

Power decreases trust in social exchange

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How does lacking vs. possessing power in a social exchange affect people's trust in their exchange partner? An answer to this question has broad implications for a number of exchange settings in which dependence plays an important role. Here, we report on a series of experiments in which we manipulated participants' power position in terms of structural dependence and observed their trust perceptions and behaviors. Over a variety of different experimental paradigms and measures, we find that more powerful actors place less trust in others than less powerful actors do. Our results contradict predictions by rational actor models, which assume that low-power individuals are able to anticipate that a more powerful exchange partner will place little value on the relationship with them, thus tends to behave opportunistically, and consequently cannot be trusted. Conversely, our results support predictions by motivated cognition theory, which posits that low-power individuals want their exchange partner to be trustworthy and then act according to that desire. Mediation analyses show that, consistent with the motivated cognition account, having low power increases individuals' hope and, in turn, their perceptions of their exchange partners' benevolence, which ultimately leads them to trust.

trust | power | social exchange | dependence | hope

Understanding the circumstances under which individuals trust other individuals is of enduring interest to social scientists from different backgrounds (1), including sociologists (2), psychologists (3), political scientists (4), and economists (5). Trust is a critical ingredient in successful social exchange (6), but the threat of misplacing one's trust and suffering the detrimental consequences of trust breaches causes people to be very careful in deciding to whom to make themselves vulnerable (7–9). Thus, researchers have paid considerable attention to the factors that facilitate or hinder trust in various settings (10–15).

However, one potentially important source of variation in trust has received relatively little attention so far—namely, power (16). This omission in the literature is surprising because many—if not most—trust relationships involve nontrivial power inequalities between exchange partners. Examples include relationships between patients and doctors, students and professors, employees and supervisors, and small and large firms. Power-dependence theory (17–19) emphasizes that behavior in social exchange relationships is significantly affected by power inequalities that involve one actor depending on the other, with dependence being a positive function of the relative value of the exchange resource and a negative function of the availability of the exchange resource from alternatives. This conceptualization of power in terms of structural dependence has become the dominant approach in both sociological and psychological inquiry (20, 21). The prevalence of power inequalities in relationships in which trust is critical leads us to ask: Does having power or lacking power increase or decrease an actor's tendency to place trust in others?

In response to this question, we can derive two directly opposing predictions from distinct theoretical accounts. First, the encapsulated interest account (22–25) assumes that people engage in rational calculations about whether it will pay off to encapsulate the interests of their exchange partners and to behave in a trustworthy fashion. One key reason for trustees to be trustworthy is their motivation to maintain the relationship

(22, 26). The encapsulated interest account further assumes that trustors put themselves in the position of the trustee to predict how the trustee will behave. Therefore, when considering whether or not to trust someone, an individual assesses how valuable the relationship is to the other person. Applying this line of thinking to a relationship involving a power inequality, the power-advantaged party should have reason to believe that the power-disadvantaged party places high value on the relationship. This belief is based on the notion that people low in power view the exchange resource as valuable, possess few alternatives to access this resource, and therefore are highly dependent on the exchange partners they do have (17, 27). Given this dependence, low-power individuals should place high value on their existing relationships, strive to maintain them, and thus behave cooperatively. In anticipation of this reasoning, the more powerful party should perceive their less powerful exchange partner as trustworthy and in turn be willing to trust that partner. Conversely, the less powerful party should be aware of the fact that their more powerful partner has several other valuable exchange opportunities, is less dependent on any particular relationship, and thus has greater freedom to act opportunistically when doing so would result in higher immediate returns (also see *SI Formal Analysis of Incentive Structures*). In sum, according to the encapsulated interest account, more powerful actors should place greater trust in others than less powerful actors.

Second, the motivated cognition account (28–32) starts with the assumption that people strive to arrive at conclusions they want to arrive at in an effort to mitigate cognitive dissonance. Accordingly, the decision to place trust may be based more on one's motivation to protect oneself from unwanted realities than on relatively rational calculations of the other party's deliberations. In particular, with increasing dependence, people will be motivated to see their partner as more trustworthy to avoid the anxiety inherently attached to their feelings of dependence. Power-disadvantaged actors thus effectively protect themselves by perceiving power holders in a positive light, even if little or no relevant information would support such perceptions. Their hope that their powerful partner will be trustworthy thus dominates their cognition and decision making. The powerful partner,

Significance

Trust is pivotal to the functioning of society. This work tests competing predictions about how having low vs. high power may impact people's tendency to place trust in others. Using different experimental paradigms and measures and confirming predictions based on motivated cognition theory, we show that people low in power are significantly more trusting than more powerful people and that this effect can be explained by the constructs of hope and perceived benevolence. Our findings make important contributions to the literatures on trust, power, and motivated cognition.

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conversely, has no reason to engage in significant motivated cognition (33). Having multiple valuable exchange alternatives available, the power-advantaged party has little incentive to view his/her partner in a better light than the objective information would justify. In sum, according to the motivated cognition account, more powerful actors should place less trust in others compared to less powerful actors.

We report four studies that investigated these opposing predictions (details are in *SI Materials and Methods*). Throughout this research, we sought to generalize our results across different experimental tasks using various operationalizations of power and both perceptual and behavioral measures of trust. In studies 1–4, we tested whether being in a weaker or stronger power position is linked to differences in perceptual trust (study 1) and behavioral trust (studies 2–4). Additionally, in study 4, we extended our research by starting to examine which mechanisms help explain why power is associated with trust.

Study 1: Power Decreases Trust in a Negotiation Task

Study 1 used an established negotiation task (34, 35), in which participants were asked to negotiate over a consignment of cell phones. All participants were assigned to the role of seller and were provided with a payoff chart showing the points allocated to them for different combinations of price, warranty period, and service contract duration. Participants then received a non-negotiable offer from a first buyer, which allowed for manipulating structural power in terms of alternatives (34). Subsequently, participants were ostensibly connected to a second, alternative buyer with whom they were asked to negotiate an agreement within six rounds. In the event that no agreement was achieved with the second buyer, the proposal advanced by the first buyer had to be accepted. Trust in the second buyer, the study's dependent variable, was measured twice—once before the negotiation (T1) and once after the negotiation (T2). As such, study 1 did not assess *behavioral trust* (i.e., a trusting choice) but instead measured *perceptual trust*. An exemplary item was: *The second buyer can be trusted* (see *SI Materials and Methods* for a full report on how perceptual trust was measured). The negotiation task had the sole purpose of manipulating structural power (but not to assess behavioral trust).

We checked the effectiveness of our manipulation using self-reported information on perceived power, given that structural and perceived power tend to be strongly related (19). Results revealed that our power manipulation was successful: Participants in the high self's power condition perceived themselves to be significantly more powerful ($M = 4.47$, $SD = 1.21$) than did participants in the low self's power condition ($M = 3.90$, $SD = 1.53$), $t(399) = 4.16$, $P < 0.001$, Cohen's $d = 0.42$.

We next tested the effect of self's power on trust. A repeated-measure analysis of variance with self's power (low, high) as a between-subjects independent variable, time as a within-subjects factor, and trust measured twice (at T1 and T2) as the dependent variable revealed a significant negative effect of self's power on trust. Participants in the high self's power condition trusted significantly less ($M = 2.35$, $SE = 0.04$) than did participants in the low self's power condition ($M = 2.52$, $SE = 0.03$), $F(1, 399) = 12.05$, $P = 0.001$, $\eta^2 = 0.03$. Results also revealed a significant effect of time on trust, $F(1, 399) = 127.62$, $P < 0.001$, $\eta^2 = 0.24$. Although there was no difference in trust between the two power conditions before the negotiation started ($M_{\text{trust: low self's power}} = 2.59$, $SD = 0.47$ vs. $M_{\text{trust: high self's power}} = 2.59$, $SD = 0.46$), after the negotiation, participants in the high self's power condition trusted significantly less ($M = 2.12$, $SD = 0.64$) than did participants in the low self's power condition ($M = 2.46$, $SD = 0.64$). This finding was qualified by an interaction effect between self's power and time, $F(1, 399) = 39.47$, $P < 0.001$, $\eta^2 = 0.09$, suggesting that when self's power is high, trust decreases significantly more over time (difference between

M_{T1} and $M_{T2} = -0.48$) compared with when self's power is low (difference between M_{T1} and $M_{T2} = -0.15$).

