Social proximity and respect for norms in trust dilemmas

Anthony M. Evans | How Hwee Ong | Joachim I. Krueger

Abstract
Trust is based on both rational considerations (outcomes and expectations) and moral considerations (respect for moral norms). We find that social proximity shifts the extent to which trust is perceived as a moral decision. People are more likely to trust similar strangers (partners they share personality traits with) because they feel it is the moral thing to do. In three studies, we found that partner similarity was associated with increased trust, and this effect was mediated by increased feelings of normative obligation. This mediation remained significant after controlling for expectations of reciprocity and participants’ tendency to like similar partners more than dissimilar partners (Studies 1 and 2). Furthermore, the felt obligation to trust similar partners was based, in part, on a desire to avoid insulting the other party’s moral character. The effect of partner similarity on feelings of obligation was weakened when distrust was no longer insulting to the trusted party’s character (Study 3). These findings add to our knowledge of how social information shifts the extent to which trust is perceived as a moral decision.

KEYWORDS
judgment and decision making, social dilemmas, social distance, social norms, trust

1 | SOCIAL PROXIMITY AND RESPECT FOR NORMS IN TRUST DILEMMAS

Trust facilitates efficient exchanges in the face of uncertainty, making it important for individuals, organizations, and society at large (Thielmann & Hilbig, 2015; Van Lange, 2015). What are the processes underlying trust at zero acquaintance? Research has shown that trust is based on both rational considerations (e.g., economic payoffs and expectations of reciprocity; Evans & Krueger, 2014a; Evans & Krueger, 2017) and moral considerations (e.g., respect for the norm that trust is the moral thing to do; Dunning et al., 2014; Schlösser et al., 2016). But less is known about when trust is perceived as a moral decision. We introduce the idea that social information shifts the extent to which trust decisions are based on moral concerns. More specifically, we test the hypothesis that the normative obligation to show trust is heightened when trustors interact with socially proximate partners (i.e., partners with similar personality traits). We propose that people are more likely to trust similar strangers because they feel a stronger obligation when interacting with similar partners. The present research provides new insights into how social information shapes trust among strangers.

2 | RATIONAL AND MORAL APPROACHES TO TRUST

Psychologists and economists use a stylized game to investigate trust behavior at zero acquaintance (Berg et al., 1995; Snijders & Keren, 1999). The game unfolds in two stages (see Figure 1). First, the trustor chooses between the status quo, which entails mediocre payoffs for both parties, and trusting the other player, which entails a choice for the trustee and an uncertain outcome for the trustor. That...
is, the trustee chooses either reciprocity (preferable to the status quo for both parties) or betrayal (the best possible outcome for the trustee; the worst possible outcome for the trustor).

How do people make trust decisions under the conditions of zero acquaintance, when the trustor and the trustee have no prior relationship and no pre-decision communication? Some studies point to the idea that under such conditions, trust decisions are somewhat rational. Rational models assume that trusting behavior is based on potential outcomes and their corresponding expected probabilities; in other words, decisions are based on the calculation of expected value or expected utility (Camerer, 2011). Trustors are indeed sensitive to these considerations. Trust is likely inasmuch as the benefit of reciprocity is large and the cost of betrayal is small (Evans & Krueger, 2011; Evans & Krueger, 2014b). Trustors are also sensitive to their own expectations of reciprocity, although the correlation between expectations and behavior is smaller than normative considerations demand (Evans & Krueger, 2017). Early models of rational choice assumed that decision makers were narrowly self-interested (Berg et al., 1995). However, models of relaxed, or bounded, rationality grant other-regarding preferences a role. Indeed, a trustor who derives satisfaction from helping others might rationally seek to maximize a utility function based on both her own expected payoff and the trustee's expected payoff (Camerer, 2011).

It is clear, however, that trust decisions also depend on non-economic and, in particular, moral considerations. Some changes in the likelihood of trust cannot be explained by changes in payoffs or probabilities. Dunning et al. (2014) argued that people trust strangers because refusing to do so would amount to a signal of disrespect. According to this view, people trust because they feel they should and not because they want to. Doing so, these trustors fend off feelings of anxiety or guilt that could arise from violating the moral norm that one should give strangers the benefit of the doubt (Schlösser et al., 2016). A key piece of evidence for this account lies in the finding of principled trustfulness: People are often more willing to choose trust than choose an equivalent, in terms of financial outcomes and probabilities, nonsocial gamble (Fetchenhauer & Dunning, 2009).

