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**DOI**

[10.1037/0022-3514.94.4.600](https://doi.org/10.1037/0022-3514.94.4.600)

**Publication date**

2008

**Document Version**

Author accepted manuscript

**Published in**

Journal of Personality and Social Psychology

[Link to publication](#)

**Citation for published version (APA):**

van Dijk, E., van Kleef, G. A., Steinel, W., & van Beest, I. (2008). A social functional approach to emotions in bargaining: When communicating anger pays and when it backfires. *Journal of Personality and Social Psychology*, 94(4), 600-614. <https://doi.org/10.1037/0022-3514.94.4.600>

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A Social Functional Approach to Emotions in Bargaining:  
When Communicating Anger Pays and when it Backfires

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**Full reference:**

Van Dijk, E., Van Kleef, G. A., Steinel, W., & Van Beest, I. (2008). A social functional approach to emotions in bargaining: When communicating anger pays and when it backfires. *Journal of Personality and Social Psychology*, *94*, 600-614.

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### Abstract

Previous research on the communication of emotions suggested that bargainers obtain higher outcomes if they communicate anger than if they communicate happiness, because anger signals higher limits which in turn leads opponents to give in. Building on a social functional account of communicated emotions, we demonstrate that the behavioral consequences of communicated anger strongly depend on structural characteristics of the bargaining situation. The results of three experimental studies on ultimatum bargaining corroborate the notion that communicated anger signals higher limits, and that emotion effects are contingent on bargainers' expectation that low offers will be rejected. The data also indicate, however, that communicating anger in bargaining may backfire. The findings suggest that bargainers who communicate anger may obtain lower outcomes (a) when their opponent has a possibility to deceive them during bargaining, and (b) when the consequences of rejecting their opponent's offer are low. Taken together, the current article reveals the boundary conditions of successful communication of anger in bargaining.

Keywords: emotions, bargaining, deception, fairness, self-interest

## A Social Functional Approach to Emotions in Bargaining:

### When Communicating Anger Pays and when it Backfires

Bargaining can be described as "the process whereby two or more parties attempt to settle what each shall give and take, or perform and receive, in a transaction between them" (Rubin & Brown, 1975, p. 2). Whereas this definition adequately captures the fact that bargaining is a mixed-motive situation (Komorita & Parks, 1996; Pruitt & Carnevale, 1993), it may not adequately capture how bargainers perceive the situation they are in. For one thing, it does not acknowledge that bargaining is often a highly emotional and heated process. During bargaining, for example, bargainers may become angry. How do emotions affect the bargaining process and outcomes? Remarkably, the role of emotions--which seems so central to situations of conflict--has only received limited attention in the bargaining literature. In the current article, we focus on the interpersonal effects of communicated emotions in bargaining. More specifically, we investigate how communicated emotions convey information about one's limits during bargaining, and how these inferences subsequently translate into behavior.

### Interpersonal Effects of Emotions

Our research and analysis of emotions in bargaining is rooted in the social functional analysis of emotions (e.g., Frijda, 1994; Keltner & Haidt, 1999). In the context of interpersonal effects of emotions, Keltner and Haidt highlighted that--especially in dyadic settings--the communication of emotion conveys crucial information to receivers about the senders' beliefs and intentions. A social functional analysis of emotions in bargaining suggests that bargainers attend to the emotions of their opponent because this may provide them with crucial information about what behavior they might expect of their opponent. Moreover, the social functional account of the informational value of communicated

emotions implies that bargainers will take this information as a basis for their own bargaining behavior if it is functional for them to do so. Thus, a social functional account of interpersonal effects of emotions in bargaining assumes that (a) communicated emotions lead to informational inferences, and (b) these informational inferences have behavioral consequences.

Of the interpersonal emotions during bargaining, anger has received most attention. The basic question that researchers have addressed is whether anger has disruptive or perhaps positive effects in bargaining (e.g., Sinaceur & Tiedens, 2006; Van Kleef, De Dreu & Manstead, 2004a, b). The results of these studies provided support for the social functions approach described above. Van Kleef et al. (2004a, b), for example, compared how bargainers reacted to an angry opponent and to a happy opponent. For this purpose, they presented their participants a negotiation task, in which they could make the first offer. Subsequently, their (simulated) opponent made a preprogrammed counteroffer, after which participants made a new offer, and the negotiation process continued. During six rounds of offers and counteroffers, participants received emotional reactions from their opponent. These reactions either signaled that the opponent was angry or happy.

A series of experiments using this paradigm first of all showed that bargainers tended to reciprocate the emotions of their opponent (cf. Keltner & Haidt, 1999; this reciprocal effect was also described in terms of emotional contagion, cf. Hatfield, Cacioppo, & Rapson, 1992; Friedman & Riggio, 1981; Hess & Blair, 2001). Participants became angry when being confronted with an angry opponent, and happy when being confronted with a happy opponent (see also Friedman et al., 2004). Based on these findings, one might anticipate detrimental effects of communicating anger. Indeed, previous studies on *intrapersonal* emotion effects in bargaining have documented that bargainers may become more

competitive when feeling angry (e.g., Baron, 1990; Pillutla & Murnighan, 1996; Forgas, 1998). In contrast to this notion, however, the studies by Van Kleef et al. (2004a, b) did not reveal such detrimental effects.

The studies did, however, provide support for the social functional account of interpersonal effects of emotions. Supporting the notion that that communicated emotions are used as a basis for informational inferences, the findings indicated that bargainers used their opponents' emotion to infer his or her limits. In agreement with the notion that anger may convey a sense of toughness (e.g., Clark, Pataki, & Carver, 1996; Karasawa, 2001; Sinaceur & Tiedens, 2006), the findings indicated that the limits of angry opponents were judged to be higher than the limits of happy opponents. In addition, the studies showed the behavioral consequences of this process by revealing that the participants made lower demands and higher concessions to an angry opponent than to a happy opponent. Moreover, the effects of the opponent's emotion on the demands of the participants were mediated by the perceived limits of their opponent. This suggests that people give in to angry opponents because they assume that the limits of angry opponents are higher. People may then reason that agreement can only be reached if they concede (see also Frank, 1988).

