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De Cremer, D.; Snyder, M.; Dewitte, S.

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'The less I trust, the less I contribute (or not)?' The effects of trust, accountability and self-monitoring in social dilemmas

DAVID DE CREMER,^{1*} MARK SNYDER²
and SIEGFRIED DEWITTE³

¹*Maastricht University, The Netherlands*

²*University of Minnesota, USA*

³*University of Leuven, Belgium*

Abstract

The present research examined the influence of trust, accountability, and self-monitoring on individual decision makers' willingness to contribute in a give-some game and in an experimental public goods dilemma. Previous research has shown that trust and contributions are positively related such that high trusters generally contribute more than low trusters. The present research questions the pervasiveness of this relation by arguing that low trusters may increase their contributions to the same level as those of high trusters, but only under circumstances where their decisions are highly identifiable to their interaction partner(s). Both studies showed that strong perceptions of trust, high accountability and high self-monitoring influenced contributions positively. In line with predictions, individuals low in trust contributed up to the same level as high trusters when accountability was high rather than low. Moreover, this interaction between trust and accountability was only found among those classified as high self-monitors. Our results suggest that the well-known positive relation between trust and contributions may take a different form when situational cues and individual predispositions are taken into account. Copyright © 2001 John Wiley & Sons, Ltd.

Many social interactions are considered to be pleasant and cooperative if individuals take into account others' interests. However, frequently the conflict between the interest of the individual and the interest of the dyad, group, or organization is not resolved. In these situations, the dominant choice is to follow one's own personal interest and not to contribute to the interest of one's group or interaction partner. However, if all adopt this economically rational strategy, the outcomes will be worse than if all members or both partners decide to cooperate. This type of interdependence situation is referred to as a social dilemma (Komorita & Parks, 1994), a conflict between personal and collective interest, and can take different forms, such as the give-some or the take-some games (Dawes, 1980).

In this research tradition, it is important to examine the factors that determine cooperation in such mixed-motive situations. One way of doing so is to focus on personality and individual differences as determinants of cooperation in general (e.g. Pruitt & Kimmel, 1977; Van Lange, 1999). An individual difference variable that is considered to be important in the context of general cooperative behavior is

*Correspondence to: David de Cremer, Department of Experimental Psychology, Maastricht University, PO Box 616, 6200 MD Maastricht, The Netherlands. Fax: 00 31 43 388 4196

trust (cf. Deutsch, 1973). A renewed interest by organizational and psychological researchers (e.g. Jones & George, 1998; Kramer, 1999) in the study of trust has shown that understanding trust is important to promote cooperation across a variety of social interactions. Indeed, previous research has demonstrated that trust makes relationships of all kinds (e.g. work, love and friendship; Couch & Jones, 1997; Dirks, 1999) more effective and pleasant.

In mixed-motive situations, trust is considered to be particularly important as it presents a psychological construct that may be beneficial in solving the conflict between one's own interest and the interest of the others (Dawes, 1980; De Cremer & Van Vugt, 1999; Kramer, Brewer, & Hanna, 1996). Following Mayer, Davis, and Schoorman (1995), trust can be defined as 'the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party' (p. 712). Most studies of trust have used definitions similar to this one. In general, this perspective suggests that, when trust is high, people will have confidence in another's goodwill, will expect others to act in a moral way and therefore engage in reciprocal cooperation (e.g. Granovetter, 1992; Ring & van de Ven, 1994). As such, people will experience less fear that others will exploit them, making it easier for them to justify their decisions to cooperate (Yamagishi & Sato, 1986). Therefore, trust may play a prominent role in establishing cooperation in mixed-motive situations.

Indeed, research on social dilemmas has shown that trust influences expectations about another's motives with respect to oneself (e.g. Brann & Foddy, 1987; De Cremer, 1999) and affects behavior in interdependence situations (e.g. Messick, Wilke, Brewer, Kramer, Zemke, & Lui, 1983; Parks & Hulbert, 1995). Interestingly, these studies also showed that high trusters (who expect reciprocity) cooperated irrespective of whether others cooperated, suggesting that trust is not necessarily linked to self-interest solely, but also to a sense of moral commitment (Kramer & Goldman, 1995). Furthermore, different social dilemma theories indeed highlight the importance of trust in establishing cooperation (Pruitt & Kimmel, 1977; Yamagishi, 1986). For example, Pruitt and Kimmel (1977) argue that 'the goal of achieving mutual cooperation is insufficient to elicit cooperative behavior. It must be accompanied by the expectation that the other will cooperate' (p. 375). From this perspective, it is assumed that those high in trust have positive expectations that their own interest will not be harmed by uncooperative behavior by the other and therefore will cooperate (regardless of what others do), whereas those low in trust do not share this belief and therefore will be less cooperative (*Hypothesis 1*).¹

