trust involves a conscious or unconscious decision to place trust, arrived at through an assessment of the trustworthiness of a potential trustee. In making an assessment of the trustworthiness of *generalized* others (individuals not directly

known), a trustor is likely particularly focused on predictability. If the “average person” is viewed as predictable in his or her behavior, then generalized trust is more easily placed. Described as “background expectations” by Zucker (1986), when individuals feel that they share signals, rules and interpretations of the world with others, they are likely to perceive the world and others as predictable, and so they are more likely to trust. Predictability of interaction with others is what will allow “civil inattention” to others or generalized trust (Goffman 1963).

Individual Characteristics

In the absence of specific information about the trustee, individual characteristics *of the trustor* become more important in the assessment of the trustworthiness of generalized others. For example, disadvantage could influence an individual’s assessment of the trustworthiness of generalized others. If an individual matured in a disadvantaged position, he or she is likely to have a reduced sense of the predictability of the world and a decreased sense of the reliability of others. More current experiences of discrimination may further reduce a potential trustor’s perception of the goodwill of others and increase their sense of vulnerability. Indeed, a variety of authors contend that having fewer resources makes it riskier to trust others (Whiteley 1999; Putnam 2000; Newton 1999). For these reasons, individuals who have experienced disadvantage, either due to their socio-economic position, or due to an ascribed characteristic such as race or gender, should have comparatively less trust in generalized others.

Religious upbringing, in helping to create an organized worldview, is another formative experience that should increase an individual’s sense of predictability (Peterson 2001). As defined by Clifford Geertz, religion is a “system of symbols which acts to establish powerful, pervasive, and long-lasting moods and motivations in men by formulating conceptions of a general order of existence...” (Geertz [1965] 1979) A perceived “general order of existence” should produce feelings of predictability in individuals and increase their sense of the reliability of generalized others, thereby increasing levels of trust. Previous cross-national research has found religion to matter for trust (Delhey and Newton 2005; La Porta et al. 1997; Fishman and Khanna 1999) and for association memberships (Curtis et al. 2001).

Significant life experiences throughout the life course should also influence assessments of the trustworthiness of generalized others (Hardin 1996; Boyle and Bonacich 1970). The experience of divorce is an example. It is reasonable to expect that the experience of divorce could reduce an individual’s assessment of the goodwill of others, thereby generally lowering his view of others’ trustworthiness (Rahn, Yoon and Loflin 2003). Similarly, the cumulative experience of *Gesellschaft* (Tönnies [1887] 1957) from residence in an urban environment could reduce an individual’s view of the trustworthiness of generalized others. Another example is the presence of children in the home, which could increase an individual’s sense of vulnerability and thereby decrease his level of trust. Other cumulative experiences can be captured by age. Previous research has shown that individuals grow more trusting between the ages of 18 and 40 (partially due to increases in education), with a leveling off after that point (Robinson and Jackson 2001).²

Association Memberships

Another individual characteristic often considered in studies of trust is an individual's membership in voluntary associations such as sports associations, neighborhood groups and women's associations. Here, the explanation is not tied to an individual propensity to trust, but to the social structure in which an individual is embedded. The most obvious way in which voluntary associations promote trust among their members is through the norms and social sanctions embedded in their social structures. Norms are spread through groups by influence processes in which attitudes and behaviors are disseminated among individuals through networks (Marsden and Friedkin 1993). Trust and cooperation norms are particularly likely to be actively spread in associations (Rousseau 1989). Shared norms, rules and interpretations of the world increase predictability, and therefore trust, for the members of an association (Zucker 1986).

Also present in voluntary associations are various possibilities for sanctioning untrustworthy members. A potential trustor knows he or she will engage in repeated interactions with the other members of the group, which will allow sanctions against broken trust in future interactions (Axelrod 1984). Further sanctions exist due to the presence of a stable network of people – third parties are watching the exchange and can communicate negative information and damage reputations through gossip (Burt and Knez 1995). The presence of norms of cooperation and trust, as well as the presence of potential sanctions, makes it more likely that an individual will place trust in other members of his or her association.

When trust situations are successfully navigated in an association, the trust between members is further strengthened due to increased predictability of interaction. That is, when the placement of trust is borne out by a trustee, then the trustor learns to trust others through practice (Coleman 1990; Lahno 1995). The continued meeting of obligations within the association helps its members to better predict the behavior of others in their group, thereby increasing their levels of trust in future interactions. For all of these explanations, the focus is on increasing trust *of other members of the group*.

Connected vs. Isolated Association Memberships

What is at issue in understanding the creation of generalized trust is *not* whether belonging to an association increases trust toward members *of that group* but instead whether it increases trust of those *outside the group*. Put another way: how is the trust created within an association translated to more generalized trust? Little theory has addressed this issue. Instead, authors arguing for a generalized effect of voluntary associations tend to skirt the issue (but see the experimental work of Macy and Skvoretz 1998 and Lomborg 1996). Stolle (1998) is particularly explicit about the lack of theory in this area when she notes, "social capital theory does not specify how in-group trust relates to generalized trust, only that it does." The situation is exacerbated by the fact that many of the processes that increase trust in small groups (third parties, influence processes, etc.) may lose their efficacy in moving to larger groups.

I argue that a theoretical explanation of how trust is generalized or transferable beyond an association is critically dependent on whether an individual belongs to an association that is *connected* to other associations or one that is *isolated*.

