Social Identity, Depersonalized Trust, and Social Cohesion

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As the diverse chapters in this volume will no doubt attest, there are many possible ways to think about trust and the social contexts in which trust is enacted. My own work has focused on the role of trust in the context of interpersonal or collective cooperation. Cooperation entails making a contribution of one's own effort, time, or resources to a shared enterprise where the outcome depends on whether others also contribute their fair share.  If I need to decide whether to cooperate without full knowledge of whether others are doing so, the decision acquires an element of trust, since there is a risk that one's contribution will be wasted or exploited unless the others can be counted on to do their part.

This view of trust and cooperative decision making is well illustrated by the "trust dilemma" game from experimental economics (Berg, Dickhout, & McCabe, 1995).  In this paradigm, one player is given an endowment (say, $10) with the instructions that they can keep the endowment for themselves or transfer any or all of it with a second (unknown) player.  Any money sent to player #2 will be doubled by the experimenter and then player #2 will be asked to decide whether to transfer back some of their receipt to player #1, which would then also be doubled in value.  If player #2 sends back at least half of what they received, both players will be better off than if player #1 had just kept the original endowment, so that is the cooperative outcome.  However, player #1 must make their initial decision without any guarantee that player #2 will reciprocate.  Thus, the decision to transfer money to the partner is assumed to depend on expectations that the other will reciprocate. A similar risk of cooperation is inherent in the two-person prisoner's dilemma game (where both players make their contribution decisions simultaneously) and the collective public goods game (where individuals must decide whether to contribute to the maintenance of a common good).

**Bases of Trust**

When cooperation entails risk, the question becomes on what basis do individuals decide to trust that others will cooperate.  I will start by considering bases for trust in a single other person in a two-person exchange situation.  First, I distinguish between *person-based trust* and *group-based trust* (Maddux & Brewer, 2005; Yuki et al., 2005). Person-based trust entails some kind of knowledge about the specific other individual in the exchange and can be further differentiated into *interpersonal trust* and *reputational trust*.  Interpersonal trust comes from

having a personal relationship with the other person and a history of social exchanges with that individual. Reputational trust does not necessarily require personal experience with the other, but knowledge of the other's character derived from how they treated others in the past or from shared assumptions about the type of person they are.

In contrast to person-based trust, group-based trust is *depersonalized* (Brewer, 198x) in the sense that it does not derive from knowledge about the specific individual but instead from knowledge about whether that individual belongs to a social group that the truster also belongs to. Again, group-based trust can be further differentiated into *social-identity-based trust* and *institution-based trust*. Trust based on shared social identity entails the assumption that fellow group members can be expected to care about each other's welfare and have a group-based obligation to cooperate (Brewer, 2008). It requires mutual knowledge on the part of both parties that they share this group identity (Foddy, Platow, & Yamagishi, 2009). It is not enough just to know that the other person belongs to my group, but I need to know that they are aware of my group identity as well in order to engender social identity-based trust.

Institution-based trust, on the other hand, does not require mutual recognition. This form of trust derives from collective mechanisms that provide for monitoring and sanctioning group member behavior to reward cooperation and punish defection from collective rules and regulations (Zucker, 1986). Even smaller societies establish mechanisms such as judicial bodies to handle disputes or charges of criminal behavior as a form of institutional monitoring or control. In large, complex societies institutions such as regulatory bodies, courts, bureaucratic organizations, and professional credentialing serve these functions.

