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Ego depletion decreases trust in economic decision making

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HIGHLIGHTS

- Ego depletion reduced behavioral trust in economic decision making.
- No decrease was found when participants anticipated meeting the trustee.
- No decrease was found when participants perceived the trustee as similar to self.
- Self-control facilitates trust in absence of cues signaling decreased social risk.

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ABSTRACT

Three experiments tested the effects of ego depletion on economic decision making. Participants completed a task either requiring self-control or not. Then participants learned about the trust game, in which senders are given an initial allocation of $10 to split between themselves and another person, the receiver. The receiver receives triple the amount given and can send any, all, or none of the tripled money back to the sender. Participants were assigned the role of the sender and decided how to split the initial allocation. Giving less money, and therefore not trusting the receiver, is the safe, less risky response. Participants who had exerted self-control and were depleted gave the receiver less money than those in the non-depletion condition (Experiment 1). This effect was replicated and moderated in two additional experiments. Depletion again led to lower amounts given (less trust), but primarily among participants who were told they would never meet the receiver (Experiment 2) or who were given no information about how similar they were to the receiver (Experiment 3). Amounts given did not differ for depleted and non-depleted participants who either expected to meet the receiver (Experiment 2) or were led to believe that they were very similar to the receiver (Experiment 3). Decreased trust among depleted participants was strongest among neurotics. These results imply that self-control facilitates behavioral trust, especially when no other cues signal decreased social risk in trusting, such as if an actual or possible relationship with the receiver were suggested.

Protecting oneself against risk and harm is surely one of the most basic and adaptive tendencies in nature. Making oneself vulnerable to being harmed by someone else violates that tendency, and so it seems likely that most creatures would be reluctant to do so. Sometimes, however, there are large benefits to be gained by making oneself thus vulnerable, and people manage to trust others: that is, they place themselves in another's power, buoyed by confidence that the other person will use that power to benefit rather than harm them. Trust is perhaps especially difficult, though also perhaps especially necessary, when the other person has a self-interested or other reason to inflict harm.

The present research investigated factors that enable people to trust each other or inhibit them from doing so. We reasoned that the need to cooperate may have created some natural tendencies to trust, most obviously in a human infant's need to trust its caregivers. We also assumed that trusting strangers is considerably more risky and therefore less common (e.g., Fetchenhauer & Dunning, 2009), so that people would have to use self-regulation to override skeptical or skittish impulses in order to trust. One hypothesis was that trusting strangers would diminish when self-regulation was hampered by depletion of resources. Another hypothesis was that the impact of self-regulation and depletion on trust would be reduced if cues would align with natural tendencies toward trust, such as if some actual or possible relationship with the trustee were suggested.

What is trust?

Trust can be considered a combination of cognition and emotion: It is a feeling of security based on a belief or expectation that another

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person will provide benefit rather than harm (Mayer, Davis, & Schoorman, 1995; Rousseau, Sitkin, Burt, & Camerer, 1998). It may be also considered a behavior: specifically, a willingness to put oneself in a situation of dependency on another person (who therefore has the power to confer benefits or costs). The present investigation focused on the latter (behavioral) form of trust.

Early conceptualizations defined trust in terms of dispositional characteristics of a single actor (Rotter, 1971). More recent models conceptualize trust as an interpersonal phenomenon that exists between two people in a relationship (Holmes & Rempel, 1989; Rempel, Holmes, & Zanna, 1985; for a review see Simpson, 2007). Dyadic models suggest that trust depends not only on characteristics of the actor (the truster) and the potential recipient (the trustee) but also on characteristics of the relationship between them. Thus, the same two people may trust each other to varying degrees as a function of the relationship between them.

The interpersonal structure of a situation requiring trust was elucidated by Righetti and Finkenauer (2011). Those authors articulated three relevant dimensions. The first was interdependence (see Kelley & Thibaut, 1978). That is, trust is needed when the outcome of the truster depends on the behavior of the trustee. The second dimension of trust is risk. Not all instances of interdependence create equal risk. Interdependence only creates risk when the desired outcomes of two people conflict, such as when a positive outcome for one person necessarily leads to a worse outcome for another person (see also Balliet & Van Lange, 2013). The third dimension of trust is that the truster must be free to decide whether to trust or not. If a person is coerced or forced to rely on another person, then that is not evidence of trust. Based on this analysis, we conceptualized trust as a dyadic process in which the truster freely chooses to accept risk by depending on another person to achieve a desirable outcome.

Operationally, behavioral economists have developed a measure of (behavioral) trust, called the trust game (Berg, Dickhaut, & McCabe, 1995). One person is given a sum of money and offered the options of simply keeping all of it or giving any or all of it to another person. The amount the person gives is tripled by the experimenter, and the recipient is then allowed to return any part (or all or none) of the tripled amount to the original person. Thus, trust produces benefits, insofar as the total amount of money is increased. The trust game invokes all three of the Righetti and Finkenauer (2011) dimensions. Interdependence exists insofar as the maximum mutual outcome requires both players to cooperate. Risk is substantial, because either player can keep all the money so the other gets nothing. Choice to trust is free, as that is the essence of the game. Dunning, Fetchenhauer, and Schloesser (2012) confirmed that people construe the trust game as involving trust and faith in others.

