Making trust work: empathy and perspective-taking

Making trust work: the influence of empathy and perspective-taking on trust decisions in a social setting

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Abstract

This research examined the influence of empathy and perspective-taking on trust decisions across different economic games (the trust game and the investment game) and in different social settings. Results from the trust game showed an interaction effect between interpersonal closeness and perspective-taking, implying that either perspective-takers make more use of interpersonal closeness when deciding on trusting behavior or their relative distance from trustees plays a more apparent role. The investment game did not deliver many significant results, however it may be a step in the right direction for increased attention for social systems in organizations.

Keywords: empathy; perspective-taking; trust; reciprocity; expectations
Introduction

This research aims to dissect further how trust works and how people go about decision-making in a social setting. In order to study trust, economic games were used and social awareness – knowledge about the other player – was varied across several experimental setups. Participants were instructed in different ways whether to consider the intentions, feelings and/or perspective of the other player.

Participants were instructed to consider either empathic or perspective-taking considerations when going about trust decisions. Empathy is related to feelings of warmth and compassion, and considering interpersonal closeness. Perspective-taking is more strategic and allows one to use different viewpoints to consider the intentions of others.

Centuries ago the famous Adam Smith wrote ‘if there is any society among robbers and murderers, they must at least abstain from robbing and murdering one another’ (Smith [1759], 1976, p. 86). In other words, in order for them to co-exist and not be in each other’s way, they have to trust criminals will not bother exploiting fellow criminals. Gambetta (1988) noted that this remark reminds us of two truths: (1) a society cannot survive without a basic mutual understanding and acceptance of cooperation, and (2) we may not want to cherish every form of cooperation that occurs in present-day society. In fact, we probably would rather get rid of cooperation between criminals, multinationals (cartels) and maybe even smaller companies, as some degree of competition has its advantages for society.

The other side of the coin is that trust, cooperation and prosocial behavior can improve interpersonal relationships, and benefit organizations and society. Rotter (1980) found that people who trust more – aside from displaying a higher moral standard – are less likely to be unhappy, conflicted or maladjusted and are more often met with friendliness. Also, they are not necessarily more prone to be the victim of gullible behavior.
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Organizations can reduce transaction costs by increasing trust. Firms that display higher levels of trust are more profitable, create more interdivisional cooperation and show more adaptational and innovational skill (Bromiley & Cummings, 1995).

In this multicultural era, mutual trust and cooperation are crucial to sustain or increase organizational effectiveness, given that a diverse workforce can rely less on interpersonal similarity and common background (Berscheid & Walster, 1978; Jackson & Alvarez, 1992). Other research points out that an increasing number of companies has been appointing work teams, which makes trust even more important as certain control mechanisms fade whereas interaction rises (Golembiewski & McConkie, 1975; Wellins, Byham, & Wilson, 1991).

The performance of a society is determined by social capital — 'features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital' (Putnam, 1993, p. 2). And Fukuyama (1995) adds that high-trusting civilians explain superior performance of an entire society. Through a World Value Survey it was also found that for countries the level of trust is positively correlated with the rate of economic growth (Fetchenhauer & Vegt, 2001; Knack & Keefer, 1997).

Trust research deals with the questions of why and when people trust one another. Trust is defined as 'a psychological state comprising the intention to accept vulnerability based upon the positive expectations of the intentions or behavior of another' (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395). More cynical definitions include phrases like ‘making oneself vulnerable to exploitation’. However, trusting can be worthwhile due to forces of inequality aversion (Fehr, Naef, & Schmidt, 2006) and adherence to norms of reciprocity (Gouldner, 1960; Krueger, Massey, & DiDonato, 2008).
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**Trust games**

Generally, in trust games player 1 (trusting) has to decide to trust or distrust. If he distrusts, player 1 receives value $x$ and the game ends. A decision to trust creates a value larger than $x$ and takes the game to player 2 (trustee). Player 2 can either reciprocate or violate trust, which respectively leads to splitting the value (both receive more than $x$) or an uneven division (where player 1 receives some value smaller than $x$).

![Diagram of a trust game](image)

**Fig. 1.** An example of the trust game, player 1 (trusting) is either in or out. If in is chosen, player 2 (trustee) can decide whether to reward or betray that trust.