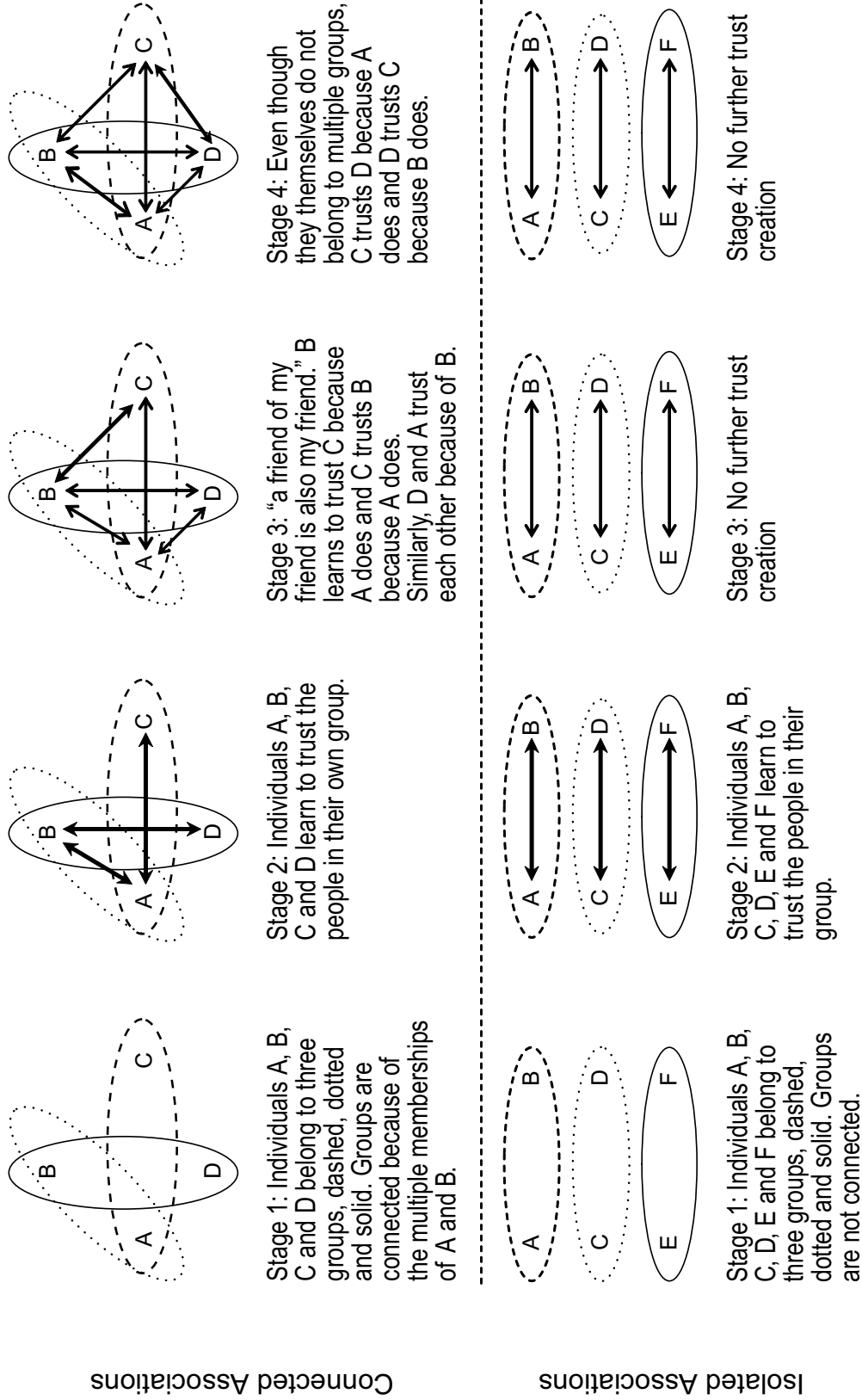
Connected associations are voluntary associations that are linked to other voluntary associations through the multiple memberships of their members (Paxton 2002). That is, an individual who belongs to two associations connects those associations (Brieger 1974), and associations can have many or few members with multiple memberships. There are theoretical and empirical reasons to believe that voluntary associations that are connected to the larger community should be more beneficial for the promotion of generalized trust than associations that remain isolated. As discussed in detail below, these include the “vouching” of association members, increases in predictability due to the perceived expansion of norms and morals, increased intellectual flexibility, and the expansion of the category of “we.” The distinction between connected and isolated associations is related to other distinctions such as cross-cutting vs. non-cross-cutting (Blau 1977), or bridging vs. bonding (Putnam 2000), but its focus is more on the ties between associations than the internal diversity of associations.

The key feature of connected associations that facilitates the generalization of trust is the expansion of their networks beyond a single association. This expansion occurs because of the multiple memberships of individual members. If a member belongs to two or more associations, he or she links those associations, and therefore creates a network across the associations (Moody and White 2003). These network ties across voluntary associations allow individuals to transfer the trust gained within their association to individuals outside the association. This is because overlapping associations help to create acquaintances, or knowledge of acquaintances, among those who are not immediate interaction partners. Through the “vouching” of the member who is better known and better trusted, a third party can become trusted (a friend of my friend is also my friend). As Coleman (1990) argues, if a friend tells you to trust a friend of hers that you have never met, you are likely to do so.

Consider the process outlined in Figure 1 (loosely based on Coleman 1990). For connected groups (the top portion of the diagram) individuals A and B are members of the dotted-line group and trust each other. Further, as demonstrated in Stage 2, A also trusts individual C, from their dual membership in the dashed-line group, and B trusts D because they both belong to the solid-line group. Stage 3 demonstrates how individual B can come to trust individual C (and likewise) through the “vouching” of A. Stage 4 demonstrates that not only individuals A and D come to trust each other through the vouching of B, but that C and D can indirectly trust each other as well, even though they themselves have no multiple memberships (see Yuki et al. 2005 for experimental evidence supporting this process). This process is possible because of the multiple memberships of A and B. Their multiple memberships make the associations to which they belong connected, and allow the expansion of trust.

The bottom portion of Figure 1 demonstrates that trust generalization should be more difficult for members of groups that are not connected. In this case, while Stage 2 indicates trust creation *within* group, there is no further trust creation beyond that point.³

Figure 1. Trust Generalization Through Connected Associations



Certainly the process of trust generation is not as simple as friends vouching for friends. Other social processes work to create trust. As explained above, norms, attitudes, and behaviors are transferred through social networks (Marsden and Friedkin 1993). Thus, when voluntary associations are linked, even weakly, the networks of interaction created by these connections help to pass and solidify morals and assumptions across groups, increasing predictability of interaction across society and therefore, trust (Zucker 1986). Joining a voluntary association that is linked to other associations makes the generalized other slightly more knowable and should therefore increase trust. In contrast, people with limited or closed social experiences would feel less capable of making such predictions. Their social world, as defined by their relatively more isolated associations, might have distinct norms, making others' attitudes and behaviors less predictable.

It is well documented in social psychology that individuals categorize others into social categories: into groups of "we" and "they." (Hogg 1992; Tajfel 1978) Individuals tend to perceive members of their own groups in relatively positive terms, including viewing them as more honest and more trustworthy than outsiders (Brewer 1979; Rotenberg and Cerda 1994; Kramer 1999; Uslaner 1999; Yuki et al. 2005). Thus, individuals should be more willing to engage in trust behavior toward others they identify as belonging to "their" group.

While many social categories are possible including racial groups and limited groups (Buchan, Croson and Dawes 2002), an individual's identification with "we" can also be a family, a company, a city or a nation (Bollen and Hoyle 1990). Association memberships are quite likely to create a sense of "we" and therefore increase trust among members. But only *connected* association memberships can extend the boundaries of category membership and increase trust beyond the group. In the Tocquevillian sense, membership in connected associations broadens one's sphere of influence and concern. In contrast to isolated associations, connected associations expand the pool of salient categorical others. Those who were originally "they," become "we" for the purposes of trust.

A membership in a connected association will also have a developmental effect on the creation of trust. Building on the insights of Coser (1975), when the social structures in which an individual is embedded are differentiated, then individuals will have more diverse and complex interactions within their social circles. The presence of incompatible expectations from these diverse interaction partners will increase intellectual flexibility by requiring reconciliation, compromise, and an ability to take account of others' motivations and perspectives. This intellectual flexibility will allow an individual in a connected association to see patterns of predictability more easily and therefore increase their generalized trust. While Coser (1975) focuses on all types of social structures, Rosenblum (1998) extends the argument to include membership in a plurality of associations. And empirically, Stolle (2001) finds that individuals with multiple memberships have greater conversational breadth than those with single memberships (see also Perrin 2005).

While connected associations should facilitate trust, *isolated* associations are less likely to increase generalized trust. Isolated associations are inherently

bounded, and should therefore be less likely transfer trust in the ways described above. The more dependent individuals are on close associates and kin, the more they are likely to think of the world in terms of “we” vs. “they,” where “we” is a limited group. Individuals seeing the world as “us vs. them” would not learn to trust “most people.”