We test the idea that social information affects the importance of moral, non-calculative considerations in trust dilemmas. We thereby build on recent studies finding that situational cues can shift the extent to which trust is based on moral concerns. Consider, for example, research comparing trust decisions in the domains of economic gains versus losses (Evans & van Beest, 2017). In these studies, the outcomes of the trust game were framed to participants as either potential gains or potential losses. In the gain-frame condition, participants started with nothing and earned different amounts of points based on their choices. In the loss-frame condition, participants started with large point totals and lost different amounts of points based on their decisions. Results showed that trust decisions involving losses were less rational than trust decisions involving gains; that is, changes in outcomes and expectations had weaker effects on trusting behavior in the domain of losses. Arguably, this shift occurred because framing a situation in terms of losses (vs. gains) shifted decision making toward moral considerations, as people are motivated to avoid decisions that cause losses for others (Van Beest et al., 2005). Here, we investigate the hypothesis that social proximity influences trusting behavior by increasing the importance of moral considerations.

3 | SOCIAL PROXIMITY AND TRUST

People are more willing to help, cooperate with, and trust in socially proximate (vs. socially distant) interaction partners (Baillet et al., 2014; Bohnet & Frey, 1999; Vekaria et al., 2017). Many mechanisms contribute to this effect: Common explanations suggest that people derive greater personal satisfaction or utility from helping similar others (Chen & Li, 2009; Jones & Rachlin, 2006, 2009; Telzer et al., 2011). People like similar others, and they experience a warm glow from helping liked others (Rotemberg, 2014). Moreover, social proximity also influences the self-interested calculations underlying trust by changing trustors’ expectations of reciprocity. People expect greater cooperation from similar others and in-group members (Foddy et al., 2009; Krueger et al., 2016). This change in expectations is related to both greater reliance on social projection (Krueger et al., 2012) and shared knowledge of common group membership (Foddy et al., 2009).

We add to this literature by testing whether the effect of social proximity on trust is also mediated by a heightened sense of moral obligation toward the trustee. Our proposed mechanism is based on the following assumptions: First, prior work found that those who do not trust others are seen as less moral than those who trust others (Evans & van de Calseyde, 2017). People perceive trust as a moral choice because choosing distrust reduces the potential payoff of the trustee (Evans & van Beest, 2017) and because distrust is seen as insulting or disrespectful to the trustee’s moral character (Stavrova et al., 2020). As noted above, this sense of moral obligation helps to explain why people are more willing to trust than take comparable nonsocial risks (Dunning et al., 2019a).
Second, the negative perceptions of distrustful individuals are amplified for those who distrust similar others. Some prior work supports this assumption. Those who defect against similar interaction partners are seen as doubly immoral, as they cause harm to others and violate the principle of in-group loyalty (Graham et al., 2013). Similarly, selfish behavior is punished more severely when the violator and the victim are members of the same social group (Bernhard et al., 2006); and when in-group and out-group members engage in the same noncooperative behavior, people are more willing to spend resources to punish in-group members (Shinada et al., 2004). Finally, we assume that trustors seek to avoid the negative consequences of immoral behavior. These negative consequences may come in the form of greater reputational damage (Evans & van de Calseyde, 2017) or greater harm to the interaction partner (Baron, 1996) or in the loss of positive self-image (Gneezy et al., 2012). For example, self-signaling models suggest that people will engage in costly helping behaviors so they can continue to see themselves as benevolent and loyal.

In the present research, we focus on perceived similarity in personality as a manipulation of social proximity. In everyday life, perceptions of dispositional similarity are influenced by a range of informational cues, including facial appearances (Penton-Voak et al., 1999), vocal characteristics (Miyake & Zuckerman, 1993), and nonverbal behavior (Choi et al., 2017). In turn, social and organizational psychology suggests that perceived similarity in personality has large and far-reaching effects on social proximity (Montoya & Horton, 2013). In organizations, perceived similarity in personality influences hiring decisions (Kristof-Brown et al., 2002; Van Huyse & Turban, 2015), mentoring behavior (Enscher & Murphy, 1997), and promotion decisions (Schaubroeck & Lam, 2002); and it also plays an important role in friendships (Urberg et al., 1998) and close relationships (McCrae et al., 2008). We add to these literatures by examining how perceived similarity in personality influences economic trust decisions at zero acquaintance.

4 | OVERVIEW OF STUDIES

We conducted three studies on the effects of social proximity on trust. Our central hypothesis was that social proximity would be positively associated with trust, and this effect would be mediated by heightened feelings of normative obligation (i.e., the feeling that one should trust because it is the right thing to do). In other words, we expected that participants would feel a stronger normative obligation to trust when interacting with a similar partner, and this, in turn, would predict an increase in trusting behavior.