The investment game is slightly different, as the trusting no longer has to make a yes/no-decision. Instead, the trusting is endowed with a specified amount of money (for example ten euro) and is asked to decide how much of that amount is to be sent to the trustee. The amount that is sent to the trustee is tripled, whereas the remainder is for the trusting to keep. After that, the trustee can decide on how much of the tripled amount is to be returned to the trusting. Whereas the trust game allows the experimenter to vary risk and temptation, the investment game allows for partial-trust and partial-reciprocity (Berg et al., 1995; van Huyck et al., 1995; Kreps, 1990; Rosenthal, 1982).
Game-theoretic predictions stemming from neoclassical economics (trust is irrational, every agent is self-interested) generally do not hold in practice (Camerer and Thaler, 1995). There have been quite mixed findings for similar setups.

**Empathy and perspective-taking**

So far research suggests that people hardly think about the other party's feelings or perspective and that trust decisions usually are egocentric. Egocentrism in social interaction is a multi-domain phenomenon, as it was also observed in negotiations (Thompson & Loewenstein, 1992). Snijders & Keren (1999) found that personal risk (represented by costs and benefits) is strongly associated with the rate of trust. Evans & Krueger (2011) found that perspective-taking is moderated by the level of risk for the trustor: when risk decreases, people take more time to consider the trustee's temptation to defect.

In other social domains the advantages of considering the emotions and thoughts of others have been shown more extensively. Empathy — *an emotional response that involves considering the feelings of others and is characterized by feelings of warmth, compassion,*
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*and concern for others*’ (Davis, 1983) – led people to perform better in social coalition games, where affective understanding was required (Gilin, Maddux, Carpenter, & Galinsky, 2013). Also, empathic people are less likely to engage in unethical negotiation strategies (Cohen, 2010). However, Galinsky, Maddux, Gilin, and White (2008) suggest that empathy can be detrimental to discovering a possible deal and achieving individual profit in negotiation settings.

Perspective-taking – a cognitive capacity to consider the world from other viewpoints and ‘allows an individual to anticipate the behavior and reactions of others’ (Davis, 1983, p. 115) – has been linked to producing better outcomes in negotiations by discovering hidden agreements and creating better deals for both parties (Galinsky et al., 2008). It is associated with a solid understanding of the strategic intentions of opponents and has been found to increase individual profit without hurting that of others in both integrative and – depending on the selfishness of both parties – in distributive contexts (Gilin et al., 2013; Trötschel et al., 2011). Contrary to these findings in negotiation, Epley, Caruso, and Bazerman (2006) found that in competitive settings perspective-taking can actually induce ‘reactive egoism’. Considering the perspectives of others seemed to make people believe that others would behave more selfishly. Therefore, the effect perspective-taking can have on an individual can be either positive or negative depending on the situation.

*Current research*

The main aim of these studies is trying to clear up some of the contradictory findings in this field by further strengthening the scientific distinctiveness of empathy and perspective-taking, while examining their respective effects on trust decision-making.

Both empathy and perspective-taking were hypothesized to lead to more trust, as compared to a baseline. The effect of empathy on trust was expected to be related mostly to
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interpersonal closeness. An empathic response usually implies considering the feelings of others and is associated with caring for fair behavior. It can also be translated to offering others what you would be willing to accept yourself, which is somewhat similar to fairness (Page & Nowak, 2002), as you try to imagine yourself in the shoes of the other, feeling what they feel.

Perspective-taking, unlike empathy, is less of a trait (but can still be manipulated temporarily), and more strategic as the perspective of another individual can offer valuable insights and information, while keeping the goal of achieving a good outcome in mind (Bazerman & Neale, 1983). Perspective-taking's effect on trust was expected to be related mostly to the sensitivity to the probability of reciprocity. Evans and Krueger (2011) suggest that making the perspective of the trustee more salient could help the trustor overcome only considering the risk involved with a trust decision.

Aside from these main hypotheses, it is interesting to analyze whether not only interpersonal closeness and the sensitivity to the probability of reciprocity are affected by this mindset manipulation, but also whether the expectancy of reciprocity is affected, which is relatively unknown territory. Heightened social awareness could influence this expectancy, but since there is not always a social history or other relevant information to go on, reliability and dependability may be hard to judge for the trustor (Rousseau, Sitkin, Burt, & Camerer, 1998), which could leave expectations unaffected.

