

## What Do Survey Measures of Trust Actually Measure?

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Nearly thirty years after Coleman's seminal work on trust (1990), diverse scholarly disciplines still devote a lot of attention to the idea that trust, broadly construed, is an important concept to understand social interaction, political support, and even general wealth and prosperity.<sup>1</sup> In Coleman's discussion, two self-interested individuals, truster and trustee, each have something to gain or lose: the former by making herself vulnerable to the actions of another, the latter by finding herself unable to win the unguarded belief in mutually beneficial action. "Trust", according to Coleman, is an instrumental interchange among the actors. But the far more common understanding of "trust" is not the instrumental interchange, but a more diffuse sense of "generalized trust". This chapter supports the idea of generalized trust, but will also note that there are significant problems in the ways that we have typically assessed generalized trust in surveys due to response sets and mood. Fortunately, we see feasible, though perhaps costly, remedies to these biases.

Quite a great deal of research would concur with Coleman that trust is fundamentally an instrumental interchange between actors who know one another. Some very strong evidence about instrumental trust comes from experimental contexts, especially in economics (Kreps 1990; McCabe, Rassenti, and Smith 1996); some from interview studies in anthropology (especially Ensminger and Henrich 2014); and some from very specialized studies of trust within specific social contexts including of Congress (Bianco 1994), within local bureaucracies (Brehm and Gates 2008), within Federal bureaucracy (Miller and Whitford 2016), and of the law (Tyler 2001).

Perhaps the most prominent empirical work on trust comes from large scale surveys of populations. In these surveys, trust appears to be in a near catastrophic state of decline, where trust in government has fallen from high levels of support in the 1960s to bottom-scraping lows. In much of this work, the idea of "trust" is not explicitly the instrumental interchange between actors, but

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<sup>1</sup> We dedicate this chapter to the memory of Russell Hardin, a wise and welcoming voice in the search for better understanding of the idea of trust.

of a more diffuse, generalized form. By this view, we trust specific actors (the Federal Government, the Courts, TV, etc.) or even “people in general” without regard to specific actions. We will refer to the latter idea as “generalized trust”.

There is a great deal of empirical evidence to support the idea of generalized trust, too. The evidence ranges from Putnam’s signature work on the idea of generalized trust as a component of social capital in the United States (Putnam, 2000), to equivalent research in other nations (Rothstein and Stolle 2008; Yamagishi and Yamagishi 1994), to cross-national work (Bjørnskov 2006; Catterberg and Moreno 2006; Jamal and Nooruddin 2010; Mackie 2001; Schyns and Koop 2010). “Generalized trust” in the form of a predisposition to trust appears to exist (or be in crisis) in the minds of survey respondents across the globe, and for decades.

Of course, there is a spirited exchange between advocates of an instrumental conception of trust and a more diffuse generalized trust. Perhaps the most pointed criticism of the diffuse generalized trust idea comes from the late Russell Hardin, who argued that generalized trust is a fundamentally flawed concept:

Trust is a three-part relation: A trusts B to do X. Typically, I trust you to do certain kinds of things. I might distrust you with respect to some other things and I may merely be skeptical or unsure with respect to still other things. To say “I trust you” seems almost always elliptical, as though we can assume such phrases as “to do X” or “in matters Y”. Only a small child, a lover, Abraham speaking to God, or a rabid follower of a charismatic leader might be able to say “I trust you” without implicit modifier. Even in their cases, we are apt to mistake both themselves and the objects of their trust.

HARDIN, 1993, p. 507

Instead, Hardin argued strongly in favor of an idea of trust as “encapsulated self-interest”, that “I trust you because it is in your interest to do what I trust you to do” (p. 506). And in good part on the basis of Hardin’s arguments, the Russell Sage Foundation launched a long-running special panel on the study of trust convened by Hardin, Karen Cook, and Margaret Levi which sought to explore trust (in both the instrumentalized version as encapsulated self-interest and as generalized trust), leading to the publication of numerous special volumes and funding a great number of specific studies.

There is surely a point to Hardin’s criticism of generalized trust as a concept. There are occasions when the idea of trust surely seems to be about something other than one’s willingness to trust either government or one another. In the

days before Sept 11, 2001, only a minority of US respondents would say that they trusted the government “most of the time” or “just about always” (e.g., 29% in the *Los Angeles Times*), yet immediately in the aftermath of 9/11, some 64% reported that they trusted “the government in Washington to do what is right” (e.g., Chanley 2002; Sander and Putnam 2010). The spike in apparent trust proved to be short-lived, with trust falling to pre-9/11 levels not long afterwards.

Why would trust have spiked on 9/11? Numerous explanations are available, but some surely have to do with the momentarily clearer conception of “the government in Washington” as well as “what is right”. The respondent answering the generalized trust question from an encapsulated trust framework now could see the “*A* trust *B* to do *X*” relation in starker terms: not only was *B* (the “government in Washington”) a clearer entity but the *X* (“what is right”) would be clearer, too.

And yet, survey support for the idea of generalized trust remains robust and consistent. But is it possible that the reason for apparent stability in trust is an artifact of the way in which we measure generalized trust in surveys? In this chapter, we suggest that survey measures of trust are very much confounded with at least two other explanations – the respondent’s mood and the artifact of answering questions in batteries of repeated items with set points. At the same time, we also argue that trust exists in the mind of the respondent in ways that meaningfully indicate a general state of trustingness that responds in sensible ways to personal and collective experiences. “Generalized trust” is a measurable construct, but survey measures of trust are flawed though in repairable ways.

## 1 Why Would Survey Measures of Trust Vary?

One’s general willingness to trust should vary for reasons that stem from the personal to the social. Among the more immediate personal explanations would be one’s experience with traumatic events such as personal victimization in crime or experience with divorce (or similar events for an immediate family member), or more positively, aspects about one’s childhood that could include where one came of age, or the circumstances of one’s childhood, or the nature of how parents would have socialized their children. There are other personal experiences which are more diffuse, but quite plausibly important. The experiences of Black people in the United States can certainly include that of hostility from many institutions (the police, varying levels of government, banks and other financial institutions, the press) or from other people in the immediate community outside of family. The shared experiences of people by

age during one's childhood or early adulthood could induce cohort effects, or immediate experiences at different stages throughout one's life would all lead us to expect that age would also be a systematic factor.

There are reasons that stem more from orientation towards institutions (especially political ones) including general belief in the responsiveness of government or even appropriateness of government itself would also be reasons to expect trust to vary by individuals.

But we should also be wary of relying too heavily on survey measures of trust. These measures of trust might vary that stem from reasons outside of the well-known and systematic factors. In particular, we will be able to test for *mood* and *response set* (or "anchoring").