To summarize the argument thus far, the decision to trust seems crucial in mixed-motive situations and seems to be tied to individuals' expectations as reflected in the possibility to classify people as high or low in trust (e.g. Rotter, 1980). Low trusters do not have initial positive expectations that others will reciprocate cooperative behavior, and therefore seem to need additional motives to increase their willingness to be vulnerable to others' possible exploitations. More specifically, an important question seems to be to identify circumstances that may motivate low trusters, despite their fear of exploitation, to engage in cooperative behavior. One possible way to elicit such additional motives may be to increase the possibility of social critique and pressure on decision makers by making them subject to public evaluation and justification. Indeed, following Mayer *et al.*'s (1995) definition of trust,

¹This perspective on trust seems to be closely related to a calculus based approach to trust, that is, a consideration of the costs and benefits involved when trusting another (e.g. Ross & LaCroix, 1996). However, what is most important with respect to our definition of trust is the fact that trust seems to reduce social uncertainty by increasing expectations of reciprocal cooperation and moral intentions by others, consequently motivating those high in trust to cooperate, even irrespective of the behavior of interdependent others (e.g. Kramer & Goldman, 1995; Yamagishi & Yamagishi, 1994). Although we acknowledge that other factors may play a role in trust as well (e.g. assuming that others have similar values, knowledge about the others' past behavior), we have attempted to provide a precise (but not overly complex) definition of trust, particularly since many researchers have noticed that the definition of trust remains a problematic issue (see Hwang & Burges, 1997; Mayer *et al.*, 1995).

high trusters have no need to control or monitor others to form positive expectations regarding one's trustworthiness. However, this feeling of monitoring may exactly be the additional motive that those low in trust need to encourage them to be cooperative (e.g. De Cremer & Dewitte, in press). One factor that is believed to increase such public evaluation and justification is accountability (Tetlock, 1992).

Because of the complexity of many social interactions, justification of one's actions is a pervasive aspect of social life. Moreover, in reality, quite often people's actions have identifiable consequences for others, or in other words, are accountable for their actions (Tetlock, 1992). Indeed, most important decisions are made within a dynamic social context in which social consequences of one's decisions influence one's behavior. Nevertheless, many experimental studies still examine decision making and the effect of underlying psychological processes in situations in which individuals do not have to worry about social consequences (see Tetlock, 1985). As Tetlock (1992) puts it: 'Subjects in laboratory studies . . . rarely feel accountable to others for the positions they take' (p. 335). Because, in everyday life, people are assumed to be responsible for what they do – that is, because they are accountable for their actions – research on decision making should take into account the possible social consequences of one's behavior.

Research on accountability has provided strong evidence that being accountable influences decision makers' behavior and goals (Lerner & Tetlock, 1999). When individuals feel accountable to the person they are involved with in the social dilemma situation, they may be more concerned about how the other person views their actions (e.g. not being cooperative). That is, accountability implies that people's behavior may be constrained to some degree as they expect that their behavior may be linked to the person they are. Thus, accountability activates concerns about how they are viewed by others (e.g. Reicher & Levine, 1994). More specifically, people seek approval and respect from others for many reasons (e.g. self-esteem maintenance, promoting social identity, Baumeister, 1982, 1993; Tyler & Lind, 1992), and therefore accountability is assumed to activate self-presentational concerns (Baumeister & Hutton, 1987), concerns which in turn influence decision behavior. How might accountability considerations influence behavior in social dilemmas and thereby moderate the effect of trust?

In mixed-motive situations, people's outcomes are determined by one's own decisions but also by the decision of the others involved. If accountability is high, self-presentational and reputational concerns will come into play making interdependent decision makers more inclined to cooperate (Jerdée & Rosen, 1974). That is, if accountability is high, the pressure to conform to the situational norms prescribing what one ought to do (i.e. injunctive norms; Cialdini, Kallgren, & Reno, 1991), in social dilemmas this is to cooperate, will be enhanced. For example, research has shown that when individuals feel that they are not accountable to others, their primary motive will be to make self-interested decisions, whereas when accountability is high individuals are more likely to contribute to the group's welfare (Prentice-Dunn & Rogers, 1982; Reis & Gruzén, 1976). Thus, based on these considerations, it is expected that contributions will be higher when accountability is high than when it is low (*Hypothesis 2*).

Will accountability also influence the effect of trust on contributions? Starting from the assumption that self-presentational concerns play a role, it can be expected that those individuals low in trust will be particularly likely to change their behavior (*Hypothesis 3*). More specifically, in general, those low in trust do not have positive expectations regarding the degree of reciprocity and fear to be exploited. Therefore, they are less willing to engage in constructive and cooperative interactions. However, if they are accountable for their actions, they themselves may wish to avoid negative consequences such as being perceived negatively. As a result, due to enhanced accountability, low trusters may be expected to contribute more as they wish to maintain a positive image and as such will be motivated to do the good thing, that is, to cooperate. In contrast, when trust is high, no difference is predicted

between the two accountability conditions, as those individuals act in a cooperative manner anyway, independent of whether or not they are accountable.