**Experiment 1**

The objective of the first study was to measure the effect of empathy and perspective-taking on decision-making and expectations in a trust game setting. Establishing a baseline level of trust, as well as further determining under what circumstances these manipulations of mindset increase, decrease or do not affect individuals' decisions, are part of the process of
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clearing up why findings have been mixed in the past. It was expected that both empathy and perspective-taking would increase trust, compared to a control condition. During the experiment the values at stake were varied, in order to be able to analyze the influence of temptation and corroborate findings by Malhotra (2004) and Snijders and Keren (1999; 2001). This earlier research indicates that the influence of temptation is rather negligible, except when risk is low for the trustor and temptation for the trustee is high (Evans & Krueger, 2011).

Method

Participants

A total of 275 participants were recruited online of which 114 incomplete responses were identified and removed, leaving 161 responses suited for analysis. Fifty-five percent were men and the average age was 25.2 years, with a standard deviation (SD) of 5.1.

Procedure

Participants played twelve different rounds of the trust game with changing values for both the trustor and the trustee to vary temptation. They were clearly informed that all decisions would be hypothetical and that no real money could be earned in this scenario. Then they were told that the research was about decision-making in a social setting and that they had been selected to play the role of trustor. The instruction stated that neither player was aware of the choice the other had made and that they would be playing with the same trustee for all twelve rounds without getting feedback in between rounds (to prevent feedback effects). A test round was played to make sure all participants knew how the scenario worked.

Before they went on to the randomized trials, the experimental manipulation took place (identical to Galinsky et al., 2008). Those assigned to the control condition were simply
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told to focus on their own role. Trustors in the empathy condition were given the following instructions:

In preparing for and making your decision in the scenario, take the perspective of player 2. Try to understand what he or she is feeling, what emotions he or she may be experiencing (in making his/her decision). Try to imagine what you would be feeling in that role.

Trustors in the perspective-taking condition were told:

In preparing for and making your decision in the scenario, take the perspective of player 2. Try to understand what he or she is thinking, what his or her interests and purposes are (in making his/her decision). Try to imagine what you would be thinking in that role.

Although the game was played from the trustor's perspective, they were not informed about the absence of the trustee. The trustors had no information at all about their partner in this decision-making scenario. After completing the twelve rounds, participants were told a hundred people participated as trustee and that they were to estimate – for every round – how many of those hundred decided to share. The last part consisted of filling out the self-other inclusion scale (Aron, Aron, & Smollan, 1992) in order to describe their affiliation with the trustee, and providing some demographical information.

![Diagram of self-other inclusion scale](image)

Fig. 4. An example of the self-other inclusion scale (Aron, Aron, & Smollan, 1992).
Results

Descriptive statistics

The level of trust ranged from 34.8% to 68.3% across the twelve different rounds. The average level of trust was 53.1% (mean = 6.4 out of 12; $SD = 3.05$). Nine participants (5.6%) never trusted and eleven (6.8%) always trusted.

Validity

In order to test construct validity, correlation was used to determine whether certain constructs that are theoretically related, upheld that link in practice. Trust and expectation were satisfactorily correlated ($r = .601, p < .01$), meaning that there was a positive relation between a participant's decision to trust and his/her expectation of reciprocity. Inclusion correlated moderately with trust and expectation respectively ($r = .439, p < .01$ and $r = .364, p < .01$), which implies a positive relation between the interpersonal closeness participants experienced and whether they decided to trust and expected reciprocity from the trustee.

Manipulation

Participants in the control condition ($n = 48$) displayed an average level of trust of 6.4 ($SD = 2.76$), so the baseline level of trust was equal to the average of the entire population. However, individuals assigned to the empathy condition ($n = 55$) trusted on average 7.0 out of 12 times ($SD = 2.99$), whereas those in the perspective-taking condition ($n = 58$) recorded a mean of 5.74 ($SD = 3.25$). A one-way analysis of variance (ANOVA) revealed a marginally significant difference between all three conditions ($p = .089$), and a post hoc analysis (LSD) comparing empathy and perspective-taking was significant ($p = .023$).
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As temptation was varied across the twelve different rounds, these twelve were divided into three groups based on level of temptation (low, medium and high) using the respective ratios between the amount gained by betrayal (as opposed to reciprocity) relative to total value. One-way ANOVA was used to establish whether these resulted in different outcomes per condition, and it was not significant for low temptation ($p = .852$), marginally significant for medium temptation ($p = .082$) and significant for high temptation ($p = .026$). Post hoc analyses (LSD) for medium and high temptation revealed significant differences between empathy and perspective-taking ($p = .042$ and $p = .009$ respectively). The difference between empathy and control was also marginally significant ($p = .069$) for high temptation.
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Fig. 6. A plot of the means for the categories medium (left) and high (right) temptation per condition. Empathy and perspective-taking were revealed to be significantly different for both categories ($p = .042$ and $p = .009$ respectively).