Based on these findings--that basically demonstrate that showing anger pays--one might conclude that a good advice for any bargainer would be to communicate anger. Because anger signals high limits, the opponent will concede. We argue, however, that such a conclusion would be premature and that communicated anger may also backfire. To understand why, it is important to separately address the *informational consequences* and the *behavioral consequences* of communicating anger. Whereas we do not dispute that communicating anger may generally convey information of high limits (cf. Clark, Pataki, & Carver, 1996; Karasawa, 2001; Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, b), we do

argue that the behavioral consequences may be more differentiated. Moreover, we suggest that the behavioral consequences strongly depend on structural aspects of the bargaining situation.

Our basic argument is that communicated anger--and the high limits it signals--may only lead to lower demands if the structural aspects of the bargaining situation lead bargainers to infer that conceding to the high limits is the only way to secure outcomes. We will show that structural aspects of the bargaining situation may provide bargainers with alternative means to further their own outcomes without necessarily giving in to the opponent's high limits. Building on previous insights on structural effects in bargaining, we will demonstrate that the behavioral effects of communicated emotions strongly depend on the structural differences between the parties involved in terms of (a) the distribution of information and (b) the distribution of power. The distribution of information refers to the knowledge that bargainers have about the object of the negotiation (e.g., Roth & Malouf, 1992; Samuelson, 1984). The distribution of power refers to the influence that bargainers have on each other's outcomes, with high influence implying high power (e.g., Emerson, 1972a, b; Lawler, 1992).

In the following we will argue and demonstrate that if the bargaining structure provides bargainers with an information advantage over their opponent and allows for an exchange of information other than merely making an offer, communicating anger may backfire because it may induce bargainers to deceive and misinform their opponent in order to reduce his/her limits. In addition, we will argue and demonstrate that anger may backfire if it is communicated by someone in a low power position. Bargainers may decide not to give in, and even increase their demands when confronted with an angry, but low power opponent.

The Distribution of Information and Power in Ultimatum Bargaining

To examine the structural effects of information and power distributions we used a bargaining context that is commonly used to investigate motivated bargaining behavior. The ultimatum bargaining game was developed by Güth, Schmittberger, and Schwarze (1982), and basically models the final phase of bargaining, i.e., where bargainers make a ‘take it or leave it’ offer to their opponent. In this game, two players decide on how to distribute a certain amount of money. One of the players, the allocator, offers a proportion of the money to the other player, the recipient. If the recipient accepts, the money is distributed in agreement with the allocator's offer. If the recipient rejects the offer, both players get nothing. With its simple structure, the ultimatum bargaining game is very suited to study motivated bargaining behavior, and the structural effects we address in the current paper, the distribution of information and power.

That the *distribution of information* may strongly affect motivated bargaining behavior has been demonstrated in a series of studies that were basically designed to test whether or not bargainers truly care about fairness. The first experiments on ultimatum bargaining demonstrated that allocators predominantly offer an equal split to the recipient, so that recipient and allocator end up with an equal amount of money (see for overviews e.g. Camerer & Thaler, 1995; Güth & Tietz, 1990; Handgraaf, Van Dijk, & De Cremer, 2004; Thaler, 1988; Van Dijk & Tenbrunsel, 2005). Initially this preference for an equal split was interpreted as a genuine preference for fairness. Subsequent theorizing, however, posited that allocators may only propose an equal split of the money because they anticipate that lower offers will be rejected (e.g., Camerer & Thaler, 1995; Pillutla & Murnighan, 1995; Van Dijk & Vermunt, 2000; Weg & Zwick, 1994). To study this possibility, researchers started to manipulate the distribution of information. For example, Van Dijk and Vermunt (2000, Experiment 1) designed an ultimatum game in which allocators had to divide 100 chips that



were worth twice as much to the allocator than to the recipient. In half of the conditions (the symmetric information conditions) the allocators were informed that the recipient also knew about this differential value. In these conditions, allocators tended to compensate for the differential value, by frequently offering twice as many chips to the recipient than to themselves. In the other half of the conditions (the asymmetric information conditions), the allocators learned that the recipient did *not* know about the differential value. In this case, allocators do not necessarily have to fear that low offers will be rejected. Because the recipient does not know about the differential value, one can offer to split the chips equally--a seemingly fair offer--without much fear of rejection. In agreement with the suggestion that equal offers that were observed in prior studies on ultimatum bargaining may have been motivated by fear of rejection of unfair offers, results indicated that participants made lower offers if they believed the recipient was not aware of the fact that chips were worth more to the allocator (see for similar findings e.g. Kagel, Kim, & Moser, 1996; Pillutla & Murnighan, 1995; Straub & Murnighan, 1995).

In addition to manipulations of information (symmetric vs. asymmetric) other studies manipulated the *distribution of power* between the allocator and recipient by varying the consequences of rejection. For example, Suleiman (1996) designed a variant of the ultimatum bargaining game, in which the consequences of rejection can be varied (see also Van Dijk, De Cremer, & Handgraaf, 2004; Van Dijk & Tenbrunsel, 2005). In this game, referred to as the "delta game," rejection of the offer means that the offer is multiplied with a factor delta ( $0 \leq \delta \leq 1$ ). Thus, for  $\delta = 0$ , the delta game is identical to the standard ultimatum game (i.e., if the recipient rejects, the recipient and the allocator both end up with nothing). It is apparent that with higher values of delta, the consequences of rejection become less severe and (thus) that the relative power of the recipient is weakened (see also Van Dijk & Vermunt,

2000). For example, in the case of  $\delta = 0.9$ , rejection means that the offer is only diminished by 10%, implying that the recipient is in a low power position relative to the allocator. With this variant of ultimatum bargaining, Suleiman demonstrated that as the consequences of rejection are reduced and the power position of the recipient is weakened (i.e., when  $\delta$  goes up), offers go down.

What these studies show, is that both the distribution of information and the distribution of power strongly affect bargaining behavior, and that the ultimatum bargaining game is highly suited to investigate the behavioral effects of such structural factors. More specifically, the studies indicate that these structural aspects of the bargaining situation affect how bargainers may deal with their opponent's limits. Bargainers having an information advantage and/or facing a low power opponent may be less inclined to give in to the (inferred) high limits of an angry opponent. For the current purposes these insights are of special importance, because they imply that the behavioral consequences of communicating anger may be different from what the current literature would suggest, and that communicating anger may not always be an effective strategy to increase one's outcomes in bargaining.