Study 2: Power Decreases Trust in a Monetary Exchange Game

Study 2 used an established exchange game—also known as the trust game—(36), in which participants were endowed with money and asked to either send their endowment to an exchange partner or to keep it for themselves. Instructions indicated that the money would be tripled if they decided to send it to their partner, and the partner would then decide whether to reciprocate and equally share the amount sent with the participant or to defect and keep all of the money. Participants then received information about their own and the other person's ability to switch to different partners within the game, which allowed for manipulating structural power by varying the availability of alternatives. Subsequently, participants were asked to choose whether they would send their money to the partner (and thus trust that the partner would send back half the tripled amount) or keep the original endowment for themselves (and thus not trust the partner). The binary choice served as a behavioral measure of trust, the study's dependent variable. Study 2 assessed behavioral trust (here, either keeping or sending a monetary endowment), see *SI Materials and Methods*. Note that we do not interpret the participants' decision to send the endowment as necessarily reflecting an expectation of fair returns per trial; rather, we adopt a broader definition of trust as participants' willingness to make themselves vulnerable to the actions of another party (12), measured in study 2 through their decision to send their endowment.

Results revealed that our manipulation of power was successful: Participants in the high self's power condition perceived themselves to be significantly more powerful ($M = 4.58$, $SD = 1.09$) than did participants in the low self's power condition ($M = 2.77$, $SD = 1.30$), $t(346) = 14.04$, $P < 0.001$, Cohen's $d = 1.51$.

We next tested the effect of self's power on trust. A binary logistic regression with self's power (low, high) as a between-subjects independent variable and trust as the dependent variable revealed a significant negative effect of self's power, $B = -0.86$, $SE = 0.33$, $t = -2.60$, $P = 0.009$: Participants in the high self's power condition were significantly less trusting (19% chose to keep their endowment and 81% chose to send it) compared to those in the low self's power condition (9% chose to keep their endowment and 91% chose to send it), $\chi^2 = 7.03$, $P = 0.008$. These results replicate our findings from study 1.

Study 3: Power Decreases Trust in the Provision of Typing Services

Study 3 used an established vignette (37), in which participants assumed the role of a typist offering services to a new potential client. Participants were given several pieces of information about themselves and the new client, specifying the relative value and availability of the resources in the typist–client exchange, which allowed for manipulating structural power (37). Based on the background information, participants indicated whether they would offer a free sample project to the new client (and thus trust that the client would come back with a follow-up job) or whether they would prefer to save time and not offer a free sample (and thus not trust the client). The binary choice served as the trust measure, the study's dependent variable. Like study 2, study 3 assessed behavioral trust (here, either saving 3 h by not providing a free sample or investing 3 h to work on a free sample), see *SI Materials and Methods*.

Results revealed that our manipulation of power was successful: Participants in the high self's power condition perceived themselves to be significantly more powerful ($M = 4.18$, $SD = 1.17$) than did participants in the low self's power condition ($M = 3.80$, $SD = 1.15$), $t(411) = 3.27$, $P = 0.001$, Cohen's $d = 0.33$.

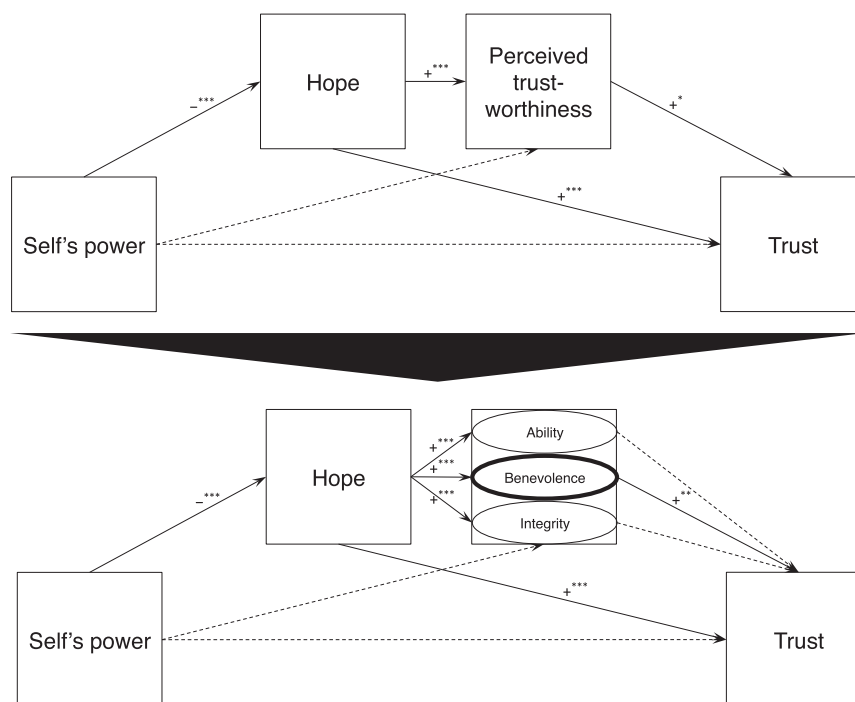


Fig. 1. Mediation model of study 4. Hope and perceived trustworthiness mediate the effect of self's power on trust. A follow-up analysis revealed that the mediating effect of perceived trustworthiness is driven by the trustworthiness dimension of benevolence, whereas the trustworthiness dimensions of ability and integrity do not have a mediating effect (*** $P < 0.001$, ** $P < 0.01$, * $P < 0.05$, dashed line denotes nonsignificant effect).

opposing predictions that can be derived from separate theories on the relationship between power and trust. Although our results support the motivated cognition account of power and trust, they seem inconsistent with predictions based on the encapsulated interest account. As Rothstein argues, in contradiction to the encapsulated interest account, trust may not be based primarily on a rational calculation of the other actor's interests (44). Although theoretically precise and parsimonious, the encapsulated interest account's assumption that people have and invest the cognitive resources needed to make complex assessments of their partner's incentive structure may not be realistic in many settings. Specifically, our finding of a nonsignificant effect of other's power on trust (studies 3 and 4) is in line with Rothstein's argument. Rather than considering the power position of one's exchange partner, people seemed to focus mainly on their own situation when making their trust judgments and decisions.

Second, this work contributes to the literature on motivated cognition. Although those engaged in recent motivated-cognition research have started to theorize about the link between power and trust (28, 30, 32), to the best of our knowledge, no empirical tests of this link have been reported before the present investigation. In addition to this empirical contribution, we also make a conceptual contribution to motivated cognition theory by heeding calls for greater insight into mediating mechanisms (30). Our finding that hope and perceived benevolence explain the observed power–trust effect in our experimental studies adds to prior knowledge concerning how it is that motivated cognition unfolds.

