

## THE EDGE OF TRUST: AN INTRODUCTION

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It is a familiar rule in all business, that every man should be paid in proportion to the trust reposed in him.

—Hume (1810, p. 526)

Trust no one.

—The X-Files (Carter, 1993)

The dynamics of interpersonal trust are an essential part of understanding how people think and act in social interactions. Trust enables human beings to form meaningful personal relationships (Simpson, 2007) and engage in mutually profitable social and economic exchanges (Kohn, 2008). Yet, trust is also difficult—both for social actors and the scientists who study them. Most of us wish to give trust and to receive it, but we worry that our trust might be betrayed by others or that we might fail to live up to the trust that others place in us (Krueger & Evans, 2013). Recently, trust has become a prominent topic of research in social cognition and a point of intersection with other subdisciplines of the social and biological sciences. To showcase theoretical and empirical progress—at the edge of inquiry—we have assembled this issue of contributions from an interdisciplinary panel of experts, asking them to survey pressing questions in trust research. This introduction provides a brief history of the scientific study of interpersonal trust and an overview of the topics covered in this issue.

### A BRIEF HISTORY OF TRUST

The idea that trust is central to social functioning has a long history in economics (Smith, 1776), philosophy (Hume, 1810), and psychology (James, 1897). Going

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further back, historians have traced the contributions of trust to the evolution of religious and financial institutions (Hosking, 2014). Of course, trust continues to influence the fates of personal (Gottman, 2011) and economic (Boser, 2013) relationships in modern life. In an interdependent society, life without trust is unimaginable.

Early psychological theories focused on understanding the role of trust in psychosocial development (Erikson, 1950), individual differences in personality (Rotter, 1967), and interpersonal behavior (Deutsch, 1962). Until recently, definitions of trust varied widely, but contemporary social scientists interested in trust have moved toward greater conceptual agreement (Hardin, 2002; Luhmann, 2000), making it easier to compare research across disciplines. Rousseau, Sitkin, Burt, and Camerer (1998, p. 395) proposed a now widely accepted definition of trust, according to which trust is “a psychological state comprising the intention to accept vulnerability based upon an expectation of reciprocity” (1998, p. 395). In the years hence, this definition has been cited more than 6,000 times on Google Scholar. Still, researchers continue to use a variety of assumptions and methods to understand trust. They ask, for example, whether it is measured at the individual, dyadic, or societal level; whether it is a psychological belief, an observable behavior, or both; and whether it is a benefit or a hindrance for individuals and societies. Before we present the contents of this issue, we briefly summarize some of the most common approaches to the study of trust.

## THE INDIVIDUAL LEVEL: TRUST AMONG STRANGERS

A wealth of research has focused on the dynamics of interpersonal trust among strangers. Rotter (1967) introduced the *propensity to trust*, the generalized expectancy that others can be relied upon to live up to their promises. This propensity is shaped by interactions with social and cultural institutions and acts as a baseline when interacting with a new partner. Once a person has learned to trust or distrust, expressing that belief can become a default response (Rand et al., 2014). Students of trait psychology have found that the propensity to trust is related to agreeableness (Costa & McCrae, 1995), and to a lesser extent extraversion and emotional stability (Ainsworth, Baumeister, Ariely, & Vohs, 2014; Evans & Revelle, 2008), although trust cannot be reduced to these traits. Personality research portrays the trusting individual in a generally positive light—trusting individuals are socially intelligent and less likely to betray others (Rotter, 1980; Yamagishi & Yamagishi, 1994). Yet, others have argued that people trust strangers more than they should (Fetchenhauer & Dunning, 2009), and that distrust can improve individual decision making (Schul, Mayo, & Burnstein, 2008) and civic engagement (Hardin, 1999).

Complementing the psychological view of trust as an internal belief or attitude, experimental economists have focused on trusting behavior (Camerer, 2003). To capture the behavioral essence of trust dilemmas, they developed structured interactions, or games, where choosing trust means giving another person control

over your material well-being (Berg, Dickhaut, & McCabe, 1995). In economic games, those who trust make themselves vulnerable. Economic trust games are structurally similar to individual decisions involving risk and uncertainty, but the interpersonal nature of trust means that decisions may be influenced by a multitude of social-cognitive processes (Hertwig & Herzog, 2009). Numerous studies have looked at the psychological variables that influence trusting behavior in economic games, emphasizing the effects of norms (Dunning, Anderson, Schlösser, Ehlebracht, & Fetchenhauer, 2014; Fetchenhauer & Dunning, 2009), affect and specific emotions (Lount, 2010; Martinez & Zeelenberg, 2015), and heuristic processes (Evans & Krueger, 2011, 2014) on decision making.

