How emotional expressions shape prosocial behavior

Interpersonal effects of anger and disappointment on compliance with requests

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How emotional expressions shape prosocial behavior: Interpersonal effects of anger and disappointment on compliance with requests

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Abstract People often express emotion to influence others, for instance when making a request. Yet, surprisingly little is known about how such emotional expressions shape compliance. We investigated the interpersonal effects of anger and disappointment on compliance with requests. In Experiments 1 and 2, participants were more willing to offer help and donate to charity when a request was accompanied by disappointment rather than anger or no emotion. In Experiment 3, which involved a behavioral paradigm, emotional expressions trumped the effect of an explicit descriptive norm: Expressions of disappointment fostered generosity despite a non-generous norm, and expressions of anger undermined generosity despite a generous norm. Mediation analyses in Experiments 2 and 3 revealed that disappointment was more effective than anger in eliciting compliance because it was perceived as more appropriate for the context. Findings are discussed in relation to theorizing on social influence and the social functions of emotions.

Keywords Interpersonal effects of emotions · Social influence · Compliance · Anger · Disappointment

Introduction

Imagine you are at a university library to copy an article that is not available online. As you are waiting by the copy machine, you realize that the person before you is in the process of copying several chapters from a sizeable volume on social psychology. You inquire how much time the person thinks he will need to finish his copy job, and he replies that he expects it will take him another 20 min. You say that your brief article would take less than 2 min to copy and ask whether it might be possible to quickly go first. What follows is an awkward silence, and you feel annoyed by the person's apparent lack of consideration. You wonder what you should do. What if you got angry? Would the person let you go first? What if you expressed disappointment? Or would it be better to show no emotion at all? Which emotional strategy would have the best chance of getting the person to comply with your request? In this paper we report three studies into the effects of such emotional expressions on compliance with requests.

Compliance can be defined as "a particular kind of response—acquiescence—to a particular kind of communication—a request" (Cialdini and Goldstein 2004, p. 592). It has long been recognized that emotions play a role in this process. Thus far, however, research has emphasized the intrapersonal effects of emotions, that is, how a person's own affective state influences his or her likelihood to comply with a request. For instance, the experience of emotions such as fear (Maddux and Rogers 1983), gratitude (Goei and Boster 2005), guilt (Carlsmith and Gross 1969; Konecni 1972; O'Keefe and Figge 1997; Regan 1971), and embarrassment (Cann and Blackwelder 1984) has been found to foster compliance. Other research has shown that people in positive moods tend to be more willing to comply with requests than people in a neutral mood (Carlson et al. 1988; Fuchs-Beauchamp 1994; Isen et al. 1976; Lay et al. 1989).

Although this research has greatly enhanced our understanding of the role of *felt* emotions in social influence, little

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is known about the social effects of emotional *expressions*. This is surprising, because emotions are not merely private experiences. They are expressed in social interaction, and are generally perceived by others, who may in turn respond to them (Fischer and Van Kleef 2010; Frijda and Mesquita 1994; Keltner and Haidt 1999; Parkinson 1996; Van Kleef 2009). Given that compliance (and social influence more generally) is fundamentally interpersonal in nature, our understanding of social influence processes could benefit from a more explicit consideration of the interpersonal effects of emotional expressions—that is, how one person responds to *another's* emotional expressions accompanying a request (Van Kleef et al. 2011). Here we focus on two prevalent negative emotions whose expression we believe may have very different effects on compliance with requests: anger and disappointment.

Anger, disappointment, and compliance

Negative emotions such as anger and disappointment can arise when an event is incongruent with a person's goals, concerns, or (positive) expectancies (Frijda 1986; Roese and Sherman 2007; Smith et al. 1993). At the interpersonal level, expressing anger or disappointment at another's behavior can thus signal the wish that the other would have behaved differently. When the expression is directed at another person's behavior, the implication is therefore that this other person should change his or her behavior (Fischer and Roseman 2007; Lelieveld et al. 2011). Despite this similarity between anger and disappointment, there are also marked differences between these emotions, which may have important consequences for their effectiveness in the context of a request for help.

Disappointment shares similarities with sadness and related "supplication" emotions (Van Kleef et al. 2010). Both emotions involve a low level of arousal and a lack of coping potential (Smith et al. 1993), which may contribute to perceptions of neediness and dependence (Clark et al. 1987, 1996). For instance, sadness is associated with perceptions of low power and status (Tiedens 2001; Tiedens et al. 2000). Similarly, disappointment is associated with a lack of control over the situation (Zeelenberg et al. 1998). The expression of disappointment and related supplication emotions thus signals a need for help (Clark et al. 1996; Eisenberg 2000; Eisenberg and Miller 1987; Van Kleef et al. 2006), without assigning blame or entailing a threat of aggression (Lelieveld et al. 2011; Smith et al. 1993; Wubben et al. 2009). As such, expressions of disappointment are unlikely to trigger hostility (whereas expressions of anger may).

Just like an explicit request for help, an expression of disappointment signals that one cannot cope with a situation by oneself, and as such expressing disappointment can

be seen as a way of soliciting assistance (Van Kleef et al. 2010). In that sense, expressions of disappointment are congruent with a request for help, and they may enhance the impact of the request by contributing to increased perceptions of neediness (cf. Clark et al. 1996). Moreover, expressions of disappointment may be seen as relatively fitting in the context of a request for help due to their congruence with the nature of the situation (i.e., dependence, low coping potential). Based on these considerations, we expect that requests that are accompanied by an expression of disappointment are more likely to trigger compliance than requests that are not accompanied by disappointment.