Although previous empirical research on voluntary associations has produced mixed results (Brehm and Rahn 1997; Putnam 2000; Shah 1998; Newton 1999; Stolle and Rochon 1999; Uslaner 2002), the crucial theoretical distinction between connected and isolated associations is not often acknowledged and may explain differences across reported empirical results. When studies *have* considered types of voluntary associations, the evidence is quite suggestive (Glanville 2001; Letki 2004). Stolle (1998) and Stolle and Rochon (1998) find limited support for the idea that diversity within an association promotes trust. Relatedly, there is some empirical evidence that contact between individuals increases trust. Shuman and Hatchett (1974) find that blacks who socialize with whites are less distrusting of whites. Rotenberg and Cerda (1994) find that children in mixed-race schools demonstrated less race-based patterns of trust. While none of these studies directly addresses the connected/isolated distinction, their results provide evidence that moving in that direction could be quite useful. Further, the connected/isolated distinction has proved to be important for the prediction of other types of pro-social behavior. Mutz (2002) demonstrates that cross-cutting, heterogeneous networks of political discussion increase political tolerance. Paxton (2002) finds that connected associations benefit democracy, while isolated associations do not.

Addressing Reciprocity between Associations and Trust

An important question is whether voluntary associations affect trust or whether trust affects association memberships. There are reasonable theoretical arguments for a return effect from trust to association memberships. Namely, those who are more trusting may feel more comfortable interacting with others in an association and therefore more likely to join. However, most theorizing argues that “causation flows mainly from joining to trusting.” (e.g., Putnam 2000) The hypothesis of a unidirectional effect of association memberships on trust is backed up in most empirical research. For example, Shah (1998), modeling a reciprocal relationship between trust and voluntary associations with the *DDB Needham Lifestyle Survey*, finds civic engagement leads to trust and not visa versa. Claibourn and Martin (2000) look longitudinally at trust and associations memberships with the *Michigan Socialization Survey* and find no effect of trust on group memberships but an effect of memberships on trust. Brehm and Rahn (1997), using the *General Social Survey*, find that the path from voluntary associations to trust is much larger than from trust to associations.⁴ Glanville (2001) uses the *Social Capital Benchmark Survey* and finds a reciprocal effect between trust and associations but the effects are fairly small.⁵ Overall, while reasonable arguments for a return effect can be made, the weight of the evidence is in favor of an effect of associations on trust without a reciprocal effect.

Contextual Effects on Trust

To this point, I have focused on individual-level influences on trust. But the aggregate social and institutional features of a *nation* may also encourage or discourage trusting behavior in individuals. We must distinguish theory at the individual level (e.g., belonging to a group increases trust) from theory at the aggregate level (e.g., countries with many groups have higher levels of trust). Countries vary systematically on political, structural, and cultural characteristics, all of which could impact individual levels of trust.

At the national level, when levels of *connected* memberships are high, it is indicative of a network of voluntary associations throughout the country – a network that can diffuse morals, rules of behavior, etc., and create a predictable environment for interaction (Granovetter 1992:35). As Lewis and Weigert (1985) explain, trust exists in a social system when individuals are secure in their expectations. The more independent paths that exist between groups, the more easily ideas and attitudes flow through them (Moody and White 2003). Therefore, norms would more easily diffuse throughout the population and everything would “seem in proper order” (Luhmann 1979) according to citizens. As Garfinkel argues, a common-sense environment is one in which features are known in common by social actors. Assumptions, understandings, reactions and routines must be shared. Increased generalized trust would follow high national levels of connected memberships as the predictability of a certain proportion of the population could be relied upon.

In contrast, when societal levels of *isolated* memberships are high, it is indicative of the presence of many unconnected groups. Each group could have its own norms and rules of behavior, without ways to transfer them across groups. Therefore interaction across individuals from these different groups could be unpredictable and disappointing. This would not increase – and perhaps reduce – generalized trust.

Work comparing average levels of trust across countries (Delhey and Newton 2005; La Porta et al. 1997; Fishman and Khanna 1999) and U.S. communities (Alesina and La Ferrara 2002; Rahn et al. 2003) suggests additional contextual factors to consider in the production of trust. First, *democracies* should be better able to create interpersonal trust than other types of government. Unlike other governments, democracies are hypothesized to restrict their coercive power to instances that enhance, rather than undermine, trust (Levi 1998). For example, by protecting minority rights, a democratic government can facilitate trust and cooperation among individuals who might otherwise be wary of each other (Tilly 2004). Indeed, empirical research demonstrates that democracies create trust (Paxton 2002).

Countries with higher levels of *ethnic homogeneity* may have higher levels of generalized trust. In general, multiculturalism raises issues for a broad, encompassing sense of national community (Etzioni 1993) and diversity may entail different conceptions of the common good that could reduce generalized trust (Lukes 1991). If individuals trust others of the same ethnicity more (Zucker 1986) then national-level ethnic homogeneity could produce higher levels of generalized trust. Some research has found trust to be higher in countries with greater ethnic

homogeneity (Delhey and Newton 2005; Knack and Keefer 1997; Zak and Knack 2001) and in U.S. metropolitan areas with lower racial heterogeneity (Alsina and La Ferrara 2002, but see Marschall and Stolle 2004).

Following an aggregate version of the socioeconomic status theory described above, we would expect countries with higher levels of *economic development* to have higher levels of generalized trust. In brief, economic development provides the population of a country with more, so they should be more able to trust because they have less to lose. Also, in more economically developed countries, technology is available to facilitate generalized trust through credit, insurance and legal mechanisms. Finally, previous cross-national research has found religion to matter for trust (Delhey and Newton 2005; La Porta et al. 1997; Fishman and Khanna 1999), where nonhierarchical religions such as *Protestantism* are best for trust. Indeed, Protestantism promotes voluntary congregationalism, which is better placed to promote trust than hierarchically-organized, reverence-based, institutional churches (Weber [1906] 2002).