Condition did not have any significant effects on average expectation nor on expectation among on the three temptation categories. One-way and two-way ANOVA revealed no significant gender effects for gender in general or per condition on trust, expectation or response time.

Another one-way ANOVA was carried out to determine whether the described manipulated mindsets affected response time as well. Response times were logged to correct for skew, given the moderate number of participants. For response time of the trust game, one-way ANOVA was not significant ($p = .139$), but post hoc analysis (LSD) revealed another significant difference between the empathy and perspective-taking condition ($p = .048$). None of the analyses for response time of the expectation estimation rounds were significant.

In order to analyze possible interaction effects, analysis of covariance (ANCOVA) was used. A significant interaction effect ($p = .008$) between manipulation and closeness on trust was found. Other interactions were not significant.
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Fig. 7. A scatter plot showing the significant interaction effect ($p = .008$) between the manipulation and inclusion, especially strong for perspective-taking

Discussion

The results of experiment 1 were not entirely as expected when compared with the predetermined hypotheses. Both manipulations were expected to generate a significantly higher average level of trust than the control condition, but in fact only participants in the empathy condition showed higher levels of trust and still, empathy was only significantly different from perspective-taking, and not from the control condition ($p = .313$). Given that risk is the first obstacle trustors have to overcome in this format (Evans & Krueger, 2011), the discrepancy probably arises in the rounds where risk is lower. Since the trustors had no information about the trustee, possibly perspective-taking – ultimately a valuable strategic tool – made them even more aware of the lack of information than those in the control condition, causing them to trust less. However, empathy is usually associated with feelings of warmth and compassion, as well as concern for the welfare of others (Batson et al., 1995), which could make participants in the empathy condition less susceptible to the objective yet
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slightly cold notion that the trustee is a complete stranger. Albeit not significant, interpersonal closeness, as hypothesized, was highest among those in the empathy condition.

Decision times were analyzed in an attempt to extend existing research on response times for perspective-takers (Evans & Krueger, 2011), which dealt with the relation between risk and response times. Results from experiment 1 confirm that perspective-taking requires more time than empathizing, which arguably comes more natural to people, especially women (Kring & Gordon, 1998). The fact that this difference does not carry over to response times for expectation could very well be explained by the fact that expectation has already been considered in making the initial decision whether or not to trust, which makes it more automatic later on in the experiment.

The interaction effect between the manipulation and interpersonal closeness was not necessarily expected. However, there is definitely some logic to as increased feelings of closeness always lead to more trust. This effect was especially strong for participants in the perspective-taking condition. It appears that for perspective-takers the extent to which interpersonal closeness is felt, is a relatively more important factor when deciding on whether to trust someone. However this does not mean they feel most close to others, which the results confirm as absolutely speaking, participants in the empathy condition registered the highest average feeling of self-other inclusion. One could even reverse this finding, since perspective-takers on average trusted the least, the obstacle could be they feel relatively distant from the trustee.

Experiment 2

Experiment 1 was characterized by a complete lack of information between the trustor and trustee in a trust setting. For experiment 2, limited knowledge about the trustee is brought into play. Trustors were presented with four avatars (two male and two female) and they
Making trust work: empathy and perspective-taking could pick one with whom they wanted to participate in the scenario. The prevailing notion is that men are generally more trusting and women are more trustworthy (Buchan, Croson, & Solnick, 2008; Chaudhuri & Gangadharan, 2002; Croson & Buchan, 1999; Snijders & Keren, 1999) In order to be able to cross-examine and possibly extend the effects encountered in the first experiment, the economic game was changed from a multi-round trust game to a one-shot investment game. Trustors in one-shot games are not necessarily exploited more, because most people are unable to divert from their repeated-game impulses (Camerer and Thaler, 1995; Hoffman et al., 1994a, b) and care for fairness and etiquette (Rabin, 1993). The hypotheses for experiment 2 were, despite the somewhat unexpected results in the previous experiment, identical, namely that empathy and perspective-taking would lead to a higher level of trust than the control condition. In an investment game the trustor has more influence over the allocation of the endowment, which lowers risk, thus allowing for more emotional and cognitive processing. Also, the combination of increased information about the other player and the possibility to choose the preferred trustee was expected to have a positive effect on trust levels of the manipulated participants.