Why trust?

As already stated, behavioral trust puts oneself at risk of being harmed or exploited by others, and in that sense it may seem irrational or self-defeating. Trust occurs, however, because it also facilitates benefits (Campbell, Simpson, Boldry, & Rubin, 2010; de Jong & Elfring, 2010; Knack & Keefer, 1997; McKnight, Cummings, & Chervany, 1998; Zaheer, McEvily, & Perrone, 1998). Most obviously, young mammals require care and protection and must trust others to help them survive. Whether others will reward that trust by providing such care, including at cost to self, may violate self-interest. Insofar as the brain's purpose is to facilitate the survival of the body that houses it, self-interest would dictate taking advantage of trusters rather than benefiting them. However, the shift in evolutionary theory from bodily selfishness to genetic selfishness (see Dawkins, 1976; Hamilton, 1964) proposed that nature has found one solution to this problem. Animals may be innately predisposed to cooperate with and help others who share their genes. Trust should therefore occur between kin. Having a relationship would thus facilitate trust. To be sure, animals cannot conduct genetic tests on each other, but various cues indicate that a relationship exists and could thereby foster trust.

Cooperating with strangers, especially when trust is required, is considerably more difficult than trusting kin. Yet some theorists have argued that it is central to human life and possibly a key to understanding how humans differ from other animals. For example, Fukuyama (2011) has analyzed the transition from kinship-based small groups into large societies as a vital (yet always incomplete) step toward creating national societies, with all the advantages these confer (e.g., progress, military defense, social safety nets). Perhaps even more important, economic trade and other transactions require trust (Fukuyama, 1996; Rose, 2011). Even just purchasing a hamburger involves trust that the meat is actually beef, that it has been prepared well and kept safe from infection, that the amount is correct, that the change one receives is not counterfeit, and so forth. The seller likewise trusts that the diner can and will pay for the hamburger after it has been eaten. Given the enormous power of economic trade to enhance collective welfare, the benefits of the requisite trust to facilitate trade can hardly be overstated. Yet of course the conflict of interest that makes such trust risky is often evident in economic behavior, insofar as vendors are tempted to cheat or mislead customers.

The behavioral trust game developed by Berg et al. (1995) captures these features as well as the dimensions of trust listed by Righetti and Finkenauer (2011). Much like how trust facilitates trade, which in turn increases total wealth, the trust game triples the amount of money that the first player chooses to invest. Yet the conflict of interest is an important feature of the trust game. In particular, the recipient can maximize his or her own gain by keeping all the money rather than returning any share to the sender.

Trust and relationships

As we have said, nature may have prepared people (and other animals) to trust genetic kin. Being related is thus an important foundation of trust. In order to facilitate trust with non-kin, humans may create other kinds of relationships that facilitate trust and cooperation. The trust game is again relevant, insofar as one is dealing with a stranger but may have a sense of initiating a relationship by trusting. Klapwijk and Van Lange (2009) showed that initial generosity is a powerful yet underappreciated factor for building and maintaining trust. By giving most or all of the money to the other person in the trust game, the initial player is not only expressing trust but also being generous in a way that has often worked to build trust. Delton, Krasnow, Cosmides, and Tooby (2011) showed that people often treat strangers met for the first time as if they were seeking to establish a cooperative relationship. That is, people may have evolved to treat strangers as potential relationship partners. Insofar as this prosocial tendency is largely unprecedented in nature and fraught with vulnerability to exploitation, it would be quite tentative and easily abandoned. Hence it is important to consider what might facilitate versus inhibit the willingness to trust strangers.

The present investigation used two procedures to activate cues suggestive of relatedness. One was bogus feedback about biological resemblance. Shared genes produce similar physical traits, so resemblance is a potent cue. Even beyond biological resemblance, similarity is a powerful impetus to interpersonal attraction and relationship formation (Brewer, 1979; Byrne, 1961; Newcomb, 1956; Tajfel & Turner, 1986). Attitude similarity can even serve as a heuristic kinship cue (Park & Schaller, 2005). Our hypothesis was that trust should arise relatively easily and naturally between people who believe themselves to be quite similar to each other.

The other procedure was the expectation of an imminent face-to-face meeting. In most studies that use the trust game, the players are told that they will never meet each other nor learn each other's identities (Berg et al., 1995; Fetchenhauer & Dunning, 2009; Fetchenhauer & Dunning, 2012). The game is thus a one-shot anonymous interaction, which makes trust relatively difficult because the other person may be highly tempted to exploit the situation (and thereby exploit the truster) for individual advantage. One experiment using the trust game asked