In our first two (exploratory) studies, we tested whether feelings of normative obligation mediated the effect of social proximity on trust; and we tested whether this mediation effect remained significant while controlling for the effects of social proximity on partner liking and expectations of reciprocity. Prior work found that people like (Robbins & Krueger, 2005) and expect more cooperation (Balliet et al., 2014) from similar interaction partners. Controlling for these factors allowed us to assess whether the effects of similarity on trust could be explained by parochial (i.e., liking) or strategic (i.e., expectations of reciprocity) considerations.

In the present studies, we focused on a personality-based manipulation of social proximity. We asked participants to make trust decisions involving interaction partners with whom they shared varying numbers of personality traits (zero, one, or two out of a possible two traits). We present Studies 1 and 2 together, as the methods and analyses are similar.

5 | STUDIES 1 AND 2

In our first two studies, our goal was to test whether perceived normative obligation mediated the effect of social proximity on trust. We also tested whether the mediating effect of normative obligation would remain significant while controlling for the effects of social proximity on partner liking and expectations of reciprocity. Prior work found that people like (Robbins & Krueger, 2005) and expect more cooperation (Balliet et al., 2014) from similar interaction partners. Controlling for these factors allowed us to assess whether the effects of similarity on trust could be explained by parochial (i.e., liking) or strategic (i.e., expectations of reciprocity) considerations.

In the present studies, we focused on a personality-based manipulation of social proximity. We asked participants to make trust decisions involving interaction partners with whom they shared varying numbers of personality traits (zero, one, or two out of a possible two traits). We present Studies 1 and 2 together, as the methods and analyses are similar.

5.1 | Methods

We describe the methods for Study 1 in detail and then clarify the ways in which Study 2 differed from this procedure.

5.1.1 | Study 1 methods

We recruited 129 US American participants from Amazon’s Mechanical Turk (MTurk) using TurkPrime (Litman et al., 2017). There were 55 women and 74 men, and the average age was 34.57, SD = 10.57. The study took about 10 min to complete, and participants were paid $1.50 each plus bonus payments based on one randomly selected choice, which ranged from 10 to 48 cents per participant. Our planned sample size was based on the number of participants needed to detect a small effect, $f = .1$ in a repeated measures analysis with six trials, with 80% power and an alpha of 5%; minimum $N = 117$.

The trust game

Participants made decisions in 18 trials of a binary-choice trust game. All participants were assigned to the role of Player 1, the trustor. A separate group of participants, recruited prior to the main study, were assigned to the role of Player 2, the trustee (this procedure is described below). A screenshot of the trust game, as presented to participants, is shown in Figure 2.

Past partners protocol. To incentivize participants’ decisions, we employed a past partners protocol (Evans & Krueger, 2017). Prior to conducting the main study, we recruited a separate sample of
150 MTurk workers to make decisions as trustees. Participants in the main study were then informed that a separate group of participants had already made decisions as Player 2 and that their current decisions would affect their own bonus payments, as well as the bonus payments of these previous participants. Thus, there was no deception, and participants stood to earn real money.

**Similarity manipulation.** The trust game was organized into three blocks, each of which consisted of six trials. The three blocks corresponded to three similarity conditions, which were presented in a randomized order for each participant. At the start of each block, participants were randomly assigned to interact with one of three potential partners who had previously played the game as Player 2, the trustee. Further, they were informed that one randomly selected trial from the experiment would be implemented and they would receive bonus payment based on the outcome of this trial at a rate of $0.01 per point.

At the start of each block, participants were presented with similarity information (i.e., the number of traits the participants shared with the trustee), and this similarity information remained visible until the end of the block. Similarity was manipulated through a personality survey comprising a list of 16 personality traits related to the Big Five trait taxonomy. At the beginning of the study (before reading anything about the trust game), participants were required to choose two traits that best characterized themselves. Participants from the sample of trustees also selected two traits from this same list. The number of shared traits that participants had with their partners constituted the levels of similarity: low (0/2 shared traits), medium (1/2 shared trait), and high (2/2 shared traits). Additionally, participants were informed that similarity information was one-sided: Participants knew how similar they were to trustees, but trustees did not know how similar they were to the trustors when they made their decisions. Participants were explicitly told that trustees from the pre-study knew they would be interacting with strangers and did not have any information about their potential interaction partners. Using a one-sided similarity manipulation allowed to us to rule out the possibility of partner effects based on common group knowledge (Foddy et al., 2009).