### The Present Studies

We investigate effects of communicated emotions within the context of ultimatum bargaining, by manipulating the distribution of information (Experiments 1 and 2) and the relative power position of the bargainers (Experiment 3). In combination, the results of these three studies will be used to distinguish between the informational and behavioral consequences of communicated emotions. Whereas all three studies suggest that people ascribe higher limits to angry opponents than to happy opponents, the studies will also show that the behavioral consequences of this informational inference strongly depend on the

structural characteristics of the bargaining situation. More specifically Experiment 1 will demonstrate that fear of rejection may induce allocators to give in to an angry recipient, and thus that communicating anger may pay. Experiment 2 will show that if the bargaining situation allows for exchange of information, allocators may use deception as a strategic means to actively reduce the angry recipient's limits. The results will show that under these conditions, communicating anger backfires. In Experiment 3 we manipulated power by varying consequences of rejection. The results will show that communicating anger is detrimental to recipients in a low power position. Under these conditions, communicating anger backfires because allocators do not need to fear (inferred) high limits of the angry opponent when the consequences of rejection are low. Taken together, these studies shed new light on the functionality of anger communication in bargaining by extending and qualifying previous findings and theorizing in the realm of the social functional account of emotions.

#### Experiment 1: You may be angry but what do you know?

As a starting point of our investigations we developed an ultimatum bargaining game along the lines of previous research on asymmetric information (e.g., Van Dijk & Vermunt, 2000). Concentrating on allocator behavior, participants were assigned the allocator role, and they were informed that chips were worth twice as much to them as to the recipient (cf. Van Dijk & Vermunt, 2000). Half of the participants learned that the recipient knew about this differential value (i.e., symmetric information), whereas the other half learned that the recipient was unaware of this difference (i.e., asymmetric information). Prior to making their offer, all participants received information about the recipient's emotion (either anger or happiness).

It may be noted that in the Van Kleef et al. (2004a, b) studies, the emotions were expressed in reaction to the offers that participants made. After receiving the offer, the

(simulated) opponents either communicated that they were angry or happy about the offer, and the main interest was in how this affected subsequent offers. Such a procedure would not be feasible in ultimatum bargaining, however, because in ultimatum bargaining allocators only make one (take it or leave it) offer. Therefore, we adjusted the procedure, by having the participants fill out a general six-item questionnaire to supposedly assess their general views on bargaining. Their answers were supposedly sent to the recipient who then either reacted with anger or happiness. This slight adjustment not only sufficed to include a meaningful manipulation of emotion in ultimatum bargaining, it also served to remedy a potential limitation of the emotion manipulation of the Van Kleef et al. studies. One could argue that in the Van Kleef et al. studies, the manipulation of emotion also constitutes a manipulation of how attractive the offer is to the opponent. That is, by responding in anger, the opponent basically states that the offer itself is highly unacceptable. By decoupling the emotion manipulation from the actual offer, this alternative interpretation seems less viable.

Our first interest was in whether we would replicate the informational and behavioral findings that have been documented in earlier negotiation research (e.g., Sinaceur & Tiedens, 2006; Van Kleef, 2004a, b). Would similar effects of emotion be observed in ultimatum bargaining? And would they be as evident in the case of symmetric information as in the case of asymmetric information? We anticipated two possibilities. The first possibility was that we would indeed find a similar effect such that participants make higher offers to angry opponents than to happy opponents. If the behavioral effects of communicated anger/happiness are primarily based on the informational effects of communicated emotions on the perceived limits (i.e. angry opponents are expected to have higher limits than happy opponents) we should find two main effects. To make the offer acceptable, angry recipients should be offered more chips than happy recipients, and recipients should be offered more

chips in the symmetric conditions than in the asymmetric information conditions (Kagel et al., 1996; Pillutla & Murnighan, 1995; Straub & Murnighan, 1995; Van Dijk & Vermunt, 2000). An alternative possibility would be that participants in the asymmetric information condition are reluctant to ‘take advantage’ of their information advantage when being confronted with a happy opponent. In that case we should replicate the findings of Van Kleef et al. (2004a) in the symmetric information conditions (i.e., higher offers to the angry opponent than to the happy opponent), whereas in the asymmetric information conditions participants would offer more chips to the happy recipient than to the angry recipient.

### *Method*

#### *Design and Participants*

The study used a 2 (Emotions: angry vs. happy)  $\times$  2 (Information: symmetric vs. asymmetric) between-participants factorial design. The participants, 114 students (42 males; 72 females) at Leiden University (mean age = 20.1 years), participated voluntarily.

#### *Procedure*

At the start of the instructions, the participants were informed that they would participate in a study on bargaining, and that they were paired with one of the other participants. Members of each dyad would be referred to as person X and Y. All participants learned that they were assigned the letter X.

After this, participants were informed that before the bargaining would start, they should answer some questions about how they viewed bargaining. For this purpose they were presented with six general statements, and participants had to indicate on a five-point scale to what extent they agreed or disagreed with the statements. Example statements are “strategy is important in negotiations” and “in negotiations I quickly try to reach agreement.” It was only after answering these questions that participants learned that their answers would be sent to

the person that they would bargain with. The fact that answers were sent to the opponent was explained by pointing out that in reality people often have some information about the other party.

Participants then received the explanation of the ultimatum bargaining situation. All participants learned that they, X, would bargain with Y over the distribution of 100 chips; 1 chip was said to be worth 10 Euro cents to the allocator (person X) and 5 Euro cents to the recipient (person Y) (1 Euro equaled \$1.20 at the time of the experiment). In all conditions, participants learned that they could make an offer for the distribution of the chips to the recipient. If the recipient would accept the offer, the chips would be divided accordingly. If the recipient rejected the offer, neither the recipient nor the allocator would receive any chips.

In the asymmetric information conditions, participants were informed that the recipient did not know about the differential value, and that the recipient only knew that that chips were worth 5 cent to the recipient. In the symmetric information conditions participants learned that the recipient did know about the differential value of the chips.