Methods and Data

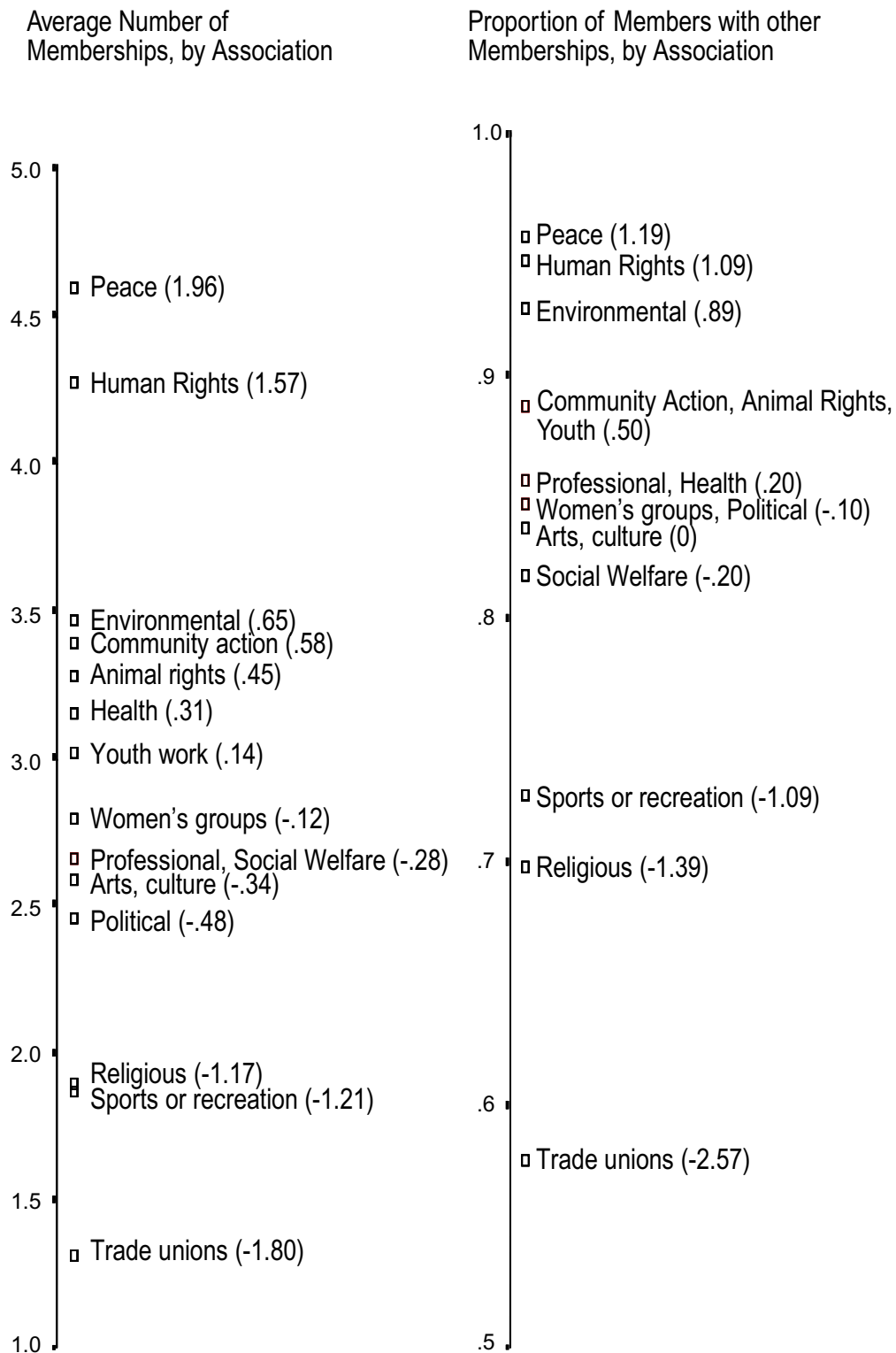
Data come from the *World Values Survey* (WVS) (World Values Study Group 1994), which contains individual-level information on trust, voluntary association memberships and other variables for 35,144 individuals in 31 countries. Although there is regional variation in the data, the sample is weighted toward developed nations.⁶ To measure the dependent variable, TRUST, individuals answered the following question: "Would you say that most people can be trusted or that you can't be too careful in dealing with others?" As such, it is a measure of generalized trust. It is coded 0/1; or "not trust"/ "trust."⁷

Measuring Association Memberships

The WVS asks questions about individuals' number and type of group memberships, which can be used to estimate individual memberships, as well as the general level of associating in the nation as a whole. At the individual level, I consider whether an individual has ANY MEMBERSHIP in a voluntary association, and whether they have a CONNECTED MEMBERSHIP or an ISOLATED MEMBERSHIP. Further, a continuous measure of the CONNECTEDNESS OF ASSOCIATIONS is created.

Following Paxton (2002), I identify connected associations by looking at the multiple memberships of their members. At a minimum, membership in an association with ties to other associations would keep individuals from being isolated. Voluntary associations whose members have many ties to other types of associations are more likely to cross-cut social boundaries and promote contact with diverse others than voluntary associations with fewer such ties. Using the WVS, Figure 2 identifies three voluntary associations that stand out as less connected than others: trade unions, sports associations, and religious associations.⁸ For the dummy variables, these three types of voluntary associations are coded as isolated and the others as connected. Thus, if an individual is a member of a connected association, he is coded 1 on the variable CONNECTED MEMBERSHIP. If an individual is a member of an isolated association, he

Figure 2. Differentiating Associations



Note: Standardized scores in parentheses.

is coded 1 on the variable ISOLATED MEMBERSHIP. The reference category in each case is No MEMBERSHIPS.⁹

A continuous measure, CONNECTEDNESS OF ASSOCIATIONS, weighs an individual's membership in an association by the proportion of that association's members with other memberships, as displayed at the top of Figure 2. Individuals with multiple memberships were coded with the average value of all their associations.¹⁰ Further alternative measures of association memberships are included in the auxiliary analyses reported in appendix A.

Additional Individual-Level Independent Variables

The *World Values Survey* measures EDUCATION as age when a respondent completed his or her education. Roughly speaking, an increase of one unit on this variable corresponds roughly to an additional year of education. The variable is truncated below 12 years and above 21 years of education. Another measure of socioeconomic position is OCCUPATIONAL PRESTIGE, coded by translating the occupation of the household's chief wage earner into numeric values based on Ganzeboom et al.'s (1992) International Standard Socio-Economic Index of Occupational Status. Individuals who responded that they were brought up religiously [RELIGIOUS UPBRINGING] at home are coded 1, with others coded 0. Respondents who live in towns with populations greater than 50,000 are coded as having an URBAN RESIDENCE. Another variable is coded 1 if the respondent is DIVORCED, and 0 if the respondent is married, cohabiting, separated, widowed or single. Finally, respondents engaged in paid EMPLOYMENT are coded 1 and others are coded 0. Respondents with CHILDREN IN THE HOME are distinguished from all others.

Two final control variables capture individual-level extroversion, which could impact both association memberships and trust, and evidence of a lack of informal connections. Extroversion is captured with respondents' answers to a four-category question on the IMPORTANCE OF FRIENDS. The absence of informal connections is captured with a 0/1 individual's self-report about feeling LONELY.

Contextual-Level Independent Variables

At the national level there are four membership variables: 1.) the percent of individuals who belong to any association, PERCENT ANY MEMBERSHIP, 2.) the percent who belong to connected associations, PERCENT CONNECTED MEMBERSHIPS, 3.) the percent who belong to isolated associations, PERCENT ISOLATED MEMBERSHIPS, and 4.) national average levels of the CONNECTEDNESS OF ASSOCIATIONS. These aggregated variables assess the density of types of associations in each nation as a whole.

Five other national-level variables address additional possible contextual effects on trust. DEMOCRACY was measured using Bollen's democracy score – a continuous combination of multiple sources ranging from 0 to 100 (Bollen 1998). A country's level of INDUSTRIALIZATION is measured as the log of energy consumption per capita (World Development Indicators 1999). ETHNIC HOMOGENEITY is measured by the percentage size of the largest ethnic group (Kurian 1997). The percent of the population that is Protestant, PERCENT PROTESTANT, comes from the World Almanac. Finally, a dummy variable to delineate the region of EASTERN

EUROPE with its history of totalitarian, trust-reducing regimes, is included in the models (Rosenberg 1995; Rose 1994). The sample of nations includes a number of Eastern European countries, making this an important control variable.