However, in order to see the effects of accountability among low trusters, it may be necessary to identify those low trusters who are particularly inclined to look to situational guidelines, such as accountability cues, for their action. One such category of individuals who are particularly sensitive and responsive to situational and interpersonal specifications of behavioral appropriateness are high self-monitors (e.g. Snyder, 1974, 1987). Thus, it may be that our predicted interaction between trust and accountability will only occur among low trusters who have a strong desire to conform to social norms and who recognize the possible impact of evaluations of these norms, that is, among individuals classified high in self-monitoring (Snyder, 1974).

According to the theory of self-monitoring, people differ in the extent they can and do regulate their behavior according to situational circumstances; that is, some people are more motivated than others to obtain, and are more skilled than others in obtaining, public appearances by regulating their expressive behavior and self-presentation (Snyder, 1987). Indeed, when classified by their responses to the Self-Monitoring scale (SMS; Snyder & Gangestad, 1986), high self-monitors appear to be very much aware of their own behavior and its social consequences. These individuals tend to look outside themselves for cues about how to respond to different situations, and thus, are more situationally oriented. In contrast, low self-monitors tend to be more committed to their internal values and, as such, openly display their traits and attitudes.

Using this classification, an argument can be offered about why, in situations such as those under investigation here, low trusters may be expected to contribute more when accountability is high. When accountability is high, self-presentational concerns are activated; accordingly, accountability may constitute a situation in which high self-monitors may be expected to be most responsive to social considerations. Thus, it follows from this line of reasoning that a three-way interaction among trust, accountability, and self-monitoring may be expected (*Hypothesis 4*). When trust is low, high self-monitors will be more responsive to their social environment and adjust their behavior more than low self-monitors. As a result, when trust is low, high self-monitors will cooperate more than low-self-monitors in the high accountability condition. In the low accountability condition, no difference between both self-monitoring types is expected when trust is low. Finally, when trust is high, contributions are expected to be equally high across all cells.

STUDY 1

Method

Participants

Seventy-eight university employees participated voluntarily in the present study.

Procedure

Employees were approached at their working base (e.g. office, mail room, etc.), and were asked whether or not they would be willing to fill out a few scales (assessing trust and self-monitoring) and answer some questions and statements about attitudes and choice behavior. All participants agreed. To provide a rationale to participants why they were required to fill out these scales, they were told that

these scales were part of another (unrelated) study concerning the validity of different types of scales. After this explanation, participants were first required to answer five general trust questions which were taken from the trust scale developed by Yamagishi (see Yamagishi, 1986): (1) 'Most people tell a lie when they can benefit by doing so', (2) 'Those devoted to unselfish causes are often exploited by others', (3) 'Most people do not cooperate because they pursue only their own self-interest. Thus, things that can be done well if people cooperate often fail because of these people', (4) 'Most people are basically honest', and (5) 'There will be more people who will not work if the social security system is developed further'. Calculation of Cronbach's coefficient indicated good internal consistency ($\alpha = 0.79$). In line with previous research (e.g. Parks & Hulbert, 1995), median splits ($median = 5$) were used to classify participants as high or low trusters.

Next, self-monitoring was measured by using the 18-item SMS (Snyder & Gangestad, 1986). For each of the statements, participants are required to answer whether or not the statement is true, mostly true, rarely true or false. The first two options are taken and classified as true, whereas the latter two options are taken and classified as false. All items are keyed in the direction of high self-monitors, and this score for each item is reported as 1. Calculation of Cronbach's coefficient revealed a reasonably good internal consistency ($\alpha = 0.68$). As in previous research (e.g. Guarino, Michael, & Hocevar, 1998), the sample was split so that those participants responding with a score greater than 13 were classified as high self-monitors. The distribution of high and low self-monitors were not significantly different among individuals with high trust (41% versus 59%, respectively) and individuals with low trust (48% versus 52%, respectively), $\chi^2(1, N = 78) < 1, ns$.