The subdivisions of person-based and group-based trust entail direct vs indirect sources for trust production. Interpersonal trust requires direct experience with the other individual whereas reputational trust may involve only indirect knowledge through one's social network. Social identity-based trust requires mutual knowledge of shared group membership whereas institution-based trust requires only knowledge that the other person is subject to the institutional constraints. Thus, the distinctions I am making can be represented in the form of a 2 x 2 table:

|  | Person-based | Group-based |
|---|---|---|
| Direct | Interpersonal trust | Shared identity |
| Indirect | Reputational trust | Institutional trust |

The four bases of trust can also be arrayed along a dimension of inclusiveness. Interpersonal trust is the most exclusive in that it is limited to those individuals known on a personal basis. Reputational trust can encompass those one does not know personally as long as they belong to a social network in which reputational information can be shared. Social identity-based trust can extend to all members of a large social group as long as the group is clearly bounded (i.e., one can distinguish who is a member and who is not) and there is mutual recognition of shared membership. Finally, institution-based trust can extend farther to all those subject to institutional sanctions regardless of whether there is a shared sense of group identity.

I will return to this issue of inclusiveness toward the end of the chapter, but first review research and theory related to my own focus on social identity-based trust and its role in interpersonal and collective cooperation.

**Social Groups and Shared Identity**

It is widely acknowledged that humans are a group-living species and that our dependence on cooperative groups is integral to our survival and evolution as a species (Brewer, 2004; Brewer & Caporael, 2006). The idea that groups are bounded units of mutual cooperation underlies my own theory of optimal distinctiveness (Brewer, 1991; Brewer, 2011). Functional groups must be large enough to realize the advantages of shared resources but not so large as to spread social interdependence too thin or exceed the carrying capacity of the environment. Hence, we are attracted to groups that are both inclusive and distinctive.

We all belong to many such social groups, ranging from small clubs and teams to large political collectives and social categories. But social identity is more than mere membership in a social group. Social identity entails an extension of the sense of self to the group as a whole, such that the welfare of the group and of other group members is personally significant (Brewer & Gardner, 1996). When group members have this sense of collective identity, reciprocal cooperation is expected; member behavior is constrained by group loyalty and desire to retain status as an accepted group member. The assumption of shared identity, then, provides a basis for trust that bypasses the need for personalized knowledge or the costs of negotiating reciprocal cooperation with individuals. All that is required for group-based trust and cooperation is (a) the mutual knowledge that oneself and other share a common ingroup membership and (b) the expectation that the other(s) will act in terms of that group membership in dealings with a fellow

group member (and vice versa).  Ingroup trust is the expectation that others will cooperate with me *because* we are members of the same group (Kramer & Wei, 1999).

**Ingroup Favoritism in Dyadic Exchanges**

The hypothesis that mere knowledge of shared ingroup membership is sufficient to engender cooperative behavior under conditions of risk and uncertainty has been supported by results of numerous experiments in the experimental games literature.  Making salient a shared social identity has been demonstrated to increase cooperative behavior between strangers in dyadic exchanges such as prisoner's dilemma and trust games (e.g**.,** Buchan, Croson, & Dawes, 2002; Dion, 1973**;** Miller, Downs, & Prentice, 1998; Tanis & Postmes, 2005). Ingroup favoritism—the tendency to cooperate with another individual who belongs to one's own social group more than with those who belong to an outgroup or whose group identity is not known— has been widely demonstrated in the literature on experimental games (Balliet et al., 2014).

The results from an experiment by Tanis and Postmes (2005) utilizing the trust game are particularly relevant to the distinction between person-based and social identity-based cooperation and trust.  In this study, participants were faced with the decision of whether to transfer money to a randomly assigned partner. In one condition of the experiment, the only information that the participants had about their randomly selected partner was their group membership, which identified the other either as a member of the participant's ingroup university, or an outgroup university.  The results revealed a typical ingroup favoritism effect. The rate of trusting behavior (sending money) was significantly higher when the otherwise unknown partner was an ingroup member (66.7%) than when he or she was an outgroup member (41.4%).  Correspondingly, ratings of expected reciprocity were significantly higher for ingroup partners than for outgroup partners, and the effect of group membership on trusting behavior was fully mediated by this expectancy difference.