Third, this work contributes to previous work dealing with the concept of hope (38, 45) by showing that relative powerlessness fosters hope, which in turn leads to increased trust. However, why is this the case? Interestingly, it is only the low-power actor's hope for the powerful partner's benevolence—but not the partner's ability or integrity—that leads to increased trusting behavior. This finding resonates with recent research emphasizing that the relevance of individual trustworthiness dimensions

differs across settings (46). We add to this work the notion that benevolence is a more relevant trustworthiness dimension than either ability or integrity when predicting trust decisions based on power differentials. One explanation for this finding is that envisioning interaction with an exchange partner who is benevolent may be a particularly effective strategy for counteracting the anxiety caused by dependence. Feelings of dependence are often associated with a fear of exploitation (47), a fear that is less salient if the powerful exchange partner can be expected to be benevolent and to take one's interests to heart.

Fourth, the present research speaks to the political science literature on the public's institutional trust in powerful entities such as governments (48). In line with the familiar caveat that “power corrupts,” studies of the American public's trust in the federal government consistently show low trust levels, dropping to just 24% in 2014 (49). Such low levels of trust seem to contradict our finding that low-power actors have high trust in power holders, but they are in line with more recent findings showing that many power holders are actually admired and even seen in a very positive light (30). A possible explanation for these discrepant perspectives is provided by the social distance account of trust (50). Following this account, although self-reported trust in anonymous political decision makers in far-away Washington may be at all-time lows, trust in local politicians with whom people have interpersonal interactions is often high. As such, social distance may function as a moderator of the effect of power on trust: The closer a high-power exchange partner is believed to be (socially or even physically), the more likely it is that a low-power actor will place trust in that partner, a proposition that could be tested in future studies.

In addition, future research could investigate how the role of power in trust relations develops over time. Do trust levels among low-power (and high-power) actors increase or decrease with repeated interactions, and at what point? It seems likely that, *ceteris paribus*, power inequalities may lose some of their importance in determining trust over time as people increasingly

come to make trust decisions based on their personal experiences with a particular exchange partner rather than based on structural features. Another interesting question for future research is whether the low-power actor's placement of (seemingly unjustified) trust in the power-advantaged partner could initiate a domino effect in which the power-advantaged actor feels morally obligated to reciprocate, thus enabling a long-term relationship that might have been unlikely to emerge without the low-power actor's initial leap of faith. To answer this question, the present study's account of how power inequalities influence the trustor's initial trust needs to be complemented by a better understanding of how power inequalities influence the behavior of the trustee. In sum, whereas our paper focused on the initial round of interaction, future research should investigate the role of power and trust in determining what kind of equilibrium is eventually reached at what rate.

On a related note, do low- and high-power actors react differentially to breaches of trust? Motivated cognition theory suggests that low-power individuals invest more cognitive resources in processing trust-related information that becomes available in an exchange than high-power individuals do (51, 52). Given that trust recovery becomes less likely when people engage in extensive deliberations about the trust breach (8), one might expect that low-power individuals may be less forgiving and less willing to trust again after a breach than high-power individuals are. On the flipside, experiencing positive acts of reciprocity may be particularly appreciated and translated into trust by low-power individuals (53, 54), suggesting that low-power individuals may generally react more sensitively to both opportunistic and trustworthy partner behavior compared to high-power individuals.

Another interesting contingency worthy of further study is whether the exchange relation has a negotiated or a reciprocal structure (55). In negotiated exchanges, parties engage in direct exchanges in which bilateral agreements are jointly negotiated (akin to our study 1). In reciprocal exchanges, parties perform individual acts without negotiation and without knowing whether the other party will reciprocate (akin to our studies 2–4). Future research that holds all variables except for the form of exchange and structural power constant would allow for systematic comparison

of the power–trust effect between forms of exchange. Building on Molm's previous work (56), we can only speculate at this point that, *ceteris paribus*, trust differences between low- and high-power conditions may be more pronounced in reciprocal compared to negotiated forms of exchange.

Finally, it would be interesting to explore whether the results reported here are generalizable to cultures other than the United States (1). Given the notion that important differences in the acceptance of power imbalances exist between cultures (57), would low-power members of cultures that generally accept greater power imbalances (such as China or Mexico) trust power holders even more than indicated by the present findings? In summary, we anticipate that future follow-up work on the role of power in trust relations will shed light on several important issues.

To conclude, on the most general level, our findings may help better understand why societies with stark hierarchical differences can be functioning and enduring (6). In a counterfactual world where people low in power would refuse to place trust in power holders, many of the advantages of hierarchies [such as improved coordination, reduced conflict, and stability (58)] might not be attainable. These considerations underline the centrality of “irrational” acts of trust for the existence of a relatively stable society.

Materials and Methods

Four experiments provide convergent support for the negative effect of structural power on trust. Following recommendations for constructive replication (59), the four experiments used a variety of different tasks, manipulations, and dependent measures. In all of our studies, we recruited participants from the subject pool of Amazon's Mechanical Turk (MTurk), an online crowdsourcing service with large volumes of small web-based tasks offered to anonymous online workers for monetary compensation. MTurk allows behavioral experiments to be run comparatively quickly and inexpensively, provides access to a broad cross-section of the population, and has repeatedly been shown to have the capacity to produce highly valid data (60–65). The research was approved by the Institutional Review Board of the University of Arizona, and participants voluntarily agreed to take part after reading a disclosure form for research participation.

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1. Fetschenhauer D, et al. (2013) *Different Perspectives on Trust: Results from a German-Japanese Symposium at the University of Cologne* (Iudicium, Munich).
2. Cook KS (2001) *Trust in Society* (Russell Sage Foundation, New York).
3. Kramer RM (1999) Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annu Rev Psychol* 50(1):569–598.
4. Fukuyama F (1995) *Trust: The Social Virtues and the Creation of Prosperity* (Free, New York).
5. Camerer CF (2003) *Behavioral Game Theory: Experiments in Strategic Interaction* (Russell Sage Foundation, New York).
6. Yamagishi T (2011) *Trust—The Evolutionary Game of Mind and Society* (Springer, Tokyo).
7. Cook KS, Levi M, Hardin R (2009) Introduction. *Whom Can We Trust? How Groups, Networks, and Institutions Make Trust Possible*, eds Cook KS, Levi M, Hardin R (Russell Sage Foundation, New York), pp 1–14.
8. Schilke O, Reimann M, Cook KS (2013) Effect of relationship experience on trust recovery following a breach. *Proc Natl Acad Sci USA* 110(38):15236–15241.
9. Castle E, et al. (2012) Neural and behavioral bases of age differences in perceptions of trust. *Proc Natl Acad Sci USA* 109(51):20848–20852.
10. Zucker LG (1986) Production of trust: Institutional sources of economic structure, 1840–1920. *Res Organ Behav* 8:53–111.
11. Schilke O, Cook KS (2015) Sources of alliance partner trustworthiness: Integrating calculative and relational perspectives. *Strateg Manage J* 36(2):276–297.
12. Mayer RC, Davis JH, Schoorman FD (1995) An integrative model of organizational trust. *Acad Manage Rev* 20(3):709–734.
13. Fulmer CA, Gelfand MJ (2012) At what level (and in whom) we trust: Trust across multiple organizational levels. *J Manage* 38(4):1167–1230.
14. Stanley DA, Sokol-Hessner P, Banaji MR, Phelps EA (2011) Implicit race attitudes predict trustworthiness judgments and economic trust decisions. *Proc Natl Acad Sci USA* 108(19):7710–7715.
15. Macy MW, Sato Y (2002) Trust, cooperation, and market formation in the U.S. and Japan. *Proc Natl Acad Sci USA* 99(Suppl 3):7214–7220.
16. Cook KS (2005) Networks, norms, and trust: The social psychology of social capital. *Soc Psychol Q* 68(1):4–14.
17. Emerson RM (1962) Power-dependence relations. *Am Sociol Rev* 27(1):31–41.
18. Emerson RM (1964) Power-dependence relations: Two experiments. *Sociometry* 27(3):282–298.
19. Ford R, Johnson C (1998) The perception of power: Dependence and legitimacy in conflict. *Soc Psychol Q* 61(1):16–32.
20. Cook KS, Cheshire C, Gerbasi A (2006) Power-dependence and exchange theory. *Contemporary Social Psychological Theories*, ed Burke PJ (Stanford Univ Press, Stanford, CA), pp 194–216.
21. Fiske ST, Berdahl J (2013) Social power. *Social Psychology: Handbook of Basic Principles*, eds Kruglanski AW, Higgins ET (Guilford, New York), 3 Ed, pp 678–692.
22. Hardin R (2002) *Trust and Trustworthiness* (Russell Sage Foundation, New York).
23. Farrell H (2004) Trust, distrust, and power. *Distrust*, ed Hardin R (Russell Sage Foundation, New York), pp 85–105.
24. Hardin R (1998) Trust in government. *Trust and Governance*, eds Braithwaite V, Levi M (Russell Sage Foundation, New York), pp 9–27.
25. Farrell H, Knight J (2003) Trust, institutions, and institutional change: Industrial districts and the social capital hypothesis. *Polit Soc* 31(4):537–566.
26. Axelrod R (1985) *The Evolution of Cooperation* (Basic Books, New York).
27. Cook KS, Emerson RM (1978) Power, equity and commitment in exchange networks. *Am Sociol Rev* 43(5):721–739.
28. Weber JM, Malhotra D, Murnighan JK (2005) Normal acts of irrational trust, motivated attributions, and the trust development process. *Res Organ Behav* 26:75–101.
29. Kunda Z (1990) The case for motivated reasoning. *Psychol Bull* 108(3):480–498.
30. Smith PK, Overbeck JR (2014) The leaders' rosy halo: Why do we give powerholders the benefit of the doubt? *Power, Politics, and Paranoia: Why People Are Suspicious About Their Leaders*, eds van Prooijen J-W, Lange PAM (Cambridge Univ Press, Cambridge, U.K.), pp 53–72.
31. Stevens LE, Fiske ST (2000) Motivated impressions of a powerholder: Accuracy under task dependency and misperception under evaluation dependency. *Pers Soc Psychol Bull* 26(8):907–922.
32. Murnighan JK, Malhotra D, Weber JM (2004) Paradoxes of trust: Empirical and theoretical departures from a traditional model. *Trust and Distrust in Organizations:*