After answering these questions, participants were required to make a decision in a modified public goods dilemma, which was adopted from previous research (see Van Lange & Kuhlman, 1994 for more details). The task was presented in such a way that participants could make a choice between five options, varying systematically from most to least cooperative. Participants were told that they had to imagine that they were given four blue chips and that the partner with whom they would play the task (and who was unknown to them) was given four yellow chips. Each own chip was worth 25 units to the participant himself or herself, and a value of 50 units to the partner. Similarly, each chip the partner kept was worth 25 units, and each chip the partner gave to the participant was worth 50 units to the participant. After providing this information, participants were then told that their task was to decide how many chips to give to the partner. No reference was made to possible strategies as maximizing joint outcomes or maximizing personal outcomes. Four chips given to the partner indicates maximal cooperation, and zero chips given means minimal cooperation.²

Thus, each participant had five choices and the outcome is determined by the combined choices of both the participant and their partner. This information was presented to the participants in the form of a 5×5 payoff matrix (see Table 1).

Before participants were asked to indicate their choice, they were informed that their partner would be aware of their decision or not (see Kramer, Pommerenke, & Newton, 1993 for a similar procedure). In the high accountability condition, participants were told that they had to imagine that, after they made a decision, they would meet up with their partner and that he or she would know their choice. In the low accountability condition, participants were told that they had to imagine that only they would know their decision and that they would not meet up with their partner. After this manipulation, participants decided how many chips they were willing to give to their partner. Finally, they were thanked and fully informed about the purpose of the study.

²This give-some game reflects the properties of a public goods dilemma as defined in the social dilemma literature (Dawes, 1980; Komorita & Parks, 1994). It is in one's interest not to contribute anything or not too much, because for self-interested reasons it is best to free-ride on others' contributions. However, if both players adopt this strategy, the outcome will be worse than if both decided to contribute.

Table 1. Give-some matrix presented to participants

YOU GIVE	YOUR PARTNER GIVES				
	4 chips	3 chips	2 chips	1 chip	0 chips
4 chips					
You	2.00	1.50	1.00	0.50	0.00
Partner	2.00	2.25	2.50	2.75	3.00
3 chips					
You	2.25	1.75	1.25	0.75	0.25
Partner	1.50	1.75	2.00	2.25	2.50
2 chips					
You	2.50	2.00	1.50	1.00	0.50
Partner	1.00	1.25	1.50	1.75	2.00
1 chip					
You	2.75	2.25	1.75	1.25	0.75
Partner	0.50	0.75	1.00	1.25	1.50
0 chips					
You	3.00	2.50	2.00	1.50	1.00
Partner	0.00	0.25	0.50	0.75	1.00

RESULTS³

For each participant, we calculated the value of the chips they were willing to give to their partner by multiplying the number of chips given by 25 (the unit value of each own chip). As such, the value given to their partner can vary from 0 (0 chips given to the partner) to 100 (4 chips given to the partner). A 2(Trust: High versus low) \times 2(Self-Monitoring: High versus low) \times 2(Accountability: High versus low) ANOVA was performed on participants' contributions, revealing first of all a significant main effect for trust, $F(1, 70) = 19.78, p < 0.001$ (Hypothesis 1). High trusters contributed more than low trusters ($M's = 64.10$ versus 46.15 ; respectively). Second, in line with Hypothesis 2, a significant main effect for accountability was found, $F(1, 70) = 13.04, p < 0.005$, such that participants in the high accountability condition contributed more than participants in the low accountability condition ($M's = 62.50$ versus 46.53 ; respectively). In addition, ANOVA also revealed a significant main effect for self-monitoring, $F(1, 70) = 24.35, p < 0.001$, indicating that high-self monitors contributed more than low-self monitors ($M's = 65.97$ versus 45.83 ; respectively).

Furthermore, a significant interaction between trust and accountability emerged, $F(1, 70) = 21.20, p < 0.001$ (Hypothesis 3). No significant difference was found among high trusters between the low and high accountability ($M's = 68.06$ versus 60.71 ; respectively; $F(1, 37) = 1.49, p < 0.24$), whereas low trusters contributed significantly more when accountability was high rather than low ($M's = 64.29$ versus 25.00 ; respectively; $F(1, 37) = 17.31, p < 0.001$). Also a significant interaction between self-monitoring and accountability was found, $F(1, 70) = 9.84, p < 0.005$. Participants classified as high self-monitors contributed significantly more when accountability was high rather than low ($M's = 81.58$ versus 48.53 ; respectively; $F(1, 34) = 13.80, p < 0.005$), whereas those classified as low self-monitors did not contribute significantly more when accountability was high rather than low ($M's = 46.74$ versus 44.74 ; respectively; $F(1, 34) < 1$). No significant interaction between trust and self-monitoring, $F(1, 70) < 1$, emerged.

³A regression analysis was also conducted to test whether or not our analyses with median splits were valid. This analysis revealed results quite similar to those by ANOVA (for both the main and interaction effects). The only difference was that for the regression analysis the main effect for self-monitoring was not significant ($\beta = -0.55, p < 0.14$).

