

The Foundations of Individuals' Generalized Social Trust: A Review

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Abstract

This chapter reviews the literature on the causes of individuals' generalized social trust (trust in unknown others) from a wide-range of social science disciplines. We structure the review around two broad classes of explanations: dispositional explanations (trust as a disposition) and experiential explanations (trust as a response to individual experiences). Specific attention is paid to the potential for drawing causal inference—based on quality of data, and the methods used—in the studies reviewed.

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Introduction

Generalized social trust concerns the expectancy about the trustworthiness of strangers, that is, people we do not have any information about (Rotter, 1967; Uslaner, 2002). Consequently, generalized social trust is an important heuristic that people use to navigate the numerous daily interactions with unknown others that are characteristic of modern societies. Trust bears consequences for individuals in specific interactions—it may or may not be honored—but perhaps even more importantly, trust has pronounced positive effects in the aggregate through its effect on collective action. When people trust others to a greater extent, they tend to cooperate more with strangers and behave more pro-socially (Dawes, McTavish & Shaklee, 1977; Rönnerstrand, 2013; Sønderskov, 2011a). Societies with higher densities of trusters are therefore characterized by better, more efficient government and higher levels of economic growth (Knack & Keefer, 1997; Knack & Zak, 2002).¹

Being the ostensible mainspring of many things good in life, the causes of generalized social trust have attracted massive attention across a variety of disciplines including developmental psychology, social psychology, economics, political science, and sociology. Being an individual-level phenomenon in nature, most studies have focused on explaining trust at the micro level, although some have also focused on the causes of macro-level trust across various collective aggregates (typically countries). In line with most research, this review focuses exclusively on trust as a dependent variable at the individual-level.

The purpose of the review is to give an overview of the literature on the causes of generalized social trust at the individual level with a special focus on more recent studies published after the latest review by Nannestad (2008). Moreover, we give special emphasis to the data and methodology utilized in the studies reviewed, specifically with an eye to the potential for drawing causal inference.

¹ Similar to the studies focusing on trust as an outcome covered in this review, studies of trust as a cause often employ weak causal identification strategies. While reviewing these studies is beyond the focus of this review, it is arguably fair to say that the causal role of trust is still not fully established, and therefore an important empirical matter for future research.

Scope

In addition to narrowing down the focus to causes of individual-level trust, we delimit the scope of the review on three dimensions: conceptually, in terms of measurement, and with regard to the causes of trust in focus.

First, in the interest of keeping a stringent focus, we focus on the concept of generalized social trust as defined above (i.e. trust in unknown others) rather than broader concepts such as social cohesion or social capital (see, e.g., Portes & Vikstrom (2011) for a review related to social cohesion). Hereby we also avoid the risk of conflating social trust with other related and unrelated phenomena falling under these broader concepts. We also exclude types of trust that are either not “social”, e.g. trust in institutions, or to a reasonable extent “generalized”, e.g. trust in well-known others (e.g. family or friends), or trust in specific out-groups.

Second, research on trust has mainly been employed one of two measurement strategies; behavior in experimental games and survey-based measures, both of which hold strengths and weaknesses.² Here, we focus on survey-based research. More specifically, we look at survey questions, which capture the essence of generalized social trust, namely trust in unknown others. In this regard, most research have relied on a subset of the seminal “faith in people” scale developed by Rosenberg (1956); typically either the single item concerning trust (“most people can be trusted” vs. “you cannot be too careful in dealing with people”) or a scale composed of this and two items regarding helpfulness and fairness of others.³ In addition to these questions, we also review studies using related measures regarding trustworthiness of a generic, mostly anonymous group of people (e.g. “strangers” or “co-nationals”), as well as measures focusing on specific actions (e.g., trust in anonymous others giving back a wallet). Finally, to the extent that we found it meaningful, we also include studies, which use indicators (scales) of social trust that partially conflate generalized social trust with trust in more specific others.

² An influential early study (Glaeser, Laibson, Scheinkman & Soutter, 2000) reported a divergence between behavior in trust games and responses to survey questions on trust, but subsequent extensions (Fehr et al. 2002; Sapienza, Toldra & Zingales, 2007) have convincingly shown that the two are in fact correlated empirically and therefore appear—at least to some extent—to reflect a common underlying phenomenon.

³ There is some variation in the specific formulation and measurement scale of the items in various surveys. See Revilla & Saris (2013) and Lundmark, Gilljam, & Dahlberg (forthcoming) for a comparison of some of these different formats.

Third, we exclude studies that focus on the impact of ethnic diversity in various contexts (most importantly, the residential context; see e.g. Dinesen & Sønderskov, 2015) on generalized social trust. While contextual ethnic diversity is not inherently different from other explanations of trust, research on this topic has grown—mainly in response to Putnam’s (2007) controversial findings on the topic—so explosively over the last years that it essentially deserves its own review (see Schaeffer (2013) and Van der Meer & Tolsma (2014) for reviews of the effects of ethnic diversity on the wider concept of social cohesion including social trust).

Generic explanations of trust: genetic and environmental factors

Like other human traits, trust can be innate (i.e. shaped by genetic differences), acquired (formed by environmental conditioning), or shaped in an interplay between genes and environment. A number of behavioral genetic analyses have used samples of twins to partition sources of trust into genetic and environmental factors (Hirashi et al. 2008; Oskarsson et al. 2012; Sturgis et al., 2010; Van Lange, Vinkhuyzen & Posthuma, 2014). The results of these studies vary considerably, but on average, heritability is estimated to be in the range of 30-40%, indicating stronger environmental than genetic influences on trust.⁴ Moreover, these studies show that the environmental sources of trust are overwhelmingly of the so-called “non-shared” kind; that is, unique to the individual and not shared by her or his siblings, and therefore not the result of, e.g., common socialization in the family.