In each trial, the trustor was required to choose between IN (trust) or OUT (status quo). In sum, participants made six binary trust decisions in each of the three similarity conditions, resulting in a total of 18 decisions. Participants did not receive any feedback during the
experiment and did not learn about their bonus payments until after data collection for the study was complete.

Similarity manipulation pretest. We conducted a pretest to verify that the above manipulation would influence perceived similarity and trusting behavior: planned \( N = 50 \) and actual \( N = 51 \) MTurk workers. Participants were presented with the similarity manipulation described in the preceding section; they made six hypothetical trust decisions in each of the three similarity conditions; and then rated the perceived similarity of the three partners with two items: “How similar do you feel to Player 2?” (1 = not at all similar; 7 = very similar) and “How much do you have in common with Player 2?” (1 = very little in common; 7 = a lot in common).

We estimated multilevel models to test the effects of our similarity manipulation (coded as \(-1, 0, \) and 1 for low, medium, and high, respectively) on perceived similarity and trust: Reassuringly, the manipulation had large effects on both perceived similarity, \( b = 1.19, SE = 0.03, p < .001 (M_{\text{Low}} = 1.96, M_{\text{Med}} = 3.10; M_{\text{High}} = 4.35), \) and trust decisions, \( b = 0.67, SE = 0.12, p < .001 (M_{\text{Low}} = 40\%, M_{\text{Med}} = 50\%; M_{\text{High}} = 57\%).\)

Payoff structure. To reduce potential demand effects of the similarity manipulation, we manipulated the payoff structure of the trust game. Two factors, risk and temptation, were orthogonally manipulated, as shown in Figure 1. Risk refers to the favorability of the trustor’s outcomes after choosing trust, and temptation refers to the trustee’s relative incentives for choosing betrayal instead of reciprocity (Snijders & Keren, 1999). Both factors influence trust decisions, though the effects of risk tend to be larger than the effects of temptation (Evans & Krueger, 2014b).

Risk was defined as the ratio of the trustor’s cost over benefit and was operationalized as \((P_1 - S)/(R_1 - S)\); there were two initial levels of risk, 0.25 (low) and 0.75 (high). When risk was high, the potential cost of betrayal \((P_1 - S)\) was relatively large, and the potential benefit of reciprocity \((R_1 - S)\) was relatively small. Temptation was defined as the trustee’s incentive to choose betrayal and was operationalized as \((T - R_2)/T\), with three initial levels: 0.16 (low), 0.35 (medium), and 0.60 (high). As the level of temptation increased, the trustee received larger bonuses for choosing betrayal \((T)\) instead of reciprocity \((R_2)\). A 5% jitter was applied to each payoff value, resulting in the payoff structure presented in Table 1. These six trials were repeated in each of the three similarity conditions in a random order.

Postgame measures
The post-game questionnaire comprised three sections, which were presented in a randomized order.

Normative obligation. We measured participants’ perceived obligation to choose trust in each trial of the game. Participants were presented with all 18 trials of the game along with partner similarity information (i.e., how many traits they shared with the trustee). They indicated their “should beliefs” by responding to the item “As Player 1, what should you do?” on a 7-point scale (1 = I definitely should choose IN, 7 = I definitely should choose OUT) (Dunning et al., 2014; Thielmann & Hilbig, 2017).

Partner liking. We asked participants how much they liked each of the three partners. They were presented with the similarity information of the three partners, and they indicated how much they liked each partner by responding to two items: (1) “How much do you like your first/second/third partner?” (1 = not at all, 7 = a great deal) and (2) “How much do you think you would like your first/second/third partner?” (1 = I feel I would probably dislike this person very much, 7 = I feel I would probably like this person very much). The two items were reliable (Cronbach’s \( a = .91, .87, \) and .67 for the low, medium, and high similarity conditions, respectively) and were averaged to create a score of liking for each partner.

Projected behavior. Participants were presented with the set of six trials (without similarity information) and indicated what they would do if they were Player 2 (i.e., their projected behavior as trustee). For each of the six trials, they responded to the item “What would you do if you were Player 2?” on a 7-point scale (1 = I definitely would choose LEFT, 7 = I definitely would choose RIGHT), where LEFT denotes reciprocate and RIGHT denotes betrayal. The analyses involving projected behavior are included in Data S1.