The *mood* that the respondent happens to be in at the moment of a survey hardly falls into the category of systematic, substantive reasons for trust, but it can account for a wide range of survey assessments.<sup>2</sup> Respondents who are in a more positive mood are more open to persuasion (Schwartz, Bless, and Bohner 1991), increases risk-taking (Johnson and Tversky 1983); and in general boosts judgments about scales requiring positive or negative assessments (Tourangeau, Rips, and Rasinski 2000). Even such simple external factors as the provision of a survey incentive of a dollar can induce positive moods in respondents (as seen by a general rise in survey measurements of the respondent's affect towards political figures and groups (Brehm 1994)). Transient emotional states hardly fall in the same level of consideration as systematic factors that might correlate with trust.

Surveys are often in the position where they need to administer highly repetitive batteries of scales across a number of different trustees. In the General Social Survey, for example, a typical questionnaire will inquire about confidence across thirteen (or fourteen) separate entities, eighteen different spending categories, eighteen different measures of tolerance (which vary act and trustee), ten different images of heaven, twelve different conceptions of God, five measures of satisfaction, and more. (One of the other major academic surveys, the 2016 American National Election Studies, asked for "feeling thermometer" scores for eleven different people or entities before the election, and over thirty different people or entities after the election.) From the respondent's side, each of these questions is distinguished from the one before it by only a brief phrase, and is asked in a somewhat rapid sequence.

<sup>2</sup> By "mood" here we refer to a mental state of happiness, frustration, anger, or other emotional states that a respondent may be in either at the moment (or even more chronically). "Mood" in this context is distinct from a somewhat peculiar disciplinary choice within political science to refer to a general preference for the scope of government, or being generally "liberal" or "conservative" in one's preferences (Stimson 1999); the political science use of the word is a measure at the level of aggregate political surveys about policy preferences.

No one should expect the respondents to be offering answers to these questions as if they were independent from one another, and sensible calculations of the psychometric model should adjust for the non-independence of the measures. But worse, we expect that the respondents will slip into a “response set” whereby the answer to one question strongly influences the answer immediately to follow. This phenomenon, called “anchoring”, is well-known in the extensive literature on heuristics (e.g., Tversky and Kahneman 1974).

Importantly for the present analysis, we posit that there are differences across respondents in their tendency to slip into a pattern of anchoring. We will test for the possibility that respondents vary in the consistency of their answers across questions, regardless of what the battery of questions will be “about”.

At the same time, there is compelling evidence that there are both immediate, personal explanations for varying reasons that a person would be generally trusting of others, as well as those that are more collective in nature.

In order to test the relative effect of the survey artifacts of mood and response set upon the weight of the standing evidence, we draw upon two distinct datasets: the 1996 Greater Philadelphia Area Social Trust Survey conducted by the Princeton Survey Research Associates for the Pew Research Center, and the long standing 1973–2016 General Social Survey conducted by the National Opinion Research Center.

While the 1996 Philadelphia study is obviously limited in geographic scope and time scale, this dataset offers what we have found to be the single best test of the logic of an underlying generalized trust via its inquiries into the respondent’s trust in six different institutions ranging from the fire department to the Federal Government, and social groups ranging from one’s family to people in stores. Although this data collection is limited (as are all) in terms of the measures that the survey contains, and is weak on measures of mood or response set, it represents a superb test of the stability of “trust” across different trustees.

The General Social Survey has asked a series of questions pertinent to confidence in a list of thirteen quite varied trustees, from education to the Executive Branch. While “confidence” in another is not really the same idea as “trust” in another, they are closely related (Seligman 1997). And in Coleman’s seminal discussion of trust, the very first set of illustrations he draws upon are exactly the same GSS data (although of course covering a more narrow time span considering the earlier publication data of Coleman’s book). The GSS provides a solid test of the idea of a latent generalized confidence affecting confidence in any one of the thirteen trustees, excellent measures of the respondent’s mood and inclination to answer questions according to a response set. In addition, the GSS represents the longest running series of measures of confidence, spanning now over four decades of research, and allows for a longitudinal comparison.

## 2 The Components of “Generalized Trust”

What do we mean by “generalized trust”, and why would surveys be a uniquely appropriate tool to measure the concept? We refer to a general inclination to be a trusting (or distrusting) individual, which while context-sensitive in the sense of the entity towards which trust would be directed, stands largely independent of the trustee. That is, while person *A* may trust, say, the fire department more than strangers on the street, the variation in the level of trust person *A* exhibits across many trustees would be systematic.

Why *would* there be variation in trust of multiple trustees? One might think of the differences in the trustee’s intentions to act in the best interest of the truster, and differences in the trustee’s abilities to follow through on their intentions. That is, while I may believe that my neighbors to my right and left share my best interests, are fine people, and do not want to do me any harm, they might differ in abilities to follow through. If I had a serious medical issue, I would trust the wisdom of the surgeon to my left perhaps more than the wisdom of the repairman to my right. If my furnace broke down, I would trust the opinion of my repairman neighbor more than the surgeon. But we could reasonably posit that my general tendency to trust the repairman or surgeon would be reflected in my general tendency to trust others across a range of trustees.

By their nature as measures of expressed willingness to trust people across a potentially large range of trustees, and for very large samples, surveys might be particularly well-poised. While one respondent may have idiosyncratic reasons to distrust a particular trustee (*B*), that reason should be unlikely to be shared by other respondents barring systematic factors that account for trust. What, then, is the survey evidence about the existence of generalized trust? In the terms of Hardin’s, “*A* trusts *B* to do *X*”, generalized trust would refer to the “*A* trusts” part of the expression. In both the 1996 Greater Philadelphia Area Study and the long-running General Social Survey, we find quite strong evidence about (perhaps surprisingly high) levels of trust across trustees.

### 2.1 1996 Greater Philadelphia Area Study

While quite a number of years in the past, the 1996 Philadelphia data offer perhaps one of the best tests of whether a general predisposition to trust exists (*A* trusts, in Hardin’s formulation).<sup>3</sup> What makes this study unique is that the Princeton Survey Research Associates (PSRA) asked its respondents about a

3 The Greater Philadelphia Area Study was a telephone survey using a random digit dial sample of 2,517 adults in Philadelphia and four adjacent counties conducted in 1996 by Princeton Survey Research Associates on behalf of the Pew Research Center. The study is archived by the Pew Research Center ([www.people-press.org](http://www.people-press.org)).

series of *B* entities, and whether the respondents trusted them “A lot”, “Some”, “Only a little”, and “Not at all”. The entities were asked in two batteries. One about institutions such as the police, fire department, local government, and so on. The other battery asked about groups that might be thought of as “social”: one’s boss or co-workers, neighbors, people in clubs and such forth.

We display the distribution of the data for each of the trustees as a “joyplot”, a histogram of each of the trust categories, stratified by trustee. The advantage of a joyplot over other displays is that the distributions of responses for each of the fourteen different entities can be shown with an overlap and a translucency in each distribution, allowing a sense of whether or not there is a common tendency to trust, or generalized trust. Figure 11.1 presents the general distribution.

There are a number of common patterns that stand out in the Philadelphia data. The most prominent is that the Philadelphia respondents report a fairly high level of trust in all of the targets, institutional or social, though the social trustees are trusted slightly more than the institutional trustees: while there is heterogeneity in the trust that respondents have across trustees, the general impression one should have is that respondents express a relatively high degree of trust regardless of trustee: somewhere between “Some” and “A Lot” of trust.