Table 2. Average contributions for the three-way interaction between trust, accountability, and self-monitoring

	Low accountability		High accountability	
	High self-monitoring	Low self-monitoring	High self-monitoring	Low self-monitoring
High trust	78.13 ($N=8$)	60.00 ($N=9$)	71.88 ($N=8$)	53.85 ($N=13$)
Low trust	22.22 ($N=9$)	27.78 ($N=9$)	88.64 ($N=11$)	37.50 ($N=10$)

Note: Contributions can range from minimum 0 points (0 chips given) and maximum 100 points (4 chips given).

Finally, in line with Hypothesis 4, the three-way interaction between trust, self-monitoring, and accountability was significant, $F(1, 70) = 9.58, p < 0.05$ (see Table 2). In order to examine whether this interaction exhibited the expected pattern, additional analyses were performed at each level of trust.

Within the sample of low trusters, a $2(\text{Self-monitoring}) \times 2(\text{Accountability})$ ANOVA revealed again a significant effect for self-monitoring, $F(1, 35) = 11.69, p < 0.005$, indicating that high self-monitors contributed more than low self-monitors (M 's = 58.75 versus 32.89; respectively). Furthermore, a significant main effect for accountability occurred, $F(1, 35) = 27.99, p < 0.001$, indicating that when accountability was high, participants contributed more than when accountability was low (M 's = 64.29 versus 25.00; respectively). Finally, the interaction between accountability and self-monitoring was significant, $F(1, 35) = 15.02, p < 0.001$. The relevant means are presented in Table 3. In line with our predictions, the means show clearly that contributions increase significantly among low trusters in the high accountability condition when those participants are classified as high self-monitors. In the other conditions, contribution rates are equally low.

Using the sample of high trusters, a $2(\text{Self-monitoring}) \times 2(\text{Accountability})$ ANOVA revealed a significant main effect for self-monitoring, $F(1, 35) = 10.85, p < 0.005$, showing that high self-monitors contributed more than low self-monitors (M 's = 75.00 versus 56.52; respectively). No significant main effect for accountability, $F(1, 35) = 1.30, p < 0.27$, and no significant interaction between accountability and self-monitoring, $F(1, 35) < 1$, was found.

STUDY 2

The findings of Study 1 provide strong support for our line of reasoning: both trust and accountability influenced contribution behavior positively. When trust and accountability were high, contributions were higher than when trust and accountability were low. Moreover, the results also showed that an interpersonal orientation in addition to the ones examined in mixed-motive situations (such as social

Table 3. Average contributions for the two-way interaction between accountability and self-monitoring when trust is low

	Accountability	
	High	Low
High self-monitoring	88.64 ($N=11$) ^b	22.22 ($N=9$) ^a
Low self-monitoring	37.50 ($N=10$) ^a	27.78 ($N=9$) ^a

Note: Contributions can range from minimum 0 points (0 chips given) and maximum 100 points (4 chips given). Means with a different superscript differ at $p < 0.001$.

value orientations, e.g. Van Lange, 1999) influenced contribution behavior, namely, self-monitoring. Those individuals classified as high self-monitors contributed more than those classified as low self-monitors.

Furthermore, the results showed that those low in trust can be motivated to raise their contributions when accountability is high. Moreover, this tendency seemed to be stronger when those low in trust were classified as high self-monitors. These results provide evidence that, when taking into account certain predispositions (self-monitoring) and situational factors (identifiability of actions), those considered to be less cooperative (due to low trust) can still be motivated to raise their contributions. It seems that low trusters need additional means, such as increasing accountability, to motivate them to engage in cooperative actions. Moreover, those who are most responsive to situational cues (i.e. high self-monitors) seem to be most influenced by such means.

In order to be able to draw strong conclusions regarding the question on how to motivate low trusters in their contribution behavior it is necessary to examine whether similar results will be obtained when participants have to make contribution decisions in an actual group and when they are truly accountable. Therefore, a second study was conducted in which this experimental paradigm was used.

Method

Participants

One hundred and sixty-nine introductory international business students participated in the experiment, which was part of a social psychology course (99 male and 70 female students with an average age of 19 years).

Procedure

The experiment was conducted as part of an introductory social psychology class at a Dutch business school. Upon arrival in the different group sessions, participants were split up in groups of seven and were seated at separate tables. As they could see each other, they were explicitly told not to talk to one another.

As in Study 1, participants were told that, before starting the group-decision making study, they were required to fill out a few scales. Again, they were told that these scales were part of another (unrelated) study examining the validity of different types of scales. After this information, participants filled out the 18-item SMS (Snyder and Gangestad, 1986). The same instructions as in Study 1 were provided. Calculation of Cronbach's coefficient revealed a reasonable good internal consistency ($\alpha = 0.81$). A median split was used classifying those participants responding with a score greater than 9 as high self-monitors, and those lower than 9 as low self-monitors. Participants also answered the same five general trust questions as in Study 1 (see Yamagishi, 1986). Calculation of Cronbach's coefficient indicated good internal consistency ($\alpha = 0.89$). In line with previous research (e.g. Parks & Hulbert, 1995), median splits (*median* = 4.40) were used to classify participants as high or low trusters. Participants responding with 4.40 were excluded from the analysis. The distributions of high and low self-monitors were not significantly different among individuals with high trust (49% versus 51%, respectively) and individuals with low trust (52% versus 48%, respectively), $\chi^2(1, N = 169) < 1, ns$.