Method

Participants

214 participants were recruited in total, both online and on campus, of which 29 incomplete responses were identified and removed, leaving 185 responses suited for analysis. Sixty-two percent were women and the average age was 22.6 years, $SD = 4.3$.

Procedure

For this experiments participants played a one-shot version of the investment game where they were given ten euro. They were clearly informed that decision-making would be hypothetical and that no real money could be earned in this scenario. Then they were again
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told that the research was about decision-making in a social setting and that they had been selected to play the role of trustor.

After that, the experimental manipulation took place (like in experiment 1, the instructions identical to Galinsky et al. (2008), were used). Although the game was played from the trustor's perspective, they were not informed about the absence of the trustee. Instead, they were told that four potential trustees (two male and two female) had created an avatar that looked alike, and the trustors got to pick with whom they wanted to play in the scenario. The avatar of choice was displayed throughout the rest of the experiment in order to make sure the trustor was continuously aware of the trustee they were participating in the scenario with. The one-shot investment game was up next. On completion of the scenario, participants were instructed to estimate – for three different invested values (4, 7 and 10) – how much the trustee would return. Once again, the last part consisted of filling out the self-other inclusion scale (Aron, Aron, & Smollan, 1992) in order to describe their affiliation with the trustee, and providing some demographical information.

**Results**

**Descriptive statistics**

The average level of trust was 5.12 out of 10, $SD = 2.68$. Seven participants (3.8%) sent nothing and twenty-five (13.7%) sent the full endowment of ten euro. Fifty-five participants (30.2%) chose to send half, which was by far the most popular choice.

**Validity**

In order to test construct validity, correlation was used to determine whether certain constructs that are theoretically related, upheld that link in practice. Trust and expectation
were moderately correlated ($r = .441$, $p < .01$), meaning that there was a positive relation between a participant's decision to trust and his/her expectation of reciprocity. Inclusion correlated moderately with trust and expectation respectively ($r = .258$, $p < .01$ and $r = .33$, $p < .01$), which implies a positive relation between the interpersonal closeness participants experienced and whether they decided to trust and expected reciprocity from the trustee.

**Manipulation**

Participants in the control condition ($n = 65$) displayed an average level of trust of 4.8 ($SD = 2.61$). Individuals assigned to the empathy condition ($n = 64$) trusted 5.2 on average ($SD = 2.60$), whereas those in the perspective-taking condition ($n = 53$) recorded a mean of 5.3 ($SD = 2.86$). Although the hypotheses (both empathy and perspective-taking lead to higher trust) were confirmed on an absolute level, a one-way ANOVA revealed no significant differences between the three conditions ($p = .521$) nor did post hoc analyses (LSD).

None of one-way ANOVAs was significant for expectation in total, or for the three different levels of investment versus expectation (4, 7, 10). Post hoc analyses (LSD) were hardly significant. What stood out, was the lower expectation across all categories for perspective-takers. In accordance with previous findings, one-way ANOVA determined on a marginally significant level ($p = .067$) that men ($M = 5.6$, $SD = 3.02$) were more trusting than women ($M = 4.8$, $SD = 2.41$).

![Fig. 8. A plot of the gender difference in trust for a one-shot investment game.](image-url)
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Research on gender effects suggests that men are more trusting, but also that women are more trustworthy. A Chi-square test on avatar preferences per gender was significant ($\chi^2(1) = 19.098$, $p = .000$), and the numbers make clear that women prefer to participate in this scenario with another woman. To test whether female participants also reciprocate more, an actual player 2 is required. However, it is within our reach to analyze whether expectancy goes up if the trustee is female. That would allow us to comment on how women are perceived. One-way ANOVA is not significant for any of the expectation categories though. Female avatars do in fact score higher on average expectation for every category.

Table 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avatar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>37 (52.1%)</td>
<td>24 (21.1%)</td>
</tr>
<tr>
<td>Female</td>
<td>34 (47.9%)</td>
<td>90 (78.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>71 (100.0%)</td>
<td>114 (100.0%)</td>
</tr>
</tbody>
</table>

In order to compare and possible replicate the findings from experiment 1, one-way ANOVA was used to analyze the various response times of this experiment. The analysis of decision times for the one-shot investment game revealed a marginally significant difference between conditions ($p = .064$). Post hoc analyses (LSD) determined a significant difference between the control and empathy condition ($p = .019$).