After explaining the bargaining situation, the manipulation of the recipient's emotion was induced. Participants learned that meanwhile the recipient had typed a reaction after reading the participant's six answers to the bargaining statements. It was stressed that when the recipient typed the reaction, the recipient did not think that the typed reaction would be sent back to the participant (cf. Van Kleef et al., 2004a). This was done to ensure that the participants trusted the typed emotion to be genuine (rather than being a strategic message). In the angry recipient conditions, participants read: "I've read what X typed and I must say that I do get angry about it!!" In the happy recipient conditions, participants read: "I've read what X typed and I must say that it makes me happy!!"

Subsequently, participants made their offer to the recipient. In addition, we asked some manipulation checks, and assessed the emotions (anger and happiness) that participants ascribed to the recipients, as well as to themselves. Furthermore, we assessed the limits that participants ascribed to their opponent by asking them the minimum number of chips that the recipient would need to accept their offer, and we asked them how likely it would be that the recipient would accept their offer. At the end of the experiment, participants were thoroughly debriefed and paid 6 Euro. All participants agreed to this procedure.

### *Results*

#### *Manipulation Checks*

*Recipient's emotion.* To check the manipulation of recipient's emotion two questions were posed about the perceived emotion of the recipient (cf. Van Kleef et al., 2004a). We asked participants to what extent the recipient was angry (1 = *not angry*; 7 = *very angry*) and to what extent the recipient was happy (1 = *not happy*; 7 = *very happy*). A 2 (Recipient's Emotion)  $\times$  2 (Information) Analysis of Variance (ANOVA) on the anger ratings only yielded a main effect of emotion ( $F(1, 110) = 519.61, p < .0001, \eta^2 = .83$ ), indicating that participants in the angry recipient conditions judged the recipients to be more angry ( $M = 5.81, SD = 1.37$ ) than did participants in the happy recipient conditions ( $M = 1.30, SD = 0.57$ ).

A 2  $\times$  2 ANOVA on the perceived happiness ratings only yielded a main effect for recipient's emotion ( $F(1, 110) = 513.72, p < .0001, \eta^2 = .82$ ), indicating that participants in the angry recipient conditions judged the recipients as being less happy ( $M = 1.88, SD = .97$ ) than did participants in the happy recipient conditions ( $M = 6.00, SD = .96$ ).

*Information.* To check our manipulation of information, we asked our participants whether their opponent knew that chips were worth twice as much to X than to Y (1 = *yes*; 2

= no, *Y* only knows the value of chips to *Y*). All participants answered this question correctly.

These findings suggest that our manipulations of recipient's emotion and information were successful.

#### *Number of Chips Offered to the Recipient*

A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA yielded main effects for recipient's emotion ( $F(1, 110) = 6.86, p < .01, \eta^2 = .06$ ) and information ( $F(1, 110) = 18.43, p < .0001, \eta^2 = .14$ ). The emotion main effect indicated that the participants offered more chips to the angry recipient ( $M = 57.65, SD = 8.13$ ) than to the happy recipient ( $M = 53.67, SD = 9.76$ ). The main effect of information indicated that the participants offered more chips to the recipient in the symmetric information conditions ( $M = 58.98, SD = 8.44$ ) than in the asymmetric conditions ( $M = 52.33, SD = 8.70$ ). No interaction was observed ( $F(1, 110) = .88, ns.$ )

#### *Perceived Recipient's Limit*

To assess the perceived limit of the recipient, we asked the participants how many chips they expected that the recipient should be offered to accept. A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA on this measure only yielded main effects of recipient's emotion ( $F(1, 110) = 12.54, p < .001, \eta^2 = .10$ ) and information ( $F(1, 110) = 37.65, p < .0001, \eta^2 = .26$ ). The recipient's emotion main effect indicated that the participants expected a higher limit from the angry recipient ( $M = 57.02, SD = 8.97$ ) than from the happy recipient ( $M = 50.72, SD = 13.21$ ). The information main effect indicated that the perceived limits were higher in the symmetric information conditions ( $M = 59.44, SD = 11.84$ ) than in the asymmetric information conditions ( $M = 48.30, SD = 8.46$ ).

#### *Mediation Analysis*

Our social functional account assumes that other's emotions affect bargaining



behavior due to their influence on the perception of the other's limits. In agreement with this notion, we observed a significant correlation between offers and the perceived recipient's limit ( $r = .47, p < .0001$ ). To assess whether perceived limits mediated the reported effects of the recipient's emotion on the ultimatum offers, we performed a series of regressions (cf. Baron & Kenny, 1986). For mediation, three conditions must be satisfied. First, the independent variables (recipient's emotion and information) should significantly affect the dependent variable (offer). Second, the independent variables should significantly affect the proposed mediator (perceived recipient's limit). Third, to establish full mediation, the effects of the independent variables on the dependent variable should become nonsignificant after controlling for the mediator.

As our ANOVA findings on the offer already showed, the first condition was met by showing main effects for information and emotion (for information,  $\beta = -.37, p < .0001$ ; for emotion,  $\beta = -.23, p < .01; R^2 = .19$ ). The two main effects on the perceived recipient's limit show that the second condition was also satisfied (for information,  $\beta = -.48, p < .0001$ ; for emotion,  $\beta = -.28, p < .001; R^2 = .32$ ). Finally, the results of our regression analyses showed that after inclusion of the perceived recipient's limit, the effect of perceived recipient's limit was highly significant ( $\beta = .36, p = .001$ ), whereas the effect of emotion became nonsignificant ( $\beta = -.13, p = .14$ ), and the effect of information was reduced to  $\beta = -.20, p = .04 (R^2 = .28)$ . Sobel tests indicated that the reduction was significant for information ( $Z = -3.12, p < .01$ ) and for recipient's emotion ( $Z = -2.53, p = .01$ ).

#### *Additional Measures*

*Participant's emotions.* As noted in our General Introduction, previous research in the interpersonal effects of emotions has documented that bargainers may reciprocate their opponent's emotion. To check whether a similar process also occurred in the current setting,

we asked participants whether they felt angry and happy. A  $2 \times 2$  ANOVA on the anger ratings yielded only a main effect of recipient's emotion ( $F(1, 110) = 65.59, p < .0001, \eta^2 = .37$ ), indicating that participants in the angry recipient conditions reported being more angry ( $M = 2.96, SD = 1.69$ ) than did participants in the happy recipient conditions ( $M = 1.11, SD = .31$ ). A  $2 \times 2$  ANOVA on the happiness ratings yielded only a main effect for recipient's emotion ( $F(1, 110) = 128.03, p < .0001, \eta^2 = .54$ ), indicating that participants in the angry recipient conditions reported being less happy ( $M = 2.82, SD = 1.14$ ) than did participants in the happy recipient conditions ( $M = 5.49, SD = 1.14$ ). Taken together, these data support the notion of reciprocated emotions.

