Intergroup emotional exchange: In-group guilt and outgroup anger increase reparatory behaviour in trust games

Methodology

STUDY 1 Method Participants and design. Eighty-five participants (50 females, Mage = 21.70, SD = 5.10) were recruited in groups during lab sessions (for a total of 16 sessions) and paid £5 for their time. We recruited as many subjects as we could over six weeks and excluded data from 18 participants: ten who did not answer screening questions correctly and eight who did not complete the experiment due to a computer error (final N = 67). The study used a between-subjects design, with three outgroup emotion conditions (anger: n = 23; disappointment: n = 24; control: n = 20). Procedure. We implemented the study in Qualtrics (Provo, UT). Participants were recruited in groups of 4 to 10 and worked at separate computer stations in the same room. After providing consent, they completed a questionnaire (Doosje et al., 1998) that ostensibly divided them into two groups. Members of the two groups then played a trust game (Berg et al., 1995) to gain lottery tickets for their respective teams. The goal was to maximize the group’s tickets thus increasing the chances of winning a lottery prize of £100. The trust game itself involved an ‘investor’ transferring lottery tickets to a ‘trustee.’ The number of tickets transferred was then tripled, and the trustee could theoretically return any proportion of this new total to the investor. Note that investors in trust games risk exploitation by trustees who are not compelled to repay; however, if investors transfer sufficient resources and trustees reciprocate, both parties end up better off than at the start of the game. After reading the instructions, participants were informed that their team would act as trustees and that one member of their group would play a ‘demonstration round’ with someone from the other team (supposedly to help them learn the rules of the game). They then read a message stating that another member of their team had been selected to play and that that they would be shown what was happening on this person’s screen during the demonstration round. After a short waiting time, ostensibly to establish a computer connection, participants watched what they believed was the real-time trust game but was in fact a pre-recorded screen capture. The representatives of both teams started the game with an initial endowment of 10 lottery tickets, which could be increased or decreased depending on players’ decisions. The video showed the ingroup representative receiving 7 tickets (then tripled to 21) and subsequently returning 0 tickets to the other team. After this breach of trust, the ingroup representative received a message from the other player, reporting how this person felt about the round. The message stated either “I am angry about the round” (anger condition), or “I am disappointed about the round” (disappointment condition). In the control condition, the ingroup representative did not receive a message from the outgroup representative. After observing the demonstration round, participants rated the extent to which they felt proud and guilty, using 7-point Likert scales running from 1 (Not at all) to 7 (Extremely). These items were presented along with five other items (interested, enthusiastic, upset, happy, and attentive; see also Supplementary Materials, Table S1), which served as fillers. Participants then played a second round of the game with another member of the outgroup team. In this round, they were informed that they had received 4 tickets (tripled to 12) from the outgroup player and were asked to decide how many of their resulting 22 tickets (10 initial tickets + 12 received from other player) to return. The number of tickets sent to the outgroup member served as an index of reparatory behavior. After the second round, participants were asked to think back to the demonstration round and rate how responsible and how guilty they felt about the outcome, and how much they had wanted to compensate and make amends for it. They also rated how fairly the ingroup representative had behaved in the demonstration round, and how much they had in common with ingroup and outgroup members. To respond, participants made ratings on scales ranging from 1 (Not at all, or Very little) to 5 (Very much). Three items tested participants’ understanding of the trust game, and, in the anger and disappointment conditions, one open-ended question asked about the emotion communicated by the outgroup member. Finally, subjects completed the Test of Self-Conscious Affect (TOSCA, Tangney, Wagner, & Gramzow, 1989) and the ‘slider’ measure of Social Value Orientation (Murphy, Ackermann, & Handgraaf, 2011). After finishing the questionnaire, they were thanked and debriefed. One of the 16 sessions was randomly selected and the 4 participants in this session shared the £100 lottery prize. STUDY 2 Method Participants and design. One hundred and sixty-four participants (139 females, Mage = 18.43, SD = 0.82) were recruited in groups of two or three persons (for a total of 60 sessions) and compensated with course credit. We recruited as many participants as we could during a 3-week period, aiming for at least 53 usable data points in each condition to ensure 80% statistical power to detect a medium-sized effect in a between-subjects ANOVA. We excluded data from 17 participants: three who did not follow experimental instructions, one who reported having participated in a similar experiment in the past, and 14 who did not correctly answer the three questions checking the understanding of the trust game (final N = 147). The study used a between-subjects design, where each group was randomly allocated to one of the three ingroup emotion conditions (guilt: n = 53; happiness: n = 47; control: n = 47). Procedure. The procedure was similar to Study 1, but used a more immersive paradigm. Participants were recruited in groups of 2 or 3. Each group was accompanied by one of two female confederates who posed as a fellow participant. Participants were first informed that they would be interacting with another group of students. The two groups had ostensibly been recruited on the basis of participants’ scores on a prior survey. To reinforce the impression that participants were interacting with another team, the experimenter appeared to communicate by telephone with a colleague who was supervising the other group. After providing written consent, participants were left alone in the room for 10 minutes with the task of selecting a name for their group. This task served as an icebreaker designed to increase group cohesion. As in Study 1, participants next played a ‘demonstration round’ in order to learn the rules of the game. The experiment was implemented in MediaLab (version 2012.4.133, New York, NY: Empirisoft Corporation). Participants gathered around the computer, which selected (supposedly at random) one representative from each of the two teams. In reality, the confederate was always selected as the ingroup representative. She sat at the computer and ensured that other group members standing behind her could read the trust game instructions on the screen. As in Study 1, the participant’s team acted as trustees, while the other team acted as investors. After receiving 7 tickets (tripled to 21) from the outgroup member, the confederate decided not to return any tickets to the other team. In the guilt and happiness conditions, the program asked the confederate how guilty and happy she felt about the number of tickets returned to the other group. The confederate answered the question following a standardized script. In the guilt condition she sighed, looked down, and said “Now I don’t feel so good about it,” before selecting the response very much for guilt and a little for happiness. In the happiness condition, she laughed, nodded her head, and said “I feel pretty good about it,” then selected the response very much for happiness, and a little for guilt. In the control condition, the ingroup representative was not asked about how she felt and did not express any emotion. Next, participants moved to another room and sat at separate workstations. There, they reported the extent to which they felt proud and guilty after the demonstration round, using 5-point scales ranging from 1 (Not at all) to 5 (Extremely) in a questionnaire that also included four filler items (interested, enthusiastic, upset, and attentive, see also Supplementary Materials, Table S2 for details). Participants then played the second round of the game with a member of the other group. As in Study 1, they were informed that they had received 4 tickets from this other person, and were asked how many of the resulting 22 tickets they wished to return.4 As manipulation checks, participants rated the fairness of the decision made by the ingroup representative and how happy and positive the representative had felt about it. Then, as measures of guilt and guilt-related appraisals, there followed items asking about the extent to which participants felt guilty about and responsible for the (unequal) outcome of the demonstration round, and how much they had wanted to compensate for it. Participants were also asked how much they thought they had in common with other members of their own team and with members of the other group. Finally, they answered three screening questions testing their understanding of the trust game and completed the TOSCA (Tangney et al., 1989). They were thanked and debriefed by e-mail. One lottery-winning team was randomly selected to share £100 between its members.