Discussion

Although the absolute results look more promising, there was no significant difference between rates of trust across the different experimental conditions. There are multiple possible explanations for these outcomes, as a few elements stood out from the analysis.
(1) A large number of participants seems to have settled for the middle option, sending half to the trustee, while keeping half to themselves, which is something that has been found before (Güth, Levati, & Ploner, 2005). This appears as if many participants used the anchoring heuristic to come to their decision as the slider which they used to indicate their decision starts off at zero when activated. When people use this absolute minimum as an anchor, they may not move away far enough from this starting point (Tversky & Kahneman, 1974).

(2) There were no significant differences regarding trust and expectations across the different conditions, and perspective-takers expected least across all categories. This could be explained by the phenomenon of reactive egoism (Epley, Caruso, & Bazerman, 2006). Their findings suggest that perspective-takers in competitive settings expect that others behave more selfish than themselves and they counter that by behaving even more selfish. That would explain the relatively low expectations among perspective-takers in the last experiment and if these participants acted on that expectation it explains why they did not trust more on average than others. However, it is not very clear why the investment game qualified as a competitive setting. That might depend on whether the trustor views the trustee as a partner or an opponent (Burnham, McCabe, & Smith, 2000).

(3) The manipulation may have (partially) failed because of the outline and order of the experiment. Participants were presented with the manipulation and then had to select an avatar. The participants that were part of one of the two experimental manipulation conditions may have taken more time selecting an avatar which made the decision in the one-shot investment game after that a much more automatic one. The participants in the control condition on the contrary, may have in fact engaged in behavior consistent with empathy or perspective-taking when making the investment decision, thus taking the alternative route. This would explain why they needed more time on average.
Some of the participants on campus made remarks afterwards about how the avatars were different racially. Apparently the slight skin tone difference of two of the avatars may have caused participants to believe the research was about racial stereotypes and it is difficult to assess to what extent this has altered the results.

Decision times of experiment 1 and 2 were also compared and analyzed using independent-samples t-tests. However, these yielded no significant results. It was a tough comparison as the first experiment was multi-round and the latter was one-round, the games were different and the complications above may not have helped.

The findings related to the avatar selection are interesting and at the same time difficult to interpret. One can only make educated guesses about whether certain preferences (for either a male or female trustee) arise because of characteristics of the trustor, a playing style that the trustor would like to employ, perceived trustworthiness of the preferred trustee or attraction even. For the sake of discussion it is probably best not to anticipate that the majority thought about the avatars in terms of racial stereotypes.

**Experiment 3**

In the first experiment, the influence of empathy and perspective-taking on trust was measured in a situation where the trustor and trustee were complete strangers. In the second experiment, the setting was slightly changed by including gender information and preference and using a different format of the trust game. From an organizational perspective, both of these situations are highly unlikely to occur during daily operations, especially internally. Therefore, the objective of the third experiment was to measure trust in a more realistic setting. It involved participants that work for the same organization, a Dutch insurance company, but across various divisions. These divisions either belong to the front office or the back office of the company, making it possible to design an experiment where the trustor is
assigned to a trustee who works in the same division – creating an ingroup through a shared social identity – or a different division – creating an outgroup due to a lack of shared group membership. Shared group membership can inspire so-called identification-based trust, which is known for guidance towards co-action (Reicher, 1996), instead of calculus-based trust, which is about objectively considering the consequences of trustee's decision-making, depending on the situational and group context (Kramer & Wei, 1999; Lewicki & Bunker, 1996). This setup allows for studying both the differences between the ingroup and the outgroup (intergroup), as well as differences between the two ingroups. Tanis & Postmes (2005) found that members of an outgroup were trusted less if their personal identity remained unknown. In the next experiment, trustors knew whether the trustee was a member of the ingroup or the outgroup, but no further information about him/her was given. It was thus hypothesized that members of an outgroup were trusted less than members of an ingroup.

Tan and Lim (2009) analyzed the relation between trust in coworkers and trust in organizations, when researching a life insurance company in Singapore. Their research focused on factors that can influence trust on a personal level, such as (perceived) competence, for which mixed evidence exists, and benevolence and integrity (so-called ethical connotations). They also suggested that more research should be devoted to exploring social systems in organizations to better understand the effects and influences of social power. This experiment aimed to do just that, by exploring whether interpersonal and interdivisional awareness could improve trust within an organization by measuring the influence of empathy and perspective-taking on trust decision-making.