While the twin studies published thus far are very valuable for our understanding of the generic sources of trust, they speak little to the specific genetic and, particularly, environmental influences shaping trust. As we are mainly interested in the latter source—mostly because, to our knowledge, little research exists on the former—we shall not delve more into these analyses here, but instead direct our focus towards the analyses that have examined the role of specific—primarily environmental—factors in shaping trust.

⁴ Hirashi et al. find a heritability of 31% in Japan. Oskarsson et al. find a heritability of 36% (33% for males and 39% for females) in Sweden. In Australia, Sturgis et al. (2010) find a heritability of 14% to 36% for four specific items, and 66% for a latent trust factor combining these items. Jang et al. (2002) do not report heritability estimates, but Falconer’s formula $h^2 = 2 * (r_{MZ} - r_{DZ})$ yields heritability estimates of 28% in Canada and 44% in Germany. In a previous analysis, Jang et al. (1998) reported an estimate of 37% in the combined dataset. Van Lange et al. (2014) report a considerably lower heritability estimate of 5% in the Netherlands.

Two perspectives on trust: Dispositional and experiential explanations

The literature outlines two broad perspectives on the roots of trust: the dispositional and the experiential perspective. While not mutually exclusive, the two perspectives provide a stylized conception of how trust is formed, and develops over the life course.

In the *dispositional* perspective, trust is considered a deep-seated disposition or belief that varies between individuals. After the formative years, the rank order of individuals from low to high trust changes little. In parts of the literature, trust is considered a downstream consequence of proximate dispositions such as personality traits, while in others, it is regarded as a facet of personality in its own right. Both, however, stress the dispositional nature of trust. From this perspective, trust (or antecedent dispositions) may be formed by either genetic transmission or early-life socialization, but the key point is that trust in adult life is a stable individual-level disposition, which is not modified much by experience. From this perspective, trust is considered a moral value (Uslaner, 2002), largely independent of environmental conditioning.

The *experiential* perspective, in contrast, considers trust to be malleable through experiences. More specifically, individuals are expected to continuously update their trust in others based on their experiences—good or bad—throughout life (Glanville & Paxton, 2007; Dinesen, 2012b; Uslaner, 2008). Experiences may be understood in both a narrower (i.e. concrete experiences with others) and a broader (i.e. environmental conditioning more generally) sense. Here we conceptualize experiences closer to the latter—mainly to provide a meaningful category contrasting with that of the dispositional perspective.

Again, the two perspectives on the roots of trust are not mutually exclusive (Van Lange, 2015). For example, experiences in childhood may influence trust (or antecedent dispositions), which is then subsequently stable over the adult life course. Similarly, they may also interact. Dispositions such as personality traits may for example influence how certain experiences are perceived and influence trust. That said, we still find the dispositional and the experiential perspective useful for a general classification of explanations of trust and thus structure our review around this distinction.

The dispositional perspective: Trust as a cultural trait and disposition

As noted, the key premise underlying the dispositional perspective is that trust is a deeply rooted disposition—either in itself or as a downstream consequence of other “deeper” dispositions—which is stable and only to a limited extent subject to experiential influences after the formative years of adolescence and early adulthood. Emphasizing stability further, trust is often considered stable over generations as a consequence of genetic or social transmission. This assumed stability of trust—over the life course and over generations—has been examined in four distinct lines of empirical research. One focusing on intergenerational transmission of trust, a second on the stability of trust over the life course, a third line of research focusing on the link between trust and various fundamental predispositions, and a fourth line of research investigating stability of trust across individuals from different cultures. We review each of them in turn.

The intergenerational transmission of trust

A number of studies look at the intergenerational transmission of trust by studying parent-child correlations in trust (Dalton, 1980; Dinesen, 2012a; Dohmen et al., 2012; Stolle & Hooghe, 2004; Stolle & Nishikawa, 2011; Uslaner, 2002). They tie in with the implied stability in the dispositional perspective by looking at how strongly trust is transmitted from one generation to the next. The intergenerational studies typically interpret the parent-child correlation in trust as an indication of familial socialization, although this could in principle also reflect genetic transmission (Dohmen et al., 2012). Independent of the specific transmission mechanism, these studies speak to the rank-order stability of trust. Importantly, this does not imply that children have the same absolute level of trust as their parents,⁵ but only that parents and children’s tend to have the same relative placement in the trust distribution in a population. Hence, while trust may be significantly higher or lower in one generation than in the previous as a result of any aggregate level phenomenon that influences trust equally across a population (e.g. increases in living standards or reduced income inequality), this does not influence the transmission of the relative tendency to trust.