- Dilemmas and Approaches, eds Kramer RM, Cook KS (Russell Sage Foundation, New York), pp 293–326.
33. Kramer RM (1996) Divergent realities and convergent disappointments in the hierarchic relation: trust and the intuitive auditor at work. *Trust in Organizations: Frontiers of Theory and Research*, eds Kramer RM, Tyler TR (Sage, Thousand Oaks, CA), pp 216–245.
34. Van Kleef GA, De Dreu CW, Pietroni D, Manstead ASR (2006) Power and emotion in negotiation: Power moderates the interpersonal effects of anger and happiness on concession making. *Eur J Soc Psychol* 36(4):557–581.
35. van Kleef GA, De Dreu CW, Manstead ASR (2004) The interpersonal effects of anger and happiness in negotiations. *J Pers Soc Psychol* 86(1):57–76.
36. Berg J, Dickhaut J, McCabe K (1995) Trust, reciprocity, and social history. *Games Econ Behav* 10(1):122–142.
37. Hegtvædt KA, Thompson EA, Cook KS (1993) Power and equity: What counts in attributions for exchange outcomes? *Soc Psychol Q* 56(2):100–119.
38. Reimann M, Nenkov GY, MacInnis D, Morrin M (2014) The role of hope in financial risk seeking. *J Exp Psychol Appl* 20(4):349–364.
39. Averill JR, Catlin G, Chon KK (1990) *Rules of Hope* (Springer, New York).
40. Molm LD (2010) The structure of reciprocity. *Soc Psychol Q* 73(2):119–131.
41. Molm LD, Takahashi N, Peterson G (2000) Risk and trust in social exchange: An experimental test of a classical proposition. *Am J Sociol* 105(5):1396–1427.
42. Hayes AF (2013) *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (Guilford, New York).
43. Baron RM, Kenny DA (1986) The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol* 51(6):1173–1182.
44. Rothstein B (2000) Trust, social dilemmas and collective memories. *J Theor Polit* 12(4): 477–501.
45. Desroche H (1979) *The Social Kingdom of Hope* (Routledge, Boston).
46. Piron M, Malhotra D (2011) Foundations of organizational trust: What matters to different stakeholders? *Organ Sci* 22(4):1087–1104.
47. Hwang P (2006) Asset specificity and the fear of exploitation. *J Econ Behav Organ* 60(3):423–438.
48. Shockley E, Neal TMS, Pytlík Zillig LM, Bornstein BH (forthcoming) *Interdisciplinary Perspectives on Trust: Towards Theoretical and Methodological Integration* (Springer, New York).
49. Pew Research Center (2014) Public trust in government: 1958–2014 (Pew Research Center, Washington).
50. Shapiro SP (1987) The social control of impersonal trust. *Am J Sociol* 93(3):623–658.
51. Fiske ST (1993) Controlling other people. The impact of power on stereotyping. *Am Psychol* 48(6):621–628.
52. Kramer RM (1998) Paranoid cognition in social systems: Thinking and acting in the shadow of doubt. *Pers Soc Psychol Rev* 2(4):251–275.
53. Hegtvædt KA, Johnson C (2009) Power and justice: Toward an understanding of legitimacy. *Am Behav Sci* 53(3):376–399.
54. Molm LD, Schaefer DR, Collett JL (2009) Fragile and resilient trust: Risk and uncertainty in negotiated and reciprocal exchange. *Social Theory* 27(1):1–32.
55. Molm LD (1994) Dependence and risk: Transforming the structure of social exchange. *Soc Psychol Q* 57(3):163–176.
56. Molm LD, Schaefer DR, Collett JL (2007) The value of reciprocity. *Soc Psychol Q* 70(2): 199–217.
57. Hofstede GH (2001) *Culture's Consequences: Comparing Values, Behavior, Institutions, and Organizations Across Nations* (Sage, Thousand Oaks, CA).
58. Weber M (1978) *Economy and Society* (Univ of California Press, Berkeley, CA).
59. Lykken DT (1968) Statistical significance in psychological research. *Psychol Bull* 70(3): 151–159.
60. Buhrmester M, Kwang T, Gosling SD (2011) Amazon's Mechanical Turk—A new source of inexpensive, yet high-quality, data? *Perspect Psychol Sci* 6(1):3–5.
61. Weinberg JD, Freese J, McElhatten D (2014) Comparing data characteristics and results of an online factorial survey between a population-based and a crowdsourced-recruited sample. *Sociol Sci* 1:292–310.
62. Paolacci G, Chandler J, Ipeirotis PG (2010) Running experiments on Amazon Mechanical Turk. *Judgm Decis Mak* 5(5):411–419.
63. Horton JJ, Rand DG, Zeckhauser RJ (2011) The online laboratory: Conducting experiments in a real labor market. *Exp Econ* 14(3):399–425.
64. Mason W, Suri S (2012) Conducting behavioral research on Amazon's Mechanical Turk. *Behav Res Methods* 44(1):1–23.
65. LeVeck BL, Hughes DA, Fowler JH, Hafner-Burton E, Victor DG (2014) The role of self-interest in elite bargaining. *Proc Natl Acad Sci USA* 111(52):18536–18541.
66. Cook KS, Yamagishi T (2008) A defense of deception on scientific grounds. *Soc Psychol Q* 71(3):215–221.
67. Mayer RC, Davis JH (1999) The effect of the performance appraisal system on trust for management: A field quasi-experiment. *J Appl Psychol* 84(1):123–136.
68. Lammers J, Stapel DA, Galinsky AD (2010) Power increases hypocrisy: Moralizing in reasoning, immorality in behavior. *Psychol Sci* 21(5):737–744.
69. Emerson RM (1972) Exchange theory, part II: Exchange relations and networks. *Sociological Theories in Progress*, eds Berger J, Zelditch M, Anderson B (Houghton Mifflin, Boston), Vol 2, pp 58–87.