Some of the variation is also of note. Three of the trustees elicit extremely high levels of trust: the Fire Department, one’s Family, and People in one’s Church (one institutional and two social). For the latter two, the respondent would be perhaps more familiar with the people in one’s family or church, and have a baseline of a shared interest in one another’s wellbeing. For the fire department however, the respondent may well have next to no contact with the fire department (except perhaps in rural areas). High levels of trust are quite possibly strictly symbolic. One might wonder whether the very high levels of trust in the fire department reflect a measurement issue due to the bounds of the scale, a symbolic belief in the availability of the fire department, or even just wishful thinking. Importantly, much of the speculated foundations for trust in a specific other cannot obtain: for the fire department, we may well not know of a single responsible person and cannot credibly assess their fire department’s “will” to act on our behalf; for one’s family and church, one may not have a particularly strong idea about what it is that we would be asked to trust family or church to do on our behalf (the *X* in Hardin’s representation).

The respondents were slightly more likely to trust the police department and one’s boss at work “a lot” relatively to the other categories. We find both somewhat surprising in that given the unusually large fraction of African-Americans in Philadelphia and historical patterns of distrust, the overall level is quite high (we will learn more about the relationship between race and trust

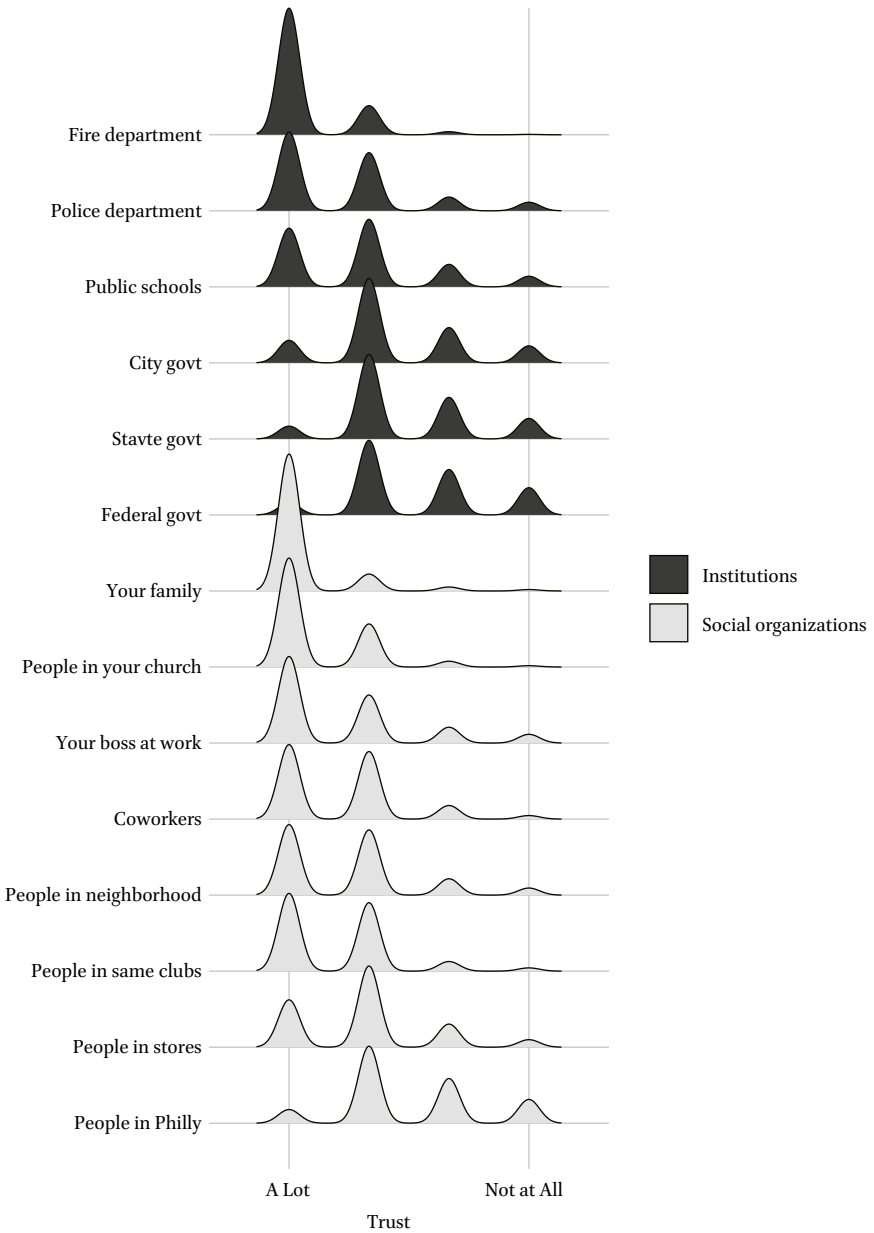


FIGURE 11.1 Reported trust in institutions and social organizations, 1996 Greater Philadelphia Area Study

below). It is perhaps also surprising that people trust their boss at work more than they trust their coworkers, though the difference is rather small.



Importantly, *none* of the trustees are really distrusted: the percentage of extreme distrusters for each target is well below the mode. There is no evidence of a crisis in trust in this one city at this one point in time, even though trust in urban areas is typically far below trust elsewhere, and trust appeared to be at a historical nadir.

Note also, that the patterns of trust are quite consistent between the two groups of trustees. Institutional trustees are generally trusted somewhere between “some” and “a lot” of the time, while social trustees are trusted even more. The advantage of the “joyplot” is that it does convey a sense of where the balance is across the many different categories, and the balance is extremely consistent.

## 2.2 *The General Social Survey Data*

We also make use of the very long running questions in the 1973–2016 General Social Survey about the respondent’s level of confidence in a variety of institutions and informal organizations.<sup>4</sup> Respondents reported their level of confidence in three categories: “A great deal”, “Only some”, and “Hardly any”.

We acknowledge that “confidence” and “trust” are not identical concepts, certainly in some languages (including English), though the two are intimately related. (Hardin notes that the absence of a parallel translation of the word(s) for trust across multiple languages hinders the generalizability of the terminology (Hardin 2002, pp. 57–8)).<sup>5</sup> However, the word for “trust” is translated into Spanish as “*confiar en*”, and French as “*avoir confiance en*” or “confidence”. Further, James Coleman drew upon the exact same time-series of data (for fewer years) as the first illustration in his chapters on trust in his seminal (1990) book.

Because these questions are asked with three categories of response, it raises a new methodological artifact: respondents’ tendency to answer in the middle of the scale. Do the respondents deliberately select the middle on the basis of the meaning of the category, or simply because it is in the middle of the range? (See O’Muircheartaigh, Krosnick, and Helic 1999, for further discussion.)