*Likelihood that the recipient will accept the offer.* After participants had made their offer, we asked them how likely it would be that the recipient would accept their offer (1 = *very unlikely*, 7 = *very likely*). A  $2 \times 2$  ANOVA indicated no significant effects ( $M = 5.18, SD = 1.31$ ), suggesting that participants in all conditions were equally motivated to make an offer that would be acceptable to the recipient. We will discuss the implications of this finding in more detail in the General Discussion when we compare this finding to the different pattern that emerged in Experiment 3.

### *Discussion*

The results of Experiment 1 show that the manipulation of the distribution of information and the manipulation of communicated emotion independently affected the offers. The findings regarding the distribution of information corroborate previous research on the effects of asymmetric information in ultimatum bargaining by showing that offers go down when allocators have an information advantage (e.g., Boles, Croson & Murnighan, 2000; Kagel, Kim, & Moser, 1996; Pillutla & Murnighan, 1995; Roth & Malouf, 1979; Roth & Murnighan, 1982; Straub & Murnighan, 1995).

For the current purposes, the more interesting finding concerns the effect of other's emotion on offers. In this respect, our findings corroborated the basic reasoning of Van Kleef et al. (2004a, b) by showing that it pays to be angry in bargaining: Participants made higher offers to an angry recipient than to a happy recipient. Thus, even though bargainers seemed to reciprocate their opponent's emotion in the sense that participants were more angry (and less happy) when confronted with an angry recipient, their anger did not translate into lower offers. In agreement with the social functional account of emotions, the results of the mediation analysis suggested that the process by which communicated emotions affected bargaining at least partly runs via perceived limits. Bargainers ascribed higher limits to angry opponents, and accommodated to these higher limits by offering them a better deal. It thus appeared that our current manipulation of emotion had similar effects as the emotion manipulation used by Van Kleef et al. (2004, a, b).

Note that the giving in to an angry opponent was also observed in the asymmetric information conditions, and that we thus found a main effect of recipient's emotion on offers. The data on the perceived limits and the mediation analysis show why: As in the symmetric information conditions, participants in the asymmetric information conditions expected higher limits from the angry recipient. From this, we may conclude that participants still feared that low offers were more likely to be rejected by angry opponents than by happy opponents. Note, however, that an information advantage may also offer other opportunities: It may offer the opportunity to misinform others, for example by stating that chips are worth less to you than they actually are. Experiment 1 did not allow for this opportunity, as participants were only allowed to make an offer. But what if allocators would have the opportunity to misinform the recipient?

Experiment 2: So you're angry? Well, let me tell you something...

In Experiment 2, we replicated the basic design of Experiment 1, such that participants were either confronted with an angry recipient or a happy recipient. And as in Experiment 1, chips were worth twice as much to the allocator as to the recipient, and information was manipulated as in Experiment 1. The main difference was that we changed the structure of the bargaining situation. We now allowed for additional communication by asking the participants to send a message to the recipient prior to making their offer. They could either (correctly) inform the recipient that chips were worth 10 cents to the allocator, or (incorrectly) inform them that chips were worth 5 cents to the allocator. With this added opportunity, participants could now actively deceive the recipient.

Lewicki and Stark (1996, p. 78) defined deception as an activity that “manipulates the opponent’s logical and inferential processes, in order to lead the opponent to an incorrect conclusion or deduction.” Based on our social functional account of interpersonal emotions, and the apparent importance of the perceived limits for the offers, we reasoned that in this bargaining context deception will be used to affect the recipient’s limits. Of course, this added opportunity for information exchange should not have a strong impact on allocations in the symmetric information conditions, because there it would seem unlikely that participants would send incorrect information knowing that the recipient was fully aware of the value difference. Our main interest was in how participants in the asymmetric information condition would react. Would they actively misinform the recipient to lower his/her limits by incorrectly informing the recipient that chips were only worth five cents to the allocator? Would they be more likely to misinform the angry opponent, i.e., the opponent with the highest apparent limits? And how would this affect their subsequent offers?

Based on the notion that the effects of communicated anger run via perceived limits (Van Kleef et al., 2004a, b) we expected that participants in the asymmetric information

conditions would be especially likely to deceive the angry opponent, because deception offers the possibility to reduce the opponent's limits. In previous research, Steinel and De Dreu (2004) have shown that people may be more likely to deceive others when they fear exploitation by these others, for instance if they expect that their opponent is competitive (see also Pruitt & Kimmel, 1979; Rubin, Pruitt, & Kim, 1994). In a similar vein, we expect people to be more likely to resort to deception if they anticipate that their opponent may have high limits. To assess whether people use deception to lower their opponent's limits, we also assessed what limits the participants expected from their opponent after the information exchange. With regard to the offers, we anticipated that with the opportunity for deception, participants in the asymmetric information conditions would subsequently make lower offers to the angry recipient than to the happy recipient. After all, if participants would indeed be more deceitful towards the angry recipient in order to lower the recipient's limits, they could subsequently make the recipient lower offers without having to fear that these would be rejected.

### *Method*

#### *Design and Participants*

The study used a 2 (Recipient's Emotion: angry vs. happy)  $\times$  2 (Information: symmetric vs. asymmetric) between-participants factorial design. The participants, 106 students (23 males, 83 females; mean age = 20.2 years) at Leiden University, participated voluntarily.

#### *Procedure*

The procedure was identical to the procedure of Experiment 1, with one notable exception. After the manipulation of the recipient's emotion (angry vs. happy) and information (symmetric vs. asymmetric), but prior to making their offer, participants were

informed that they could send a brief message to Y. The rationale that we offered was that in reality there is often some kind of communication in bargaining. They were asked to indicate to the recipient how much they would receive for each chip. They could either inform Y that they received 5 cents or that they received 10 cents. Note that a message of 10 cents would be correct, and that a message of 5 cents would be incorrect. After participants had sent the information, we assessed the importance of the fear of rejection motive by asking them to what extent it had been important for them--when sending the information--that they wanted to avoid that the recipient would reject their offer (1 = *not important*, 7 = *very important*).