Supporting Information

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SI Materials and Methods

This section describes the sample, design, and experimental procedure for each of the four studies. The research was approved by the Institutional Review Board of the University of Arizona, and participants voluntarily agreed to take part after reading a disclosure form for research participation.

Study 1.

Participants. A total of 440 adults were recruited through MTurk, and 401 of them gave complete, usable responses (45% female; $M_{\text{age}} = 33.49$, $SD_{\text{age}} = 10.29$, ranging from 19 to 68 y of age).

Design and procedure. Study 1 used a single-factor (self's power: low, high) between-subjects experimental design, with self's power as the between-subjects independent variable and trust as the dependent variable, resulting in two levels of structural power: low self's power ($n = 203$) and high self's power ($n = 198$). Participants were randomly assigned to either the low or high self's power condition, provided a survey link to access the study, and presented with a negotiation task, adapted from extant research, that involved sales negotiations of a consignment of cell phones (34, 35). Participants were told: "The purpose of this study is to learn about online negotiations—settings where the negotiating parties cannot see each other. For this purpose, you will engage in a computer-mediated negotiation with another participant. You and the other participant will be assigned the role of either buyer or seller of a consignment of mobile phones. Your objective is to negotiate the price, the warranty period, and the duration of the service contract of the phones. The better the deal you negotiate, the more points you get. Points are valuable for you. They are converted to lottery tickets at the end of the study; the more points you earn, the more lottery tickets you will obtain, and the greater your chance of winning a US\$60 prize. Only participants who reach an agreement will participate in the lottery. Thus, there is an incentive to earn as many points as possible, but there is also an incentive to reach an agreement." Participants were then assigned the role of the seller and were shown their payoff structure (ref. 34, pp. 561–562). The payoff structure indicated that the best possible deal for the seller yields a total of 760 points (400 points for a \$150 sales price + 120 points for a 1-mo warranty period + 240 points for a 1-mo service contract duration). Participants were then informed about an offer from an ostensible first buyer. Whereas participants in the high self's power condition learned that the first buyer's proposal would yield 570 points (i.e., 75% of the maximum of 760 points), participants in the low self's power condition learned that the first buyer's offer would yield 190 points (i.e., 25% of the maximum of 760 points) (34). For manipulation check purposes, participants were asked, "How powerful do you feel in this situation?" (1, completely powerless; 7, extremely powerful). The logic behind this approach was to measure whether receiving either a considerate offer from the first buyer (high self's power condition) or an inconsiderate offer from the first buyer (low self's power condition) would alter participants' perceptual trust in a second buyer (whose behavior was held constant across both conditions). Participants were then told that they were about to be connected with a second buyer who would make his/her first offer (without being aware of the offer of the first buyer) and then would be able to either accept or make a counteroffer. To either accept the offer or make a counteroffer, participants were given 1 min per round and asked to specify the price level, warranty period level, and service contract duration level. Participants were also told that they

would be able to exchange offers with the second buyer six times and that failing to reach an agreement in the negotiation with the second buyer by the sixth round would mean that the offer advanced by the first buyer had to be accepted (34). Note that, in reality, both the first and second buyer in this study (as well as the different partners in studies 2–4) were not real humans, but preprogrammed responses (the specific preprogrammed responses are reported in detail in Table S1). We consider these procedures methodologically necessary, because they allowed us to cleanly implement our power manipulation while holding other factors constant and also avoiding excessive waste of data-collection resources (66).

Before the negotiation started, participants' perceptions of trust in the second buyer were measured. To measure trust, we adapted and expanded a seven-item measure anchored on a five-point answer scale (67). Items were: *The second buyer can be trusted*; *If I had my way, I wouldn't let the second buyer have any influence over my score* (reverse-coded); *I would be willing to let the second buyer have complete control over my performance in this negotiation*; *I really wish I had a good way to keep an eye on the second buyer* (reverse-coded); *I would be comfortable giving the second buyer a task or problem which is critical to me, even if I could not monitor his/her actions*; *The second buyer will be even-handed in negotiations with me*; and *The second buyer is trustworthy* ($\alpha_{T1} = 0.68$; $\alpha_{T2} = 0.82$; 1, strongly disagree; 5, strongly agree). Participants then presumably negotiated with the second buyer for a maximum of six rounds, after which trust was measured again. The programmed responses were identical in both conditions and are summarized in Table S1. We then assessed three different measures of power—experienced power, relative power, and power-related feelings—for use as additional manipulation checks. To measure experienced power, we used an established nine-item measure anchored on a seven-point answer scale (34) ($\alpha = 0.91$; 1, totally disagree; 7, totally agree). To measure relative power, we used an established nine-item measure anchored on a seven-point answer scale (34) ($\alpha = 0.97$; 1, definitely the second buyer; 7, definitely myself). To measure power-related feelings, we adapted and expanded a feelings of power measure anchored on a seven-point scale (68). The eight items were *in control*, *dominant*, *influential*, *independent*, *leading*, *dependent* (reverse-coded), *unimportant* (reverse-coded), and *subordinate* (reverse-coded) ($\alpha = 0.94$; 1, totally disagree; 7, totally agree). All three measures revealed that participants in the high self's power condition consistently reported higher experienced power, relative power, and power-related feelings than did participants in the low self's power condition (all $P < 0.001$), thus providing additional evidence that our manipulation of power was successful. Additionally, age and sex were recorded, and neither of these had significant coefficients ($P > 0.1$) when included as covariates in linear regressions of trust (averaged across T1 and T2) on self's power. After providing their responses, participants were paid US \$1.00.

Study 2.

Participants. A total of 479 adults were recruited through MTurk, and 419 of them gave complete, usable responses (45% female; $M_{\text{age}} = 33.99$, $SD_{\text{age}} = 10.88$, ranging from 18 to 71 y of age). Because of the relatively complex nature of the exchange game, we included six multiple-choice comprehension questions (described in greater detail below) and required participants to provide no more than one incorrect response for them to be included in the study. This process resulted in a sample of $n = 348$,

which was used for further analyses. To ensure that our data exclusion rule did not affect the overall results, we ran a series of robustness tests for different cut-offs. Results revealed that significance levels of the main effect of power on trust tended to decrease as more comprehension questions were answered incorrectly: Two or fewer wrong questions resulted in $P = 0.022$; three or fewer wrong resulted in $P = 0.035$; four or fewer wrong resulted in $P = 0.037$; five or fewer wrong resulted in $P = 0.036$; and six or fewer wrong resulted in $P = 0.049$. Note that the main effect remained statistically significant at $P < 0.05$ even with the most lenient exclusion rule.