In contrast to disappointment, anger involves a strong approach motivation (Carver and Harmon-Jones 2009) and a tendency to actively remedy an undesired situation (Fischer and Roseman 2007), potentially by aggressive means (Averill 1982). Anger involves appraisals of intentional goal blockage, which often entail blaming other people and wanting to go against them (Kuppens and Van Mechelen 2007; Lazarus 1991; Smith et al. 1993). Additionally, expressions of anger signal power and dominance (Tiedens 2001). Accordingly, expressions of anger can be quite effective in extracting concessions in mixed-motive settings such as negotiations, where parties must reach an agreement to obtain a payoff (Adam et al. 2010; Sinaceur and Tiedens 2006; Van Kleef et al. 2004a, b). The dominant and aggressive signal that is conveyed by expressions of anger suggests that the expresser is not willing to settle for a poor deal, which forces the other party to make concessions to secure an agreement (Van Kleef et al. 2008). Other research has shown that expressions of anger can be effective in engendering social influence in settings that are characterized by clear power differences, such as leader–follower interactions (Damen et al. 2008; Lewis 2000; Lindebaum and Fielden 2011; Van Kleef et al. 2010).

Whereas the potential effectiveness of anger in negotiation and leadership has been repeatedly demonstrated (for a review, see Van Kleef et al. 2011), surprisingly little is known about the consequences of anger expressions in more cooperative and equal-power settings such as a request for help. The appraisals and action tendencies associated with anger suggest that expressing anger may in fact have detrimental consequences in the context of a request for help, where the target of the request is less likely to feel forced to cooperate to further his or her own outcomes (Wubben et al. 2009). Someone requesting assistance is typically not in the position to force another person to comply. Rather, the requester is dependent on the other person's benevolence. The dominance and blame signaled by expressions of anger may therefore be seen as incongruent with the nature of a request for help. In other

words, expressions of anger do not fit the script of a request for help, and therefore they may be perceived as inappropriate in that context (Shields 2005). This perceived inappropriateness may render targets less likely to comply with an angry request than with a non-angry request, because perceptions of inappropriate and unjust treatment tend to fuel aggression and retaliation (Barclay et al. 2005; Baron et al. 1999; Van Kleef and Côté 2007). Based on these considerations, we predict that requests that are accompanied by an expression of anger are less likely to elicit compliance than requests that are not accompanied by anger.

In sum, even though disappointment and anger are both negative emotions that arise when positive expectancies are violated (Frijda 1986; Smith et al. 1993), we hypothesize that expressing disappointment is more effective than expressing anger when it comes to eliciting compliance with a request. We tested this hypothesis in three experiments. In Experiments 1 and 2, we used scenarios to investigate the interpersonal effects of anger and disappointment on intended compliance with two types of request: a request to help move bikes and a request to donate to charity. In Experiment 3 we investigated the effects of anger and disappointment on actual compliance in the context of an explicit descriptive norm to donate much or little. This enabled us to examine whether emotional expressions have an effect over and above the influence of an explicitly stated norm. We did not predict nor find any main or interaction effects involving participants' gender, and therefore we do not include this factor in the analyses reported below.

Experiment 1

As an initial test of our hypothesis that expressions of disappointment engender more compliance than expressions of anger, we employed a scenario in which participants received a request for help that was accompanied by an expression of anger or disappointment. After reading the scenario, participants indicated their willingness to comply with the request.

Method

Participants and design

The questionnaire was completed by 37 undergraduate students at the University of Amsterdam (9 male, 28 female; $M_{age} = 21.62$ years, $SD = 3.30$ years). Participants received 7 euro or course credit for their participation. They were randomly assigned to one of two emotional expression conditions: anger or disappointment.

Procedure

Participants were provided with a paper and pencil questionnaire. They learned that the study was about responses to everyday situations. Participants were asked to imagine that while out shopping, they had parked their bike on the sidewalk. Upon returning from the store, a man was standing next to what was now a group of around 15 bikes. This situation was illustrated with a photograph (see Fig. 1). On the next page, participants saw a photograph of the man, expressing either anger or sadness (see Fig. 2).

Fig. 1 Photograph of bicycles presented in the scenario of Experiment 1. This picture was taken in Amsterdam by Kim Baart, on December 8th, 2011 (reproduction with permission from the photographer)

Disappointment   Anger

Fig. 2 Photographs presented alongside verbal emotion manipulation in Experiment 1. Photographs were taken from the Karolinska Directed Emotional Faces set (KDEF; Lundqvist et al. 1998)

We used a facial expression of sadness as a proxy for disappointment because validated photographs of disappointment displays have not yet been developed. However, sadness and disappointment are part of the same family of supplication emotions, and their facial and postural expressions and social effects resemble one another (Van Kleef et al. 2006, 2010).

The photographs were taken from the Karolinska Directed Emotional Faces set (KDEF; Lundqvist et al. 1998). This picture set has been extensively validated, and pictures from this set have been successfully used in previous research on the social effects of emotional expressions (e.g., Pietroni et al. 2008; Van Doorn et al. 2012). A text below the photograph contained the man's verbal response: "People pay no attention to where they leave their bikes, and we have to move our stuff through here. This makes me very [angry/disappointed]. Could you help me move some of these bikes out of the way?" We added the verbal expression of anger versus disappointment to further enhance the manipulation and to ensure that the expression of sadness would be construed as a sign of disappointment (see Van Doorn et al. 2012).