Interestingly, however, there was no difference between ingroup and outgroup partners in how they were rated on a measure of perceived "trustworthiness."  The expectancy that ingroup members could be counted on to reciprocate cooperative sharing was not based on any characterological attributions of trustworthiness to all members of the ingroup.  As the authors put it, "it seems that this difference in trusting behaviour and expected reciprocity across groups is related to norms of reciprocity being strong in intra-group interactions, and weaker or absent across group boundaries" (p. 422).  In other words, participants were more trusting of ingroup

members than of outgroup members because only the former were expected to adhere to principles of mutual reciprocity, not because they saw them as inherently more trustworthy people. By contrast, when *personalized* information about the randomly selected partner was made available, the ingroup-outgroup differential in expected reciprocity and trusting behavior was eliminated, and trusting behavior was mediated by perceptions of the trustworthiness of the other person as an individual.

These findings from Tanis and Postmes (2005) underscore the distinction between person-based and group-based (or identity-based) expectations of cooperation.  Expectations that ingroup members will be cooperative with oneself do not depend on assumptions about the individual group member's general propensity to be trustworthy.  Rather, it is the assumption that the other will be cooperative because they perceive the situation as an intragroup exchange.  This assumption of ingroup cooperation is particularly interesting in situations (such as the trust game) where the participant has no opportunity for future reciprocation (positive or negative) of the other partner's cooperative (or noncooperative) behavior.  Since the partners are unknown to each other, the possibility of future reciprocation or sanction is precluded.  And yet, the expectation that an ingroup member will reward my cooperation is quite high.  This suggests that the mechanism for ingroup trust and cooperation lies in group-level processes rather than interpersonal exchange.

**Group Identity and Social Dilemmas**

That mere knowledge of shared ingroup membership is sufficient to engender cooperative behavior under conditions of risk and uncertainty has also been demonstrated in collective decision-making situations known as social dilemmas. Broadly speaking, social dilemmas are a class of decision problems in which individuals acting in accord with their own immediate self-interest produce collective outcomes where everyone is worse off in the long run.   Social dilemmas occur in one of two forms:  public goods (give-some) dilemmas and resource (take-some) dilemmas (also known as the commons dilemma; Hardin, 1968).

In a public goods dilemma, individuals must decide whether to contribute personal resources to achieve or maintain a public good that benefits all members of the collective whether they have contributed to it or not.  The structure of this type of dilemma is one in which costs are borne by individuals and benefits are shared by the group.  Examples of public goods dilemmas include decisions to contribute to public radio where anyone can access the broadcasts

whether they contributed or not, or decisions to contribute to funding alternative energy sources the outcomes of which will benefit everyone.  Resource dilemmas are the obverse of public goods dilemmas, where a collective resource is available to everyone in the group and individuals must decide whether to restrain their usage of the resource in order to avoid depleting the collective good.  In this case, the benefit of harvesting the resource goes to the individual, but the cost (of depletion) is borne by the collective as a whole.  Conservation of water, rainforests, fisheries, and oil supplies are all examples of resource dilemmas in the environmental domain.

Unlike dyadic games, social dilemmas involve a decision whether or not to cooperate with the group as whole when one's own cooperative choice cannot directly influence the cooperation of others.  Under these circumstances, expecting that others will behave cooperatively (i.e., contribute to the public good or restrain consumption of a shared resource) reduces the fear that one's own cooperation will be wasted (i.e., the "sucker's payoff").  Experimental research involving laboratory versions of social dilemmas has investigated the role of group identity in both resource dilemmas (e.g., Brewer & Kramer, 1986; Brewer & Schneider, 1990; Kramer & Brewer, 1984; Kramer & Goldman, 1995; Wit & Wilke, 1992) and public goods dilemmas (e.g., DeCremer & van Vugt, 1999; Jackson, 2008; 2011; Wit & Kerr, 2002).  In all these studies, cooperation in social dilemmas has been found to increase significantly in groups where there is a strong sense of ingroup identity or "we-feeling."