After this, participants were asked to indicate their offer. The dependent measures were similar to the measures of Experiment 1. In addition, we now assessed the importance of the fear of rejection motive by asking them to what extent it had been important for them--when making the offer--that they wanted to avoid that the recipient would reject their offer (1 = *not important*, 7 = *very important*).

At the end of the experiment, participants were thoroughly debriefed and paid 6 Euro. All participants agreed to this procedure.

## *Results*

### *Manipulation Checks*

*Recipient's emotion.* As in Experiment 1, we checked the manipulation of recipient's emotion by asking the participants to what extent the recipient was angry and to what extent the recipient was happy. A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA on the anger ratings only yielded a main effect for recipient's emotion ( $F(1, 102) = 547.31, p < .0001, \eta^2 = .84$ ), indicating that participants in the angry recipient conditions judged the recipients to be more angry ( $M = 6.04, SD = 1.23$ ) than did participants in the happy recipient conditions ( $M = 1.48, SD = .67$ ).

A  $2 \times 2$  ANOVA on the perceived happiness ratings only yielded a main effect for recipient's emotion ( $F(1, 102) = 530.86, p < .0001, \eta^2 = .84$ ), indicating that participants in the angry recipient conditions judged the recipients as being less happy ( $M = 1.57, SD = .86$ ) than did participants in the happy recipient conditions ( $M = 5.90, SD = 1.05$ ).

*Information.* To check our manipulation of information, we asked our participants whether, before the sending of the information, their opponent knew that chips were worth twice as much to X than to Y (1 = yes; 2 = no, Y only knew the value of chips to Y). All participants answered this question correctly.

#### *Information Sent to the Recipient*

Participants could either correctly inform the recipient that chips were worth 10 cents to them, or incorrectly inform them that chips were worth 5 cents. Not surprisingly, all participants in the symmetric information conditions correctly informed the recipient that chips were worth 10 cents to them. Of course we were primarily interested in the information participants sent in the asymmetric information condition. Interestingly, and in agreement with our predictions, the data indicated that participants more often sent incorrect information to the angry recipient (17 out of 26: 65.4 %) than to the happy recipient (9 out of 26: 34.6%;  $\chi^2 (N = 106) = 4.92, p < .04$ ).

#### *Number of Chips Offered to the Recipient*

After sending the information to the recipient, participants made their offers. A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA on the offers yielded a main effect of information ( $F(1, 102) = 12.43, p < .001, \eta^2 = .11$ ) and a significant Recipient's Emotion  $\times$  Information interaction ( $F(1, 102) = 8.69, p < .001, \eta^2 = .08$ ). The information main effect indicated that the participants offered more chips to the recipient in the symmetric information conditions ( $M = 59.89, SD = 10.87$ ) than in the asymmetric information

conditions ( $M = 52.23$ ,  $SD = 8.68$ ). The interaction effect corroborated our reasoning. Table 1 shows that in the symmetric conditions, participants offered more chips to the angry recipient than to the happy recipient ( $F(1, 102) = 2.91$ ,  $p = .09$ ). In the asymmetric conditions the reversed pattern was observed: participants offered fewer chips to the angry recipient than to the happy recipient ( $F(1, 102) = 5.43$ ,  $p < .05$ ).

#### *Perceived Recipient's Limit*

As in Experiment 1, we assessed the perceived limit of the recipient. After participants had sent the information to the recipient and subsequently made their offer, we asked them how many chips they expected the recipient should be offered to accept. A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA on this number yielded an information main effect ( $F(1, 102) = 10.55$ ,  $p < .01$ ,  $\eta^2 = .09$ ), indicating that the perceived limit was higher in the symmetric information conditions ( $M = 59.02$ ,  $SD = 13.78$ ) than in the asymmetric information conditions ( $M = 51.40$ ,  $SD = 10.39$ ). More important for the current purposes, the main effect of information was qualified by a significant Recipient's Emotion  $\times$  Information interaction ( $F(1, 102) = 8.19$ ,  $p < .01$ ,  $\eta^2 = .07$ ). As Table 2 shows, in the asymmetric information condition, participants ascribed a lower limit to the angry recipient than to the happy recipient ( $F(1, 102) = 8.95$ ,  $p < .01$ ).

This finding of low perceived limits for the angry recipient in the asymmetric information conditions stands in sharp contrast with the finding of Experiment 1, and the general notion that people infer that angry opponents set higher limits. It is, however, congruent with the notion that the participants more often deceived the angry opponent by letting the recipient believe that chips were only worth 5 cents to the allocator. As we reasoned, the likely primary goal of deceiving the recipient would be to lower his limits. To further explore the instrumentality of deception for lowering the limits, we performed a post



hoc analysis on the perceived limit in the asymmetric information conditions, using the information that participants sent (correct vs. incorrect) as a post hoc factor. A 2 (Information Sent)  $\times$  2 (Recipient's Emotion) ANOVA on the perceived limit only yielded a main effect for information sent ( $F(1, 48) = 19.89, p < .0001, \eta^2 = .29$ ). After sending the information, participants who sent incorrect information indeed estimated the limit of the recipient to be lower ( $M = 45.69, SD = 8.53$ ) than did participants who sent correct information ( $M = 57.12, SD = 8.92$ ), which is in agreement with the view that the purpose of sending incorrect information is to lower the recipient's limit.

#### *Mediation Analysis*

As in Experiment 1, we observed a significant correlation between offers and the perceived recipient's limit ( $r = .66, p < .0001$ ). To assess whether perceived limits mediated the effects of our manipulations on the ultimatum offers, we again performed a series of regressions to test for mediation. We tested (1) whether the independent variables (recipient's emotion and information) significantly affected the offer, (2) whether the independent variables significantly affected the perceived recipient's limit, and (3) whether the effects of the independent variables on the offer became nonsignificant after controlling for the perceived recipient's limit.