4 The General Social Survey is a survey conducted by the National Opinion Research Center (later, simply NORC) that took place in February, March, and April of the years from 1973–2016. Across the entire battery of surveys, there were 62,466 respondents, administered a survey with a median length of 1.5 hours. Each survey was independent. Survey years prior to and including 1976 relied on block quota sampling, with full probability samples conducted thereafter. The survey is one of the highest quality academic surveys of social issues of the American public. The study is archived at [gss.norc.org](http://gss.norc.org).

5 Hardin further expands upon the translation issues with the words “trust” and “confidence”. “Trust” has no verb form (“to trust”) in French, Norwegian, and colloquial Arabic, and the meaning is ambiguous in Norwegian, Japanese, Chinese, Hebrew, and German.

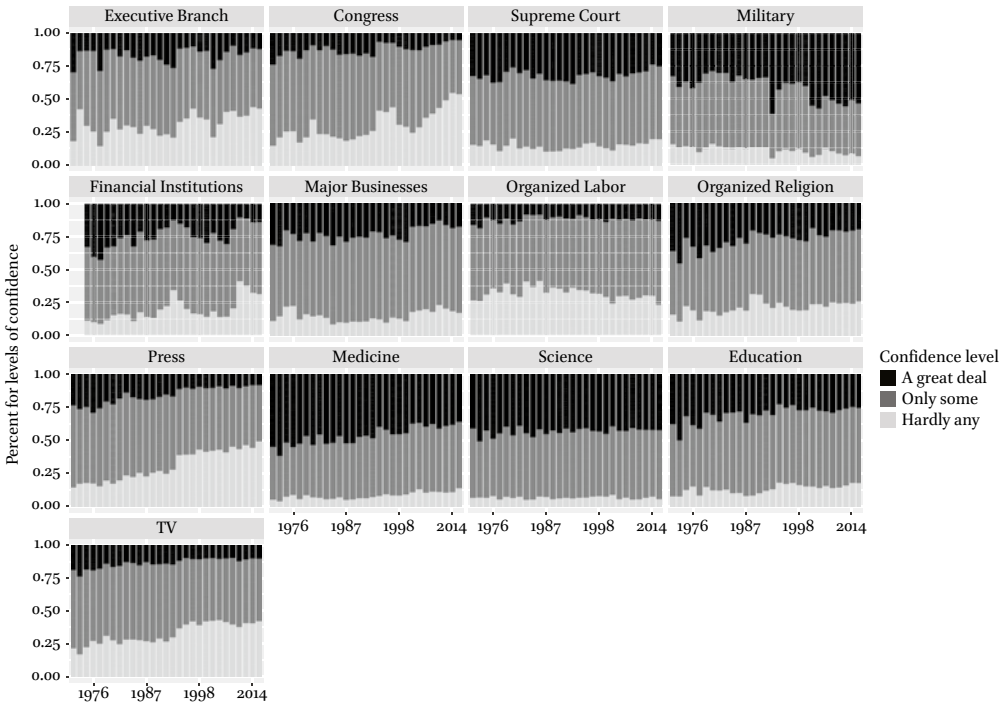


FIGURE 11.2 Confidence in institutions and informal organizations, 1973–2016 General Social Survey

But nonetheless, these data permit a consideration of questions about alleged crisis in “trust” (as seen in surveys) in decline. Figure 11.2 shows a stacked bar plot, over time, of the respondents’ expressed level of confidence in each of the thirteen institutions and informal organizations.

There is a plain pattern across all of the distributions over the many years: most of the respondents answer “only some”. There are only two cases where the majority of the respondents answer at the lowest category on the scale (for the Congress, and only in recent years, and nearly so for the Executive Branch and the Press). TV and the Press are similar in the lack of responses in the least confidence-inducing category, but still it is more accurate to say that there is an even split between “only some” and “hardly any”, and only in more recent years.

Importantly, only a few of the distributions for any of the trustees show the widely claimed (e.g., Putnam 2000) decline in confidence in US institutions and social organizations. In addition to Congress, there is a strong increase in the least confident category for the press, TV, and organized religion, and only somewhat for financial institutions and major businesses. Further, one of the

trustees even shows sharply increasing confidence – the military – affirming results by King and Karabell (2003).

If we were to consider the answer categories literally: the majority of the tens of thousands of respondents in over thirty years have at least some degree of confidence in the vast majority of the trustees.

### 2.3 *Discussion*

Many of the widespread claims about a crisis in trust in America do not bear out in these two quite different empirical datasets. In the cross-sectional data for a single city at what was potentially a low point of trust in both institutions and in social organizations, there is little evidence to support a claim of widespread public distrust. In the longitudinal data for confidence in the country's formal and informal institutions, there was likewise little evidence to support a *general* claim of a crisis in confidence: yes, in particular entities (Congress, the Executive Branch, the Press) there is stark evidence of a failure in confidence in the institution; but for most of the entities in the GSS very long term surveys, there was more a sense of only moderate levels of confidence (not its utter absence).

Descriptively, the general patterns of trust are helpful, but they say little about why trust might vary across each individual. The standing research argues that trust varies systematically by one's experience with formative events such as crime and divorce, or with one's age and race; likewise, the research has also shown that education is also a factor in confidence, and we know that education rates have been climbing over the period from the early 1970s to the present. To answer these kinds of questions, and to ascertain what might be described as a "generalized trust", we turn towards a particular multivariate tool well suited to the task. Measurement and modeling of trust are the subjects of the next section.

## 3 Structural Equations Models as a Method

Our approach here is to treat trust and confidence as general phenomena, and ask what accounts for their variation, as well as to assess whether those variations hold in light of quite plausible and demonstrable effects of the survey method itself.

In brief, the idea of a structural equation model (SEM) is to combine two key features: a measurement model that regards "trust" (or confidence) as a generalizable concept across many different indicators of trust. This latent variable for trust is simultaneously regressed upon a selection of those variables which

the extensive literature on trust informs are the best explanations, as well as (in the case of the GSS) the two new variables for mood and response set.<sup>6</sup>

### 3.1 *Measurement of Generalized Trust*

Structural equation models are estimated<sup>7</sup> as an entire model combining the two parts (measurement, structural equation model). We will display the models for the Philadelphia data and the General Social Survey data in their entirety, although in the discussion to follow, we will be focusing upon the separate parts. The initial question is to what extent can we model the phenomenon of “generalized trust” as a whole?

As it turns out, while a pooled generalized trust model can be computed, the model performs better if we distinguish between institutions and social groups. While both the GSS and the Philadelphia data *can* be estimated as if there was a single underlying form of trust that explained trust in the combined list of groups, the fit measures are substantially improved when we distinguish between the two broad categories of trust. And while both sets of data can also be effectively measured with trust in both institutions and social groups as themselves stemming from a second order latent measure of trust, the fit for the second order model is also somewhat weaker than the fit for a conception of trust in the two categories – institutions and social groups – as if these were separate, although correlated objects in the mind.