Social dilemmas are particularly problematic when the collection of people who have access to the shared resource is large and anonymous.  From the perspective of the individual decision-maker, there are several features of these situations that undermine cooperative choice.  First of all, the perceived impact of each individual's own contribution (or restraint in use) is small or miniscule when the resource pool and collective are very large.  In terms of individual self-interest, it is irrational to sacrifice one's own resources unless there is reason to believe that most others in the group will voluntarily contribute or exercise voluntary constraint in the use of the resource.  Thus, cooperating in a social dilemma situation is an act of trust at the group level.

Shared social identity can provide the basis for such group-based trust but it depends on where the boundaries of the group identity are drawn.  The first experiments that my students and I conducted on the role of social identity in collective decisions addressed the issue of whether a shared group identity was salient that encompassed the whole group who shared the resource (a

"superordinate" identity for the collective as a whole) or whether the collective consisted of two distinct groups with salient subgroup identities ("subordinate" group identities).

For these studies, we created a laboratory version of a resource dilemma in which individuals (anonymously) made decisions across a series of trials about how much to draw from a shared resource pool of points worth money where the resource could be sustained if everyone (in the six-person group) took only a moderate amount each trial (rather than the maximum available). Over time, feedback was given that the pool was depleting because of overuse and was in danger of running out before it could be replenished. If that happened, everyone would be worse off than if the pool remained available, but depletion could be avoided if enough group members reduced their consumption in succeeding trials. Under these resource crisis conditions, the individual participant had to decide whether to take as much as possible before the resource ran out, or to cut back on their own consumption in hopes that everyone else would do the same so that the resource would remain available for all. How much individuals held back after the depletion feedback (compared to earlier trials with no crisis) was our dependent measure of cooperation.

In each version of the experiment, the six persons who comprised the group sharing the resource represented two different social categories (e.g., students and older community members). Instructional manipulations given at the start of the task were designed to either make salient the two subgroup identities or to make a salient superordinate shared identity (e.g., common residence). Results across three variations of this experimental design were consistent in demonstrating that participants in the shared superordinate identity condition dropped their consumption significantly more than those in the subordinate identity condition where mean consumption sometimes increased rather than decreased (Kramer & Brewer, 1984). The presence of a common group identity was sufficient to overcome intragroup differentiation to create a basis for trust and cooperation.

Interestingly, in a subsequent experiment (Brewer, 1985) we even found that superordinate identity was sufficient to override the effects of subgroup norms on contribution behavior. In this experiment, the six-person group was divided into two subgroups and feedback was provided about the average consumption of each of the subgroups on early trials. One subgroup consistently consumed a comparatively high level and the other a comparatively lower level. For three of the participants in each group their own subgroup was the higher use group

(ingroup-high condition) and for the other three the ingroup was the low-use group (ingroup-low condition). In addition, half of the groups were assigned to a salient superordinate condition (collective identity) whereas the other half had only salient subgroup identities. As in the previous experiments, feedback about total consumption indicated that the resource was depleting so that restraint would be needed to keep it going. The results for mean consumption in the trials following depletion feedback were as follows:

|  | In-group low use | In-group high use |
|---|---|---|
| Subgroup Identity Salient | 4.32 | 5.20 |
| Collective Identity Salient | 4.23 | 3.46 |

As expected, when only subgroups were salient consumption was higher than when a superordinate collective identity was made available, and particularly so when the subgroup behavioral norm was for relatively high use. Importantly, when a collective identity was salient, the highest restraint was shown by those whose fellow subgroup members were overusing (according to the feedback provided by the experimenter). Apparently, a superordinate social identity created a sense of responsibility to the group as a whole and a preference for emulating the constraint shown by the low-use subgroup members in contrast to that of their own subgroup.