Following this manipulation, we first administered the communal orientation scale (Mills et al. 2004) to assess participants' feelings about helping the man (10 items using 7-point scales; e.g., "How happy would you feel when doing something that helps this person?"; "How high a priority for you is meeting the needs of this person?"; "How much would you be willing to give up to benefit this person?"; $\alpha = .78$). Next they indicated how many bikes (out of 15) they would be willing to move. At the end of the session we checked the emotion manipulation with two items: "To what extent did the person in the story express [anger/disappointment] about the fact that the bikes were blocking the way?" (1 = *not at all*, 7 = *very much*). Finally, participants provided demographic information and were debriefed and thanked.

Results

Manipulation checks

Independent-samples t tests showed that participants in the disappointment condition perceived the other person as being more disappointed ($M = 5.68$, $SD = 1.25$) than did those in the anger condition ($M = 3.78$, $SD = 1.73$), $t(35) = 3.85$, $p < .005$, $d = 1.28$, and that participants in the anger condition perceived the other person as being more angry ($M = 5.67$, $SD = .91$) than did those in the disappointment condition ($M = 3.58$, $SD = 1.46$), $t(30.28) = 5.24$, $p < .001$, $d = 1.90$.

Communal orientation

An independent-samples t test indicated that the actor's emotional expression influenced participants' communal orientation. Participants felt more positively about helping the actor when he had expressed disappointment ($M = 4.04$, $SD = .84$) than when he had expressed anger ($M = 3.42$ $SD = .71$), $t(35) = 2.43$, $p < .05$, $d = .82$.

Willingness to help

Subsequent t tests revealed a significant effect of emotional expression on compliance. Participants were willing to move more bikes after the person making the request had expressed disappointment ($M = 7.79$, $SD = 3.87$) rather than anger ($M = 5.39$, $SD = 2.25$), $t(29.24) = 2.32$, $p < .05$, $d = .86$ (degrees of freedom were corrected for inequality of variances).[1] Thus, the expression of disappointment in a request resulted in a greater willingness to comply with the request.

Discussion

This initial study supports our general prediction that requests that are accompanied by expressions of disappointment are more likely to elicit compliance than requests accompanied by anger. Furthermore, expressions of disappointment produced stronger feelings of communality than expressions of anger. Our results indicate that expressing anger may be ineffective in eliciting compliance with a request, even though prior research had found that anger can be highly effective in eliciting concessions in negotiations (Van Kleef et al. 2008).

Although the findings thus provide initial support for our hypotheses, this study has some limitations. First, the experiment did not include a control condition, which makes it impossible to tell whether disappointment increased compliance, anger decreased compliance, or both. Second, the request that was made in the scenario was contingent upon the behavior of a group of people who left their bicycles on the sidewalk. Thus, the target of the emotion was somewhat ambiguous, in the sense that the protagonist (i.e., the participant) was not the only person who was potentially responsible for triggering the emotion. This may have influenced the results, as the perceived antecedent and target of an emotional expression can moderate its social consequences (Lelieveld et al. 2011;

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[1] Whereas the measure of communal orientation was normally distributed, the measure of willingness to help was not (it was left skewed). We therefore performed a transformation (computing the square of the index) to eliminate non-normality. The effect of emotional expression on this transformed index of helping intentions was significant, $t(35) = 2.21$, $p < .05$.

Steinel et al. 2008). Finally, we did not explicitly address the role of appropriateness, which we presume to be responsible for the differential effects of anger and disappointment. We addressed these issues in Experiment 2.

Experiment 2

In the second experiment, the expression of emotion was individuated by changing the scenario to a donation context. Anger and disappointment were now expressed following an initial donation participants had made. Based on our theorizing, we expected that a request in which anger was expressed would be considered less appropriate than a request in which disappointment was expressed. Furthermore, we expected that a request paired with disappointment would lead to more compliance than a non-emotional request, whereas a request paired with anger would produce less compliance.

Method

Participants and design

A total of 58 undergraduate psychology students (11 male, 47 female; M_{age} = 21.53 years, SD = 4.04 years) participated in the experiment for 7 euro or course credit. Participants were randomly assigned to one of three emotional expression conditions: angry, disappointed, or neutral.

Procedure

Participants were asked to imagine that while out shopping, they encountered a charity collector. They learned that the charity sounded vaguely familiar, but was not known to them, and that they had donated € 0.50. On the next page of the questionnaire booklet, they were shown a photograph of the charity collector, who displayed no emotion, anger, or sadness (as a proxy for disappointment; see Experiment 1) about the donation. Pictures were again taken from the Karolinska Directed Emotional Faces set (KDEF; Lundqvist et al. 1998; see Fig. 3). Below the photograph, it was noted that "the charity collector looks [neutral/angry/disappointed] after your donation. He briefly pauses in front of you, possibly expecting that you will make an additional donation".

Following this manipulation, participants indicated the amount of money they would be willing to add to their initial donation. Participants also indicated how appropriate they would consider the collector's response (four items using 7-point scales; e.g., "How appropriate do you find the response of the charity collector?"; 1 = not at all, 7 = very much; α = .75). Then, participants completed manipulation checks assessing the extent to which the charity collector had expressed anger and disappointment in response to their initial donation (both single-item measures). Finally, participants were asked to write down the reason for their intended donation (even if they had indicated that they would give nothing).