5.1.2 Study 2 methods
We recruited 266 participants from the psychology subject pool at Tilburg University. The study was administered online using Qualtrics. There were 204 women and 62 men, and the average age was 20.20 (SD = 2.27). The study took about 10 min to complete, and participants received partial course credit for completing the

| TABLE 1 | Payoff structure of the trust game and descriptive statistics |
|---------|---------------------------------------------------------------|
| Trial number | \( P_1 \) | \( P_2 \) | \( R_1 \) | \( R_2 \) | \( S \) | \( T \) | Risk | Temptation | Trust Study 1 | Trust Study 2 | Trust Study 3 |
| 1       | 39    | 21    | 69    | 68    | 30    | 83    | 0.23 (low) | 0.18 (low) | 70.28%     | 70.43%     | 81.8%        |
| 2       | 38    | 19    | 73    | 67    | 29    | 108   | 0.20 (low) | 0.38 (medium) | 64.60%     | 58.64%     | 75.8%        |
| 3       | 39    | 20    | 72    | 71    | 30    | 166   | 0.21 (low) | 0.57 (high) | 65.37%     | 58.40%     | 73.7%        |
| 4       | 39    | 21    | 48    | 51    | 10    | 60    | 0.76 (high) | 0.15 (low) | 38.50%     | 44.49%     | 37.6%        |
| 5       | 42    | 19    | 48    | 49    | 10    | 81    | 0.84 (high) | 0.40 (medium) | 30.23%     | 37.09%     | 28.7%        |
| 6       | 40    | 19    | 50    | 52    | 10    | 126   | 0.75 (high) | 0.59 (high) | 31.52%     | 30.70%     | 28.6%        |
study. Our planned sample size was based on the number of participants we were able to recruit over a 2-week period. There were four substantive ways in which the procedure for Study 2 differed from Study 1:

1. Decisions in the trust game were not incentivized, and participants were informed at the beginning of the experiment that the game was hypothetical.

2. Our measure of normative obligation was expanded from one to three items: (1) “Player 1 should choose IN,” (2) “Choosing IN is the moral thing to do,” and (3) “Choosing IN is the appropriate thing to do.” Responses were made on a 7-point scale (1 = strongly disagree, 7 = strongly agree). The three items were reliable (Cronbach’s α ranged between .78–.83, .80–.84, and .77–.83 for the low, medium, and high similarity conditions, respectively) and were averaged to create obligation scores for each trial.

3. We added a third item to our measure of partner liking: “How much do you want to help your first/second/third partner?” (1 = not at all, 7 = a great deal). The three items measuring liking were reliable (Cronbach’s α = .82, .74, and .80 for the low, medium, and high similarity conditions, respectively) and were averaged to liking scores for each partner.

4. We included a trial-level measure of expectations of reciprocity. For each of the 18 trials, participants indicated how likely it is that Player 2 will choose RIGHT (i.e., betrayal). Responses were made on a scale from 0 to 100, where 0 = 0% chance Player 2 will choose RIGHT and 100 = 100% chance Player 2 will choose right. This variable was then scaled from 0 to 1.

5.2 | Results and discussion

5.2.1 | Similarity, normative obligation, and trust

Our first set of analyses focused on testing whether partner similarity was associated with greater trust and whether this relationship was mediated by feelings of obligation. The within-condition levels of normative obligation and trust are reported in Table 2.

We estimated a multilevel logistic mediation model using the gsem builder in Stata 16. In this model, partner similarity was the predictor (coded as −1, 0, and 1 for low, medium, and high, respectively); normative obligation was the mediating variable (grand-mean centered), and trusting decision (1 = trust; 0 = distrust) was the binary outcome variable. The full models are reported in Figure 3. In Study 1, the model included crossed random intercepts at the levels of participant and trial; in Study 2, the model including crossed intercepts was too complex to converge, and so random intercepts were estimated only at the level of participants.

The results supported our hypothesis: Similarity was associated with increased normative obligation (p < .001); normative obligation was associated with increased trust (p < .001); and the indirect effects of similarity via normative obligation were significant for both Study 1 (0.31, SE = 0.04, p < .001) and Study 2 (0.09, SE = 0.01, p < .001). In other words, we found that similarity increased the normative obligation to trust, which in turn led to increased trusting behavior.

5.2.2 | Liking and expectations of reciprocity

Next, we examined if the indirect effect of similarity via obligation (reported in the previous section) remained significant after controlling for the indirect effects of liking and expectation of reciprocity. To do so, we estimated multilevel mediation models with moral obligation, liking, and expectation of reciprocity entered as simultaneous mediators. The full models are reported in Figure 4. All three mediators were grand-mean centered. We included random intercepts at the level of participants.

We found that both liking (in Studies 1 and 2) and expectations of reciprocity (in Study 2) also mediated the effects of social proximity on trust. Nevertheless, the indirect effect of similarity via normative obligations remained significant in both Study 1 (0.34, SE = 0.07, p < .001) and Study 2 (0.09, SE = 0.008, p < .001).