**Parochial Trust**

The results of the experiments described above illustrate a major limitation of shared identity based trust when it comes to issues of collective cooperation. Shared social identity engenders prosocial behavior, but these effects depend on where the boundary of group identity is drawn. Behavioral economists refer to the ingroup favoritism effect on trust and cooperation as *parochial altruism (*Choi & Bowles, 2007; Romano et al., 2017). Parochialism is usually studied as the difference between trust and cooperation directed toward fellow ingroup members compared to outgroup members. But another way to define parochialism is in terms of the *inclusiveness* of the relevant identity group (Brewer et al., 2023). In contemporary societies, ingroups come at different levels of inclusiveness and small, local groups are frequently nested within larger collectives (e.g., neighborhoods within cities within states within nations within the global community). In this context, parochialism can be defined as limiting one's identity-based trust and cooperation to ingroups at lower levels of inclusiveness when more inclusive group identities are available to form a basis for trust.

Research on social identities and trust at different levels of inclusiveness suggests that, generally, local community identity is stronger than national identity, which in turn is stronger than identification with humanity as a whole (McFarland et al., 2012). However, individuals vary in where they invest their primary social identities and the strength of identification at different levels of inclusiveness can vary under different circumstances.

A variation of the public goods game, the nested social dilemma paradigm, provides a method for studying parochialism in the laboratory (Buchan et al., 2009; Wit & Kerr, 2002). In a nested social dilemma, a participant belongs to a smaller (local) subgroup that is part of a larger superordinate group. They are then given an endowment and make a decision whether to give some of their endowment to a public good (shared resource) at the local level and/or at the superordinate level. (This is what makes the nested dilemma different from the research paradigm described earlier where the resource was shared by the superordinate collective only.) Money contributed to the superordinate group resource pool is worth more than money contributed to the local pool but is also shared by more group members. If participants limit their contributions to the local group (parochial cooperation) the collective as a whole is worse off than if everyone gives to the superordinate public good.

Research using the nested social dilemma demonstrates that giving at the different levels can be influenced by which group identity is made more salient. However, when group salience is not manipulated, giving to the local subgroup is greater than contributing to the superordinate (Wit & Kerr, 2002, Experiment 1). I was part of a multidisciplinary research team in 2006-7 that undertook a multi-national study of cooperative behavior in nested social dilemmas involving real-world groups (Buchan et al., 2009). Research participants in six countries (United States, Italy, Russia, Argentina, South Africa, and Iran) took part in a series of three public goods game decisions. In each game, the participant was given a monetary endowment and then decided whether to contribute some or all of their funds to a shared resource pool where the money would increase in value but be shared by all in the group.

In the first game of the series, the decision was between keeping money for themselves or contributing to a resource pool shared by 4 persons (including the self) who were all members of the participant's local community (a standard public goods game). In the second game, the decision was a nested dilemma where participants could decide how much to contribute to a resource pool shared by 4 local group members (where the money was doubled and then shared

equally among the 4) or to a 12-person group consisting of the local group and 8 other persons who were not local but all members of the same national group (where the money was tripled and then shared equally among the 12 country members). Finally, in the third game, the participant faced the decision of how much to contribute to the local resource pool or to a 12-person collective where the other 8 participants were from different countries across the world (global level).

The research did not manipulate the salience of different social identities, but we did measure individual differences in globalization, social values, and strength of social identity with local, national, and global groups. On average, across all countries, contributions to the local resource pool exceeded contributions to the larger collective. In most of the countries, contributions to the national pool (decision #2) were somewhat larger than contributions to the global pool (decision #3), but both national and global cooperation were predicted by global social identity (Grimalda, Buchan, & Brewer, 2023), suggesting that it is possible to generate identity-based trust even for very large collectives. Nonetheless, the nature of social identity based trust, which requires mutual recognition of shared identity, means that this basis of trust is more likely to be activated in smaller, well bounded social groups than in large collectives.