Design and procedure. Study 2 used a single-factor (self's power: low, high) between-subjects experimental design, with self's power as a between-subjects independent variable and trust as the dependent variable, resulting in two levels of structural power: low self's power ($n = 181$) and high self's power ($n = 167$). Participants were randomly assigned to either the low or high self's power condition, provided a survey link to access the study, and presented with the exchange game, adapted from extant research, involving the decision to either keep or share a monetary endowment with an exchange partner (8, 36). Participants were told: "In addition to the \$1 we promised you earlier for participation in this study, you will have the opportunity to earn more money by participating in an exchange game with other MTurkers you'll be paired with. In each round of the exchange game, you will be endowed with €10, and you can decide to either send the €10 to your partner or keep the money to yourself. Your payoff depends on both your and your partner's choices. If you send the €10, the money is tripled. However, the partner then decides whether to share the €30 with you (so that each of you receives €15) or whether to keep the entire amount (so that you end up with nothing). If you send your money, your return is thus determined by your partner." Next, participants were asked three comprehension questions (e.g., *How much money will you end up with if both you and your partner choose to send money?*) and were then presumably connected to an exchange partner (Karen). Participants in the high self's power condition read: "You have been randomly assigned the role of the game's 'power player.' Power players get to play 10 rounds for sure whereas all other participants (including Karen) will play anywhere between 1 and 10 rounds, depending on the partner selections that you make. You can—prior to each round—choose whether to continue to play with your previous round's partner or whether to move on to play with a different partner. Should you decide to move on to play with a different partner, the game is over for your previous round's partner (such as Karen) at this point." Participants in the low self's power condition read: "You will play the exchange game for a minimum of 1 and a maximum of 10 rounds, depending on the partner selections that Karen makes. This is because Karen has been randomly assigned the role of the game's 'power player.' Power players get to play 10 rounds for sure and can—prior to each round—choose whether to continue to play with their previous round's partner or whether to move on to play with a different partner. Should Karen decide to move on to play with a different partner, the game is over for you at this point." Participants were then asked three further comprehension questions (e.g., *Based on the additional instructions above, what is the maximum number of rounds of the exchange game you will play today?*). For manipulation check purposes, participants were then asked: *How powerful do you feel in this exchange game?* (1, completely powerless; 7, extremely powerful). Next, participants in both conditions were confronted with the trust game (8, 36). Specifically, participants could either keep their monetary endowment (in which case Karen would get €0) or send their monetary endowment. If they chose the latter option, the monetary endowment would be tripled (€30), and it would be up to Karen to decide whether to share this money with her partner (and thus

reciprocate) or to take the entire tripled amount (and thus behave opportunistically). In line with the definition of trust as the willingness to make oneself vulnerable to the actions of another party (12), choosing the latter option can be interpreted as a behavioral measure of trust (our dependent variable). The outcome structure was also displayed to participants in a picture, which is depicted in Fig. S1. Taking the low-power actor's perspective in this game, the decision can be reinterpreted as one between earning €10 for sure (the choice predicted by the encapsulated interest account, based on the assumption that the participant anticipates Karen's decision to behave opportunistically) vs. making oneself vulnerable by sending the endowment (the choice predicted by the motivated cognition account, based on the assumption that the participant hopes Karen will reciprocate and/or continue to play additional rounds with the participant).

After completion of the trust game, we assessed another measure of power—power-related feelings—to be used as an additional manipulation check. To measure power-related feelings, we adapted and expanded a feelings of power measure anchored on a seven-point answer scale (68). The eight items were *in control*, *dominant*, *influential*, *independent*, *leading*, *dependent* (reverse-coded), *unimportant* (reverse-coded), and *subordinate* (reverse-coded) ($\alpha = 0.94$; 1, totally disagree; 7, totally agree). Providing additional support that our manipulation of power was successful, results revealed that participants in the high self's power condition consistently reported greater power-related feelings than did participants in the low self's power condition ($P < 0.001$). Next, age and sex were recorded, and neither of these had significant coefficients (P 's > 0.1) when included as covariates in a binary logistic regression of trust on self's power. After providing their responses, participants were paid US \$1.00 plus an additional €15 (i.e., the maximum expected payout in the exchange game).

As a robustness test, we reran the experiment while doubling the stakes; participants were now endowed with an additional €20 (instead of €10) to play in the exchange game. Based on 484 usable responses (42% female; $M_{\text{age}} = 34.13$, $SD_{\text{age}} = 10.95$, ranging from 18 to 69 y of age) satisfying the comprehension-based data exclusion rule described above, the manipulation of power was again successful: Participants in the high self's power condition perceived themselves to be significantly more powerful ($M = 4.56$, $SD = 1.02$, $n = 208$) than did participants in the low self's power condition ($M = 2.42$, $SD = 1.13$, $n = 276$), $t(482) = 21.51$, $P < 0.001$, Cohen's $d = 1.99$. A binary logistic regression with self's power (low, high) as a between-subjects independent variable and trust as the dependent variable revealed a significant negative effect of self's power, $B = -0.54$, $SE = 0.24$, $t = -2.28$, $P = 0.022$: Participants in the high self's power condition were significantly less trusting (23% chose to keep their endowment and 77% chose to send it) than those in the low self's power condition (14% chose to keep their endowment and 86% chose to send it), $\chi^2 = 5.28$, $P = 0.022$. This finding demonstrates robustness across different endowment magnitudes.

Study 3.

Participants. A total of 452 adults were recruited through MTurk, and 413 of them gave complete usable responses (42% female; $M_{\text{age}} = 33.04$, $SD_{\text{age}} = 10.10$, ranging from 18 to 67 y of age).

Design and procedure. Study 3 used a 2 (self's power: low, high) \times 2 (other's power: low, high) between-subjects experimental design, with self's power and other's power as between-subjects independent variables and trust as the dependent variable, resulting in four combinations of levels of structural power (37): low self's power/high other's power ($n = 100$), both low power ($n = 102$), both high power ($n = 106$), and high self's power/low other's power ($n = 105$). Participants were randomly assigned to one of these four conditions, accessed the study via a survey link,

and were presented with a vignette that was adapted from extant research and that involved the provision of typing services (37). Participants were asked to imagine that they were highly skilled typists who provided services such as typing students' term papers and designing PowerPoint presentations from handwritten notes. They were then told to imagine a new potential client, Kevin, getting in touch with them for the purpose of possibly using their PowerPoint services for two upcoming project presentations. They were also informed that some, but not all, typists in their field offer a free sample project to potential new clients. With this information, they needed to decide whether or not to offer Kevin their services on his first project for free, in which case he could then decide whether to also use their services for his second project. If participants chose to save their time, the game would end, and Kevin would not get any PowerPoint presentation, neither a free one nor a paid one. Consistent with Emerson's definition of power (69), the four combinations were manipulated in terms of relative value and availability of the resources in the exchange. To manipulate self's power levels, the value of the resource was varied by telling participants that their typing jobs were either desperately needed to make ends meet (low self's power) or relatively unnecessary except to pick up some extra spending money (high self's power). Additionally, the availability of the resource from alternatives was varied by telling participants either that they get only few jobs offered because many other people offer similar typing services (low self's power) or that they get many jobs offered because a lot of people need typing services (high self's power). To manipulate other's power levels, the value of the resource was varied by telling participants either that Kevin knows flashy PowerPoint presentations are very important in his profession (low other's power) or that Kevin mentions PowerPoint presentations are nice but that verbal presentations without PowerPoint would probably be acceptable for his purposes (high other's power). Additionally, the availability of the resource from alternatives was varied by telling participants either that Kevin is not aware of any other typists who offer PowerPoint services (low other's power) or that Kevin knows many other typists who are available (high other's power). For manipulation check purposes, participants were then asked, "How powerful do you feel in this situation?" (1, completely powerless; 7, extremely powerful). After reading the vignette, participants were confronted with a decision situation that is structurally equivalent to the trust game (8, 36). Specifically, participants could either save 3 h by not providing a free sample (in which case Kevin was left without any PowerPoint presentation from the participant, neither a free one nor a paid one), or they could invest 3 h to work on a free sample. If they chose the latter option, it would be up to Kevin to decide whether he would hire and pay the participant for his second job (and thus reciprocate) or whether he would take the free sample without placing any follow-up orders with the participant (and thus behave opportunistically). In line with the definition of trust as the willingness to make oneself vulnerable to the actions of another party (12), choosing to invest 3 h to work on a free sample can be interpreted as a behavioral measure of trust, the study's dependent variable. The outcome structure is summarized visually in Fig. S2.

