

Generalized Trust: Four Lessons From Genetics and Culture

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Abstract

This article addresses generalized trust, a construct that is examined in various scientific disciplines and assumed to be of central importance to understanding the functioning of individuals, groups, and society at large. We share four basic lessons on trust: (a) Generalized trust is more a matter of culture than genetics; (b) trust is deeply rooted in social interaction experiences (that go beyond childhood), networks, and media; (c) people have too little trust in other people in general; and (d) it is adaptive to regulate a “healthy dose” of generalized trust. Each of these lessons is inspired and illustrated by recent research from different scientific disciplines.

Keywords

generalized trust, genetics, culture, social interaction

Trust is often described as a “social glue” in relationships, groups, and societies, in that it connects people and facilitates thoughts, motives, and behaviors that promote collective goals. It is a powerful construct, as there is growing evidence that individuals with high (vs. low) trust in other people are more likely to behave cooperatively in the face of uncertainty and conflicting interests, are more likely to sustain volunteering activities, report greater life satisfaction, exhibit greater physical health, and even live longer (e.g., Balliet & Van Lange, 2013a; Barefoot et al., 1998; Bekkers, 2012; Holmes & Rempel, 1989; Simpson, 2007; Yamagishi, 2011). Trust is often defined as the intention to accept vulnerability based on positive expectations or beliefs regarding the intentions or behavior of another person or other people in general (Rotter, 1967; Rousseau, Sitkin, Burt, & Camerer, 1998). The present article examines the roots of trust that people have in other people in general, often referred to as *generalized trust* (Nannestad, 2008; Putnam, 2000), thereby placing particular emphasis on cultural and genetic influences on the development of trust.

The major purpose of this article is to provide an up-to-date review of trust with a strong focus on four lessons that one may learn from recent research in the social and behavioral sciences. As such, the lessons we share take the form of propositions, or relatively general principles, that are rooted in recent research. At the same time, as with nearly any scientific proposition, these lessons

undoubtedly will be subject to scientific revision, refinement, and progress. The hope is indeed that these propositions will inspire future research and theorizing, whether they confirm, refine, or falsify our propositions.

Lesson 1: Generalized Trust Is More a Matter of Culture Than Genetics

Clearly, one key contribution from behavior genetics is the demonstration of heritability of nearly all trait expressions. The heritability of intelligence, autism, and schizophrenia is around 80%, and classic personality traits such as extraversion and neuroticism have a heritability of at least 40% (e.g., Boomsma et al., 2006; Kendler & Baker, 2007). Even likelihood of divorcing, religiosity, and political preferences have a heritability of around 25% or higher (Alford, Funk, & Hibbing, 2005). In light of these heritability estimates, Turkheimer (2000) has stated that “all human behavior traits are heritable” as the first law of behavior genetics (p. 160).

How about the heritability of trust? At least four studies have addressed this issue. Two studies that examined

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Table 1. Scales for Measuring Trust-in-Others and Trust-in-Self and Instructions for Participants (Van Lange, Vinkhuyzen, & Posthuma, 2014)

| Participant instructions |
|--|
| The following statements are about your impression of “most other people in your environment.” These can be friends, acquaintances, colleagues, or unknown others, as long as you face them every now and then—that they are part of your environment. We ask you, for each of the following statements, to indicate the degree to which you agree or disagree with the statement. |
| Rating scale |
| 1 = <i>completely disagree</i> |
| 2 = <i>largely disagree</i> |
| 3 = <i>slightly disagree</i> |
| 4 = <i>neither agree nor disagree</i> |
| 5 = <i>slightly agree</i> |
| 6 = <i>largely agree</i> |
| 7 = <i>completely agree</i> |
| Items |
| Trust-in-others |
| 1. I dare to put my fate in the hands of most other people. |
| 2. I completely trust most other people. |
| 3. When push comes to shove, I do not trust most other people. (R) |
| Trust-in-self |
| 1. I think that most other people dare to put their fate in my hands. |
| 2. I think that most other people trust me. |
| 3. When push comes to shove, most other people do not trust me. (R) |