### THE DYADIC LEVEL: TRUST IN CLOSE RELATIONSHIPS

Trust facilitates the willingness to begin a relationship and continues to affect dyadic outcomes as relationships evolve over time (Engle-Warnick & Slonim, 2006; Gottman, 2011). In his theory of psychosocial development, Erik Erikson (1950) declared the ability to trust others to be “the first task of the ego” (p. 221) and considered it to be a necessary precursor for successful adult relationships. Indeed, trust in a romantic partner shapes liking and loving, and the long-term motivation to maintain the relationship (Rempel, Holmes, & Zanna, 1985). The Dyadic Model of Trust (Simpson, 2007) proposes that trust is particularly important in *strain-test situations*, instances where there is a conflict between personal and dyadic goals. Trust in your partner (and your partner’s trust in you) interact to influence your collaboration and accommodation during stressful interactions (Shallcross & Simpson, 2012).

### THE SOCIETAL LEVEL: THE CREATION OF PUBLIC GOODS

Besides the interpersonal or micro-level view of trust, the societal or macro-level view has also been of interest. What makes some societies more trusting than others, and what are the advantages of living in a high-trust society? Kenneth Arrow (1974), Nobel laureate of economics, famously argued that a broad base of general trust facilitates economic growth by reducing the need for formalized contracts and external regulation. In other words, trust increases the efficiency of economic exchanges. Evidence shows that high-trust countries grow more rapidly than low-trust countries (Zak & Knack, 2001), and low-trust countries risk devolving into a Hobbesian state of all-against-all (Hosking, 2014). Social trust also influences the efficacy of societal institutions that regulate cooperation among strangers. For example, Balliet and Van Lange (2013) showed that sanctioning systems that punish free-riders are more effective at promoting cooperation in high-trust societies; the threat of sanctioning is only credible when citizens trust that other group members will expend resources to punish selfish behavior.

## THIS SPECIAL ISSUE

For this issue, we invited submissions from some of the current experts on the study of interpersonal trust. Their contributions address some of the most pressing questions in the social-cognitive study of trust: What are the basic mental processes underlying trust? How do decisions involving trust differ from those involving personal risk and other forms of prosociality? And what are the consequences of trust on relationship outcomes?

## THE COGNITIVE ARCHITECTURE OF TRUST

The first section addresses basic cognitive processes underlying trust. To navigate the complexity of social interaction, people face a fundamental challenge: they must distinguish between trustworthy and untrustworthy interaction partners. Falvello and colleagues examine the breadth and the limits of the human ability to track trustworthiness-relevant information. Van Wingerden and van den Bos go beyond the human realm and ask to what extent rodents are capable of trust-like behavior. In addition to looking at the processes that shape trust, this section also addresses some of the downstream consequences of trust on other types of decision making. Schul and Peri question the common view that trust improves performance on decision-making tasks; they find that in some contexts, feelings of distrust yield cognitive benefits.

*The Robustness of Learning about the Trustworthiness of Other People.* Successful social decision making depends, in part, on the ability to remember and recognize trustworthy individuals. In the first article, Falvello, Vinson, Ferrari, and Todorov extend their influential research program on how humans extract and remember trustworthiness cues. Here, these authors investigate the human capacity to form and keep track of individuals that have been paired with trustworthiness cues. The *social brain hypothesis* (Dunbar, 1992) suggests that an optimal human social network comprises up to 150 individuals. Thus far, research has not tested the possibility that humans can learn trustworthiness-related information in a far larger group. In three experiments, Falvello and colleagues presented participants with faces that were paired with trustworthy (or untrustworthy) behaviors. Participants were able to remember these face-behavior pairs, even when they were presented with as many as 500 pairs. Importantly, the authors found similar associative effects for places and competence-related behaviors. This work suggests that previous accounts underestimated the human ability to track trustworthiness-relevant information, and that this process is related to a generalized associative process. An open question is whether learning signals of trustworthiness co-opts a general learning process, or if humans possess a modular ability to identify trustworthiness (Bonnefon, De Neys, & Hopfensitz, 2013).