Why would the distinction happen? In the case of the Philadelphia data, perhaps the distinction is simply due to the way the survey instrument was administered. The respondents to the Philadelphia data were asked in two distinct groups of trustees, one after the other, and randomly sorted within group. Perhaps the reason for the separation simply has to do with how the survey inquired about levels of trust, and in lieu of an experimental trial, we can only speculate.

6 There are myriad possible specifications of the SEM: assigning different indicators for the different latent variables, specifying the regression differently, as well as regarding trust in institutions and social groups or informal institutions itself as the product of a second-order latent measure. We adjudicate between a number of the alternative specifications on the basis of the BIC (Bayesian Information Criterion), which is computed as  $\ln(n)k - 2 \ln \mathcal{L}$ , where  $n$  is the number of observations,  $k$  the number of free parameters, and  $\mathcal{L}$  is the likelihood of the model. The BIC is a strong evaluation tool as it accounts for the number of variables in the system and the change in the underlying likelihood while not falling susceptible to the inevitable problems of huge sample sizes and interpreting the traditional  $\chi^2$  fit statistics. The BIC is only a tool for comparing the *relative* fit of the model with respect to other models of the same data, and not an absolute measure of fit.

7 In this case, by Maximum Likelihood.

The GSS series intermixed the trustees, institutions and informal organizations, in a fixed order from survey to survey over the many years. Questions about the respondent's level of confidence in "Major Companies" were always followed by questions about confidence in "The Clergy" which were always followed by questions about confidence in "Education". Still, the respondents seemed to be drawing a distinction between "institutions" and "informal organizations".

### 3.1.1 1996 Greater Philadelphia Area Study

We turn initially to the estimated results of the SEM for the 1996 Philadelphia study, and to the upper part of the table, "Measurement Model", displayed in Table 11.1. As with all well-identified measurement models, it is useful to restrict one of the indicator variables' loadings to be 1, with no variance, and thus interpretation of the usefulness of the different indicators' strength as a part of generalized trust have a fixed scale. We choose for both Institutional and Social trust to fix the loadings for the most trusted trustee in the category (the fire department and family, respectively).

We constrain the measurement of Institutional trust to be based on the levels of trust in the fire department. As should be expected, the respondent's level of trust in the fire department is so high and the variance so constrained, that we would not expect trust in the fire department to be particularly informative about trust in institutions. Instead, trust in the three levels of government (City, State, Federal) prove to be much more informative about a generalized trust in institutions. All three levels of government are left as very abstract entities: when we think about "City Government", are respondents thinking about the mayor or city council or the various agencies of the government, or all of the above? when respondents thinking about the President, Congress, or even specific agencies such as the IRS? Despite the diffuseness of the question, each of these three forms of government are by far the most useful measures of institutional trust.

We can easily contrast how vast the scope and diffuse the responsibilities of the three levels of government with the fire department. The trustee with the most restricted domain of actions is the fire department which has a very narrow charge of responsibilities for a great many respondents. By these measures, trust in the fire department is the least helpful as a specific measure of trust, as shown in the tightly constrained variation of the measure.<sup>8</sup> (Trust in

<sup>8</sup> While one might think that the chief responsibility of the fire department is to put out fires, the fire department in the US remains the primary provider of emergency services in general, and especially in rural areas (Brown and Urbina 2014).

TABLE 11.1 Structural equation error model of confidence in institutions, 1996 Greater Philadelphia Area Study

Variable	Institutions		Social organizations	
<b>Measurement portion</b>				
Fire	1			
Police	1.63	(0.22)		
Public schools	1.5	(0.21)		
City government	1.98	(0.26)		
State government	1.79	(0.24)		
Federal government	1.71	(0.25)		
Family			1	
Neighborhood			1.92	(0.27)
Boss			1.47	(0.23)
Co-workers			1.70	(0.25)
Church			1.55	(0.23)
Same clubs			1.76	(0.25)
Stores			1.70	(0.25)
People in Phil.			1.49	(0.23)
<b>Regression portion</b>				
Black	-0.10	(0.02)	-0.12	(0.02)
Education	0.04	(0.17)	0.05	(0.01)
Family income	0.02	(0.02)	0.04	(0.02)
Age	0.08	(0.02)	0.11	(0.02)
Party identification	0.01	(0.02)		
Ever divorced?			-0.01	(0.01)
Feel safe in home			0.06	(0.02)
Victim of crime			0.002	(0.01)
Family victim?			0.003	(0.01)
Taught to trust?			0.03	(0.01)
Covariance	0.06	(0.01)		
BIC	-771.4			

Note: Cell entries are factor loadings and structural equation regression estimates of the confidence data from the 1996 Greater Philadelphia Area Study. Estimates are obtained by maximum likelihood, standard errors are in parentheses adjacent to coefficients,  $N = 522$ .

the public schools, also a trustee with a very narrow range of responsibilities, *is* more helpful in assessing generalized trust in that its loading is statistically indistinguishable from that of the City Government.)

Trust in the family is quite high, but the specific actions that the family would be responsible for are quite vague. The trustee that is least identifiable as to *who* they are and the range of actions that they might be trusted over would be “People in Philadelphia”, and has a very weak loading on the scale, comparable to “Family”.

The most informative groups for assessing trust would be people in one’s neighborhood, followed in a cluster by people in the same clubs, in stores, or one’s co-workers. There simply is not the same pattern of which of the non-institutional trustees are the most useful ways to consider trust in social groups.

Across the findings for trust in institutions and social groups, the respondents were quite willing to express their level of trust (or in some cases, distrust) of actors. Further, the respondents were willing to express trust even though the survey did not ask them about what they might be trusting (or distrusting) the trustee to do. Although it may well not make sense for someone to answer a question of the *A* trusts *B* format, the respondents systematically understood the question. And although the question did not ask a general trust question itself (i.e., *A* trusts), one can be gleaned for the two separate categories.

The covariance between the two scales for trust was a surprisingly weak .06, or that the two are for all intents and purposes independent of one another.

### 3.1.2 1973–2016 General Social Survey

The GSS data allow us to ask questions about the generalized state of trust over four decades.<sup>9</sup> As with the Philadelphia data, the model which regards confidence in institutions (the Executive, Legislature, Judiciary, and Military) as separable from confidence in informal organizations (Business, etc.) is the stronger fit over rivals which either pool confidence in a single measure or consider a second order factor of generalized confidence explaining both.

9 The SEM model for the GSS models for all the years as if they had a common structure of trust, pooling by year. A model that explicitly analyzed trust as a dynamic model might also be estimated, although we do not do so here. These models would be referred to as DYMIMIC models (dynamic models with multiple indicators). The overwhelming stability apparent in the bulk of the confidence graphs (Figure 11.2) suggests the appropriateness of a general model of trust for the full period although we have no doubt that a more dynamic model could also yield fruitful insights.