Table 1: Descriptive Statistics for the Country-level Variables

	Standard												
	Mean	Deviation	Minimum	Maximum	1	2	3	4	5	6	7	8	
Trust	37	16	6	66	1	1.00							
% Any Membership	57	20	23	90	2	.58***	1.00						
% Connected Memberships	33	15	9	67	3	.72***	.82***	1.00					
% Isolated Memberships	43	21	7	82	4	.40*	.92***	.58***	1.00				
Democracy	84	23	0	100	5	.24	.04	-.07	.31	1.00			
Industrialization	8	1	7	9	6	.40**	.59***	.33*	.73***	.49**	1.00		
Ethnic Homogeneity	85	17	23	99	7	.17	.05	.05	.02	.38**	.29	1.00	
% Protestant	27	36	0	100	8	.52***	.76***	.54***	.78***	.12	.448	-.05	1.00

The Multi-Level Model

Table 1 contains descriptive information for the country-level variables and the correlations between them. The table demonstrates considerable variability across countries in their levels of trust. In Brazil, only 6 percent of respondents reported that others could be trusted. In contrast, 66 percent of Swedish respondents expressed trust. Similar variability is seen in rates of voluntary association memberships; on average, more than 50 percent of a country's population belongs to some voluntary association, although that figure ranges from a low of 23 percent in Spain to 90 percent in Iceland. Only 30 percent of country populations, on average, belong to more than one group. Generally, a higher proportion of respondents belonged to an isolated voluntary association compared to connected associations. Romania has the lowest levels of connected association memberships while China has the lowest levels of isolated association memberships. (However, China has high rates of connected memberships).

To test the theories outlined above, I use a multilevel model that simultaneously estimates individual- and country-level effects. The data are hierarchically organized with individuals nested within countries, and information at the both the individual level and the country level is used to determine trust. The statistical package HLM 6.02 is used for the analyses (Raudenbush, Bryk and Congdon 2001).

Trust is a 0/1 variable so I use a Bernoulli distribution with a logit link function for the estimation. A general specification of level one (using ANY MEMBERSHIP) of the multi-level model is:

$$\text{Log}[p_{ij}/(1-p_{ij})] = \beta_{0j} + \beta_{1j} \text{ EDUCATION} + \beta_{2j} \text{ AGE} + \beta_{3j} \text{ FEMALE} + \beta_{4j} \text{ RELIGIOUS UPBRINGING} \\ + \beta_{5j} \text{ URBAN RESIDENCE} + \beta_{6j} \text{ DIVORCED} + \beta_{7j} \text{ OCCUPATIONAL PRESTIGE} + \beta_{8j} \text{ EMPLOYMENT} \\ + \beta_{9j} \text{ CHILDREN IN THE HOME} + \beta_{10j} \text{ IMPORTANCE OF FRIENDS} + \beta_{11j} \text{ LONELY} + \beta_{12j} \text{ ANY MEMBERSHIP}$$

where p_{ij} is the probability that respondent i in country j trusts (TRUST=1). Preliminary random-coefficients models (not shown) indicated that age, urban residence and divorce did not vary and were therefore fixed. All other coefficients were estimated as random (allowed to vary across countries). The specification of the country-level model is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \text{ DEMOCRACY} + \gamma_{02} \text{ INDUSTRIALIZATION} + \gamma_{03} \text{ EASTERN EUROPE} + \gamma_{04} \text{ ETHNIC HOMOGENEITY} \\ + \gamma_{05} \text{ PERCENT PROTESTANT} + \gamma_{06} \text{ PERCENT ANY MEMBERSHIP} + u_{0j}$$

All non-dummy individual-level independent variables are grand-mean centered, creating a variable with a mean of zero across all the cases. Grand-mean centering holds compositional differences in individual characteristics constant and is appropriate when aggregate versions of the variables are not included in the model. I include weights to compensate for a variety of sampling issues in the *World Values Survey* (World Values Study Group 1994). HLM 6.02 uses a weighting technique developed for hierarchical data (Pfefferman et al. 1998).

Results and Discussion

Calculating an ICC approximation for binomial models demonstrates that 15 percent of the total variance in trust can be attributed to between-country differences (Snijders and Bosker 1999). Thus, a nontrivial amount of the variance in trust occurs across countries, and it is important to explain this variation as well as the variation within countries. Indeed, a simple ANOVA indicates that there is statistically significant country-level variance in the average log odds of trust. That is, trust varies a significant amount across countries.

Table 2 includes coefficients and standard errors for six models of trust. The first two consider only individual-level effects but account for the clustering of individual respondents within countries with a random coefficients regression model (Bryk and Raudenbush 1992). Thus, Models A, B and C of Table 2 compare three individual-level models of trust: (A) a model contrasting individuals with any voluntary association membership to individuals without any memberships, (B) a model that contrasts connected vs. isolated memberships, and (C) a model containing a continuous measure weighting an individual's membership in an association by the proportion of that association's members with other memberships. Model A considers the dummy variable ANY MEMBERSHIP at the individual level. Model B considers two dummy variables, CONNECTED MEMBERSHIP and ISOLATED MEMBERSHIP. NO MEMBERSHIPS is the reference category in each case. Model C includes CONNECTEDNESS OF ASSOCIATIONS.

Table 2: Predicting Trust with Individual-level and Country-Level Variables

	Model A	Model B	Model C	Model D	Model E	Model F
Individual-level Variables						
Intercept	-.93***	-.90***	-.74***	-.94***	-.89***	-.74***
	.15	.15	.16	.17	.16	.17
Education	.10***	.09***	.10***	.10***	.09***	.10
	.01	.01	.01	.01	.01	.01
Age	.01***	.01***	.01***	.01***	.01***	.01***
	.00	.00	.00	.00	.00	.00
Female	.02	.01	.01	.02	.02	.02
	.04	.04	.04	.04	.04	.04
Religious Upbringing	-.06	-.07	-.06	-.06	-.07	-.06
	.06	.06	.06	.06	.06	.06
Urban Residence	-.01	.00	-.01	.00	.00	.00
	.03	.03	.03	.03	.03	.03
Divorced	-.22**	-.22**	-.23**	-.23**	-.22**	-.23**
	.08	.08	.08	.08	.08	.08
Occupational Prestige	.01***	.01***	.01***	.01***	.01***	.01***
	.00	.00	.00	.00	.00	.00
Employment	.11**	.11**	.11**	.11**	.11**	.11**
	.04	.04	.04	.04	.04	.03
Child at Home	.06	.06	.06 <i>t</i>	.07 <i>t</i>	.07 <i>t</i>	.08 <i>t</i>
	.04	.04	.04	.04	.04	.04
Importance of Friends	.33***	.33***	.33***	.33***	.33***	.33***
	.03	.03	.03	.03	.03	.03
Lonely	-.34***	-.34***	-.34***	-.34***	-.35***	-.34***
	.04	.04	.04	.04	.04	.04
Any Membership	.34***			.35***		
	.04			.04		
Connected Membership		.32***			.33***	
		.03			.03	
Isolated Membership		.15***	.17***		.15***	
		.04			.04	
Connectedness of Association			.47***			.48***
			.04			.04
Country-Level Variables						
Democracy				.00	.01 <i>t</i>	.00
				.01	.00	.00
Industrialization				.51**	.45*	.49**
				.18	.17	.17
Ethnic Homogeneity				.01***	.01***	.01***
				.00	.00	.00
Percent Protestant				.00	.00*	.00
				.00	.00	.00
Eastern Europe				-.81***	-.15	-.74***
				.13	.15	.14