Note: The terms “trust-in-others” and “trust-in-self” were not used in the actual questionnaire but are included here for clarity. Items marked with “(R)” were reverse-scored (described in Van Lange, Vinkhuyzen, & Posthuma, 2014)

specific samples of adolescents and young adults (younger than 34 years) revealed for only some judgments that are linked to trust a heritability greater than 20% (Hiraishi, Yamagata, Shikishima, & Ando, 2008; Sturgis et al., 2010). Yet in the latter study, one negative item, “People take advantage,” yielded a heritability of 14%. And a study on behavioral trust revealed that a decision to trust in a trust game had a heritability of 10% to 20% (Cesarini et al., 2008), but this single decision may also have reflected risk taking or cooperative motivation and may not have been temporally stable; also, this particular study included a modest sample size (71 dizygotic and 258 monozygotic twin pairs). We assessed generalized trust with three items (see Table 1) and used a larger sample ($N = 1,012$) that included people of various age groups, and found a heritability of 5% (Van Lange, Vinkhuyzen, & Posthuma, 2014; for “trust-in-self,” the heritability was also low, at 13%). Clearly, there are different ways in which heritability can be estimated, and it is not clear how the specifics (e.g., sample, measurement of trust) might impact the heritability estimates, but low reliability does not provide a sufficient explanation for these results (e.g., the internal consistency and test-retest reliability were high). Nevertheless, the overall picture seems clear. The heritability of generalized trust is modest, or, as we have concluded on the basis of our own data, “virtually absent” (Van Lange et al., 2014).

Admittedly, we were surprised by the exceptionally low heritability of trust. But a closer look at the literature on cultural differences suggests that this low heritability should not be very surprising. For example, data from the World Values Survey (www.worldvaluessurvey.org/wvs.jsp) reveal that indices of generalized trust, on a scale from 0 to 200, might differ from around 10 to 30 (e.g., in Turkey, Indonesia, and Brazil) to about 120 to 140 (e.g., in Denmark, Sweden, and Norway). These differences are exceptionally large and point to the important role of culture (Balliet & Van Lange, 2013b). There is reason to believe that the differences between low- and high-trust societies is that the latter societies are often characterized by more equal income distribution (an objective feature) and low levels of perceived corruption (a subjective feature; e.g., Uslaner, 2010). Moreover, there is evidence that first-generation immigrants who have moved from a lower-trust country (e.g., Turkey, Poland, Italy) to a higher-trust country (e.g., Northern European countries) are strongly affected by the high levels of trust in the destination country (Dinesen, 2012). Although future research is needed, these findings underscore the importance of culture as a strong determinant of generalized trust and help us understand why the modest genetic influences on generalized trust should not be too surprising.

Lesson 2: Trust Is Deeply Rooted in Social Interaction Experiences, Networks, and Media

Much of classic psychology has focused on the role of childhood experience in personality development. A strong case in point are classic formulations of attachment theory, which suggest that the security of the environment provided by the primary caregiver is a strong determinant of later attachment styles (e.g., Mikulincer, 1998). The notion is that early “experiences” of dependence, and especially the degree to which socially relevant others provide a secure or trusting environment, is essential or crucial to the development of trust. While this may be true to some degree, it is unlikely to represent a complete picture.

We argue that a more comprehensive analysis should take into account at least three additional types of influence that may affect trust throughout a lifetime. One is the role of *personal social interaction experiences*, including experiences after childhood. Powerful experiences such as burglary, mistreatment by authorities, or unexpected unemployment may seriously undermine generalized trust (Van Lange et al., 2014). A second influence would come from close others who have powerful social experiences, which, when observed or shared, may also affect trust: the child who is bullied, the partner who is harassed, or the coworker and friend who is fired without much explanation (*close others’ experiences*). The third influence is people’s exposure to information about human nature in general, and human trustworthiness in particular, through various sources, such as their community, broader social networks, or local or global media (*societal experiences*). Gossip, a local radio or television station, and newspapers all may contribute to our general feelings of trust (e.g., Fukuyama, 1995; Uslaner, 2010). Moreover, broader societal influences, such as economic decline or prosperity, may impact generalized trust in part through broader social networks and media (Nannestad, 2008). Typically, incoming information about other people is subject to social-cognitive filters (by the self, close others, or networks and media) that magnify the negative, especially in the domains that are relevant to generalized trust. For example, information about selfish behavior, norm violations, and self-control failure (e.g., theft, robbery, fraud) are quite prominent in the media. Hence, after repeated exposure to such filters, feelings of generalized trust are likely to be undermined.