Results

Manipulation checks

ANOVA indicated that ratings of both disappointment and anger perceived by participants differed between conditions, with $F(2, 55)$ = 6.17, $p < .005$, η_p^2 = .18, for the disappointment perception ratings, and $F(2, 55)$ = 29.80, $p < .001$, η_p^2 = .52, for the anger perception ratings. Participants perceived more disappointment in the disappointment condition (M = 6.25, SD = 1.41) than in the control (M = 4.89, SD = 1.37), $t(55)$ = 3.06, $p < .005$, d = .83, or anger (M = 4.90, SD = 1.41) conditions, $t(55)$ = 3.00, $p < .005$, d = .81; the difference between

Fig. 3 Photographs presented alongside verbal emotion manipulation in Experiment 2. Photographs were taken from the Karolinska Directed Emotional Faces set (KDEF; Lundqvist et al. 1998)

Neutral   Disappointment   Anger

the anger and control conditions was not significant, $t(55) = .03$, $p = .98$, $d = .01$. Participants also perceived more anger in the anger condition ($M = 5.70$, $SD = .98$) than in the control ($M = 3.00$, $SD = 1.78$), $t(55) = 7.39$, $p < .001$, $d = 1.99$ or disappointment ($M = 2.20$, $SD = 1.64$) conditions, $t(55) = 5.55$, $p < .001$, $d = 1.50$; the difference between the control and disappointment conditions was not significant, $t(55) = 1.64$, $p = .11$, $d = .44$. Thus, our manipulation was successful.

Appropriateness of response

Ratings of the appropriateness of the charity collector's response differed significantly between conditions, $F(2, 55) = 6.94$, $p < .005$, $\eta_p^2 = .20$. An angry response ($M = 1.81$ $SD = .81$) was considered less appropriate than a disappointed response ($M = 2.59$, $SD = .97$), $t(55) = 3.53$, $p < .01$, $d = .95$, or a neutral response ($M = 2.83$, $SD = .87$), $t(55) = 2.76$, $p < .005$, $d = .74$. Appropriateness did not differ between the disappointed and neutral conditions, $t(55) = .85$, $p = .40$, $d = .23$. This shows that a request paired with anger was considered less appropriate than a request paired with disappointment or no emotion, as was expected.

Intended donation behavior

The amount of money participants were willing to donate after the response differed significantly among conditions, $F(2, 55) = 3.38$, $p < .05$, $\eta_p^2 = .11$. (Reported contrasts for this measure involving comparisons with the disappointment condition are corrected for inequality of variances). Intended donations after a disappointed response ($M = € 0.71$, $SD = € 1.20$) were higher than after a neutral response ($M = € 0.14$, $SD = € 0.33$), $t(22.21) = 2.02$, $p < .05$, $d = .86$, and marginally higher than after an angry response ($M = € 0.15$, $SD = € 0.46$), $t(24.46) = 1.92$, $p = .062$, $d = .62$. Intended donations in the control and anger conditions did not differ significantly from one another, $t(36) = .82$, ns.[2] These results show that

expressions of disappointment resulted in more compliance than expressions of anger and non-emotional requests.
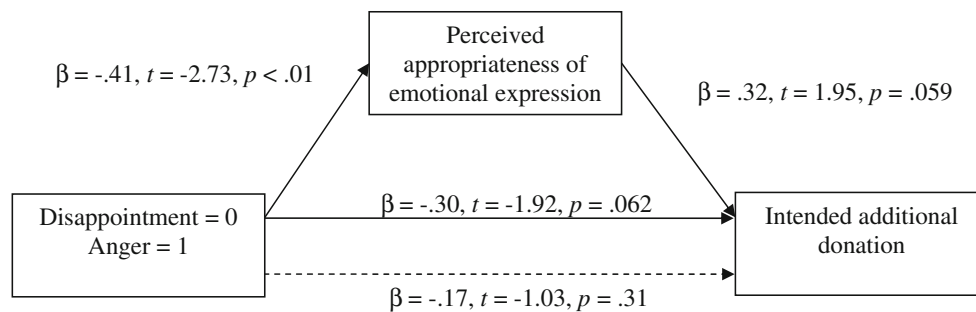
Emotion, appropriateness, and behavioral intentions

We sought to determine whether the appropriateness of the request could account for the differences in intended additional donations between the anger and disappointment conditions. To this end, we conducted a mediation analysis using bootstrapping (Preacher and Hayes [2004], [2008]). A bootstrapping procedure with 1,000 re-samples indicated that the confidence interval for the proposed indirect effect had a lower limit [LL] of $-.57$, and an upper limit [UL] of $-.04$. The observed path coefficients are reported in Fig. 4. The confidence interval does not include 0, indicating that the differential effect of disappointment and anger on compliance was mediated by perceived appropriateness.

Discussion

In Experiment 2, the expression of disappointment while requesting an additional donation had a clear effect on perceivers' intentions to comply with the request. Participants who received a request paired with disappointment were, on average, willing to more than double their initial donation of 50 cents, whereas participants who received a request paired with anger or a neutral request did not increase their intended donations. Also, as expected, a request paired with anger was considered less appropriate than a request paired with disappointment or a neutral request. Mediation analysis indicated that the differential effects of disappointment and anger could be explained in terms of perceived appropriateness. These findings largely support our hypotheses.

The only unexpected finding was that an angry request did not lead to less compliance than a neutral request, $t(55) = -.04$, $p = .96$. The relatively small variance observed in the control ($M = € 0.15$, $SD = € .46$) and anger ($M = € 0.14$, $SD = € .33$) conditions suggests that the procedure we used may have resulted in a floor effect. This explanation is corroborated by participants' responses to the question concerning the reason for their intended donation. Participants who intended to make no additional donation showed remarkable consistency in indicating that they would consider *any* request for an additional donation to be inappropriate (of the 43 participants who indicated that they were unwilling to make an additional donation, 30 condemned requests for additional donations in general). Four participants even indicated explicitly that they wanted to take money back from the collector, all of whom were in the anger condition.