The studies generally find indications of an intergenerational transmission of trust (i.e. a positive parent-child correlation), but vary considerably in the detected strength of this

⁵ The question of absolute differences in trust between parents and children has also been examined, however (see Dinesen 2012a, Stolle & Nishikawa, 2011).

transmission. As the exception to the rule, Stolle and Nishikawa (2011) find weak and mostly insignificant correlations between 12-13 year old and their parents in the United States and Canada in the early 2000s. Conversely, in analyses based on the Niemi-Jennings Youth-Parent Socialization Panel study of high school seniors and their parents in the United States in 1965, a moderate (Uslaner, 2002) to weak (Dalton, 1980) transmission is observed. The effect did not linger, however, as a weak and insignificant relation between parents' trust in 1965 and their children's trust in 1982 was observed (Stolle & Hooghe, 2004). In a German sample of parents and children (over 17), who live in the same household, Dohmen et al. (2012) found a significant and relatively strong transmission of trust from both parents (separately) to their children. Interestingly, the transmission from mothers is stronger than that from fathers. Finally, Dinesen (2012a) shows a significant trust transmission from parents to children for young (Grade 7-9) non-Western immigrants and native Danes in Denmark. Importantly, he finds that the transmission is stronger for native Danes than for first and second generation immigrants, which is taken as an indication that experiences incongruent with parental trust levels likely weaken the parental transmission of (mis)trust.

In addition to the studies focusing on the direct parental transmission of trust, a number of studies speak to the specific form of social transmission, primarily by examining how parents instill trust in their offspring through the upbringing.⁶ In the US, Uslaner (2002) finds that children, who were brought up by parents, who emphasized authoritarian rather than more democratic or self-expressive values in the upbringing, have lower levels of trust. Similarly, Dinesen (2010) finds a restrictive upbringing leads to lower levels of trust among non-Western immigrants in Denmark. Finally, Stolle and Nishikawa (2011) show that American parents increasingly choose to bring up their children less trusting in response to increased media portrayals of crime against children.

To summarize, there is evidence for a parental transmission of trust from parents to children as well as the specific ways in which parents shape the trust of their children. However, the transmission varies considerably across time, context and the population studied. A more systematic approach to studying the transmission comparatively across countries would be fruitful. Moreover, in line with Dohmen et al. (2012), parsing out of the specific transmission

⁶ Relatedly, Alesina & Giuliano (2011) show that strength of family ties (indicative of "amoral familism") in society is negatively correlated with trust.

mechanisms operating, including whether transmission is primarily social or genetic, would be a very valuable addition to the literature.

Stability of trust over the life course

As a natural extension of studies examining the relative intergenerational stability in trust, a number of studies have also examined the relative stability in trust over the life course.⁷ Again, a strong correlation over time indicates a high rank-order consistency in trust, but does not say anything about trust levels. Studies based on the aforementioned Niemi-Jennings Youth-Parent Panel Socialization data find a moderate (Stolle & Hooghe, 2004) to fairly strong correlation (Claibourn & Martin, 2000) in trust over the 17-year period from 1965 to 1982 for the youth sample. Similarly, a strong consistency over the same period is found in the parent sample (Claibourn & Martin, 2000). The best evidence on the long-term stability of trust outside of the US, is from a Danish three-wave panel spanning 18 years from 1990 to 2008. Using these data, Sønderskov and Dinesen (2014, 2015) also find a moderately strong correlation over time. Over a shorter time-span, with trust measured on three occasions (2002, 2004 and 2006), Bekkers (2012) finds a strong stability in trust. These findings provide evidence supporting the dispositional perspective, while at the same time not precluding the potential effect of collective experiences influencing everyone in the population equally, and hence that trust de- or increases in the aggregate.

The Personality Correlates of Trust

A number of studies have looked at associations between trust and various personality traits. In his influential book, Uslaner (2002) argued and showed empirically that optimism and a sense of control—both typically viewed as stable, partly innate, psychological traits—are strongly positively associated with trust. Similarly, Oskarsson et al. (2012) find personal control to be positively correlated with social trust. Looking at other traits, Couch and Jones (1997) found that shyness, suspicion, and jealousy were negatively associated with trust. Rather than looking at more specific traits, scholars have in recent years focused their attention on the Big Five personality model, which represents human personality by five broad traits, each encompassing

⁷ We refrain from a discussion of age and cohort effects on trust, which are covered in another chapter in the anthology.

six specific facets. Results vary considerably by country context as well as the extensiveness of the Big Five personality measure. In a small American sample using a ten-item personality inventory, Mondak and Halperin (2008) find that only agreeableness is significantly associated (positively) with trust. Conversely, Dinesen, Nørgaard and Klemmensen (2014) found that all five traits are correlated with trust in a large Danish sample using a 60-item personality inventory. Specifically, they find that agreeableness, openness, and extraversion are positively related to trust, while neuroticism and conscientiousness are negatively related. Similarly, Hirashi et al. (2008) found that all five traits were correlated with trust in a Japanese sample. All correlations were in similar directions as in the Danish sample, except for conscientiousness, which was positively related to trust in Japan. Focusing on a subset of the Big Five traits, Oskarsson et al. (2012) found positive associations for extraversion.

Based on the above summary, there is thus considerable evidence that trust is associated with personality traits including at least a subset of the Big Five traits; most consistently the trait of Agreeableness. A number of questions remain, however. As noted previously, it is unclear to what extent trust is a consequence of these personality traits, or in itself a facet under one or more of the traits. This issue is illustrated by “Trust” being one of the six facets under Agreeableness. Interestingly, when removing this facet from the Agreeableness scale, the correlation with trust is considerably reduced (Dinesen, Nørgaard & Klemmensen, 2014; Hirashi et al., 2008). One way of further examining the nature of the relationship between trust and personality traits is to use genetically informed data such as Hirashi et al. (2008) and Oskarsson et al. (2012), who used twin data. Hirashi et al. (2008) found that the effects of genetic and environmental factors on trust are to a considerable extent mediated by Agreeableness and Extraversion. Oskarsson et al. (2012) found that the relationship between trust and the dispositional traits they examined could be explained by a common genetic factor, but their data did not allow them to conclude anything about the causality between them. Therefore, in conclusion, an important topic for future research—conceptual as well as empirically—is to further clarify whether trust is a part of personal predispositions, specifically personality traits (I), a consequence of these traits (II), or that the relationship between the two is explained by common genetic and/or environmental factors (III).