TABLE 11.2 Structural equation error model of confidence in institutions, 1973–2016 General Social Survey

Variable	Institutions		Informal organizations	
<b>Measurement portion</b>				
Executive	1			
Legislature	0.816	(0.005)		
Judiciary	0.718	(0.005)		
Army	0.507	(0.005)		
Business			1	(0.005)
Clergy			0.494	(0.005)
Labor unions			0.443	(0.005)
Press			0.544	(0.005)
TV news			0.532	(0.005)
Education			0.615	(0.005)
Science			0.514	(0.005)
Medicine			0.629	(0.005)
Finance			0.662	(0.005)
Covariance	.887	(0.003)		
<b>Regression portion</b>				
Black	-0.022	(0.004)	-0.015	(0.005)
Education	-0.027	(0.006)	-0.032	(0.006)
Income	-0.068	(0.006)	-0.089	(0.006)
Age	-0.037	(0.006)	-0.035	(0.006)
Pub OFF	-0.109	(0.004)		
Don't Care				
Liberal-Conservative	0.005	(0.004)		
Ever divorced?			-0.038	(0.005)
Size of city			0.029	(0.004)
Unemployed			-0.004	(0.004)
Fear of crime			-0.010	(0.004)
Robbed?			-0.005	(0.004)
Burglarized?			0.005	(0.004)



Variable	Institutions		Informal organizations	
Read Newspaper			0.054	(0.004)
Income at 16			0.026	(0.004)
Mood	0.087	(0.006)	0.097	(0.006)
Response set	0.066	(0.006)	0.073	(0.006)
BIC	67942.76			

Note: Cell entries are factor loadings and structural equation regression estimates of the confidence data from the 1973–2016 General Social Survey. Estimates are obtained by maximum likelihood, standard errors are in parentheses adjacent to coefficients,  $N = 39991$ .

Table 11.2 displays the full results; the present discussion concerns the measurement portion in the upper half of the table.

As with the Philadelphia data, we fix the loadings for two trustees to be 1: confidence in the Executive (for institutions) and in business (for informal organizations). Unlike the Philadelphia data, the loadings here are all well below 1, and should be interpreted in terms of how close to 1 they are as far as appropriateness of an indicator of general trust.

In the Philadelphia data, we observed that trust in the Federal Government was the strongest indicator of generalized trust in institutions. The Federal Government, of course, comprised of the three constitutional branches (Executive, Legislature, and Judiciary), and potentially the Military as well. What is evident from the GSS data is that confidence in institutions is best indicated by reported confidence in the Executive branch, followed closely by the Legislature, and followed again by the Judiciary. The precision of the GSS estimates is extraordinary, of course, a product of the very large pooled sample size (39,991 observations). As such, the same small differences that were evident in the Philadelphia data *do* turn out to be statistically distinguishable. We would have a good case to argue that generalized confidence in institutions in the national sample over forty years is really a product of confidence in the two most prominent branches of government, the Executive (especially) and the Legislature.

Confidence in the Military is another matter. While it is a better indicator of confidence in institutions than in informal organizations (by BIC measures and small modification scores, not shown here), it is only a modest indicator of confidence in institutions. Furthermore, as the plots (Figure 11.2) showed, confidence in the Military has been rising, while it has been falling for the

Legislature and variable for the Executive and the Judiciary. The GSS respondents appear to be thinking about confidence in the Military as operating differently from confidence in other institutions.

As far as confidence in informal organizations, the loadings are again below 1, and in most cases, substantially so. Our general inference from the data is that confidence in Business is the best indicator of generalized confidence in informal organizations, although it is followed by confidence in Finance, Medicine, and Education. Confidence in Labor Unions and the Clergy, however, are not particularly good indicators of confidence in informal organizations.

We again note that the specificity of the trustee is really quite diffuse in both confidence in institutions and informal organizations. We cannot know whether the respondent is thinking of a particular member of the body in question (for the legislature or judiciary), a specific person (their clergy member or physician), of the collective (all members of the legislature, judiciary, organized religion, or physicians), or the symbolic references. Ironically, the only specific individual in the entire array of thirteen trustees would be the President, although the question is worded about confidence in the "Executive Branch", not the President specifically. The GSS respondents were also quite willing to express their confidence in quite vague entities, again running counter to Hardin's observations about the looseness of the question.

### 3.1.3 Discussion

There are also good theoretical reasons to expect a distinction between how we think about institutions and how we think about the people comprising institutions. We (may) have a direct and personal relationship with a named entity when the questions are about family members, bosses and co-workers, and even larger groups such as our neighborhoods or churches. For these personal relationships, we may have the capacity to draw upon a direct and well-informed sense of the person's intentions, knowledge, interests, the reasons for trust ( $X$  in Hardin's representation) and capacities – all previously theorized as critical components of trust (e.g., Hardin 1993, 2002). There is a meaningful and systematic reason we may have all the ingredients at hand to maintain a trusting or distrusting relationship with the person. For our relationships with institutions, one or more of those key qualities (capacity, intentions, and such forth) may be unattainable or too imprecise or charged only with a symbolic and non-interest based connection to start. This line of reasoning applies squarely to the more focused Philadelphia study.

For the General Social Survey data, *all* of the trustees are diffuse to one degree or another. When asked about level of confidence that a respondent

has about “Congress” or “the Supreme Court”, is the person thinking about the entity as a whole and the collective choices that entity makes, or thinking about representative members of the Court? When asked about entire professions – “Science” or “Medicine” or “Organized Religion” – the members of the respective trustees may be entirely unclear.

Still, for both the more focused Philadelphia study and the GSS data, respondents were drawing a distinction between the different forms of the trustees.

### 3.2 *Models of Trust*

The comparative strength of the SEM approach over that of the confirmatory factor approach is that while both measure a generalized trust (our latent variables), we can account for the movement in these latent variables with a straightforward, readily interpretable regression model. But as with all covariational models, the models make more sense if we have strong theoretical reasons backed by external evidence. Here, we argue that a model of generalized trust should be based on not only personal experiences, but also one’s more collective experiences.

Numerous scholars have observed that Black people are much less trusting of government and of others than non-Black people (Abramson 1983; Brehm and Rahn 1997; Gay 2002; Howell and Fagan 1988; Marschall and Stolle 2004), although several of these authors suggest that the level of trust is entirely contingent on the representation provided by Black people in government (Gay 2002; Howell and Fagan 1988; Marschall and Stolle 2004).

One’s age is another of the usual covariates of trust, but its effect can take two forms. One might be a life-cycle effect, that people become more trusting as they age, and reports here vary considerably from study to study (e.g., Delhey and Newton 2003). Another might be a cohort effect, that the culture of one’s early life, and having to resolve collective problems leads to higher levels of trust (Brehm and Rahn 1997; Putnam 2000). In the present analysis, we will be directly testing the life-cycle effect with the Philadelphia data and the GSS data, and although a test of the cohort effect is not possible with the Philadelphia data (they were measured at one point in time), such an effect would be possible to estimate with the GSS data.

Other scholars have postulated that those with greater life resources would be more trusting of others, and we will test for the effects of both income and education. Those with greater incomes might be able to isolate themselves from distrustful situations, or afford the opportunities to engage in trust-building in civic associations. Those with more years of education would be more exposed to a broader culture, reducing unfamiliarity (Sullivan, Piereson, Marcus 1982).