When these two questionnaires were finished, the experimenter provided each participant with a written introduction that informed participants that within different types of groups, decisions quite

often involve a struggle between personal and collective interests. Participants were given some examples to illustrate this conflict (e.g. the question whether or not to contribute to public and organizational facilities like charities, health care and team projects). Furthermore, participants were informed that it was not allowed to try to contact one another.

After this, a business scenario with the properties of a step-level public goods dilemma was introduced (see Van de Kragt, Orbell, & Dawes, 1983). Participants were informed that within their group of seven each member would be a manager of a working unit of a company called *Mind Vision*. It was said that all units work independently and that quite often they compete for organizational resources and rewards. Participants were informed that each fiscal quarter, working units in this company receive company resources from a common pool referred to as the *Mind Vision good*. The resource that each unit receives is 40,000 Dutch Guilders. Participants were told that financial planners within Mind Vision designed an investment plan that would enable the company to gain additional organizational resources. According to this investment plan, each unit could invest or contribute some or all of the resources received into an investment plan.

They were told that if the sum of the investments (in this case the sum of the seven managers) equaled or exceeded 140,000 Dutch Guilders, the money they invested would be doubled and distributed equally among all seven units (cf. Van Dijk & Wilke, 1995). Thus, in this case all managers would receive part of the investment bonus, regardless of their contribution. However, if the total sum invested was less than 140,000 Dutch Guilders, then all investments would be lost as sunk costs. Thus, each manager could lose his or her investment if the group as a whole did not contribute enough. To provide an incentive for participants, they were told that after the study, their decisions as a manager would be evaluated by the experimenter and that good investment decisions could bring financial rewards (a 50 Dutch Guilders lottery prize). The evaluation of these decisions would be based on how much each manager obtained (i.e. the money contributed and the money received from the investment bonus, see also Aquino, Steisel, & Kay, 1992).

Before starting with this investment task, participants were informed in half of the conditions that the decision each manager made (including their own decision) would be communicated to the other managers in their experimental group (i.e. *high accountability*). In the other half of the conditions, participants were informed that each manager would be the only one who would know his or her decision. Thus, the decision of each manager would be anonymous (i.e. *low accountability*). After this information was provided, participants decided how much they wished to invest. When all investments were made, the experiment was finished and participants were debriefed.

Results⁴

A 2(Trust: High versus low) × 2(Self-Monitoring: High versus low) × 2(Accountability: High versus low) ANOVA was performed on participants' investments, revealing again a significant main effect for trust, $F(1, 132) = 72.56, p < 0.0001$ (Hypothesis 1). High trusters invested more than low trusters ($M's = 28\,807$ versus $18\,899$; respectively). Second, in line with Hypothesis 2, a significant main effect for accountability was found, $F(1, 132) = 36.15, p < 0.001$, indicating that participants in the high accountability condition invested more than participants in the low accountability condition ($M's = 27\,350$ versus $20\,356$; respectively). Again, ANOVA revealed a significant main effect for self-monitoring, $F(1, 132) = 20.97, p < 0.001$, indicating that high-self monitors invested more than low-self monitors ($M's = 26\,516$ versus $21\,189$; respectively).

⁴A regression analysis was again conducted, revealing the same results as those by ANOVA (for both the main and interaction effects).

Table 4. Average contributions for the three-way interaction between trust, accountability, and self-monitoring

	Low accountability		High accountability	
	High self-monitoring	Low self-monitoring	High self-monitoring	Low self-monitoring
High trust	27 727 (<i>N</i> = 11)	28 846 (<i>N</i> = 13)	33 217 (<i>N</i> = 23)	25 437 (<i>N</i> = 24)
Low trust	11 684 (<i>N</i> = 19)	13 166 (<i>N</i> = 21)	33 437 (<i>N</i> = 16)	17 307 (<i>N</i> = 13)

Note: Contributions can range from minimum 0 to maximum 40 000 Dutch Guilders.