Table 2 *continued*

Percent any Membership	.01		
	.01		
Percent Connected memberships		.03***	Contrast: .05**
Percent Isolated Memberships		.01	
		-.02**	
		.01	
Connectedness of Association			1.80* .68

Notes: Table includes coefficients and standard errors. t $p < .05$ one-tailed * $p < .05$ two-tailed ** $p < .01$ two-tailed *** $p < .001$ two-tailed. $N_i = 34,749$ $N_j = 31$

In models D, E and F, the distinction between any membership and connected/isolated memberships is made at both the individual level and the national level. Thus, Model D contains ANY MEMBERSHIP at the individual level and PERCENT ANY MEMBERSHIP at the contextual level, while Model E contains CONNECTED MEMBERSHIP and ISOLATED MEMBERSHIP at the individual level, and PERCENT CONNECTED MEMBERSHIPS and PERCENT ISOLATED MEMBERSHIPS at the country level. Model F includes the average CONNECTEDNESS OF ASSOCIATIONS.

Variables

In Model A the effect of ANY MEMBERSHIP is positive and significant. The effect is also one of the strongest in the model. Membership in a voluntary association is expected to increase the odds of trusting by 40 percent ($(\text{EXP}[\.34 \times 1] - 1) \times 100$). An alternative interpretation focuses on the change in the predicted probability of trust. A rural-residing, non-divorced male, who was not brought up religiously, belongs to no voluntary associations, and has average education, age, etc. has a predicted probability of trust of .28 (calculated by: $1/(1 + \text{EXP}[-.93])$). If that same individual did belong to an association, their predicted probability would be .36, leading to a change in the predicted probability of .08 – a large effect.

It is therefore first and foremost important to recognize that membership in voluntary associations is a powerful predictor of trust. Membership in a voluntary association has one of the strongest individual-level effect sizes in predicting trust. As will be discussed below, the impact on trust of membership in any association is stronger than divorce and stronger than a 10-year age difference between two individuals. Thus, despite some debate in the literature about the effect of association memberships on trust (Newton 1999; Whiteley 1999; Stolle and Rochon 1999), when the relationship is considered across multiple countries, and with appropriate corrections for clustering and the limited nature of the dependent variable, the results strongly support an impact of associations on trust.

Model B shows that compared to individuals with no voluntary association memberships, membership in a connected association increases trust more than a membership in an isolated association. In fact, the coefficient for membership in a connected association is twice that of membership in an isolated association.

Membership in a connected association is expected to increase the odds of trusting by 38 percent compared to a 16 percent increase for membership in an isolated association. In terms of predicted probabilities this is a .04 difference in the probability of trusting across the two types of membership. The contrast between the two coefficients is significant, indicating that while membership in either type of association increases generalized trust, connected memberships increase trust significantly more than isolated memberships.¹¹

Model C, which includes a continuous version of connectedness, completes the picture. The coefficient for CONNECTEDNESS OF ASSOCIATIONS suggests that if an individual's association membership were to increase in connectedness by 10 percent (e.g., moving from 60 percent of members having other memberships to 70 percent) it would lead to a 5 percent increase in the odds of trusting. Overall, these results demonstrate that individuals who belong to voluntary associations that are connected to other associations through the multiple memberships of their members learn to trust generalized others more readily than their counterparts in isolated associations.

At the individual level, the other variables differ little in statistical significance or effect size depending on whether any membership, connected vs. isolated memberships, or the continuous measure are included in the model. EDUCATION has a consistently positive effect on generalized trust across models. In model A, for each additional year of education, the odds of trust are increased by 11 percent. AGE has a smaller effect, yet still a significantly positive one. Each year of age increases the odds of trust by 1 percent and we would expect a 10-year difference in age between two individuals to produce an 11 percent increase in the odds of trusting. OCCUPATIONAL PRESTIGE has a similar effect size to age – a one unit increase in occupational prestige increases the odds of trust by 1 percent. Occupational prestige ranges from 0 to 100, and many occupations differ by 20 points or more (e.g., professional workers such as lawyers or accountants have an international SEI score of 67 while middle-level office workers have an SEI score of 49), so this is a fairly large effect size. DIVORCE is expected to reduce the odds of trusting by 20 percent.

Other individual-level variables are also significant across the models. For example, individuals who are employed increase their odds of trusting by 12 percent. The variables controlling for extroversion and a lack of informal network ties are also strong effects. Individuals who attach more importance to their friendships are 39 percent more likely to trust. In contrast, feeling LONELY decreases an individual's odds of trusting by 29 percent. Females, those living in urban areas, those with religious upbringing, and individuals with children at home do not display significantly higher levels of trust.

Models D, E and F of Table 2 consider country-level effects on trust as well as the individual-level effects. First and foremost, while the percent of a country with any type of membership does not impact trust, (Model D), increasing the percent of a population with connected memberships will *increase* trust and increasing the percent with isolated memberships will *decrease* trust (Model E). Thus, there are substantial differences in the country-level impact of memberships on trust. The significant contrast between these effects supports the conclusion

of a significant difference between connected and isolated associations in their impact on trust. The cancellation of these opposite-signed effects produces the illusion of no effect in Model D.¹²

So, countries with a higher percentage of individuals with connected memberships will have increased average levels of individual trust. Countries with a higher percentage of individuals with isolated memberships will have decreased average levels of trust.¹³ In fact, a 1 percent increase in the percent of connected association memberships leads to a 3.3 percent increase in the odds of trusting. In contrast, a 1 percent increase in the number of isolated association memberships leads to a 1.8 percent decrease in the odds of trusting. Put into predicted probability terms, a 10 percent increase in connected memberships increases the average predicted probability of trust from .29 to .36. A 10 percent increase in isolated memberships decreases that same average predicted probability from .29 to .25.

Finally, Model F includes the continuous measure of association memberships. At the country level, if the average proportion of connectedness were to increase by 10 percent, the odds of trusting for the individuals of that country would increase by 20 percent. This is a strong effect and underscores the importance of associations, especially connected associations, to the creation of trust.

Other contextual variables also have an impact on individual levels of trust, but their effects are less consistent, with differences across models D through F. Across all models, the ETHNIC HOMOGENEITY of a society has a significantly positive effect on individual trust. A 1 percent increase in the size of the largest ethnic group leads to a 1 percent increase in the odds of individuals in that country trusting. Thus, like some previous research this analysis finds that ethnic homogeneity has a positive effect on trust (Alesina and La Ferrara 2002). The hypothesis that nonhierarchical religions such as Protestantism promote greater trust is weakly supported. In model D, a 10 percent increase in the PERCENT OF PROTESTANTS in a country increases an individual's odds of trusting by 4 percent. Across other variables, INDUSTRIALIZATION increases trust while DEMOCRACY largely does not (unless two outliers are removed, see Appendix A).