That it was not possible to reclaim the original donation may explain why anger did not lead to less compliance

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[2] Due to the large number of participants who refused to make an additional donation, the measure of additional donations was not normally distributed (it was right skewed). Because non-normality could not be eliminated by means of common transformations, we re-analyzed the data using a dichotomous outcome measure of $0 =$ no additional donation and $1 =$ any additional donation. We created two dummy variables to represent our three experimental conditions in a logistic regression. Dummy1 was coded 1 in the disappointment condition and 0 in the other conditions. Dummy2 was coded 1 in the anger condition and 0 in the other conditions. Consistent with the main analysis, Dummy1 was a significant predictor of donation decision ($B = 1.61$, $SE = .78$, Wald $= 4.32$, $p < .05$), whereas Dummy2 was not ($B = -0.13$, $SE = .89$, Wald $= .02$, ns).

Fig. 4 The effect of the charity collector's emotional expression on participants' intended additional donation is mediated by the perceived appropriateness of the emotional response (Experiment 2)

compared to the control condition. To address this issue, we conducted a third experiment. In this experiment, participants played a computer-mediated give-some dilemma (see Van Lange et al. 2002; Wubben et al. 2009). This allowed us to examine the effects of emotional expressions on actual behavior, while minimizing the risk of a floor effect. In addition, this procedure enabled us to compare the predictive value of emotional expressions with another important predictor of compliance: descriptive norms.

Experiment 3

A large body of work from various disciplines attests to the importance of norms in predicting human behavior (e.g., Asch 1951; Bicchieri 2006; Cialdini et al. 1990, 2006; Milgram et al. 1969; Schultz et al. 2007; Sherif 1936). One of the most basic forms of normative influence occurs when people assimilate their behavior to what others are doing. This can be deliberate (Cialdini 2003; Goldstein et al. 2008), but assimilation can also occur automatically (Nolan et al. 2008). In both cases, the behavior of others creates a so-called descriptive norm, which guides observers' behavior (Cialdini 2007; Cialdini et al. 1991; Kallgren et al. 2000).

Research has documented that communication about a situation can change the impact of descriptive norms on behavior (Balliet 2010; Bicchieri 2002, 2006; Bicchieri and Lev-on 2007; Cohen et al. 2010). For example, if a descriptive norm has been made salient, the expression of social approval or disapproval can affect whether people adapt their behavior to the norm (i.e., conformity; Heerdink et al. 2013; Schultz et al. 2007). The aim of Experiment 3 was to examine the effects of expressions of disappointment versus anger in the context of an explicit descriptive norm. We expected that, in the absence of any emotional expression, participants are likely to conform to the descriptive norm. More importantly, we anticipated that emotional expressions would alter the effect of the descriptive norm on behavior. Specifically, based on the

findings of the previous experiments, we predicted that expressions of disappointment would lead to more generosity (even if normative information indicated that other people had not been generous), and that expressions of anger would lead to less generosity (even if other people had been generous). Finally, we expected to replicate the finding of Experiment 2 that the differential effects of disappointment and anger on compliance are mediated by perceived appropriateness.

Method

Participants and design

A total of 119 participants (31 male, 88 female; $M_{age} = 21.00$, $SD = 3.13$) participated in exchange for 7 euro or course credit. Participants were all undergraduate students. The experiment had a 2×3 factorial design. Participants received information that other individuals in the same situation had, on average, given either little (low norm condition) or much (high norm condition). Additionally, participants received a request from the person with whom they interacted, which was either paired with an expression of anger, disappointment, or no emotion.

Procedure

Participants were informed that they were about to play a coin exchange game with another individual, supposedly a student from another university. The responses of this other individual were in fact simulated. Participants read that the topic under study was the influence of interface characteristics on their experience of computer-mediated games. They were led to believe that a network connection was established between their own computer and that of the other player.

Participants then received information about the game (a give-some dilemma) and its underlying logic (Van Lange et al. 2002; Wubben et al. 2009). The give-some dilemma is a two-person social dilemma in which players each

receive 10 coins. These coins have a token value of € 0.10 to participants. Each player is informed that both will be asked to simultaneously decide how many coins to give to the other player. The players are unaware of the other player's choice until both players have chosen and an exchange is made. Giving coins is beneficial to the other player, as any amount of coins that is given, is doubled by the experimenter. This leads to a prisoner's dilemma tradeoff (Van Lange et al. 2002) in which cooperation by both parties yields the highest average number of coins.

Participants learned that the number of coins earned would determine their chance in a lottery for a 50 euro prize. Next, they played a trial round of the game. Participants were informed that their allocation in this trial round would be made in isolation and had no consequences for the lottery. We asked them to imagine that they were playing with someone they did not know. After the trial round, participants were shown a chart depicting the behavior of 1,231 participants who had supposedly played the dilemma in previous, comparable studies. The graph in the low norm condition indicated that previous players had given 2.19 coins on average in the trial round; for the high norm condition this average was 7.81 coins. Participants were informed that the other player also received this information.

Following the norm manipulation, participants learned that the other player would get to see the allocation the participant had made in the trial round, and that the other player would be allowed to send a comment to the participant. Participants themselves did not receive any information, nor were they given the opportunity to send a comment to the other player (ostensibly as a result of a random allocation process).