Next, age and sex were recorded, and neither of these had significant coefficients ($P > 0.1$) when included as covariates in a binary logistic regression of trust on self's power and other's power. After providing their responses, participants were paid \$1.00.

Study 4.

Participants. A total of 449 adults were recruited through MTurk, and 401 of them gave complete, usable responses (48% female; $M_{\text{age}} = 34.54$, $SD_{\text{age}} = 11.01$, ranging from 19 to 71 y of age).

Design and procedure. Study 4's procedures were identical to those of study 3 and used a 2 (self's power: low, high) \times 2 (other's

power: low, high) between-subjects experimental design, with self's power and other's power as between-subjects independent variables and trust as the dependent variable, resulting in four combinations of levels of structural power (37): low self's power/high other's power ($n = 99$), both low power ($n = 96$), both high power ($n = 106$), and high self's power/low other's power ($n = 100$). For manipulation check purposes, participants were again asked, "How powerful do you feel in this situation?" (1, completely powerless; 7, extremely powerful). After reading the vignette for their respective condition, responding to the manipulation check question, and choosing to either save 3 h by not providing a free sample or invest 3 h to work on a free sample, participants also responded to measures of hope and trustworthiness. To measure hope, we adapted a two-item measure anchored on a seven-point answer scale (38). The items were *I really hope Kevin will hire me for the second (paid) project* and *I have a strong desire to see Kevin hire me for the second (paid) project* ($\alpha = 0.93$; 1, disagree strongly; 7, agree strongly). To measure trustworthiness, we adapted a 16-item measure anchored on a seven-point answer scale (67). Items were as follows: *Kevin is very capable of performing his job*; *Kevin is successful at the things he tries to do*; *I feel very confident about Kevin's skills*; *Kevin has expertise*; *Kevin is well qualified*; *Kevin is very concerned about my welfare*; *My needs are very important to Kevin*; *Kevin would not knowingly pursue actions that hurt me*; *Kevin really looks out for what is important to me*; *Kevin will go out of his way to support me*; *Sound principles seem to guide Kevin's behavior*; *Kevin has a strong sense of justice*; *I never have to wonder whether Kevin will stick to his word*; *Kevin tries hard to be fair in dealings with others*; *Kevin's actions and behaviors are not very consistent* (reverse-coded); and *I like Kevin's values* ($\alpha = 0.92$; 1, totally disagree; 7, totally agree). Items 1–5 measure ability, items 6–10 measure benevolence, and items 11–16 measure integrity (67)—the three dimensions of perceived trustworthiness (12). Next, age and sex were recorded, and neither of these had significant coefficients ($P > 0.1$) when included as covariates in a binary logistic regression of trust on self's power and other's power. After providing their responses, participants were paid \$1.00.

SI Formal Analysis of Incentive Structures

In what follows, we start to formally assess the incentive structures of the actors in study 2 and studies 3 and 4.

Study 2. Study 2 uses a repeated trust game with ten rounds, with our analysis focusing on the decisions in the first round of this game. From a strong-form rational theory perspective, no players should choose the trust option because the number of rounds is known (i.e., ten), making defection the dominant strategy for the trustee in the last round and, by backward induction, causing trustors never to trust. However, if we assume that the players are only boundedly rational and do not apply this comprehensive backward induction logic, and if we also assume that the players' choices are stable over rounds (i.e., trustors either trust consistently or not, and trustees always return or not), trust becomes a feasible strategy.

Fig. S3 depicts the game tree under these assumptions for both the high- and the low-power condition. Starting with the high-power condition, the participant has the option not to trust anyone and earn €100 over the ten rounds. Alternatively, this player can send the endowment, and Karen can in turn either defect or cooperate. In case she defects, the high-power actor will earn €0 in this round and change partners in future rounds. The high-power actor's total return will be €0 + 9x, with x denoting the expected earning from interacting with a new partner. In case Karen cooperates, the high-power actor will earn €15, continue to play with Karen, and continue to earn €15 in each of the remaining rounds, for a total of €150. Across these three different scenarios, Karen will either earn €0 (if the high-power

actor never trusts), €30 (if the high-power actor sends the money, Karen defects, and then gets replaced by a different partner), or €150 (if the high-power actor sends the money, Karen reciprocates, and continues to play all ten rounds).

Turning to the low-power condition, the participant has the option not to trust, earn €10 in the first round, but then be replaced by someone else, for total earnings of €10. Should the participant send the endowment and Karen defects, the participant will earn €0 in this round as well as in the next nine rounds (for a total earnings of €0). Should Karen cooperate, however, the participant will earn €15, and Karen will continue to play with him/her, resulting in total earnings of €150. Looking at Karen's perspective, she will either earn €0 + 9y, with y denoting the expected earning from interacting with a new partner (if the participant does not trust), €30 + 9y (if the participant sends the money, Karen defects, and then replaces the participant by a different partner), or €150 (if the participant sends the money, Karen reciprocates, and they continue to play all ten rounds).

Let us now follow (22) in assuming the participant's choice is determined by his/her expectation of Karen's behavior. In the condition in which the participant is high in power, Karen faces the decision between a certain €30 (by defecting) and an uncertain €150 (by cooperating). Compare this to the other condition in which the participant is low in power and Karen chooses between a certain €30 + 9y (by defecting) and an uncertain €150 (by cooperating). For any $y > €0$, Karen will be more likely to defect when the participant is low (rather than high) in power. In anticipation of this pattern, the participant should be less trusting in the low-power than in the high-power condition, as predicted by refs. 22–25.

Studies 3 and 4. Studies 3 and 4 use a one-shot typing scenario. Although the scenario did not provide participants with monetary values attached to their choice options, it is useful to introduce plausible values for formal analysis of the incentive structures. Let us assume the typist's (i.e., the participant's) cost of creating a PowerPoint presentation is \$50. The value of selling a PowerPoint presentation to Kevin depends on the typist's power position; we assume the value is \$175 when the typist has relatively high power (typing jobs are rather unnecessary; competition is mild) and \$200 when the typist has relatively low power (typing jobs are desperately needed; competition is fierce). Let us further assume the fee Kevin has to pay for a PowerPoint presentation is \$150. The value of receiving the PowerPoint presentation from the participant varies depending on Kevin's power; we assume it is \$100 when Kevin has relatively high power (verbal presentations are OK; he knows plenty of typists) and \$125 when Kevin has relatively low power (PowerPoint presentations are very important for his job; he doesn't know many typists).

Using these values, we can construct the condition-dependent outcomes (Fig. S4). Again assuming the participant's choice is determined by his/her expectation of Kevin's behavior (22), Kevin is more likely to defect and not place a paid follow-up order when he is high in power (and he faces a decision between \$100 if he defects vs. \$50 if he cooperates) than when he is low in power (and he faces a decision between \$125 if he defects vs. \$100 if he cooperates). In anticipation of this pattern, the participant should be less trusting when Kevin is high (as opposed to low) in power, as predicted by refs. 22–25.

		KAREN	
		Send	Keep
YOU	Send	€15 ; €15	€0 ; €30
	Keep	€10 ; €0	€10 ; €0

Fig. S1. Outcome structure of study 2. The first amount in each of the four cells denotes the participant's payoff, and the second amount (after the semicolon) denotes the partner's (Karen's) payoff. Participants could either keep their monetary endowment (€10) or send it to their partner (Karen). If they chose the latter option, the monetary endowment would be tripled (€30), and it would be up to the partner (Karen) to decide whether to equally share this money with the participant or to keep it to herself.