5.2.3 | Additional analyses

We include two sets of additional analyses in our supplemental materials: First, we tested whether similarity significantly moderated the relationships between the two payoff factors (risk and temptation) and trust. For example, one possibility is that changes in payoffs matter less when interacting with a similar (vs. dissimilar) partner.

| Similarity | Low | Medium | High | Overall |
|------------|-----|--------|------|---------|
| Normative obligation (SD) | Study 1 3.79 (2.46) | 4.18 (2.39) | 4.57 (2.44) | 4.17 (2.45) |
| Study 2 4.10 (1.44) | 4.25 (1.43) | 4.39 (1.43) | 4.24 (1.44) |
| Trust | Study 1 .41 | .52 | .58 | .50 |
| Study 2 .41 | .51 | .58 | .50 |
| Liking (SD) | Study 1 3.60 (1.21) | 4.39 (0.87) | 5.25 (1.16) | 4.41 (1.28) |
| Study 2 3.78 (0.98) | 4.43 (0.74) | 5.01 (0.95) | 4.40 (1.03) |
| Expectations of reciprocity (SD) | Study 1 .31 (.25) | .35 (.31) | .39 (.26) | .35 (.25) |

TABLE 2 The effects of similarity on normative obligation, trust, liking, and expectations of reciprocity (Studies 1 and 2)
However, there was no evidence of significant payoff-by-similarity interactions.

Second, we tested whether partner similarity moderated the relationship between projected reciprocity (what participants indicated they would do themselves in the role of the trustee) and trust. Note that the similarity-contingency model of cooperation predicts that people should be more likely to employ the strategy of projection when they interact with similar partners (Ames, 2004). We found mixed support for this prediction: In Study 2, there was a positive projection-by-similarity interaction, such that the correlation between projected reciprocity and trust was stronger when participants interacted with similar (vs. dissimilar) interaction partners ($p = .007$). Note, however, that this interaction did not reach significance in Study 1 ($p = .08$).

6 | STUDY 3

In our first two studies, we found consistent evidence for the prediction that similarity is associated with greater feelings of obligation. Why do people feel a stronger obligation to trust in similar interaction partners? Prior research on principled trustfulness has argued that people feel obligated to trust others because distrust is seen as an insult to the trusted party’s moral character (Dunning et al., 2019b). It may be seen as rude or disloyal to accuse someone of being immoral. Indeed, people have strong negative reactions when they perceive that they have been judged as untrustworthy (Pillutla et al., 2003; van de Calseyde et al., 2017). Hence, people may feel a heightened obligation to trust similar interaction partners, as not doing so would be seen as particularly insulting. We conducted a preregistered study to test this account.
We tested whether the relationship between partner similarity and the perception of normative obligation to trust is moderated by whether the interaction is a standard trust game or a comparable game where the second player’s choices are determined by a probabilistic algorithm, a so-called “risky dictator” game. In the “trust” condition, Player 1 chose whether to trust Player 2, and Player 2 chose whether to reciprocate. In the “risky dictator” condition, Player 1 was informed that Player 2’s choices would be made by a computer algorithm simulating the decisions of previous human participants. In this situation, the trustee’s moral character should have no bearing on the trustor’s decision. Rather, the trustee’s decision is based on their beliefs about people in general or specific beliefs about how the algorithm works.

We hypothesized that partner similarity would have a stronger effect on normative obligation in the trust (vs. risky dictator) condition. This hypothesis was based on the idea that people are reluctant to distrust similar others because distrust behavior would be seen as an insult to the other party’s morality. In the risky dictator condition, there would be no perceived insult because the second player does not have to make an active choice about whether to reciprocate.

The preregistration for Study 3 is available at https://osf.io/hz7kd/?view_only=b8f93d9ef7774d13bfd65120749dcbe4.

### 6.1 Methods

#### 6.1.1 Participants

We recruited 315 participants from Prolific Academic (Prolific, 2019). There were 136 women, 164 men, and two participants who did not report a gender. The average age was 27.09, SD = 8.87. The study took about 15 min to complete, and participants were paid £1.75 each plus bonus payments based on one randomly selected choice, which ranged from £0.10 to £0.48 per participant.

We used the “simr” package and data from our second study to plan our sample size (Green & MacLeod, 2016). In our second study, we observed that the main effect of similarity on normative obligation was $b = 0.14$. We used Study 2 data to simulate the number of participants we would need to reliably detect an effect size half of this size, $b = 0.07$. According to our simulations, a sample size of $N = 150$ participants (providing 18 data points each) would give us at least 90% power to detect an effect size of $b = .07$ at an alpha level of .05. Therefore, we planned to recruit a total of 300 participants, 150 per condition.