All participants received feedback on their allocation in the trial round. This feedback always consisted of a request: "Could you please give me as many of your coins as possible?" Depending on condition, this request was paired with emotional feedback concerning the allocation in the trial round: "I am [angry/disappointed] about your contribution in the trial round." After receiving feedback, participants allocated coins to the partner whose feedback they had just received. Next participants completed a measure of appropriateness (4 items; "To what extent did you think the response of the other player was appropriate/justified/out of place/unjust?"; $\alpha = .90$) and a check of the norm manipulation (i.e., "How many coins [0–10] did other participants give on average?").

Results

Treatment of the data

Five participants were excluded from the analyses because their responses and/or latencies indicated that they had not participated seriously. The final sample thus consisted of 114 students (30 male, 84 female; $M_{age} = 21.04$, $SD = 3.16$).

Analytic strategy

Our procedure allowed participants' allocation in the trial round to vary. Because effects of our manipulations could arguably differ for different levels of trial allocations made by participants, we decided to keep the variance explained by the trial allocation constant by including it as a covariate when appropriate.

Accuracy of emotion manipulation

The adequacy of the emotion manipulation was checked in a separate pretest to avoid raising participant awareness during the current testing session, and to avoid confounding of the measurement by other parts of the experimental procedure. Forty undergraduate students (19 male, 21 female; age not recorded), none of whom participated in the main experiments, rated various formulations of a request for emotional tone in a within-participant design. The request formulation used in the neutral condition was judged below the midpoint on the (7-point) scale assessing disappointment ($M = 3.05$, $SD = 1.83$) and the scale assessing anger ($M = 2.05$, $SD = 1.22$). The formulation used in the disappointment condition expressed more disappointment ($M = 6.63$, $SD = 1.13$) than anger ($M = 4.33$, $SD = 1.53$), $t(39) = 7.78$, $p < .001$, $d = 2.49$, and the formulation used in the anger condition expressed more anger ($M = 6.68$, $SD = .47$) than disappointment ($M = 5.23$, $SD = 1.72$), $t(39) = 5.41$, $p < .001$, $d = 1.73$. Thus, we conclude that the respective request formulations communicated the intended emotions.

Manipulation check for descriptive norm

An ANOVA indicated that the norm manipulation was successful. A main effect of norm was found, $F(2, 104) = 296.37$, $p < .001$, $\eta_p^2 = .74$, with recalled norm in the low norm condition ($M = 2.47$, $SD = .80$) being lower than recalled norm in the high norm condition ($M = 6.84$, $SD = 1.68$). Data of 4 participants (1 male, 3 female) were missing for this particular variable due to a programming error. No other effects were found.

Compliance with the request

An ANCOVA with participants' allocation in the trial round as a covariate and norm and emotion as factors revealed a significant main effect of emotion on allocation behavior, $F(2, 107) = 7.63$, $p = .001$, $\eta_p^2 = .13$, a

Table 1 Mean allocation to other player and mean appropriateness of other player's response in experiment 3

Dependent measure	Expressed emotion					
	Control		Disappointment		Anger	
	Low Norm M	High Norm M	Low Norm M	High Norm M	Low Norm M	High Norm M
Allocation	3.24[a] (.49)	6.59[d] (.52)	5.02[b,c] (.49)	6.04[c,d] (.48)	3.01[a] (.56)	4.11[a,b] (.49)
Appropriateness	3.83[b,c] (1.12)	4.68[c] (1.34)	3.60[b] (1.40)	3.58[b] (1.28)	2.55[a] (1.29)	2.90[a,b] (1.61)

Allocation was measured on an 11-point scale ranging from 0 to 10 coins. Appropriateness of response was measured on a 7-point scale (1 = *not at all appropriate* to 7 = *very appropriate*). Within each row, means not sharing a superscript differ significantly according to Tukey-corrected post hoc tests. For the allocation measure covariate-corrected estimates are reported; numbers between brackets are standard errors. For appropriateness, observed means are reported; numbers between brackets are standard deviations

significant main effect of norm, $F(1, 107) = 19.38$, $p < .001$, $\eta_p^2 = .15$, and a significant Emotion by Norm interaction, $F(2, 107) = 3.41$, $p = .04$, $\eta_p^2 = .06$. Participants' trial round allocation also had a significant effect, $F(1, 107) = 34.90$, $p < .001$, $\eta_p^2 = .25$, reflecting that allocations on both time points were positively correlated. As expected, when no emotion was expressed, average allocation in the low norm condition was relatively low, whereas in the high norm condition it was relatively high (see Table 1). When disappointment was expressed, average allocation in both conditions was relatively high. Finally, when anger was expressed, average allocation in both conditions was relatively low.

We conducted planned contrasts to test our more specific hypotheses. As expected, within the low norm condition, the mean allocation in the disappointment condition deviated significantly from that in the control condition, $F(1, 107) = 6.62$, $p = .011$, $\eta_p^2 = .06$ (one-tailed contrast). Thus, when the descriptive norm was to give 2.19 coins, participants gave more coins when confronted with a disappointed (as compared to an affectively neutral) request. An exploratory post hoc test with Bonferroni correction revealed no difference between allocations in the anger and neutral conditions within the low norm condition, $p > .99$.