**From Group Identity to Institutional Trust**

Thus far, our analysis of shared identity as a basis of trust has focused on the psychological aspects of social identity whereby we expect fellow group members to share a concern for group welfare and feelings of responsibility to other group members and to the group as a whole. In the social dilemma situation, expecting that others will behave cooperatively (i.e., contribute to the public good or restrain consumption of a shared resource) reduces the fear that one's own cooperation will be wasted. However, it does not eliminate the self-interested benefit of noncooperation. If everyone else can be expected to cooperate, then noncooperation takes advantage of the others' contributions to the group welfare and maximizes personal outcomes. Thus, group-based depersonalized trust translates to cooperative behavior only if the individual's own behavior is constrained by the same group norms (and potential sanctions) that underlie his/her expectations of the others' behavior.

Another basis for expecting ingroup members to behave in a trustworthy manner in accord with ingroup norms is the prospect of sanction from other group members. Ingroup-based depersonalized trust solves the cooperation dilemma only if it involves *contingent*

cooperation –contingent not only on group membership per se, but on the perception that the other is a group member in good standing.  In the absence of information to the contrary, any member of the ingroup may be expected (by default) to be counted on for trustworthy behavior and reciprocal cooperation.  However, if a group member has been known to violate these principles of ingroup behavior, trust and cooperation should be withheld, even if the individual is still technically a member of the ingroup. Shared group membership provides a mechanism for increasing the perceived probability of sanctions against failures to reciprocate trust.

If failure to cooperate is regarded as a violation of *group* norms--as disloyalty to the collective rather than victimization of an individual—it may be detected and punished by any member of the group, not just the individual who has been shafted. Thus, the expectation that ingroup members can be trusted to cooperate may be based, in part, on the general expectation that "bad" ingroup members will ultimately be caught and sanctioned by the group as a whole. The idea that any group member may take on the role of sanctioning untrustworthiness, even when the exercise of sanctioning is costly to the self, is known as "altruistic punishment" (Fehr & Gachter, 20002) and is an interesting form of ingroup cooperation in its own right. Informal social monitoring of other group members' behavior reduces uncertainty and risk in the context of tightly knit social communities and social networks (Yamagishi & Yamagishi, 1994)

The assumption that ingroup norm violation will be subject to punishment is also an important element in the link between trust in others' cooperative behavior and one's own willingness to cooperate.  Both shared identification and informal monitoring (altruistic punishment) may underlie group based trust, but both have limitations with respect to group size and dispersion.  As Zucker (1986) has argued, these limitations have led to the evolution of institutional forms of trust production. The existence of strong institutions, such as state-managed certifications, escrows, laws, and other regulatory systems reduces the trustee's risk and uncertainty in a transaction and increases the likelihood of development of depersonalized trust (Shapiro, 1987; Zucker, 1986).

To return to my initial classification of bases for trust.  When I go to a butcher to buy a sirloin roast, there are several bases I might have for trusting that the butcher will not be selling me tainted meat.  One is that I am a regular customer, the butcher knows me personally and knows that I will not trust him again in future exchanges if the meat is bad.  A second is that this butcher has been recommended to me by a friend who knows that the butcher is trustworthy and

that he values his reputation for trustworthiness. A third possibility is that the butcher knows that he and I are both Swedes and I am confident that he would not cheat on a fellow Swede. And, finally, I may trust the sale because the meat has been certified by the U.S. Department of Agriculture and there is a whole system of laws and regulations that would sanction this butcher if he sold uncertified meat.

The first three reasons may prevail in a small community; the fourth reason, by contrast, can make me confident to buy from any butcher in a large political collective where these institutions are in place. There is no need for any knowledge about the butcher or his character or his group memberships. Under these circumstances trust is transferred from the person to the institution itself, and institutional trust has long been recognized as the basis of social cohesion in large, complex societies (Bornstein & Tomkins, 2015).