*Can You Trust a Rat? Using Animal Models to Investigate the Neural Basis of Trust-Like Behavior.* Van Wingerden and van den Bos introduce an animal model of trust and present neurobiological evidence that rodents may possess the basic cognitive capacities needed to navigate dilemmas of trust. Van Wingerden and van den

Bos begin with a literature review outlining the basic cognitive abilities necessary for trust: one must generate expectations of how other individuals will act in the future; make tradeoffs involving uncertain or delayed outcomes; and learn from experience to track reputational information over time. The authors report data from a pilot study, in which rats completed an adaptation of the trust game in which they had to learn to associate different types of partners (other rats versus non-social puppets) with potential rewards. The rats showed significant carry-over effects in future tasks when rewards were associated with rats. There was no such effect when the rewards were associated with puppets. Even in rodents there is an important difference between social and non-social learning processes. The prospect of a rodent model of trust creates opportunities for comparative research and future work looking at the neurobiological bases of trusting behavior.

*Influences of Distrust (and Trust) on Decision Making.* Schul and Peri turn to the consequences of trust. How do feelings of trust and distrust influence decisions involving uncertainty? Many scholars have focused on the beneficial aspects of trust, but there are also situations where distrust leads to better outcomes. For example, distrust may encourage creative thinking and help decision-makers recognize unfamiliar statistical patterns. The authors report two experiments on the effects of distrust in decisions involving uncertainty: The first experiment examines how people interact with helpful versus harmful interaction partners. When interacting with harmful partners, participants are more careful about making difficult decisions and, in turn, are more accurate than participants who interact with helpful partners. Building on these results, the second experiment shows that an independently activated mental state of distrust makes people more receptive to advice; and again, distrust leads to more accurate judgments. These results suggest that distrust can play an adaptive role in social decision making and particularly so in uncertain environments.

## TRUST, PROSOCIALITY, AND RISK

The second section of this special issue focuses on how trust relates to decisions involving prosociality and individual risk taking. Yamagishi and colleagues introduce a two-component model of general trust, arguing that individual differences in trust are based on both trustworthiness beliefs and the preference to trust. They test this model with a new survey measure, the Inclusive General Trust Scale (IGTS), and find that it reliably predicts trusting behavior even when controlling for general prosociality. Schlösser and colleagues ask if trust can be explained by risk tolerance and general prosociality, or if trust decisions are made according to distinct normative standards. Jiang and colleagues test the effects of trust on bribery, and look at how individual differences in trust and cultural corruption shape the endorsement and honoring of bribery agreements.

*Two-Component Model of General Trust: Predicting Behavioral Trust from Attitudinal Trust.* Previous research has found only weak or inconsistent correlations between measures of general trust and behavior in specific situations. To help explain these inconsistent findings, Yamagishi, Akutsu, Cho, Inoue, Li, and Matsumoto introduce a novel two-component model of general trust, which includes both beliefs

about trustworthiness (the expectation that most people are trustworthy) and the preference to be a trusting person (the extent to which people find the act of trust rewarding). To test this model, Yamagishi and colleagues introduce a new survey instrument for the measurement of individual differences in trust, the Inclusive General Trust Scale (IGTS). They assess its psychometric properties and find strong support for the two proposed components of trust. Data from a longitudinal study show that the IGTS reliably predicts trusting behavior in a range of relevant economic situations, and the effects of the IGTS on behavior are robust when controlling for individual differences in Social Value Orientation.

*Trust and Rationality: Shifting Normative Analyses of Risks Involving Other People Versus Nature.* What types of reasoning underlie decisions involving social trust and decisions of individual risk taking? Schlösser, Mensching, Dunning, and Fetchenhauer propose that rational models of individual decision making cannot explain decisions involving trust because trustors do not focus on their own potential outcomes or expectations of reciprocity. Two experiments examine the seemingly irrational decisions people make in dilemmas of trust: In the first experiment, Schlösser and colleagues find that trust decisions are not explained by expectations of reciprocity, attitudes toward risk and uncertainty, or altruistic concerns for other parties' financial outcomes. In the second experiment, they explore the hypothesis that people may have different ideas about what they *should* do in dilemmas of trust compared to individual risk-taking decisions. When faced with trust, people focus on what they consider to be polite, respectful, and socially appropriate. This suggests that although trust decisions may not be rational when they are judged by the standards of economic models that focus on individual consequences, trust may be understood as socially rational.

*Can Trust Facilitate Bribery?* Evidence from High- and Low-Corruption Countries. Much of the previous work on trust has focused on its role in facilitating prosocial behavior and socially desirable outcomes, but little is known about how trust affects illegal or unethical agreements. Jiang, Lindemans, and Bicchieri ask whether trust can support unethical, even illegal, behavior. Specifically, they investigate whether trust may influence the willingness to endorse and honor bribery agreements. Jiang and colleagues report an international study testing the relationship between general trust and bribery in high-corruption (China and Italy) and low-corruption (Japan and the Netherlands) countries. They find that trust does not influence the tendency to endorse bribery, but that high-trust individuals are more likely to *honor* bribery agreements. However, this effect emerged only in low-corruption countries; in high-corruption countries, trust had no effect on the honoring of bribery agreements. These results suggest that trust may support unethical behavior and that the specific effects of trust interact with cultural differences.