Additionally, within the high norm condition, the mean allocation in the anger condition deviated significantly from that in the control condition, $F(1, 107) = 11.71$, $p = .001$, $\eta_p^2 = .10$ (one-tailed contrast). Thus, when the descriptive norm was to give 7.81 coins, participants gave fewer coins when confronted with an angry (as compared to an affectively neutral) request. An exploratory post hoc test with Bonferroni correction revealed no difference between allocations in the disappointment and neutral conditions within the high norm condition, $p > .99$. These results indicate that emotional expressions can attenuate the influence of descriptive norms on compliance with a request.
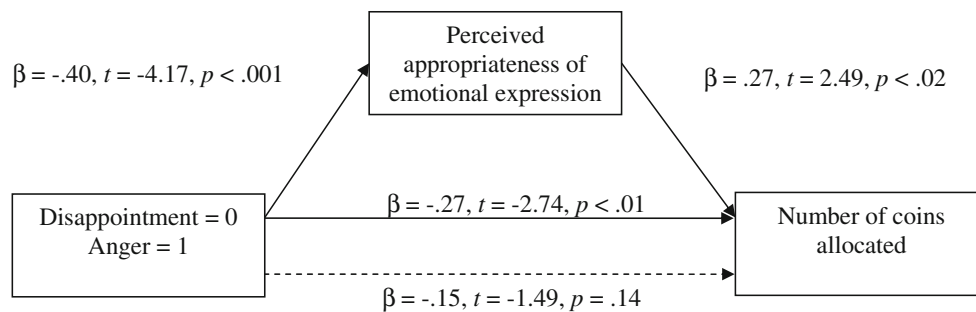
Appropriateness ratings

An ANCOVA with appropriateness as dependent variable, norm and emotion as factors, and participants' allocation in the trial round as covariate showed that norm, $F(1, 107) = 4.04$, $p = .047$, $\eta_p^2 = .04$, emotion, $F(1, 107) = 14.54$, $p < .001$, $\eta_p^2 = .21$, and trial round allocation significantly affected appropriateness ratings, $F(1, 107) = 9.55$, $p = .003$, $\eta_p^2 = .08$. Planned comparisons for the main effect of emotion revealed that a response paired with anger ($M = 2.68$, $SD = 1.44$) was deemed less appropriate than a response paired with disappointment ($M = 3.57$, $SD = 1.29$), $F(1, 107) = 11.23$, $p = .001$, $\eta_p^2 = .10$, or a response without emotion ($M = 4.25$, $SD = 1.27$), $F(1, 107) = 28.82$, $p < .001$, $\eta_p^2 = .21$ (see Table 1).

Mediation

As in Experiment 2, we used bootstrapping (Preacher and Hayes 2004, 2008) to assess whether the perceived appropriateness of the request mediated the differential effects of anger and disappointment on participants' allocation behavior. We conducted an analysis with 1,000 bootstrapped re-samples. This analysis was conducted across norm conditions ($N = 76$). The confidence interval for the indirect effect did not include 0, LL = -1.54; UL = $-$ .23 (see Fig. 5 for path coefficients). This suggests that participants responded to the interaction partner's anger by giving fewer coins because they considered a request paired with anger to be inappropriate relative to a request paired with disappointment.

Discussion

In the absence of emotional expressions by their partner, participants used descriptive norm information to determine how much they should give in an allocation game.

Fig. 5 The effect of the partner's emotional expression on participants' allocation (controlling for trial allocation) is mediated by the perceived appropriateness of the partner's emotional expression (Experiment 3)

Thus, participants donated more coins when others before them had given many coins than when others had given few coins. When the partner's request was paired with disappointment, however, participants became more generous, regardless of whether the norm was to give few or many coins. In contrast, when the request was paired with anger participants became less generous, regardless of the norm. In other words, pairing a request with disappointment increased its effectiveness under low norm conditions, whereas pairing a request with anger diminished its effectiveness under high norm conditions. This indicates that effects of emotional expressions took precedence over the effect of descriptive norms on behavior when the emotional expression and the descriptive norm provided contradictory cues to behavior (i.e., low norm paired with disappointment or high norm paired with anger). Finally, Experiment 3 showed that anger led participants to consider the request made by their interaction partner as less appropriate, which undermined their compliance.

General discussion

We examined the interpersonal effects of disappointment and anger on compliance with requests. In Experiment 1, participants were more willing to help move bicycles after an expression of disappointment than after an expression of anger. In Experiment 2, intended donations to charity were larger when the charity collector paired his request with an expression of disappointment rather than no emotion or anger. Participants considered the latter less appropriate than a non-emotional or disappointed request, which explained why anger engendered less compliance. In Experiment 3, a non-emotional request led participants to conform to an explicit norm, resulting in higher or lower contributions according to the norm. More importantly, a request paired with disappointment resulted in more generous contributions regardless of the explicit norm, whereas a request paired with anger resulted in less

generous contributions. Again the difference between anger and disappointment was mediated by perceived appropriateness: Angry requests were judged as less appropriate, which led participants to contribute less after an angry request than after a disappointed request.

It is important to underline that the effects reported here pertain to the *expression* rather than the *experience* of disappointment. Like sadness, disappointment is a relatively low-arousal emotion that is associated with powerlessness and lack of control (Tiedens et al. 2000; Zeelenberg et al. 1998). As such, the experience of disappointment may not be particularly conducive to remedying an unwelcome situation oneself. The expression of disappointment, however, appears to have the potential to elicit prosocial responses from observers that may help to overcome adversity. It seems likely that the effectiveness of expressing disappointment in cooperative situations such as the ones studied here resides at least in part in the fact that disappointment signals a need for assistance (Clark et al. 1996; Van Kleef et al. 2006) without assigning blame (Smith et al. 1993) or entailing a threat of aggression (Lelieveld et al. 2011; Wubben et al. 2009). As such, individuals who experience disappointment may turn their lack of control over the situation into an effective influence strategy by expressing their disappointment to others.