Based on the task-competency match, empathy was expected to lead to more trust than perspective-taking when the trustee was a member of the ingroup, as interpersonal closeness was expected to be higher for those with a shared social identity and empathizers usually display better affective understanding (Gilin, Maddux, Carpenter, & Galinsky, 2013). Also,
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shared group membership usually leads to a positive evaluation of the whole group (Hewstone, Rubin, & Willis, 2002). Perspective-taking was expected to lead to more trust than empathy when the trustee was a member of the outgroup, as perspective-takers generally have a better understanding of the strategic intentions of others and interpersonal closeness was expected to be lower for members of the outgroup. On top of that, Brewer (1999) and Voci (2006) suggests that ingroup-favoritism can ultimately lead to considering outgroup members less trustworthy, especially when one is relying on emotions relatively more.

**Method**

*Participants*

Data was collected from employees at a Dutch insurance firm, working across six different divisions. The divisions were either part of the front office (sales and marketing) or the back office (service, claims, insurance technology, mailroom). The company's core business is car insurance and it has been active in that market for about twenty years. The sales, service and claims divisions are the largest and they all have a different manager, multiple supervisors and agents. IT and human resources have been outsourced, but the remaining divisions generally work together on a regular basis by putting through clients, project groups, staff meetings and other activities (mostly related to daily operations). Intradivisional cooperation is even more common, as clients are not necessarily assigned to specific agents. Given the overlap of workload between coworkers and divisions, trust is of great value for the organization.

A total of 110 employees participated in the experiment, of which 6 incomplete responses were identified and removed, leaving 104 responses suited for analysis. Sixty percent were women and the average age was 36.5 years, $SD = 11.0$. 61.5% of participants
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worked in the back office and 83.7% had been with the company for at least two years, while 49% had been employed there for over five years.

Procedure

The outline for this experiment was quite similar to that of the second study, with a few exceptions. After being informed about the hypothetic nature of the study, participants were asked to provide some demographic information, including an indication of whether they were working in the front office or the back office. Then they read the instructions for the investment game and were once again told they had been assigned to the role of trustor. What followed was the same manipulation that was used in the previous experiments (Galinsky et al., 2008), only now there was no control condition, leaving the empathy and perspective-taking condition. The control condition was left out due to premature knowledge about the limited number of participants. Participants were then told whether they would participate with a trustee working in the same office as theirs (ingroup) or the other office (outgroup), making this a study with a 2 (mindset manipulation: empathy versus perspective-taking) x 2 (trustee's group membership: ingroup versus outgroup) between-subjects factorial design. It was also made clear that the trustee had the same knowledge about them. Throughout the rest of the experiment the counterpart was displayed (as text) in order to make sure the trustor was continuously aware of the trustee they were participating in the scenario with. After completion of the single round of the investment game, participants were asked to predict – for three different invested values (4, 7 and 10) – how much the trustee would return. Lastly, all indicated their affiliation with the trustee by filling out the self-other inclusion scale (Aron, Aron, & Smollan, 1992) and they were instructed not to talk about the contents of the experiment to their fellow coworkers until data collection had been completed.
Results

Descriptive statistics

The average level of trust was 5.60 out of 10, \(SD = 2.68\). Two participants (1.9\%) sent nothing and twenty-two (21.2\%) sent the full endowment of ten euro. Forty-one participants (39.4\%) chose to send half, which was by far the most popular choice.

Validity

In order to test construct validity, correlation was used to determine whether certain constructs that are theoretically related, upheld that link in practice. Trust and expectation were moderately correlated (\(r = .362, p < .01\)), meaning that there was a positive relation between a participant's decision to trust and his/her expectation of reciprocity. Inclusion correlated moderately with trust and expectation respectively (\(r = .352, p < .01\) and \(r = .355, p < .01\)), which implies a positive relation between the interpersonal closeness participants experienced and whether they decided to trust and expected reciprocity from the trustee.