Across the contextual models, the aggregate effect of EASTERN EUROPE on trust is negative and strong in two of three models. In Model D, EASTERN EUROPE decreases the odds of trusting by 58 percent, and the predicted probability by .14. This is one of the strongest effects in the model. In Model E, however, the effect of Eastern Europe is insignificant. These results, along with some auxiliary analyses, suggest that the effect of Eastern Europe's history of totalitarianism on individual-level trust is closely linked to membership in connected and isolated associations. Individuals with connected memberships appear to have better resisted the legacy of totalitarianism and its subsequent suppression of trust. The variation in effect sizes across the models invites investigation in later research.¹⁴

Overall, both individual-level and contextual-level variables have effects on trust. The most important finding is the very strong effect of association memberships on trust, with differences in the effects of connected and isolated associations. At the individual level, although membership in either connected associations or isolated associations will increase an individual's odds of trusting,

connected associations do a better job of promoting trust when measured dichotomously or as a continuum. At the aggregate level, many connected association memberships lead to increased average levels of trust while many isolated association memberships leads to *decreased* average levels of trust. As reported in Appendix A, these results are robust to alternative measurements and to the removal of identified outliers.

Conclusion

The findings of this paper demonstrate the important relationship between voluntary association memberships and trust. At the individual level, membership in any voluntary association is a strong predictor of generalized trust. Further, memberships in connected associations, those that are linked to the wider society through the multiple memberships of their members, produce greater increases in trust than memberships in isolated associations, those whose members have fewer ties to other associations. At the country level, differences between connected and isolated associations are also pronounced. Higher average levels of multiple memberships in a society produce trust benefits. And, the dichotomous findings are even starker – countries with high percentages of connected memberships have citizens who trust more, while countries with high percentages of isolated associations have citizens who trust less.

Like previous research on trust, this paper demonstrated that individual-level factors matter for the creation of generalized trust (Delhey and Newton 2003; Brehm and Rahn 1997). For example, education, age and employment increase generalized trust, divorce decreases trust, and gender is unrelated to trust. But, apart from these individual-level effects, this paper highlights the contextual embeddedness of trust. The country-level results suggest that governmental institutions matter for individual trust. For example, trust can be reduced by totalitarian repression (Rosenberg 1995; Rose 1994). National level economic development and ethnic homogeneity are also important to the creation of trust. And of course, the national context of association ties can influence trust positively or negatively.

Previous theory and empirical research tends to treat all voluntary associations the same. That is, a bird-watching group is as likely to promote trust as the AARP. But voluntary associations are not equivalent. As this and other research indicates it is highly likely that certain types of voluntary associations will do better in promoting pro-social outcomes such as trust (Putnam 2000; Warren 2001; Paxton 2002). And some types of associations appear to be detrimental to those same outcomes, at least at the national level. The theory in this paper suggested that isolated associations would not produce trust at the same rates as connected associations. The individual-level results support this claim. However, the negative effect of isolated associations (dichotomously-measured) at the country level is perhaps more intriguing. That result suggests that not only does a lack of connection across the associations of a country fail to increase the rate of generalized trust creation, it can decrease it. At the country-level, a high level of isolated associations is indicative of the presence of many unconnected groups. As explained in the theoretical section of the paper, each group could

have distinct norms or rules of behavior. Further, each group might constrain its definition of “we” to a limited set of members (Hogg 1992; Tajfel 1978). A large number of unconnected associations in a country would thus suggest a lack of common norms and/or common feeling across society. Interaction with individuals from these different groups could be unpredictable – or potentially worse, predictably “bad” (others consistently following the “wrong” norms) – and thus reduce generalized trust for citizens. Indeed, the findings suggest that a 10 percent increase in multiple memberships (on average) across the citizens of a country produces substantial trust benefits for the citizens of a country.

The connected/isolated distinction is a distinction based in network ties – in the *form* of social connections. Issues of diversity, the *content* of social connections, are not directly addressed in this paper. Other important distinctions between types of associations such as bridging vs. bonding (Putnam 2000) or cross-cutting vs. not (Blau 1977) focus more on the content of social connections, distinguishing ties to similar others from ties to dissimilar others. The difference between form and content should be considered in future research. For example, does membership in a single, diverse association produce benefits similar to membership in a connected association? Are associations connected to a homogenous group of other associations less trust-producing than associations connected to diverse others? It may ultimately be that a combination of form and content will prove to be the most beneficial for trust creation.

While trust is not by itself normatively good or bad, in large and complex societies it is important for the smooth functioning of society. It is now well-documented that generalized trust in individuals has declined in the United States over the past 40 years (Putnam 2000; Paxton 1999; Robinson and Jackson 2001). This research has shown that voluntary association memberships have a role to play in maintaining and increasing trust. Indeed, the powerful effects reported here suggest that it may be individual association memberships, as well as the networks of voluntary associations across society, that give us our best prescription for rebuilding trust in the future. Yet the analysis also provides some cautionary evidence: not all types of associations are equally beneficial in promoting trust. And some types of associations may be detrimental to trust creation, at least in the aggregate.

Notes

1. Three recent studies have moved in this direction by considering some contextual characteristics across communities in the United States (Alesina and La Ferrara 2002; Rahn, Yoon and Loflin 2003; Marschall and Stolle 2004). Other research predicts nationally-aggregated levels of trust with national characteristics (e.g., Delhey and Newton 2005; Knack and Keefer 1997; Paxton 2002). No research has considered contextual effects on individual-level trust across countries, however.
2. It is difficult to separate age effects from cohort effects. In support of Putnam’s (2000) contentions, Robinson and Jackson (2001) also demonstrate that older generations were more trusting and they are being replaced by successively less trusting generations.

3. How do we know that members are interacting with one another in their associations on a fairly regular basis? Using an alternative dataset (the American Community Participation Survey), I considered member reports of how much time they spend each week involved in their “main” organization membership. Individuals in 19 types of organizations (e.g., labor unions, veteran’s groups, art and literary groups) reported spending an average of 3.1 hours per week involved with the organization.
4. The trust effect is very small and is probably only significant because they have a very large sample.
5. Experimental research also demonstrates that association memberships increase trust. Buchan, Croson and Dawes (2002) show that even when groups are created simply by giving experimental subjects their instructions on differently-colored pieces of paper, those subjects will trust members of their “group” more than others do.
6. Only 31 of the countries surveyed in the World Values Survey asked the voluntary association questions. The countries included in the analysis are Argentina, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Denmark, East Germany, Estonia, Finland, France, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Mexico, Netherlands, Norway, Portugal, Romania, Russia, Slovenia, Spain, Sweden, United States and West Germany.
7. One issue in comparing a variable such as trust across countries is whether the question was interpreted in the same way across all countries. If this was not true, then differences among countries might occur simply because of an interpretation difference rather than from actual differences in trust. Recent work provides evidence that individuals in the different countries did interpret the trust questions from the WVS in similar ways (Paxton 1998).
8. These three associations stand out whether countries are pooled or considered separately. The three associations also stand out when membership is considered as just belonging to an organization, just doing voluntary work for an organization, or a combination of the two. Looking at 1980 identifies the same associations as isolated (although information on sports is not available in that year).
9. Whether an individual answers that she “belongs to” a voluntary association is used to code membership in the results below. Results are similar (and in fact stronger in a few instances) if the more stringent coding, whether an individual does “unpaid voluntary work for” the association is used instead.
10. Measuring the connectivity of association memberships by weighting by association members’ average number of memberships (bottom of Figure 2) led to the same results. I thank the reviewers for suggesting the continuous version of association memberships.
11. An alternative hypothesis would be that membership in a connected association “trumps” the effect of membership in an isolated association. An interaction term between the two types of associations was insignificant, however, suggesting that the types of associations are appropriately modeled as additive.