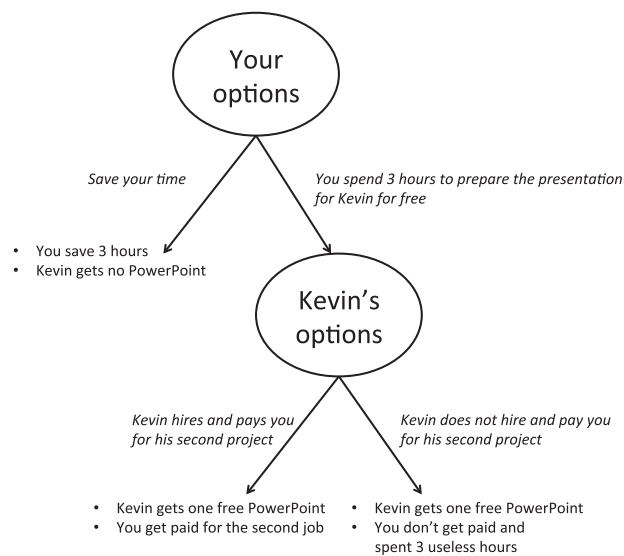


Fig. S2. Outcome structure of studies 3 and 4. Participants could either save their time by not providing a free sample or spend 3 h to prepare a free sample. If they chose the latter option, it would be up to the partner (Kevin) to decide whether or not to hire and pay the participant for his second project.

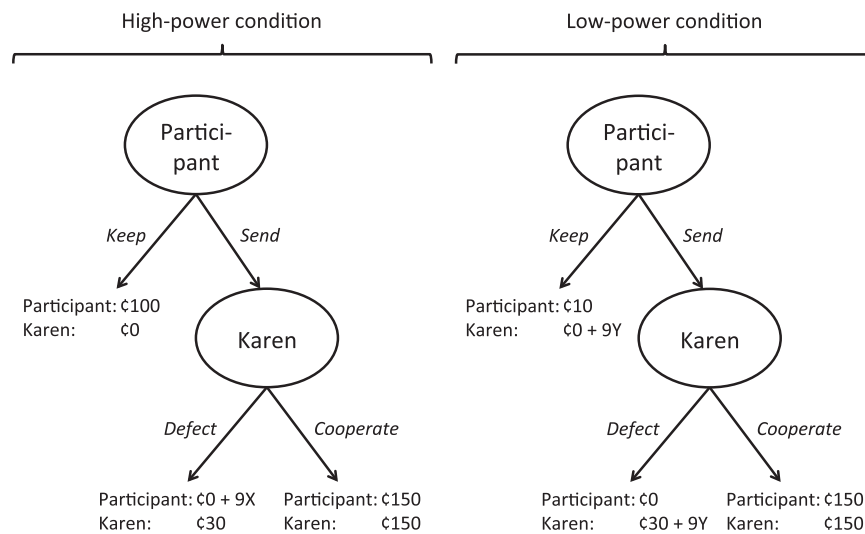


Fig. S3. Game tree of study 2. Outcomes for the participant and for Karen are compared across the high-and low-power conditions.

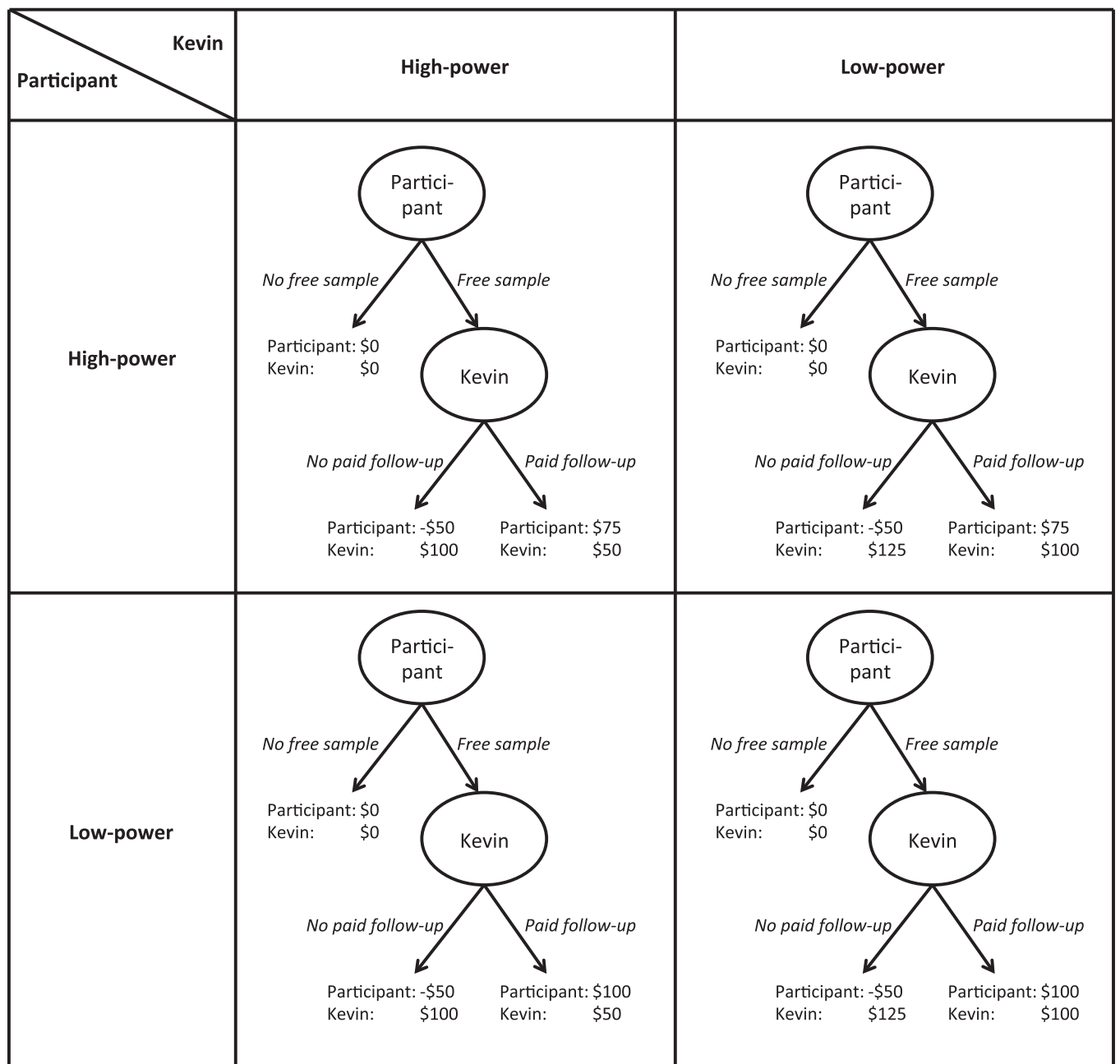


Fig. S4. Game tree of studies 3 and 4. Outcomes for the participant and for Kevin across the four conditions are shown.

Table S1. Preprogrammed responses in study 1

Round	Price	Warranty period	Duration of service contract
First offer	Level 8: \$115	Level 7: 7 mo	Level 8: 8 mo
Second offer	Level 8: \$115	Level 7: 7 mo	Level 7: 7 mo
Third offer	Level 8: \$115	Level 6: 6 mo	Level 7: 7 mo
Fourth offer	Level 7: \$120	Level 6: 6 mo	Level 7: 7 mo
Fifth offer	Level 7: \$120	Level 6: 6 mo	Level 6: 6 mo
Sixth offer	Level 6: \$125	Level 6: 6 mo	Level 6: 6 mo

Participants received offers from a second buyer in six consecutive rounds of negotiation (cf. ref. 34).