All three conditions were satisfied. As our ANOVA findings on the offer already showed, the first condition was met by showing significant effects of information and the information  $\times$  recipient's emotion interaction (for information,  $\beta = .32, p < .001$ ; for the interaction,  $\beta = -.27, p < .01; R^2 = .18$ ). The effects of information and the information  $\times$  recipient's emotion interaction on the perceived limits show that the second condition was also satisfied (for information,  $\beta = .29, p < .01$ ; for the interaction,  $\beta = -.26, p < .005; R^2 = .17$ ). Finally, the regression analyses showed that after inclusion of the perceived limits, the

effect of perceived limits was highly significant ( $\beta = .60, p = .0001$ ), whereas the effects of information and the interaction became nonsignificant (for information,  $\beta = .14, p = .07$ ; for the interaction,  $\beta = -.11, p = .15; R^2 = .47$ ). Sobel tests indicated that the reduction was significant for information ( $Z = 2.98, p < .001$ ) and for the interaction ( $Z = -2.67, p < .01$ ).

### *Fear of Rejection*

The participants made two decisions in which fear of rejection might play an important role: The sending of the information, and the making of their subsequent offer. After each of these decisions, we assessed the importance of the fear of rejection motive for that decision. By treating these two measures as the two levels of a within-participants factor Decision, we were able to assess the relative importance of the fear of rejection motive for both decisions. A 2 (Recipient's Emotion)  $\times$  2 (Information)  $\times$  2 (Decision: sending information vs. making offer) ANOVA with repeated measures on the last factor only yielded a highly significant three-way interaction ( $F(1, 102) = 17.92, p < .0001, \eta^2 = .29$ ).

The relevant cell means for the three-way interaction are presented in Table 3. To interpret this interaction, we first take a look at the data regarding the *sending of information*. It is important to acknowledge that the data regarding the sending of information in the symmetric information constitute a special case, since all participants in this condition (understandably) sent correct information to the recipient. The scores in these conditions may therefore primarily reflect that participants reasoned that sending incorrect information would probably have been met negatively (which might result in rejection of their subsequent offer). More relevant are the data regarding the sending of information in the asymmetric information conditions. Table 3 shows that in these conditions the motive was more important for participants facing the angry recipient ( $M = 5.77, SD = 1.11$ ) than for participants facing the happy recipient ( $M = 4.77, SD = 1.48; F(1, 102) = 4.53, p < .05$ ),

which fits with the notion that people especially fear that angry recipients are likely to reject.

It is interesting to see, however, that the pattern drastically changes once participants have sent the information. As the data on the importance of the fear of rejection motive when *making the offer* show, participants in the asymmetric information conditions did not seem to be that occupied with the possibility that the recipient might reject their offer. To the contrary, the fear of rejection motive even tended to be less important for people facing the angry recipient ( $M = 4.42$ ,  $SD = 1.90$ ) than for participants facing the happy recipient ( $M = 5.08$ ,  $SD = 1.44$ ),  $F(1, 102) = 4.53$ ,  $p = .04$ . This finding can easily be understood if one realizes that participants apparently deduced that after sending incorrect information there was no need anymore to anticipate that the angry (but deceived) recipient would reject the offer. The fact that the importance of the fear of rejection motive for making the offer was considered to be higher by participants facing an angry recipient in the symmetric condition ( $M = 5.36$ ,  $SD = 1.55$ ) than by participants facing an angry recipient in the asymmetric condition ( $M = 4.42$ ,  $SD = 1.90$ );  $F(1, 102) = 3.87$ ,  $p = .05$ ) corroborates this interpretation.

#### *Additional Measures*

*Participant's emotions.* As in Experiment 1, we asked participants whether they felt angry and happy. A 2 (Recipient's Emotion)  $\times$  2 (Information) ANOVA on the anger ratings yielded only a main effect of recipient's emotion ( $F(1, 102) = 47.72$ ,  $p < .0001$ ,  $\eta^2 = .32$ ), indicating that participants in the angry recipient conditions reported being more angry ( $M = 2.98$ ,  $SD = 1.61$ ) than did participants in the happy recipient conditions ( $M = 1.33$ ,  $SD = .68$ ). A 2  $\times$  2 ANOVA on the happiness ratings yielded only a main effect of recipient's emotion ( $F(1, 102) = 101.44$ ,  $p < .0001$ ,  $\eta^2 = .50$ ), indicating that participants in the angry recipient conditions reported being less happy ( $M = 3.06$ ,  $SD = 1.41$ ) than did participants in the happy recipient conditions ( $M = 5.63$ ,  $SD = 1.22$ ). Taken together, these data support the notion that

bargainers reciprocate their opponent's emotions.

*Likelihood that the recipient will accept the offer.* As in Experiment 1, we asked participants, after they had made their offer, how likely it would be that the recipient would accept their offer (1 = *very unlikely*, 7 = *very likely*). A 2 (Recipient's Emotion) × 2 (Information) ANOVA indicated no significant effects ( $M = 5.23$ ,  $SD = 1.40$ ), suggesting that participants in all conditions were equally motivated to make an offer that would be acceptable to the recipient. This finding, which corresponds to the findings we obtained in Experiment 1, will be discussed in more detail in the General Discussion when comparing it to the different pattern we obtained in Experiment 3.

### *Discussion*

The findings provide strong support for our reasoning that (a) emotion effects are contingent upon their effect on the perceived limits and fear of rejection, and (b) when fear of rejection is removed, communicating anger may backfire in the sense that angry bargainers may end up with lower outcomes. In addition to evidence suggesting that bargainers reciprocated their opponent's emotions, the behavioral data showed that our participants were more deceptive towards angry bargainers. Fear of rejection appears to play a central role here. By deceiving the angry opponent, people may lower the limits of their opponent, which 'allows' them to make low offers without having to fear the consequences. Conversely, by truthfully informing the happy opponent about the value difference, bargainers put themselves in a situation that calls for compensation. This is not to say that the communicated emotion affects the interest that people have in making an offer that would be accepted by their opponent. As our data show, in the end, participants in all conditions seemed equally convinced that the recipient would accept their offer.

Experiment 3: So you're angry, and you may reject? Big deal.

The results of Experiment 2 suggest that the participants strived to get their offers accepted, and that in their “getting to yes” (cf. Fisher & Ury, 1981) they strategically tried to lower the limits of especially the angry opponent. It thus seems that in the pursuit of getting one’s offer accepted, people may turn to deception when confronted with anger.