Intelligence and trust

Another deeply rooted psychological trait that has been shown to be associated with trust is cognitive ability or intelligence. Across contexts as well as diverse measures of trust and intelligence, five studies find strong overall support for a substantial association between intelligence and trust (Carl & Billari, 2014; Hooghe, Marien, & De Vroome, 2012; Oskarsson et al. 2012; Sturgis, Read, & Allum, 2010; Yamagishi, 2001). This is typically interpreted in line with Yamagishi's (2001) theory positing that social intelligence—an ostensible correlate or facet of general intelligence—enables individuals to detect signs of untrustworthiness, and thus avoid interactions in which their trust is betrayed. This in turn enables them to develop trust further by engaging in trustful relations with others, as well as refining their ability to detect others' trustworthiness. Conversely, less intelligent individuals will engage in more interactions with untrustworthy others, which will lead them to become less trustful.

Despite the robust support for the association between intelligence and trust, a number of questions remain. In line with the personality-trust nexus discussed above, an interesting question is whether trust and intelligence share the same underlying genetic factors. Or, on the contrary, that intelligence, which is highly heritable (and probably more so than trust; see Polderman et al., 2015), mediates the genetic influences on trust. Another highly relevant question lies in disentangling the order of the effects of intelligence and education on trust. Like intelligence, education is also a strong predictor of trust (we discuss this below). Some have suggested that intelligence is a likely mediator of the influence of education on trust based on the assumption that education increases intelligence (Hooghe, Marien, & De Vroome, 2012). However, it is also possible that individuals may sort into the educational system based on their preceding levels of intelligence, and thus that the causal order is the other way around. Supporting that intelligence influences trust over and above educational achievement, Sturgis, Read, and Allum (2010) show that intelligence measured at age 10 significantly and rather strongly predicts trust at age 34 and 46. This result even holds up when including subsequent education and a wide range of other variables in the model. At the same time, however, they still find that controlling for intelligence at age 10, higher levels of education is associated with higher levels of trust. From the reported models, it is not possible to discern to which extent the educational effect is confounded by intelligence, although the relatively sparse effects of education compared to results from typical analyses may be taken as an indication of this. In any

case, this study provides strong support for a direct effect of intelligence on trust. Further studies attempting to parse out the relative effects of intelligence and education on trust and, not least, the causal sequence of the two in this regard, would be a valuable addition to the literature.

5.5. *Trust as a cultural trait*

The final explanation we classify as dispositional is the so-called “cultural perspective”, which posits that trust is a feature of the culture of a given society or a group. While cultural transmission more generally has been conceptualized as the result of both parental socialization and subsequent experiences, the cultural perspective within the trust literature has used cultural transmission in a narrower sense. Specifically, in this approach, trust is assumed to be primarily shaped by parental socialization early in life, which thus resonates with the other dispositional arguments presented above (Uslaner, 2002; Dinesen, 2012b). Furthermore, the cultural argument holds that culture tends to stick with the individual over the life course and is subsequently passed on to their offspring. In other words, trust is argued to display high rank-order stability over the life course *and* across generations.

The cultural argument as understood in the trust literature has mainly been advanced by studying immigrants, because this in principle allows for an *in toto* examination of whether trust is shaped by culture (i.e., is a socialized persistent trait) or experiences. Specifically, comparing levels of trust of immigrants in a host country to levels of trust among natives, who remained in their home country, provides an indication of the extent to which the culture of the ancestral country (in terms of the level of trust) persists in the new country. The stronger the correspondence between immigrants present-day trust and trust of the native population in the ancestral country, the stronger the cultural basis of this trait is assumed to be. Conversely, a lack of correspondence between trust of the home country and immigrants' present-day trust is indirectly taken as an indication that experiences *in toto* in the destination country has shaped trust; that is, as evidence for the experiential perspective, which we go into below.

A number of studies have examined trust of immigrants from various ancestral and destination countries. In their study of individuals in the US with ancestry in 11 European countries, Rice and Feldman (1997) found a strong correlation between aggregate home country trust and individual-level trust of descendants of immigrants. Similarly, Guiso, Sapienza, and Singales (2006), Algan and Cahuc (2010), and Tabellini (2008) found a strong correlation on a

sample of third generation immigrants in the US. Uslander (2008) also found that differences in trust among various groups in the US covary with the level of trust of the country of their ancestors. The correlation between immigrants' present-day trust and trust of the ancestral country also exists across European countries, but only for first generation immigrants (Dinesen, 2013; Dinesen & Hooghe, 2010). For second generation immigrants, there is no longer a correlation with trust of the ancestral country (Dinesen & Hooghe, 2010). The fact that the studies from Europe examine trust of immigrants in different destination countries also allow for a straightforward examination of the experiential perspective namely by examining whether immigrants present-day trust align with trust of natives in their new country? This is indeed the case and, generally speaking, the adaptation to the level of trust of natives in the new country is substantially stronger than the persistence of the cultural residues of the ancestral country (Dinesen & Hooghe, 2010; see also Helliwell, Wang & Xu, 2014 for a global analysis). While there have been some attempts to examine the role of experiential factors of shaping trust of immigrants in the US (Rice & Feldman, 1997; Uslander, 2008), none have done it as directly as the noted study from Europe.