12. Multicollinearity diagnostics indicate some, but not excessive, variance inflation. The lowest value for the tolerance statistic was .17 for percent isolated memberships, followed by .30 for democracy.
13. An alternative hypothesis is that it is the agenda of these associations, rather than their connectedness, that matters for trust. The most highly connected associations (peace, environment, human rights, etc.) could be viewed as broadly humanitarian, while in contrast, the isolated associations might represent the interests of specific groups of individuals in opposition to other groups. To address this concern I created a new dichotomous variable distinguishing "humanitarian" associations from "non-humanitarian" associations. The results of this division suggest that it is not agenda that drives the creation of trust. At the individual level, both membership in humanitarian and non-humanitarian associations created trust, with fairly similar coefficients (in contrast to the coefficient for isolated associations which is approximately half that of connected associations). And, at level 2, neither new variable was significant.
14. In auxiliary analyses, I also considered the murder rate, Transparency International's corruption index, and the gini coefficient of inequality as contextual-level predictors of trust. None of them significantly explained trust, and none of them made any difference to the other estimated coefficients of the model.

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Appendix A: Auxiliary Analyses

This appendix demonstrates that the core results presented in Table 2 are largely robust to modification of the measurement of individual- and country-level variables, and to removal of outliers. Table A.1 provides coefficients and standard errors for a sample of the additional models run to demonstrate robustness of the results under a variety of conditions. Additional auxiliary models, not reported here, produced similar results.

Model A assesses the robustness of the findings to an alternative way of coding memberships: the *count* of connected and isolated associations to which an individual belongs. NUMBER CONNECTED and NUMBER ISOLATED record the total number of an individual's memberships in each type of association. The results suggest that at the individual-level an additional connected membership increases an individual's odds of trusting by 15 percent, compared to an increase of 13 percent for an additional isolated membership. At the country level the results show the same positive/negative effect seen in Model E of Table 2, although the coefficient for NUMBER ISOLATED is not significant at conventional levels of significance ($p = .11$).

Model B assesses the robustness of the findings to an alternative way of coding democracy: the number of *years* a country has been democratic. YEARS OF DEMOCRACY was created by subtracting a country's inauguration date of democracy from 1991. Inauguration date of democracy was determined by using multiple sources (Bollen 1998; Freedom House 2003; Muller 1988; Paxton 2000) to pinpoint the year in which a country transitioned to stable democracy. As in most of the models reported in Table 2, this measure of democracy does not impact trust.

Models C, D and E present the results with two identified outliers, China and Nigeria, removed from the analysis. The results demonstrate that for the core results of the paper those countries are outliers but not influential cases – the results do not change when they are removed. The removal of the two outliers did produce some changes in the other country-level variables included in the model. First, DEMOCRACY, which was largely insignificant in Table 2, has a significantly positive effect on trust when China and Nigeria are removed from the model. In Model C, for example, a 10 percent increase in the Bollen democracy score is expected to increase a citizen's odds of trusting by 22 percent. In contrast, the coefficients for INDUSTRIALIZATION and ETHNIC HOMOGENEITY are reduced and lose significance in two of three models C, D, and E. PERCENT PROTESTANT and EASTERN EUROPE continue with the same patterning of coefficients and significance as in Table 2.

Altogether, the core results of the paper consistently remained across models. Across a number of variants of the models shown in Table A.1, only once did a core finding lose significance. In a model where level of democracy is replaced by years of democracy *and* two outliers are removed, country-level percent isolated memberships loses significance. However, country-level percent connected memberships and the contrast between the two remain significant. Individual-level results are highly consistent across all model variants.

Table A-1: Robustness of Trust Models

Individual-level variables	Model A ^a	Model B ^a	Model C ^b	Model D ^b	Model E ^b
Intercept	-.73***	-.95***	-.98***	-.94***	-.83***
	.16	.17	.13	.13	.16
Education	.09***	.10***	.09***	.08***	.10***
	.01	.01	.02	.02	.01
Age	.01***	.01***	.01***	.01**	.01**
	.00	.00	.00	.00	.00
Female	.02	.02	.02	.02	.01
	.04	.04	.04	.04	.05
Religious Upbringing	-.06	-.06	-.02	-.05	-.03
	.06	.06	.03	.06	.06
Urban Residence	.01	.00	-.01	-.01	.00
	.03	.03	.03	.03	.04
Divorced	-.22**	-.23**	-.26***	-.26***	-.25***
	.08	.08	.08	.08	.08
Occupational Prestige	.01***	.01***	.01***	.01***	.01***
	.00	.00	.00	.00	.00
Employment	.11**	.11**	.11**	.11**	.13***
	.03	.04	.04	.04	.04
Child at Home	.07 <i>t</i>	.07 <i>t</i>	.08*	.08*	.09*
	.04	.04	.04	.04	.04
Importance of Friends	.32***	.33***	.33***	.32***	.34***
	.03	.03	.03	.03	.03
Lonely	-.35***	-.34***	-.33***	-.33***	-.34***
	.04	.04	.04	.04	.04
Any Membership		.35***	.36***		
		.04	.04		
Connected Membership				.33***	
				.03	
Isolated Membership				.18***	Contrast: .15***
				.04	
Connectedness of Association					.47***
					.04
Number Connected	.14***				
	.02				
Number Isolated	.12***				
	.03				

Table A-1 *continued*

Country-Level Variables					
Democracy	.00		.02***	.02***	.02***
	.00		.00	.00	.01
Years of Democracy		.00			
		.00			
Industrialization	.55**	.52**	.18	.16	.40*
	.16	.20	.28	.29	.07
Ethnic Homogeneity	.02***	.01***	.00	.00	.01**
	.00	.00	.01	.01	.00
Percent Protestant	.00*	.00	.00	.01**	.00
	.00	.00	.00	.00	.00
Eastern Europe	-.43*	-.87***	-.50*	-.10	-.59***
	.16	.25	.08	.25	.13
Percent any Membership		.01 <i>t</i>	.00		
		.00	.01		
				.03*	
				.01	Contrast:
Percent Isolated Memberships				-.02*	.05**
				.01	
Number Connected	1.01***				
	.24				
Number Isolated	-.71 (<i>p</i> = .11)				
	.44				
Connectedness of Assoc.					1.34 <i>t</i>
					.69

Notes: Table includes coefficients and standard errors. *t* $p < .05$ one-tailed * $p < .05$ two-tailed ** $p < .01$ two-tailed *** $p < .001$ two-tailed.

^a $N_i = 34,749$ $N_j = 31$

^b $N_i = 32,626$ $N_j = 29$