**Synergies in the Bases of Trust**

Each basis for trust is distinct and may be sufficient in their own right to support interpersonal and collective cooperation, but they can also build on each other. My first butcher visit may be based on his reputation as an honest businessman, but repeated visits build an exchange history that provides a basis for interpersonal trust. In turn, my experience with the butcher's behavior can be transmitted to others and contribute to his reputation. Analogously, although institutions are created to produce trust in groups that are too large and diverse to engender strong social identity, the existence of institutions may serve to reinforce shared identity and build group-based trust. Reciprocally, shared identity reinforces trust in shared institutions and both in combination contribute to strong social cohesion.

**When Trust Breaks Down**

What happens if I find out that my trusted butcher has been involved in a scandal involving the sale of tainted meat? Clearly, under these circumstances reputation is no longer a viable basis for trust. Instead, my decision whether to continue to buy from this butcher will come down to the nature of my personal relationship with him. If we are close personal friends, I may continue to trust him to sell me only good meat even if his general trustworthiness has been undermined. But former customers who had not developed a personal relationship with this butcher are unlikely to buy from him again.

Something analogous happens in a society when trust in social institutions breaks down. When members of the society start to believe that institutions are corrupt or weak, they no longer

provide a basis for indirect, depersonalized trust and individuals are likely to fall back on local communities or social networks where shared social identity underlies trust. In both scenarios, loss of indirect sources of trust results in reliance on bases of trust that are less inclusive or more parochial, to the detriment of social cohesion and cooperation at higher collective levels.

In our international study of behavior in nested social dilemmas, we found that in most countries willingness to contribute to a superordinate group from one's own nation was somewhat greater than willingness to contribute to a superordinate group consisting of people from other parts of the world. However, there were two exceptions to this pattern. Participants in Iran and Russia were actually more likely to contribute to the global pool in decision 3 than they were to a pool shared by fellow nationals in decision 2 (Grimalda et al., 2023; Figure 3). This despite the fact that strength of national social identity was higher than global social identity in both of these countries (Grimalda et al., 2023; Figure 2). Our interpretation of this finding is that institutional trust was at that time particularly low in these authoritarian countries and national identity alone—in the absence of trust institutions—was not a sufficient basis for shared identity based trust. When institution-based trust is low or absent, individuals fall back on-based and parochial identity-based trust, with corresponding limits on cooperative behavior and social cohesion at the societal level.

**Concluding thoughts**

Throughout this chapter I have given most attention to distinguishing among the four bases of trust in terms of *inclusiveness.* Inclusiveness in this context refers to the range of social exchanges and collective decisions that the basis provides for trust in cooperative behavior. For any one individual, interpersonal trust covers only a limited range of exchanges with close others or those with an extended history of prior interaction. Reputation-based trust extends the range to others who are not known personally but still requires access to reputational information about that specific person through social networks or media. Group-based trust extends the range of cooperation beyond one's own network of acquaintances to exchanges with anyone based on knowledge of their group membership. Trust based on shared group identity is extensive but can be situation-specific because it depends on group identity being salient and mutual knowledge of membership in the salient ingroup. Institution-based trust, on the other hand, extends to all persons who fall under the regulatory power of the institution regardless of whether the corresponding collective identity is salient or not.

Understanding the psychological underpinnings of interpersonal and collective trust and cooperation is important because of the essential role that cooperation plays in the evolution of humans and human society. Anthropological evidence indicates that *homo sapiens* are unique among primate species in the achievement of large-scale social coordination that does not depend on spatial proximity or face-to-face interaction (Kuper, 1994; Rodseth et al., 1991). From this perspective, the very existence of stable human groups and societies implies the successful resolution of social dilemmas of trust and cooperative exchange. The need for trust at both the interpersonal and collective levels requires multiple mechanisms for producing and sustaining trust. When the four bases of trust are synergistically combined, social cohesion at a large scale can be achieved and can be resilient in the face of temporary losses in some forms of trust.

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