Manipulation

Participants assigned to the empathy condition (\(n = 52\)) trusted 5.58 out of 10 on average (\(SD = 2.74\)), whereas those in the perspective-taking condition (\(n = 52\)) recorded a mean of 5.62 out of 10 (\(SD = 2.64\)). A one-way ANOVA revealed no significant difference between the two conditions (\(F(1, 102) = 0.005, p = .942\)) nor did post hoc analyses (LSD). Participants assigned to an ingroup trustee (\(n = 58\)) trusted 5.74 out of 10 on average (\(SD = 2.70\)), whereas those assigned to an outgroup trustee (\(n = 46\)) recorded a mean of 5.41 out of 10 (\(SD = 2.67\)). A one-way ANOVA determined there was no significant difference between the two groups (\(F(1, 102) = 0.383, p = .537\)) nor did post hoc analyses (LSD).
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None of one-way ANOVAs was significant for expectation in total, or for the three different levels of investment versus expectation (4, 7, 10). Post hoc analyses (LSD) were neither.

Multiple two-way ANOVAs (manipulation x group membership) were carried out, but none revealed any significant effects with respect to trust, expectations, response times or closeness.

Differences between groups with different employment times (2 - 5 years versus > 5 years) were also analyzed (the other two groups were left out due to limited size), this difference was significant \( F(1, 86) = 4.908, p = .029 \) and a Chi-square test to analyze education level for these same groups was also significant \( \chi^2(6, N = 87) = 15.81, p = .02 \). There were no gender effects to be found, which was not particularly surprising since the gender of the trustee was unknown.

Discussion

The results from the third experiment are similar to what was found in the second experiment. The hypotheses were not confirmed, as no significant differences across conditions could be determined. Again, these findings could possibly be explained by anchoring (Güth & Levati, 2005; Tversky & Kahneman, 1974), reactive egoism (Epley, Caruso, & Bazerman, 2006), and/or failed manipulation. Tanis and Postmes (2005) found that the salience of personal identity could close the gap between an ingroup and an outgroup in a trust setting. Due to the overlap of workload between coworkers and divisions, the outgroup in this study may not have been perceived as an actual outgroup, which would explain why the results were so similar for the two groups.

A closer look at the analyses of employment time and education level may offer an interesting insight in the structure of this company. The group that has been working in this
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company longer and more permanently was generally less trusting and lesser educated. The higher educated group in the company predominantly consists of students that work part-time and may be more familiar with economic games. An explanation for the observed behavior could be that the first group trusted less to compensate for their lesser understanding of the (consequences of the) game in order to protect themselves against exploitation by the latter group.

General discussion

This research aimed to further dissect the working of trust, how people deal with making a decision in varying social situations and what they are influenced by. Two different economic games were used, mindset was manipulated through validated instructions (Galinsky et al., 2008) and social awareness was varied across three different experimental setups. The first experiment delivered an interesting insight on how perspective-takers use interpersonal conceptions about the trustee to come to a decision, which raises the question whether they use this information more than others when making a decision or do they usually feel relatively distant from the trustee, making it a more important factor. This finding was not corroborated by the other studies, but given the different game, different dynamics and different available information that is hardly surprising.

The other two studies were relatively fruitless with respect to the main hypotheses, as few significant differences were found. As noted, there are multiple possible explanations for the lack of confirmation of the hypotheses. The manipulations may not have been successful in these experiments and the format of the game also increases ambiguity as it allows partial-trust and partial-reciprocity. However, the diversity and relative endlessness in trust research inevitably will result in experimental research without the expected results. Evans and Krueger (2009) noted that in order to understand trust, the characteristics of the specific
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individuals and the situation are to be considered. In fact, many researchers in this field have suggested similarly the importance of context (Hosmer, 1995; Lewicki & Bunker, 1995; Mellinger, 1956). Context is not easily interchanged, which is essentially a door to many different experimental setups, some more successful and realistic than others.

The studies in this research at times tried not only to replicate findings but extending them. Other research on trust within organizations used self-reported measures to measure trust (Tan & Lim, 2009) whereas in the third experiment a more objective measure of trust between coworkers was used through the investment game.

In order to further dissect trust within organizations, Tan and Lim (2009) suggested that social systems are to be researched more. It could be important to add monitoring and surveillance to that list. If trust in organizations is to be objectively judged more knowledge has to be gained about the organizational dynamics, to make sure trust research is not clouded by other situational factors. Cialdini (1996) noted that monitoring and surveillance can impact trust negatively. The last experiment also made clear that organizations with a diverse education level may have challenges laid out ahead of them to increase trust among their employees.
References


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