#### 6.1.2 Materials and procedure

Participants were randomly assigned to the “trust game” condition or the “risky dictator game” condition. The trust game condition followed the design of Study 1: Participants made a series of 18 decisions, six decisions with each of three possible partners. We used a past partners design, meaning that we recruited an additional 300 participants to make decisions as trustees.

In the risky dictator game, participants were presented with a series of decisions that were similar to the trust game. Their decisions would affect their payoff (and the payoff of their interaction partner). However, the decisions of the interaction partner (Player 2) were made by a computer program. Participants were presented with the following explanation of the game: “A computer program will make choices on behalf of Player 2. This program will make choices based on the actual decisions of participants from previous studies. More specifically, the choices made by the program will be based on a random selection from a database of past choices made by actual participants. The program will choose LEFT or RIGHT without knowing if you (Player 1) choose IN or OUT. [...] Note that there are actual Player 2’s in this scenario (other participants we have recruited through Pro- lific). However, their decisions will be made by the computer program. While the computer program will make decisions on their behalf, they will still receive bonus payment based on the result of the choices made by you and the computer.”

Participants in both conditions completed the three-item measure of normative obligation introduced in Study 2. We randomized whether participants responded to the normative obligation items before or after they made their decisions in the trust/risky dictator game. More concretely, participants provided the two types of responses in blocks (e.g., half of the participants made a series of 18 trust/risky dictator decisions and then later responded to the obligation items for each of the 18 rounds).

### 6.2 Results

We estimated a multilevel moderated mediation model to test whether the relationship between similarity and perceived obligation was moderated by experimental condition (trust game vs. risky dictator game). The full model is shown in Figure 5a. Critically, there was a significant similarity-by-condition interaction term, $b = -.03$, SE = .02, $p = .048$, indicating that the relationship between similarity and perceived obligation was stronger in the trust game compared with the risky dictator game.

To better understand this interaction, we estimated the simple indirect effects of obligation within each experimental condition (see Figure 5b,c). Note that the relationship between similarity and perceived obligation was positive in both conditions but stronger in the trust game condition ($b = .19$) than in the risky dictator game condition ($b = .12$). In both cases, perceived obligation significantly mediated the effect of similarity on trust. The indirect effect of obligation was not significantly stronger in the trust game condition ($b = 0.10$) compared with the risky dictator game condition ($b = 0.07$), $Z = 1.61, p = .10.$

### 7 General Discussion

How does social proximity influence trusting behavior at zero acquaintance? Consistent with previous studies, we found that social

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1We used the following formula to compare the two indirect effects: $Z = \frac{\delta_1 - \delta_2}{\sqrt{SE_1^2 + SE_2^2}}$
proximity is associated with increased trust; people are more willing to trust psychologically similar (vs. dissimilar) others. We also found that the effect of social proximity is mediated, in part, by the normative obligation to show trust. When trustors interact with proximal trustees (e.g., interaction partners they share personality traits with) they are more likely to feel that trust is the right thing to do, and these feelings of normative obligation are associated with increased trusting behavior. In Studies 1 and 2, this mediation effect remained significant while controlling for other factors that might influence the relationship similarity and trust, such as people liking and expecting more reciprocity from similar (vs. dissimilar) interaction partners. This suggests that the extent to which trust is perceived as a moral decision depends on how people perceive their interaction partners. Indeed, people may consider trust interactions with unfamiliar or dissimilar others as more closely resembling decisions involving individual risk.

The results of our third study provide some insight into why people feel a stronger obligation to trust similar interaction partners. In this study, the relationship between similarity and perceived obligation was weaker when participants knew that the decisions of the trusted party were controlled by an algorithm. One potential implication of this finding is that it may be possible to facilitate trust by highlighting that the recipients of trust will make active moral choices about whether to reciprocate. Doing so could highlight to trustors that refusing to show trust could be seen as an insult to the character of the trusted party. Our findings suggest that such an intervention would be particularly effective when there is some basis for commonality between the trustor and the trustee, such as when the two parties share common social identity or relevant personality traits.