Direct experience with more recent events might make a substantial difference towards one's trust in others, especially if one is a victim of crime (Ferraro 1995), or one has been divorced or is the child of divorce. Conversely, Brehm and Rahn (1997) report that more frequent reading of newspapers led towards greater trust in others.

We do expect that those who are politically conservative and those who believe that government is run by people out for their own interests would be especially distrustful of government (Brehm and Rahn 1997).

### 3.2.1 Philadelphia Study

The lower portion of Table 11.1 presents the regression estimates for the models of generalized trust in institutions and informal organizations. We turn first to a discussion of the model component for institutions.

As has been generally hypothesized about trust in the US, individuals who are Black are much less likely to trust institutions. Of course, the present data do not permit a further query as to why it is that African American people would be so much less trusting of institutions than people of other races, but the effect is dramatic, statistically precise, and greater than any other effect observed in the model (although the effect of age is close).

Age is the only other explanatory variable in the model for trust in institutions that is statistically significant at  $p < .01$ , and it is quite strong: older individuals are much more likely to trust institutions than younger ones. Of course, with a single-year survey, it is not possible to study cohort effects (these would be perfectly explained by age), but the general finding is also consistent with the observations raised in Brehm and Rahn (1997) and Putnam (2000) that generational experiences are particularly good explanations of trust.

We hypothesized that those with more years of education and greater income would also be more likely to be trusting of others, though the data do not support such a conclusion. The estimated coefficients are quite small, and not in the least statistically significant.

We also hypothesized that people who are Democrats would be more likely to trust institutions – after all, Democrats might be expected to employ institutions to solve collective problems. But again the evidence here does not support the claim: the coefficient is again nearly zero and not statistically significant.

Turning to trust in social organizations, we can again draw upon some common measures, but here the support is perhaps stronger. People who are Black are considerably less likely to trust others: the coefficient is the largest in the model, negative, and statistically significant at  $p < .01$ . As with the models for trust in institutions, education is the second strongest predictor of trust, and again statistically significant at  $p < .01$ . Being Black and having higher levels of education did follow the same pattern we observed with trust in institutions.

Unlike trust in institutions, income is also a positive predictor of trust ( $p < .05$ ): wealthier individuals were more likely to report trusting social organizations than less wealthy individuals. The effect is only modest.

We also expected that personal experiences with traumatic events such as divorce or crime would undermine trust in social groups. Here, the evidence is quite mixed. Having been divorced does not matter: the coefficient is tiny and not statistically significant at  $p < .05$ . The effect of reporting being a victim of crime or having a family member who was a victim of crime does not matter either. Instead, what seems to matter, but only slightly, is whether the respondent reported feeling safe at home: those who did were noticeably more trusting of informal organization (and statistically significant at  $p < .05$ ). The meaning of reporting “feeling safe at home” is perhaps of questionable causal ordering with respect to trust in social groups: does one report feeling safe because one trusts other people, or does one trust other people because one reports being safe?

What is additionally interesting is the effect on having been taught to trust other people as a child. Those who said they had reported being taught to trust are somewhat more trusting of informal organizations (and again statistically significant at  $p < .05$ ).

The general implication of this structural equation model of a dataset gathered in the 1990s, in one particular urban area, is that generalized trust is most affected by the circumstances of one’s life: one’s race and age especially, but also (for informal organizations) by education and family income. Trust was not really affected by experiences with traumatic events (save for reporting feeling safe), but was affected by being taught to trust as a child (for informal organizations). The Philadelphia data imply that simple measures of demographics might perform quite well.

These data cannot, however, verify that one’s reported trust in institutions or informal organizations are not survey artifacts, due simply to one’s state of mind (“mood”) or to the repetitiveness of the questions themselves. For these problems, we look to the long running General Social Survey for further insight.

### 3.2.2 1973–2016 General Social Survey

The regression portion of Table 11.2 provides our estimates for the models of generalized trust in institutions and informal organizations. Our aim in this model is to reproduce the measures included in the model for the 1996 Philadelphia data, and to supplement as we can. We are able to add to the substantive measures in a number of ways, but most importantly of all, we are able to provide for direct measures of the respondent’s mood and whether their answers tended to follow a persistent pattern.

We turn first to the model for confidence in institutions. Whereas the effect of race was strong in the Philadelphia dataset, the effect is considerably attenuated for the forty year GSS data. Respondents who are Black are less trusting of institutions than non-Black respondents, but the effect is really quite small even if statistically significant at  $p < .01$ . (The sample size is so large that all of the standard errors for the regression are in the thousandths place, and thus even small effects may still be statistically precise.) The effects of education, income, and age are opposite to our hypotheses (and the effect for income is larger than many of the other measures in the model). Since we were hypothesizing positive effects of income, age, and years of education, the negative effects estimated here should be read as not confirming our expectations.

We did expect that political measures would affect confidence in (political) institutions, and here the effects are really quite strong for one measure, and non-existent for another. We hypothesized that a sense that public officials did not care would positively covary with confidence in institutions, and here the effect is strong, negative, and statistically significant at  $p < .01$ . (The causal arrow is ambiguous: do people lose confidence in institutions on the basis of a disbelief that public officials care, or is a lack of confidence the result of the disbelief that officials care?) While we would hypothesize that liberals would have more confidence in institutions, the effect here is miniscule and not statistically significant at  $p < .05$  despite the very large sample size. (We do note that the political parties in charge of the Presidency and the Legislature have cycled between Republicans to Democrats three times over, and that any ideological orientation towards institutions would plausibly vary by who is in “charge”).

Unlike the Philadelphia data, here we can actually gain some purchase on whether some of these effects are an artifact of the survey itself. We measure “mood” by taking the average across five separate scales of satisfaction with dimensions of life.<sup>10</sup> The effect of being in a satisfied mood is almost as strong an effect as the strongest substantive measure in the model (“Public Officials Don’t Care”), but without the ambiguity: the coefficient is positive, substantial, and statistically significant at  $p < .01$ .

We measure whether the respondent was in a “response set”, or had a general inclination to answer questions on the basis of the question before by measures on spending priorities.<sup>11</sup> Here, too, the effect is strong, a little weaker than

10 We combined the average of the respondent’s reported satisfaction with their city, hobbies, family, friends, and health.

11 Specifically, we use questions about whether the respondent believed that national spending on  $X$  should be increased, decreased, or kept the same, where  $X$  included the

family income, but approximately of the same magnitude. By asking respondents to provide statements about their level of confidence in a list of thirteen (and sometimes fourteen) different entities, it is perhaps entirely unreasonable to expect that the answer to any one of these questions would be independent from another. People who were most likely to repeat their responses were most likely to report higher levels of confidence in institutions.