As in Study 1, a significant interaction between trust and accountability emerged, $F(1, 132) = 26.19, p < 0.001$ (Hypothesis 3). No significant difference was found among high trusters between the low and high accountability conditions (M 's = 28 286 versus 29 327; respectively; $t(73) = -0.87, ns$), whereas low trusters contributed significantly more when accountability was high rather than low (M 's = 25 372 versus 12 425; respectively; $t(83) = -6.77, p < 0.001$). Furthermore, the significant interaction between self-monitoring and accountability was found again, $F(1, 132) = 32.47, p < 0.001$. Participants classified as high self-monitors invested significantly more when accountability was high rather than low (M 's = 33 327 versus 19 705; respectively; $t(71) = -7.07, p < 0.001$), whereas those classified as low self-monitors did not contribute significantly more when accountability was high rather than low (M 's = 21 372 versus 21 006; respectively; $t(73) = -0.66, ns$). Again, no significant interaction between trust and self-monitoring, $F(1, 70) = 1.77, ns$, emerged.

Contrary to Study 1, the interaction between accountability, trust, and self-monitoring was marginally significant, $F(1, 132) = 3.50, p < 0.07$. Although this interaction did not reach the traditional level of significance ($p < 0.05$, see Hays, 1981), a closer examination of the means in terms of our predictions seems to show a strong tendency for low trusters classified as high self-monitors to invest considerably more when accountability is high (see Table 4).

To examine this pattern in more detail a 2(Accountability) \times 2(Self-monitoring) ANOVA was conducted on the sample of low trusters. This analysis revealed the expected main effects for accountability, $F(1, 65) = 79.79, p < 0.0001$, and for self-monitoring, $F(1, 65) = 25.53, p < 0.001$, but, more interestingly, a significant interaction between accountability and self-monitoring was also found, $F(1, 65) = 36.91, p < 0.001$. When accountability was high, high self-monitors invested significantly more than low self-monitors (M 's = 34 437 versus 17 307, respectively; $t(27) = -9.30, p < 0.001$). However, when accountability was low no significant difference between high and low self-monitors was found (M 's = 11 684 versus 13 166, respectively; $t(38) = 0.70, ns$). These results provide some evidence in line with our hypothesis, although the predicted three-way interaction was only marginally significant.

GENERAL DISCUSSION

The present research examined the effect of trust on people's willingness to contribute towards the common welfare. In addition, the effects of accountability and of self-monitoring were examined to provide added perspective on the situational (i.e. accountability) and personal (i.e. self-monitoring) contexts in which links between trust and contributing to the common welfare will and will not

occur. When considered across the two studies, the results confirmed our hypotheses. First, high trusters were found to contribute more than low trusters (Hypothesis 1). Second, when decisions were made accountable, contributions were higher than when decisions were not made accountable (Hypothesis 2). Third, low trusters contributed as much as high trusters, but only when accountability was high (Hypothesis 3). Furthermore, evidence was found that low trusters contributed more when accountability was high rather than low, but only if they were classified as high self-monitors (Hypothesis 4). Finally, irrespective of trust, a significant effect of self-monitoring on contributions was found. Let us now discuss the most important theoretical implications of these findings.

First, in line with previous social dilemma research (e.g. Brann & Foddy, 1987), our results showed that trust was predictive of contributions in a social dilemma setting. When trust was high, people engaged in more cooperative behavior and gave more to the other than when trust was low. Based on these findings, the more interesting question, however, would seem to be whether or not those low in trust can be motivated to act more cooperatively. One situational factor that was expected to influence contributions positively for those low in trust was accountability. The present results showed, first of all, a main effect of accountability such that contribution levels were higher when accountability was high rather than low. Furthermore, as expected, accountability also influenced the contribution decisions of those low in trust. When accountability was high, no difference in contributions was found between those high and those low in trust. In contrast, when accountability was low, high trusters gave more than low trusters.

As argued earlier, low trusters have low expectations that others will reciprocate cooperative behavior, and therefore do seem to need additional motives to engage in cooperative behavior. One means of providing such motives is to focus on the psychological consequences of people's decisions in a mixed-motive situation (Tetlock, 1992). Increased accountability makes decision makers vulnerable to social pressure and critique, which may result in a negative self-image (Baumeister, 1987). As this is not a desired psychological outcome, one may expect that accountable decision makers will be motivated to serve their self-presentation and to promote approval from others (Baumeister, 1982; Lerner & Tetlock, 1999). One way of achieving this in interdependence situations, like social dilemmas, is to conform to what is perceived to be good, that is, to cooperate.

In addition to this self-presentation explanation, our manipulation of accountability may also have enhanced low trusters beliefs' that the others (i.e. partner) will be more cooperative because they experience the same need to preserve their self-image. More specifically, under conditions of high accountability, low trusters may estimate that others will act in a cooperative way as they experience similar self-presentation concerns, consequently promoting mutual cooperation. Although being accountable may increase such a psychological verification of trust in others (i.e. others will reciprocate because of self-presentational concerns), this assumption still remains speculative and requires further research.