It is also important to note that perceived obligation still significantly mediated the effect of similarity on trust in the risky dictator game, though this effect was weaker than the effect observed in the trust game. These findings suggest that the obligation to trust similar others remains relevant even in situations where distrust is no longer

7.1 | Similarity and moral considerations in the trust dilemma

Previous research has differentiated between the rational (outcomes and expectations) and moral (respect for norms) considerations underlying trust. In the present studies, we found that partner similarity strengthened the perceived normative obligation to show trust. Participants were more likely to feel that choosing trust was “the right thing to do” when interacting with a similar (vs. dissimilar) interaction partner. This effect remained significant while controlling for other factors that might influence the relationship similarity and trust, such as people liking and expecting more reciprocity from similar (vs. dissimilar) interaction partners. This suggests that the extent to which trust is perceived as a moral decision depends on how people perceive their interaction partners. Indeed, people may consider trust interactions with unfamiliar or dissimilar others as more closely resembling decisions involving individual risk.

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It is also important to note that perceived obligation still significantly mediated the effect of similarity on trust in the risky dictator game, though this effect was weaker than the effect observed in the trust game. These findings suggest that the obligation to trust similar others remains relevant even in situations where distrust is no longer
morally insulting. One possibility is that this effect reflects a heuristic overgeneralization of the rule that one should trust in similar others, as other work has found that people engage in signaling behaviors (such as engaging in costly punishment) even when those behaviors cannot be publicly observed (Jordan & Rand, 2020). This account suggests that the relationship between similarity and perceived obligation in the risky dictator game should be stronger (weaker) when people make intuitive (reflective) decisions.

More broadly, our results add to prior research demonstrating that perceived similarity has large effects on prosocial behavior at zero acquaintance (Toma et al., 2012; Traulsen, 2008). In our studies, levels of trust ranged from 40% (low-similarity partners) to 60% (high-similarity partners). The effects of similarity were consistent across a range of samples (MTurk, Prolific, and university students) and when decisions were incentivized (Studies 1 and 3). Aside from the focal effect of similarity on perceived obligation to trust, perceived similarity facilitates trust through multiple mechanisms, such as expected reciprocity and partner liking.

7.2 | Limitations and future directions

Previous research has highlighted that moral behavior can be motivated by other-oriented concerns (e.g., not wanting to harm others; Baron, 1996), self-signaling motives (e.g., maintaining a self-concept and not wanting to see oneself as an immoral person; Gneezy et al., 2012), or some combination of both. The present studies cannot cleanly differentiate between these two accounts. We note, however, that self-signaling motives are typically invoked to explain social behavior in anonymous settings, raising the possibility that participants in our studies (where decisions were fully anonymized) avoided distrust to maintain their moral self-esteem (Gneezy et al., 2012). An ideal study to differentiate between these explanations would ask whether trust decisions are more strongly influenced by beliefs about the potential harm of choosing distrust or beliefs about the perceived immorality of those who choose distrust. We leave this question for future research.

It is also important to consider the generalizability of our findings to other contexts: In the present studies, we manipulated social proximity using a personality-based measure of similarity. In real-life interactions, there are many types of information that might lead individuals to conclude that an interaction partner is social proximate (vs. socially distant). For example, perceptions of similarity may be based on physical appearance (Penton-Voak et al., 1999), language use (Kraus et al., 2019), or other social cues. It is not clear to what extent the present results would generalize to these other manipulations of similarity. We expect that similarity manipulations would have even stronger effects on feelings of obligations when they are related to common group memberships. On the other hand, people may be less influenced by similarity cues if they are relatively difficult to process or are not salient at the moment of decision making (Jaeger et al., 2018). Similarly, shared knowledge of group membership and positive group stereotypes would further enhance the strength of similarity effects on trust.

Finally, we note that there are limitations in the use of mediation models to infer causal processes. We cannot rule out the possibility that the indirect effects of the perceived obligation on trust were related to unmeasured variables. However, note that our first two studies included two of the most plausible alternative causes, partner liking and expectations of reciprocity (Thielmann & Hilbig, 2015). Including these measures as simultaneous mediators did not affect our results. Our third study also helps give us confidence in the proposed model. Here, we observed that the effect of similarity on perceived obligation was significantly moderated by experimental condition.

7.3 | Conclusion

The decision to trust a stranger is based on a combination of rational and moral considerations. In the present studies, we found that the presence of social information can shift the extent to which trust is perceived as a moral decision. When people interact with similar partners, they experience a stronger normative obligation to show trust. This effect is explained, in part, by a reluctance to insult the moral character of similar others. The present results add to our understanding of how social proximity and respect for norms shape trusting behavior.

ORCID

Anthony M. Evans https://orcid.org/0000-0003-3345-5282
How Hwee Ong https://orcid.org/0000-0002-0236-9501
Joachim I. Krueger https://orcid.org/0000-0001-9607-1695

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**SUPPORTING INFORMATION**

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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