More generally, the studies of immigrants suffer from three shortcomings. The first is in the identification of the country of ancestry. This becomes increasingly difficult with individuals having stayed in the destination country for generations, which, *ceteris paribus*, increases the likelihood of having mixed ancestry. A second problem is that accurate measurement of home country trust *at the time of migration* only exists for more recent immigrants. The level of trust in the home country is extrapolated backwards in time from more recent studies, under the assumption that trust is relatively stable over time. As evidenced by studies in the US (Putnam, 2000; Robinson & Jackson, 2001) and Denmark (Sønderskov & Dinesen, 2014)—two countries in which fairly long time-series exist—this assumption is very problematic; both countries display very substantial variations in trust over time. A welcome improvement in this literature would thus be more precise measurement of trust at the time of departure of immigrants. With time lapsing and more surveys being conducted, the possibilities for doing this will be improved. A third problem is that the association between aggregate home country trust and immigrants' present-day trust only speaks to the *relative ordering* of trust. If immigrants are influenced in a similar way by the destination country environment, the *level of trust* of immigrants could in principle have moved away from trust in the ancestral country and towards that of natives in the

new country (and *vice versa*), while still reflecting a cultural residue of the ancestral country. However, this would clearly also indicate an experiential influence on trust. Dinesen (2012b) provides some evidence for this as he shows that trust of first generation immigrants from Turkey, Italy and Poland in high-trusting countries in Northern Europe is significantly higher than that of natives in their ancestral country (although still lower than natives in the destination country) (see Nannestad et al. (2014) for a similar finding). Bagno (2006) provides mixed evidence along the same lines in her study of Jewish immigrants in various countries. Future studies of immigrants should arguably try to incorporate comparisons of both the levels and relative ordering of trust among various immigrant groups to provide further leverage in differentiating cultural and experiential forces shaping trust.

The experiential perspective

While the rank order stability in trust is relatively high, both over the life course and across generations, there is also strong evidence suggesting that trust is malleable. According to the experiential perspective, individuals use experiences—both specifically related to an honoring or a breach of trust, as well as more generally—to mold their social trust. Importantly *vis-à-vis* the dispositional perspective, the experiential perspective predicts that trust is continuously calibrated throughout life depending specific experiences.

Beyond the totality of experiences involved with living in a specific context just discussed in relation to studies focusing on immigrants and their adaptation to the level of trust in their contemporary country, there are also a large number of studies examining the role of more specific experiences in shaping trust. The explanations vary in the extent to which the “experience” hypothesized to impact trust is of a more immediate, singular nature (e.g. victimization) or a more extended kind (e.g. completion of a higher level of education, or being active in civic life for years). However, independent of its immediacy and duration, the common logic for the experiential explanations is that exposure to a given experience (compared to absence of this experience) is expected to influence trust. As a larger number of explanations may in principle fall under the “experiential” header, we only review what we believe are the most prominent ones.

Participation in civic life

Participation in civic life, in the form of (active) membership in voluntary associations and other organizations, has been a dominant experiential explanation of trust at least since Putnam's work on Italy (1993). Interactions in civic life can provide the basis for trusting others in several ways. Through voluntary associations, citizens get to know specific others, whom they (eventually) learn to trust (McPherson, Popielarz & Drobnic, 1992). Shared group membership also increases the cost of defection in interactions, including punishment of abuse of trust, and thereby lays the foundation for trust (Coleman, 1994; Putnam, 1993). Crucial for this explanation of trust, the positive interactions with others in associations are expected to spillover to the level of trust in abstract others. Three studies provide support for this argument (Glanville & Andersson, 2013; Glanville & Paxton, 2007; Freitag & Traunmüller, 2009). More generally, a wealth of studies show a positive relationship between participation in voluntary associations and trust, both in specific countries (e.g., Brehm & Rahn, 1997; Paxton, 2007; Siisiäinen & Kankainen, 2014; Wollebaek & Selle, 2002) as well as across a range of countries (Anheier & Kendall, 2002; Delhey & Newton, 2003; Stolle, 1998; Sønderskov, 2011b). Using data from the European Values Study 2000 in 21 countries in Europe plus the US, Anheier and Kendall (2002, p. 344) report "almost a linear relationship between increases in membership and the likelihood of trusting people". However, the evidence for a positive relationship is not unanimous. Controlling for a large number of characteristics at the individual level, Delhey and Newton (2003) find that engagement in voluntary associations is significantly related to trust in only three out of seven countries examined, leading them to conclude that "voluntary organizations do not seem to do much, if anything, for generalized trust in most countries".

Despite the general evidence for a positive relationship between participation in civic life and social trust based on cross-sectional data, this relationship suffers from two potential threats to causal inference: omitted variable bias and reverse causality. It is thus difficult to rule out that the relationship is not driven by some hard-to-observe confounding variables (e.g. various "deep" psychological predispositions), or that trust promotes participation (or that the two reinforce each other) (Stolle, 1998; Putnam, 2000; Sønderskov, 2011b). As will be evident from following, similar methodological challenges—especially regarding confounding by unobserved variables—pertain (to a varying extent) to the other experiences suggested to influence trust.