## TRUST IN CLOSE RELATIONSHIPS

The final two articles of this special issue look at the effects of trust in close relationships. These studies demonstrate that trust influences relationship outcomes in stressful or difficult situations. Righetti and colleagues use Experience Sampling Methods to examine how trust affects personal sacrifices in close relationships.

They find that high-trust individuals are less likely to suppress their emotions following personal sacrifices, and ultimately feel more satisfied with the outcomes of their sacrifices and relationships in general. Finally, Kim and colleagues address how interacting with a high- versus low-trust partner influences behavior in times of conflict. Couples with *at least* one low-trust partner experience worse outcomes following a conflict (more contempt, less forgiveness, and less closeness).

*Trust and the Suppression of Emotions During Sacrifice in Close Relationships.* Personal sacrifices (and the ways that people react to them) are important in close relationships. Previous work suggests that people who suppress their negative emotions when making sacrifices may experience less personal well-being and relationship satisfaction. Righetti, Balliet, Visserman, and Hofmann test the hypothesis that trust predicts *less* suppression of negative emotions when people make personal sacrifices, and in turn trust leads to *greater* relationship satisfaction. Righetti and colleagues used Experience Sampling Methods to measure self-reported experiences with personal sacrifices. Participants in romantic relationships were randomly contacted at various time points over a period of eight days and answered real-time questions about their recent experiences with relationship sacrifices. As predicted, high-trust individuals were *less* likely to suppress their emotions during sacrifices, were *more* satisfied with the outcomes of their sacrifices, and were ultimately *more* satisfied in their relationships in general. In close relationships, trust plays an important role in emotion regulation and helps couples deal with the challenges inherent in making sacrifice.

*Ruining It for Both of Us: The Disruptive Role of Low-Trust Partners on Conflict Resolution in Romantic Relationships.* The final study of this special issue looks at how interacting with a high- versus low-trust partner influences the processes involved in conflict resolution. Kim, Weisberg, Simpson, Oriña, Farrell, and Johnson take a dyadic view of trust, and address how the trust levels of both partners in an interaction shape reactions to a conflict. When faced with a stressful situation, can interacting with a low-trust partner negatively affect both partners in a dyad? In this study, romantic couples completed a conflict discussion task, and Kim and colleagues measured the effects of trust on behavior during the conflict and post-conflict changes in relationship closeness. Critically, couples with *at least* one low-trust partner experience worse outcomes following a conflict. When one partner in a relationship lacks trust, there is less forgiveness, more contempt, and ultimately, less closeness following a conflict. Trust plays a critical role in how couples react to stressful conflicts, and high-trust partners are not able to compensate for low-trust partners. Future work may need to consider the dyadic, as well as the individual, effects of trust in relationships.

## CONCLUDING REMARKS

The contributions to this issue take us to the edge of research on trust. They address some of the most pressing questions in this interdisciplinary field of study, and raise important and challenging questions. The authors use a wide range of empirical methods to understand the antecedents, consequences, and constraints of trust. In addition to self-report measures, the contributions also feature studies

that use incentivized economic games, experience sampling methods, and behavioral observation. We believe these approaches add an important dimension to our understanding of trust and how it relates to real-life social behavior (Baumeister, Vohs, & Funder, 2007). A full understanding of trust and its processes may also require work that investigates the social behavior of nonhuman animals; such studies can help us to identify the uniquely human features of trust (van Wingerden & van den Bos, this issue).

The work brought together in this issue makes it clear that trust plays an important—and complex—role in interpersonal relationships and the larger society beyond. Some of the processes that influence trusting behavior are general or even generic (Falvello et al., this issue), whereas other aspects of trust are distinct from individual risk taking (Schlösser et al., this issue) and generalized prosociality (Yamagishi et al., this issue). Trust can surely be beneficial, especially in the context of long-term relationships (Kim et al., this issue; Righetti et al., this issue). But trust can also be detrimental, as when people are overeager to trust strangers (Schlösser et al., this issue), when they fail to exploit the benefits of distrust in decision making (Schul & Peri, this issue), or when they collude with other individuals to the detriment of society (Jiang et al., this issue).

The breadth of the theoretical approaches surveyed in this issue illustrates that the topic of trust is central to the field of social cognition and its interdisciplinary connections with the social and biological sciences.

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