Furthermore, in line with expectations, this effect of accountability on trust was more pronounced among low trusters who were classified as high self-monitors rather than as low self-monitors. How may this be explained? Under conditions of high accountability, social normative behavior is reinforced mainly because decision makers wish to make a good impression on the others they're interacting with (Tetlock, 1992). This desire to be socially correct and to be responsive to others is considered to be especially high among people who score high on the Self Monitoring Scale (Snyder, 1974). High self-monitors, in contrast to low self-monitors, are individuals who are highly responsive to situational norms and expectations. Therefore, it follows that high self-monitors who have low perceptions of trust will adapt to the socially appropriate norm (i.e. they will increase cooperation) when accountability is high.

Another finding worthy of discussion is the main effect of self-monitoring on level of contributions, as the present research is the first, to our knowledge, to show such a clear-cut effect of self-monitoring

on contribution behavior (for similar evidence in other decision situations see Baron, 1989, and Boone, De Brabander, & Van Witteloostuijn, 1999). How are we to explain this effect? In social dilemmas, several expectations and social norms are evoked, which in turn are considered to be crucial determinants of people's decision behavior (Allison, Beggan, & Midgley, 1996; Kerr, 1995), particularly for those high in social sensitivity. A contextual feature that is most likely to be reinforced in social dilemmas is a situation of conflict of interests (Dawes, 1980). Thus, the dominant social norm to adapt to in this situation will be to resolve the conflict, or in other words, to contribute to the general welfare (Kerr, 1995). Therefore, it may be expected that high self-monitors will show a greater tendency to go along with this social norm than low self-monitors. Future research, however, is required to examine more in detail the role of social norms on high self-monitors' decision behavior.

As a limitation, it is possible that the present research may have suffered from problems of demand characteristics. The measurement of both the self-monitoring (SM) and trust scale took place just before the social dilemma task. Although this may have influenced participants' decisions, previous research on both scales has demonstrated that even when both social dispositions are assessed well in advance of behavioral measures and tasks (e.g. 4-7 weeks), they still affect behavior in the predicted ways. For example, measuring trust weeks in advance influenced cooperative behavior in social dilemmas (e.g. Brann & Foddy, 1987). Also with respect to self-monitoring, research illustrated that assessing the SM-scale six weeks in advance influenced behavior of college students in terms of student integration (Guariona, Michael, & Hocevar, 1998). However, since there is always a possibility of earlier measures sensitizing participants to later measures, it would be interesting to replicate the present studies by measuring both scales a substantial amount of time before the actual task and to include a number of filler items. Another limitation is that the present research did not examine directly whether self-presentational concerns were the underlying psychological processes of our observed effects. As our research takes accountability and self-monitoring into a domain (i.e. social dilemmas) about which the relevant theories do not make explicit claims, it is necessary for future research on this issue to include self-presentational measures to fully understand the present results.

Finally, the moderating effects of self-monitoring and accountability on trust also have implications for the understanding of trust in decision situations. In the organizational and economic literature, trust is typically defined in a cognitive and instrumental way (Kramer, 1999; Schelling, 1960). That is, high trust will promote contributions, because it reflects a belief that others will not exploit a cooperative act, and as such cooperating is economically the best option. As Kramer (1999) notes: 'From the perspective of rational choice theory, decisions of trust are similar to other forms of risky choice; individuals are presumed to be motivated to make rational, efficient choices' (p. 572). Thus, trusting one another requires some rational thinking in a sense that trust in others will be high if it serves one's own self-interest.

However, this rational choice perspective may be too narrowly focused on cognitive calculations of self-interest, and may benefit from broadening it to include the possible effects of predispositions and situational cues. That is, some individuals have specific motives or predispositions; all psychological states that may influence the effect of trust on decision behavior under certain specifiable circumstances (e.g. when accountability is high). According to an *instrumental* or *calculus-based* perspective, low trusters may expect that others will try to free-ride, and as such cooperation is not an attractive option (it hurts one's self-interest). However, it following our results, if a decision maker is highly social responsive (i.e. high self-monitor) and if his or her actions are highly identifiable, the effect of trust on cooperation does not seem to be so straightforward.

More generally, our findings of the influences of trust, accountability, and self-monitoring illustrate the value of taking a broadly based, dynamic interactionist perspective (e.g. Snyder & Cantor, 1998) on the ways that attributes of persons (e.g. their self-monitoring orientations and their propensities to trust) and features of their situations (e.g. the accountability specifications of the contexts in which

they operate) are integrated by individuals as they construct and pursue agendas for action (e.g. deciding whether or not to invest in the well-being of others; see also Kelley, 2000). In accord with this general perspective, we suggest that future research on trust in decision situations should focus more on the effect of psychological states, predispositions and situational cues when defining the role of trust in making decisions.

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