Longitudinal (panel) data on individuals can to some extent be put to use to address problems of confounding by unobserved variables by means of relating *over-time differences in participation to differences in trust*. In other words, if a person becomes more engaged in associations over time, we would expect her/his level of trust to follow suit if participation in voluntary associations influences trust. This takes out time-invariant confounding—for example, from partly innate psychological traits—of the relationship, but time-invariant confounding still remains an issue (e.g., traumatic personal experiences that influence both trust and associational involvement). Similarly, longitudinal models can to some extent address direction of causality between associational involvement and trust by regressing subsequent levels of one of the variables of interest (e.g. trust measured in t_1) on prior levels of this variable (trust at t_0) and the other variable of interest (participation in associations at t_0) plus relevant control variables in so-called “cross-lagged” or “lagged-dependent variable” models. And vice versa with engagement in associations as the dependent variable. Longitudinal data can be put to use in a similar way for the other experiences we discuss below.

A number of studies have examined the relationship between participation in voluntary associations and trust using longitudinal data. In short, the findings show that to the extent that a relationship exists, it primarily reflects selection; i.e. that initial trust affects the likelihood of participation in associations. The effect of trust on participation is supported by findings from the Netherlands (Bekkers, 2012) and the US (Gross, Aday & Brewer, 2004) using longitudinal data over relatively short time spans. While not testing it directly, Van Ingen and Bekkers (2015) found indications of the same pattern in Switzerland, the Netherlands, Australia, and the United Kingdom. In a few instances, they found significant effects of participation in voluntary associations on trust, but this increase was only very short lived. Using the Youth-Parent Socialization Panel study (the first three waves in 1965–1973–1982) mentioned earlier, Stolle and Hooghe (2004) also find stronger indications of a positive effect of trust on associational involvement than the other way around. However, using the same data, Claibourne and Martin (2000) find some support for associational involvement increasing trust, but not the reverse relationship.

Two other non-longitudinal studies deserve mention for their effort to address the causal relationship between engagement in voluntary associations and trust by other means. First, the study by Sønderskov (2011b), which focuses exclusively on the effect of trust on organizational

membership for those *not active* in organizations. As the purported effect from associational involvement to trust is generally hypothesized to stem from interactions—primarily of the face-to-face type—with others in the associations, this rules out a feedback effect. The analysis concludes that trust stimulates participation in certain types of associations—specifically those associated with provision of public goods. Second, Richey (2007) uses propensity score matching, which under some assumptions can eliminate confounding by observed confounders, to match those participating in various government-induced activities with those who do not. He found that participation in these activities stimulated trust.

Evidence for a correlation between associational involvement and trust exists in abundance, but the *causal* evidence for the relationship is far less convincing. On balance—and in line with Nannestad's (2008) conclusion—to the extent that a relationship exists at all, the methodologically sophisticated studies mostly point to an effect of trust on associational involvement, not the other way around.

6.2. Other types of social interactions

Despite the preponderance of studies focusing on participation in civic life as an experiential factor shaping trust, a number of studies have also focused on other social interactions. Upon experiencing such interactions, individuals are expected to adjust their social trust accordingly: trust should increase with positive social interactions, and decrease with negative ones.

Among experiences expected to further trust, stronger ties with others—be it relatives, neighbors, or more superficial acquaintances—are expected to breed trust. While Uslaner (2002) finds little evidence for this proposition in the US, most other studies do support this contention. Although not consistent across all countries in their data, Delhey and Newton (2003) generally find that individuals with more friends, and who interact more frequently with these, also display higher levels of trust. Li, Pickles, and Savage (2005) obtain a similar result for social networks more generally, although the effect is markedly reduced when taking prior level of trust into account. Freitag and Traunmüller (2009) find that positive experiences with strangers stimulate trust in Germany, while Glanville and Andersson (2013) find that stronger informal ties with relatives, friends, and neighbors also produce trust in the US. The latter study is particularly convincing as it employs individual-level panel-data, and observes that changes in informal ties within individuals are positively associated with changes in trust. Similarly, using advanced

structural equation models taking direction of causality into account, Glanville and Paxton (2007) find that trust in more “localized domains” (particularly trust in neighbors and in store workers)—which is expected to flow from positive interactions—also relate positively to social trust. Similarly, Freitag and Traummüller (2009) find that trust in particularized others (family, friends and neighbors) also positively influence generalized social trust using an instrumental variable approach. All in all, there is thus considerable causally-oriented evidence suggesting that positive social interactions, and the trust in specific others that spring from it, promote trust in the generalized other.

There is also some evidence on the impact of negative social interactions on social trust. Smith (1997) finds that being robbed or burglarized, and being hit or shot at/threatened with a gun diminishes trust in the US. Brehm and Rahn (1997) find a similar result for having experienced burglary the previous year, but not robbery. In the UK, Sturgis, Read and Allum (2010) find that being a victim of theft or violence is associated with a significantly lower level of trust. These studies are based on cross-sectional data and are thus vulnerable to confounding by omitted variables. Illustrating this potential problem, Bauer (2014) finds only negligible effects of various types of victimization on trust using Swiss panel-data in which victimized and non-victimized individuals were balanced on covariates by means of genetic matching. Relatedly, a number of studies look at how experiences and/or perceptions of discrimination in everyday life influence trust. Based on cross-sectional analyses, the picture is inconsistent: Dinesen (2010) finds no effect on young immigrants in Denmark, while Dinesen and Hooghe (2010) find a negative effect on trust in a pooled cross-section of Europeans, but not specifically for immigrants. Finally, while not necessarily reflecting personal experiences *per se*, perceptions of (un)safety in the local area have also been studied as a correlate of social trust. Across a number of countries, studies find cross-sectional evidence for a negative association between feelings of unsafety and trust (Uslaner, 2002; Delhey & Newton, 2003). Taken together, there is thus some—albeit not consistent—evidence for a causal impact of negative personal interactions on trust. Applying causal inference-oriented designs along the line of Bauer (2014) would clearly be worthwhile in this regard.