The regression for the model of trust in informal organizations yields results that are in many ways similar to the regression for trust in institutions. Among the demographic measures, we find that the effect of education is negligibly small (even smaller than for trust in institutions), a result which is surprising given the general research finding that Black people are also less trusting of informal organizations. Here, Black people are less trusting, but not by very much. There is a modest effect of education on trust in informal organizations, but it is negative, and contrary to our general expectations. The same holds for income: wealthier people are less trusting of informal organizations than less wealthy people. The negative effect of age also holds: older people are less trusting of informal organizations than younger people.

In short, the effects that we anticipated of age, education, and income run contrary to our expectations, and the effect of race is really quite small.

The effects of measures of personal experiences, however, do generally confirm our expectations. The effect of being divorced is strong, and negative. People from urban areas are more confident than those from less urban areas. The direct effects of crime (being robbed or burglarized), and a fear of crime are all negative, as anticipated, but quite weak. The effects of regularly reading a newspaper leads to greater confidence in informal organizations, and here the effect is more sizable than others. One's income while growing up (at age 16) tends to lead to higher levels of confidence, which is opposite to the effect of one's current income.

Some of the issues with interpretation of the apparent inconsistencies of effects on confidence in "informal organizations" may well have to do with two important differences from work on trust. "Confidence" itself may not be the most appropriate direct measure of "trust", but operate more as a pre-cursor (Seligman 1997). But perhaps the bigger difference may lie in the literal meaning of the organizations that comprise the bulk of the informal organizations

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space program, the environment, health care, cities, crime, fighting drugs, education, race relations, defense, foreign aid, roads, social programs, parks, childcare, science, and energy. Respondents who offered an answer to one question in the set that was identical to the one above were coded as 1, otherwise 0. The total score was obtained by averaging across the sixteen programs.

latent factor: education, science, medicine, finance, and such forth are emphatically not the same kinds of social categories as the Philadelphia survey was able to study. All are abstract and general references to categories of quite diverse individuals. Note also that the measure of “informal organizations” is anchored by the level of confidence in business, and general attitudes towards, say, one’s family, might run entirely contrary to attitudes towards business itself.

The strongest results for the regression on informal organizations arise in the two measures of specific survey artifacts. General mood is the strongest explanatory variable in this part of the model: people who are more satisfied with their lives are more likely to express confidence in informal organizations, to a degree which is quite in parallel with the regression on institutions. Further, respondents who would generally fall into a response set when answering repetitive questions were also more likely to express confidence in informal organizations, to a degree which is quite similar to the effect on confidence in institutions. Being stuck in a survey rut accounts for systematically answering questions about confidence the same, creating an artificial explanation for the scores.

### 3.3 *Discussion*

Each of the two separate structural equation models yields somewhat different results for the core questions about what accounts for variation in generalized trust, but each also yields some findings that are in common. In particular, being Black adversely affects the chances that an individual would trust either institutions, informal organizations, or people. But the levels of the effects vary sharply: the Philadelphia study demonstrated that Black people were substantially less likely to trust others, while the accumulated General Social Survey suggested only slightly less so.

Some of the other social covariates yielded results that were sharply split between the studies. We hypothesized (and were supported by the literature in our hypotheses) that older people, those with more education, and greater resources, as well as a sense of personal safety would be more likely to trust others (especially other people). The Philadelphia study conformed with these expectations. But the General Social Survey did not: wealthier individuals, those with additional education and older people were less likely to trust others. Yet for the more immediate effects, divorce, fear of crime, a wealthier family growing up, and greater likelihood of reading the newspaper accounted for more trust (in informal organizations).

What could be accounting for the sharp differences in the effects of the most common covariates (age, education, income)? Multiple possibilities, of course.



The GSS spans forty years of variation in the composition of the institution and social organizations. Over those forty years, partisan control of the institution has changed multiple times, the role of the military in warfare has changed at least once, scandals about the clergy (and even TV), and the reliability of financial institutions has changed. Just considering the last of these, individuals who have greater incomes may well have more at stake in financial institutions, and come to change their attitudes. Likewise, the effects of age change with the aging of the populations. If the effects were really cohort effects and not life-cycle effects, then jaded twenty year olds in the earlier samples would be now the jaded sixty year olds in the older samples. But experience with crime, divorce, and the conditions of childhood would remain fixed over the sample itself.

There is a substantive story, but the bigger story here should be that the effects of what surely are survey artifacts – mood and response set – can dominate over all the other measures of the study.

#### 4 Generalized Discussion and Recommendations

Given the strong effects of mood and response set, surveys that measure trust should not discard the ideas, omitting demonstrably important explanations from the models, but should both work to reduce the effects with better survey designs, and make a point of assessing both in the model. In addition, there are suggestions of a third possible confound in that the range of response categories can induce respondents to select the middle category, not because they believe in the middle category, but for lack of consideration of the question itself.

Yet every time one suggests a new variable to be included, especially one which requires multiple questions to assess, one adds to the costs of administration of the study itself. The measure of mood that we use in the GSS analysis used five questions, the measure of the response set was drawn from a set of eleven questions, and *neither* of these would be intrinsically critical to a substantive model of trust (nor perhaps other purposes). A reasonable battery of three questions could assess mood, but the longer battery would have to be used to detect whether a response set was in place.

The least expensive revision to the study would be to insure that there are an even number of response categories to the questions, precluding the possibility of landing in the direct middle of the scale. The four item Philadelphia study showed more nuance to how the respondent placed her or his answer than the three category GSS confidence scale. The costs of administering a four item scale compared to a three item scale are minor, at best.

A more reasonable approach to measuring the tendency of respondents to slip into a response set would be to reduce the chances of the response set itself. The batteries of questions could be decomposed into smaller batteries and distributed throughout the questionnaire (although also incurring the possibilities of question-ordering effects). The questions need to be randomized within the batteries (as was done with the Philadelphia study, but not the GSS).

Surveys are an effective way to measure generalized trust, but they do require an expenditure of resources. That is, while Russell Hardin may have argued that only small children, Abraham-like adorers of God, or zealots in a cult of personality would say "I trust", there is quite a strong amount of evidence that people do answer questions about trust, and that a general tendency to trust can be gleaned from repetition of the categories. The keys would be to acknowledge the limitations of what survey research of trust can accomplish, and to best use the prodigious amount of data that are available.

Although not the principal point of inquiry in this chapter, it is quite striking in the two different studies: there is little evidence of a "crisis" in trust. The Philadelphia study assessed trust in 1996, a low point in public trust by only the most extreme measures (City, State, and Federal Government, People in Philadelphia), yet when inquired about specific other entities, there was no particular entity which engendered widespread distrust across the respondents. Further, some entities were trusted quite a bit: families, people at church, and the fire department. The General Social Survey's forty-year assessment of confidence certainly revealed some dynamism about the series, but across the board, only a handful of entities were distinctly distrusted (the Congress, the Executive Branch, the Press), while some were trusted quite a lot.

Perhaps this last point is the most relevant conclusion to draw from Hardin's observation from over thirty years ago. Abstract statements of trust may be vacuous, but specific statements of trust do reveal consistent patterns of trust on the part of survey respondents. While the survey artifacts are real and do affect the systematic patterns, generalized trust is not so abstract after all.

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