Lesson 3: People Have Too Little Trust in Other People in General

Do we trust other people too much or too little? Surprisingly, this question has received very little scientific attention, even though some extant initial research

speaks to this issue. Indeed, considerable research on attribution, impression formation, attitudes, and stereotyping has revealed that “bad is stronger than good” (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001, p. 323). The general tendency to devote greater attention and weight to the negative than to the positive suggests that we are likely to develop negative rather than positive views of other people in general.

There are at least two broad factors that emphasize the role of “the negative,” especially as it might be linked to trust. One is that people see themselves as better than others in several domains. Interestingly, this tendency toward “perceived superiority” is especially pronounced in domains that are relevant to trust. Relative to themselves, people see other people as especially low in honesty, considerateness, and prosociality (e.g., Allison, Messick, & Goethals, 1988; Van Lange & Sedikides, 1998). A second factor is that people often tend to assume that self-interest explains others’ behavior. People systematically overestimate the role of selfish motives in various domains (e.g., overestimating the influence of financial compensation on blood donation; Miller & Ratner, 1998).

These general beliefs regarding self-interest may also be applied to concrete situations in which people are asked to predict the specific behavior of others. For example, when asked to estimate how much money a person would return in a trust game, people tend to grossly underestimate that person’s trustworthiness: People receive more money back than they predicted they would (e.g., Fetschenhauer & Dunning, 2009). Also, in another paradigm, the so-called dice-rolling paradigm, when participants cannot see the outcome of two dice throws, they predict that the person who rolls two dice will allocate the die with the greater value to him- or herself and allocate the die with the smaller value to the participant. As it turns out, across 12 trials, people gave a bit more to themselves (4.01 dots, on average) than an unbiased allocation would dictate (an equal split of 3.50), so there is an actual self-interest bias in allocations. Yet participants predicted, on average, that the other would allocate 4.40 dots to himself or herself, revealing a *perceived* self-interest bias as well.

Thus, people overestimate the selfishness of the other person in the dice allocations (Vuolevi & Van Lange, 2010), and the less information they have about the actual behaviors of that person, the stronger this tendency is likely to be (Vuolevi & Van Lange, 2012). The broader conclusion we draw from this evidence is that people tend to have too little trust in others. A plausible explanation for this is that people tend to rely on a general belief (or myth) in self-interest as it applies to others, but not themselves, or at least less so. That general belief is easily supported and maintained through the social-cognitive filters we discussed above.

Lesson 4: It Is Adaptive to Regulate a “Healthy Dose” of Generalized Trust

But if people develop strong theories of rational self-interest, and if the filters that people use or rely on work only in one direction—by largely undermining trust rather than promoting it—would that imply that people grow to be more distrustful of other people with age? The answer is no. The reason for this, we would argue, is that Lesson 3 needs to be complemented by Lesson 4, the notion that it is adaptive to maintain a healthy dose of generalized trust. Albeit tentative, there is some evidence for the fourth lesson. First, cross-sectional research that has examined the association between age and (generalized) trust typically has not found that people’s levels of trust decrease with increasing age—if anything, there seems to be a small increase in trust with age up until 65 years (for an exception, see Van Lange et al., 2014). Second, with regard to “less generalized” forms of trust in the contexts of ongoing relationships and friendships, there is little doubt that there is something like a healthy dose of trust (cf. Schneider, Konijn, Righetti, & Rusbult, 2011). Trust enhances constructive problem solving and acts of mutual sacrifice, which in turn might help explain why trust tends to promote the health and stability of relationships (see Rusbult & Van Lange, 2003). Trust also helps people give one another the benefit of the doubt (and remain cooperative) when they need to cope with unintended errors, or noise (Van Lange, Ouwerkerk, & Tazelaar, 2002). These lines of reasoning have been supported in research on ongoing relationships and dyadic interactions.