6.3. Sociodemographic factors: Education, socioeconomic standing and unemployment

Having focused on social interactions, in civic life and otherwise, we now turn to experiences in a broader sense (i.e. environmental conditioning more generally). This potentially includes a very broad range of factors, which we are unable to cover in total in this chapter. We have therefore narrowed down these explanations to what we perceive to be the most important ones in the literature.

Similar to many other attitudes and indicators of social capital, education is one of the strongest predictors of trust (Helliwell & Putnam, 2004). This has been confirmed in a wealth of cross-sectional analysis, across a large number of contexts (e.g. Alesina & La Ferrara 2002; Borgonovi 2012; Brehm & Rahn 1997; Glaeser et al. 1999; Helliwell & Putnam 2007; Li et al. 2005; Marschall & Stolle 2004; Paxton 2007; Putnam 2000; Uslaner 2002; Smith 1997. See Huang, Maassen-Van den Brink and Groot (2010) for a meta-analysis).

Several mechanisms have been suggested to account for the relationship between education and trust, including a better ability to detect trustworthy behavior (Knack & Keefer, 1997) potentially stemming from increased intelligence (Yamagishi, 2001; cf. above), more social and economic resources making trusting less risky (Delhey & Newton, 2003; Huang et al., 2011, 291-292), and a socialization of cosmopolitan values correlated with trust (Borgonovi, 2012).

Given the alleged importance of education for trust, it is somewhat surprising that relatively few studies have given explicit consideration to the risk of confounding by omitted variable. As highlighted in a related literature (Kam & Palmer, 2008), education indexes a large number of pre-adult experiences, which are generally not measured and included in cross-sectional analyses, thereby posing a threat of confounding. As a consequence, the estimates from the cross-sectional analyses are most likely (upward) biased.

While not always the main aim, a number of studies have examined the relationship between education and trust by means of longitudinal data, either in term of individual-level fixed effects models or cross-lagged models. These studies point towards a positive, but limited effect of education in Britain (Li et al., 2005; Sturgis et al., 2009, 2010), the US (Glanville et al., 2013) and Denmark (Sønderskov & Dinesen, 2014, 2015). Other causally-oriented designs have also been applied in assessing the education-trust nexus. In an instrumental variable approach, Huang, Maassen van den Brink and Groot (2011, 2012) find a positive effect of education on

trust in the UK using school absence for health reasons as an instrument. Milligan et al. (2004) instrument education by compulsory schooling laws and find a positive effect on social trust in the US. In contrast, Oskarsson et al. (2015) find no effect of education on trust in Sweden using a co-twin control design in which the relationship between education and trust is compared within twin pairs to rule out effects of shared genes and common familial environment. This result is consistent with Hooghe and Stolle's (2004) finding that education does not predict present trust when previous levels of trust are included.

Two related points should be highlighted with regard to the impact of education on trust. First, more causal inference-oriented research on the relationship between education and trust is needed. Second, the effect of education on trust should be studied in multiple countries, as it is likely to vary between countries, possibly as a result of the average level of education (Borgonovi, 2012).

Other sociodemographic variables have also been related to social trust. Various indicators of resources—income (own and households'), satisfaction with income, subjective feelings of deprivation, and unemployment—are routinely included as explanations of trust. Since these variables have had the status of control variables in most studies, there has been relatively little theorizing about their effects other than a general notion that being resourceful is likely to lead to better treatment by others, which may ultimately promote trust (Putnam, 2000; Delhey & Newton, 2003). While varying across indicators, and less consistent than for education, cross-sectional evidence suggests a positive relationship between resources and trust (Brehm & Rahn, 1997; Smith, 1997; Whiteley, 1999; Putnam, 2000; Alesina & LaFerrara, 2002; Delhey & Newton, 2003. See Uslaner (2002) for a differing finding). There is also evidence from panel data supporting this conclusion in Britain (Brandt, Wetherell and Henry, 2014; Li et al., 2005; Sturgis et al., 2009), the US (Brandt, Wetherell and Henry, 2014), but not in Denmark (Sønderskov & Dinesen, 2014). One of the most interesting findings in this regard is that of Laurence (2015), who shows that job displacement reduces trust. Employing a lagged-dependent variable and change score approach to British panel data of individuals interviewed at age 33 and again at age 50, he finds a “scarring” effect of job displacement. Moreover, the effect of job displacement is concentrated among those with high job centrality, thereby suggesting that psychological mechanisms related to increased mental distress likely account for the effect. Along the lines of this paper, more theoretically informed studies coupled with rich panel data

would clearly be valuable in scrutinizing the under-studied role of socioeconomic resources in shaping trust.