The present findings thus showcase the importance of examining the interpersonal effects of emotion in securing compliance. Previous research has emphasized the intrapersonal effects of moods and emotions on the individual's susceptibility to social influence (Cann and Blackwelder 1984; Carlsmith and Gross 1969; Carlson et al. 1988; Fuchs-Beauchamp 1994; Goei and Boster 2005; Isen et al. 1976; Konecni 1972; O'Keefe and Figge 1997; Lay et al. 1989; Maddux and Rogers 1983; Regan 1971). In the present research we adopted an interpersonal approach and demonstrated that expressions of disappointment increase compliance with requests, whereas expressions of anger undermine compliance. This approach has added value for theorizing on the interpersonal effects of emotions as well

as for our understanding of the interplay between emotions and norms in social influence.

First, our findings align with the emerging consensus that the effects of emotions cannot be understood by merely classifying emotions in terms of their positive or negative valence (see also Lerner and Keltner 2000, 2001; Tiedens and Linton 2001; Van Kleef et al. 2006). Anger and disappointment are both negative in valence and yet they had opposite effects on compliance. These findings provide further support for a social-functional perspective on emotion, which assumes that discrete emotions have distinct social functions and consequences (Fischer and Manstead 2008; Frijda and Mesquita 1994; Keltner and Haidt 1999; Van Kleef et al. 2010).

Second, the current conclusions are in keeping with Emotions as Social Information (EASI) theory (e.g., Van Kleef 2009; Van Kleef et al. 2011), which describes the mechanisms and contingencies of the interpersonal effects of emotional expressions. One of the key tenets of the theory is that emotional expressions can elicit favorable or unfavorable responses from observers depending on the perceived appropriateness of the emotional displays (Van Kleef 2014). The current findings support this postulate by showing that the differential effects of displays of anger versus disappointment on compliance with requests can be explained, at least in part, in terms of the perceived appropriateness of the two emotions in the context of a request for help, which is relatively high for disappointment and low for anger.

Third, the observation that the effects of descriptive norms can be modulated by the emotions of others advances our understanding of the specific interpersonal functions of anger and disappointment. Van Kleef et al. (2008) reviewed evidence of the effectiveness of anger expressions in competitive settings such as negotiations, and proposed that expressing anger may be maladaptive in more cooperative settings (Van Kleef et al. 2010). To our knowledge, the current findings are the first evidence to support this assertion empirically. They also illustrate the utility of display rules for determining the effects of emotion expressions on behavior in cooperative settings (Shields 2005).

Recent research on emotions in negotiations suggests that expressions of disappointment can elicit concessions because they elicit feelings of guilt in counterparts (Lelieveld et al. 2013). Such findings raise the question of whether the experience of emotions such as fear (Maddux and Rogers 1983) and guilt (O'Keefe and Figge 1997; Regan 1971)—both of which have been found to facilitate compliance in previous research—may be triggered by the emotional expressions of an interaction partner in more cooperative settings such as those examined here. Future research could investigate this possibility. Furthermore, it

would be interesting to examine whether the elicitation of guilt by emotional expressions in the context of a request for help is moderated by the perceived appropriateness of the emotional expression, as one might predict based on EASI theory.

Our results also have interesting implications for the literature on norms. The results of Experiment 3 show that people may use emotion expressions of others as information when determining how to act, and that the predictive value of these emotion expressions can outweigh the impact of salient descriptive norms. Hence, we provide the first empirical evidence (to our knowledge) that discrete expressions of anger and disappointment can modulate the effects of norms on behavior. These findings add to previous research on social norms, in which allowing actors to communicate prior to an interaction reduced the effects of norms on behavior (Balliet 2010; Bicchieri 2002, 2006; Cohen et al. 2010). Some theorists have speculated that emotions play an important role in the transmission of norms at the cultural level (Keltner and Haidt 1999; Nicholls 2002). The finding that emotional expressions can override the effects of descriptive norms on behavior provides a first step towards substantiating such arguments empirically.

It is noteworthy that we observed compatible effects of expressions of disappointment on a variety of prosocial intentions and behaviors, including helping a stranger (Study 1), donating to charity (Study 2), and cooperating in an economic game (Study 3). All of these effects speak to compliance in the sense that the behaviors and intentions were exhibited in response to a request for help, a donation, or cooperation, respectively. Given the scope of the settings and dependent variables studied here, it seems plausible that the effects would generalize to other types of prosocial behavior that do not require an explicit request. For instance, it is conceivable that individuals would spontaneously help a stranger after noticing his disappointment, even if that person did not ask for help. If so, this would have interesting implications for theorizing in the area of prosocial behavior as well as for practice (e.g., how to get people to volunteer or donate to charity). Future research is needed to explore the interpersonal effects of disappointment and other emotions on prosocial behavior in the absence versus presence of an explicit request for help.

Awaiting future research, we conclude that expressing disappointment can increase compliance with requests, whereas expressing anger may undermine such compliance. Interestingly, both effects occurred even in the presence of explicit norms, indicating that discrete emotions that are expressed as part of a social influence attempt can override the normative effects that are so often observed in studies on social influence. This conclusion attests to the

powerful interpersonal effects of emotional expressions in social influence.

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