But is there also evidence for generalized trust, beyond the scope of dyadic interactions? One piece of evidence is that trust is often an important ingredient to the establishment and maintenance of cooperation. We should note that “cooperation without trust” is possible (Cook, Hardin, & Levi, 2005)—for example, because trust may sometimes act as a norm; that is, it may be normative to behave in a trusting manner even if one does not expect others to act cooperatively (Dunning, Anderson, Schlosser, Ehlebracht, & Fetchenauer, 2014). However, high levels of cooperation typically do not materialize in the absence of trust. A recent meta-analysis revealed that feelings of trust promote cooperation, as well as the maintenance of trust, even in larger groups (Balliet & Van Lange, 2013a). Trust may serve as a motivator for cooperation, for various reasons. It may promote feelings of personal efficacy (“We can do it”), normative influences (“A minority free rides”), and feelings of responsibility (“We are obligated to do it”), all of which are key ingredients to cooperation in larger groups (for a review, see Van Lange, Joireman, Parks, & Van Dijk, 2013).

There is also recent evidence suggesting that the mere presence of punishment in social dilemmas (e.g., public-good dilemmas) promotes cooperation, but especially in high-trust cultures (Balliet & Van Lange, 2013b). One important reason for this intriguing phenomenon is that punishment may be more “credible” in situations in which people are likely to support activities aimed at enforcing norms against free riding or other norm violations. Last but not least, there is considerable evidence from evolutionary game theory (e.g., computer simulations, agent-based modeling) suggesting evolutionary benefits of trust (e.g., Nowak & Sigmund, 2005; Yamagishi, 2011). Indeed, cooperative hunting, the sharing of food, and the provision or assurance of future support at some point all involve basic trust, and they clearly promote genetic outcomes (e.g., Van Lange et al., 2013). Moreover, there is novel evidence suggesting that people with high trust may be better at accurately assessing others’ trustworthiness (cf. Carter & Weber, 2010).

Conclusion

Generalized trust in others is a paradox. It is undermined by incoming information that we ourselves filter or others—such as networks and media—filter for us. These forces seem strong, which, along with the belief in other people’s self-interest as a basic premise, helps explain why people tend to have too little trust in others. At the same time, having a “sufficient” level of generalized trust is adaptive, especially for many social interactions that take place with others one does not know well.

We suggest that some part of a “healthy dose” of generalized trust is derived from people’s social interactions in their close social networks of family and close friends (Fukuyama, 1995; Putnam, 1993). The other parts may come from everyday civility and decency people might frequently encounter (and perhaps experience) in their interactions with colleagues and strangers. And, finally, a good deal of trust may transcend experience, being rooted in the mere fact that, on average, a healthy dose of trust does yield good outcomes in social life. Together, these three processes may function as building blocks of generalized trust and help people to (a) fine-tune incoming information that poses a threat to their general feelings of trust (undermining trust) and (b) adapt to social situations with people beyond their immediate family or close friends that call for a sufficient level of generalized trust (promoting a healthy dose of trust). These building blocks are essential to social life because the costs of a chronic and excessive underestimation of people’s benign intentions and trustworthiness would be too high—not only for groups and society at large, but for individuals themselves. Indeed, this might well help explain why

some dose of generalized trust is, quite literally, one key to a healthy, long life.

Recommended Reading

- Balliet, D., & Van Lange, P. A. M. (2013a). (See References). A meta-analytic article that provides a theoretical review of the link between trust and cooperation.
- Putnam, R. (2000). (See References). A book that is a classic analysis of the disconnection and reconnection of social relations in America.
- Simpson, J. A. (2007). (See References). A review that provides a very informative, concisely written overview of research on trust.

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