6.4. Institutional quality and institutional trust

As a final experiential factor, we want to highlight institutional influences. Again, this is an experiential factor in the broader sense; experiencing high- as opposed to low-quality institutions is expected to further social trust. Partly in response to Putnam's (1993) famous claim that trust—as a part of the wider concept of social capital—influences government performance, subsequent work has emphasized how state institutions may themselves shape trust in others. Perhaps most importantly, state institutions such as the judiciary and the police govern individuals' interactions, and to the extent that these institutions function efficiently and impartially, they can lay the foundations for trust between individuals (Levi, 1996; Rothstein & Stolle, 2008). More generally, state institutions—and especially the public employees that man them—send important signals about the moral stock of the general population. If institutions are represented by corrupt officials (e.g. doctors, teachers and bureaucrats), this send a strong signal about (i) the lack of untrustworthiness of other people (as represented by these public employees) and (ii) that corrupt and untrustworthy behavior pays off (Levi, 1996; Rothstein & Stolle, 2008). Both have adverse effects on trust in other people.

States institutions exist in the aggregate and an extensive number of studies have shown a rather strong empirical association between institutional quality—most often the impartiality component in terms of (freedom from) corruption—of aggregate units (typically countries), and social trust measured either in the aggregate or at the individual level (Dinesen, 2012b, 2013; Freitag & Bühlmann, 2009; Mishler & Rose, 2001; Nannestad et al., 2014; Rothstein & Stolle, 2008; Wang & Gordon, 2011; You, 2012). However, a number of studies have also examined how experiences of institutional (un)fairness channels into (mis)trust (Rothstein & Eek, 2009). Relatedly, a large number of studies examine how perceptions of institutional fairness or trust in institutions—both alleged attitudinal extension of experiences of institutional quality—are associated with social trust. While the result of these studies vary by type of institutions analyzed, as well as the country context, they generally report a positive association between social trust and attitudinal indicators of institutional quality (Alesina & LaFerrara 2002; Brehm & Rahn, 1997; Dinesen, 2012b, 2013; Freitag & Buhlmann 2009; Rothstein & Stolle 2008;

Zmerli & Newton 2008). Being based on cross-sectional data, most of these studies are plagued by causal indeterminacy: it cannot be ruled out that perceptions of institutions are themselves shaped by social trust. However, a number of studies have examined the relationship using panel-data and other designs better suited for determining causal relations. In an early effort, Brehm and Rahn (1997) found, in a structural equation model, that the path from confidence in institutions to social trust is substantially stronger than the reverse relationship in the US. Mishler and Rose (2001) use instrumental variables techniques to estimate the relationship between institutional trust and social trust, but find no relationship across a number of Eastern European countries. While attention to the direction of causality in these studies has clearly brought the field a step forward, the exogeneity of the alleged exogenous variables can be challenged (Sønderskov & Dinesen, 2015).⁸ Two studies have also leveraged panel data to provide more solid causal evidence (Sønderskov & Dinesen, 2014; forthcoming). Utilizing two different panels from Denmark, Sønderskov and Dinesen (forthcoming) find, by means of cross-lagged models, that causality primarily runs from institutional trust to social trust. Moreover, they find that even when taking unobserved time-invariant confounding into account by means of individual fixed-effect models, institutional trust generally remains a significant predictor of social trust. Presently, this represents the strongest evidence for a causal effect of individual-level attitudinal manifestations of institutional quality (i.e., institutional trust) on social trust. Summing up, there is thus considerable evidence that experiences of institutional quality, and the trust in institutions that ostensibly flows from it, causally influences social trust. Following recent inquiries, and tying in with the experiential perspective, more research on how concrete experiences of institutional quality shape trust would be worthwhile.

Concluding Remarks

This chapter has reviewed the individual-level causes of social trust. It has addressed explanations falling under the header of two broad classes of explanations: dispositional and experiential explanations. The dispositional perspective takes as its starting point the assumption that trust is a deeply rooted disposition—or a downstream consequence of even "deeper" dispositions—which is stable and only to a limited extent subject to experiential influences after

⁸ More specifically, the assumption that the instruments employed are only uncorrelated with social trust via institutional trust (conditional on a range of control variables) is problematic.

the formative years of adolescence and early adulthood. Conversely, the experiential perspective posits that trust is shaped by contemporary experiences, broadly conceived.

Perhaps unsurprisingly given the vastness of the literature covered, and the diverse set of explanations classified as dispositional or experiential, it is too early to provide any general statements about the relative standing of the two generic explanations. There is considerable evidence for trust being both a dispositional and an experiential trait. At the same time, it is clear that some explanations fare better than others. Perhaps most noteworthy, the previously hailed civil society explanation, focusing on engagement in voluntary associations, has fared quite poorly empirically and at this point the burden of proof is on those claiming that participation in voluntary associations influences trust. Other explanations—particularly those focusing on alternative social interactions and institutional factors—have received solid empirical backing and now stand as the primary experiential sources of trust.

Finally, the purpose of this review has also been to highlight the varying methodological rigor with which various experiences have been assessed and, not least, pinpoint which unresolved questions exist in the literature. In line with the literature on the causes of social and political attitudes more generally, the research designs used to address various explanations of trust have grown much more sophisticated over the past few years. This is a very welcome addition, which have clearly added to our understanding of the source of trust. Perhaps most importantly with regard to which experiences that can more robustly be claimed to causally stimulate trust. Further research along these lines will clearly benefit our understanding of the sources of social trust.

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