The recipient’s impact in the ultimatum game pertains to what would happen if he or she rejected the allocator’s offers. As we noted, in the typical ultimatum bargaining study, the consequences of rejection of the offer are high because rejection leaves the allocator empty-handed. In such a setting, allocators may (rightfully) fear the consequences of having their offer rejected. But what would happen if the consequences of the recipient’s rejection of the offer are less severe? What if outcomes can be secured even when hearing a “no?”

As we mentioned in the general introduction, it is possible to manipulate the relative power position of allocator and recipient in the ultimatum bargaining context by varying the consequences of rejection. In the delta bargaining game, rejection of the offer means that the offer is multiplied with a factor delta ( $0 \leq \text{delta} \leq 1$ ). With higher values of delta, the consequences of rejection become less severe (Suleiman, 1996; Van Dijk et al., 2004). An interesting implication is that when the consequences of rejection are low, one no longer has to fear an angry recipient’s reaction. Whereas it may still be true that anger communicates higher limits, the limit itself may thus become less essential in the bargaining process. Simply put, when the consequences of rejection are low, bargainers may reason that the communication of high limits via communicated anger is not worrying at all: Why even care about your limits if the consequences of your rejection of my offer are low? This also means that bargainers should be less focused on having their offers accepted, and thus that in contrast with Experiments 1 and 2, we should now find effects on the perceived acceptability of the offers.

In Experiment 3 we thus manipulated the consequences of rejection by manipulating delta, and again manipulated the communicated emotions of the recipient. Our main interest was to see whether, if the consequences of rejection were low, participants would make lower offers to the angry recipient than to the happy recipient. Because fear of rejection and perceived limits have played an important role in our reasoning thus far, we also measured these constructs.

### *Method*

#### *Design and Participants*

The study used a 2 (Recipient's Emotion: angry vs. happy)  $\times$  2 (Consequences of Rejection: low vs. high) between-participants factorial design. The participants, 103 students at Leiden University (mean age = 20.8 years; 22 males, 81 females), participated voluntarily.

#### *Procedure*

The procedure resembled the procedures of Experiments 1 and 2, including the manipulation of recipient's emotion (angry vs. happy). After this manipulation, all participants learned that they, X, would bargain with Y over the distribution of 100 chips; 1 chip was said to be worth .05 Euro. In all conditions, participants learned that they would make an offer to Y by indicating how they wanted the 100 chips to be allocated. If Y agreed to the division, the chips would be distributed accordingly. In the high consequences conditions, participants learned that if the recipient turned down the division, both X and Y would not receive any money (i.e., no chips would be divided). In the low consequences conditions, participants learned that if the recipient turned down the division, the division would be reduced by 10%.<sup>1</sup>

Subsequently, participants made their offer to the recipient. In addition to the manipulation checks and the measurement of the participant's emotion, we also assessed the

the limits that participants ascribed to the recipient, the likelihood that the recipient would accept their offer, and how important it had been for them that the recipient could reject their offer. At the end of the experiment, participants were thoroughly debriefed and paid 6 Euro. All participants agreed to this procedure.

### *Results*

#### *Manipulation Checks*

To check the manipulation of recipient's emotion two questions were posed about the perceived emotion of the recipient. We asked participants to what extent the recipient was angry and to what extent the recipient was happy. A 2 (Recipient's Emotion)  $\times$  2 (Consequences of Rejection) ANOVA on the anger ratings only yielded a main effect of recipient's emotion ( $F(1, 99) = 646.90, p < .0001, \eta^2 = .87$ ), indicating that participants in the angry recipient conditions judged the recipients as being more angry ( $M = 5.92, SD = 1.22$ ) than did participants in the happy recipient conditions ( $M = 1.24, SD = 0.51$ ).

A 2  $\times$  2 ANOVA on the perceived happiness ratings only yielded a main effect of recipient's emotion ( $F(1, 99) = 870.24, p < .0001, \eta^2 = .90$ ), indicating that participants in the angry recipient conditions judged the recipients as being less happy ( $M = 1.52, SD = 0.67$ ) than did participants in the happy recipient conditions ( $M = 6.12, SD = 0.89$ ).

To check our manipulation of consequences of rejection, we asked our participants what would happen if the recipient rejected their offer (1 = *we would both receive nothing*; 2 = *the offer would be reduced by 10%*). All participants answered this question correctly. Because the manipulation of consequences of rejection was intended to affect the impact that participants thought the recipient could have on the distribution of the chips, we also asked the participants about the relative impact of X and Y on the eventual distribution of the chips (1 = *X could have more impact*; 7 = *Y could have more impact*). A 2  $\times$  2 ANOVA on this

measure only yielded a consequences of rejection main effect ( $F(1, 99) = 43.31, p < .0001, \eta^2 = .30$ ), indicating that participants in the high consequences conditions ( $M = 4.02, SD = 1.71$ ) felt that the potential impact of the recipient was higher than did participants in the low consequences condition ( $M = 1.88, SD = 1.86$ ).

These findings suggest that our manipulations of recipient's emotion and consequences of rejection were successful.

#### *Number of Chips Offered to the Recipient*

A 2 (Recipient's Emotion)  $\times$  2 (Consequences of Rejection) ANOVA yielded main effects for consequences of rejection ( $F(1, 99) = 18.91, p < .0001, \eta^2 = .16$ ) and emotion ( $F(1, 99) = 10.21, p < .01, \eta^2 = .09$ ). The main effect of consequences of rejection indicated that the participants offered more chips to the recipient in the high consequences conditions ( $M = 47.59, SD = 6.04$ ) than in the low consequences conditions ( $M = 38.76, SD = 14.59$ ). The emotion main effect indicated that the participants offered fewer chips to the angry recipient ( $M = 40.33, SD = 14.41$ ) than to the happy recipient ( $M = 46.51, SD = 7.17$ ).

These two main effects were qualified, however, by a significant Recipient's Emotion  $\times$  Consequences of Rejection interaction ( $F(1, 99) = 9.74, p < .01, \eta^2 = .09$ ). The cell means are depicted in Table 4. In agreement with our predictions, the table shows that participants offered fewer chips to an angry recipient when the consequence of rejection were low than when the consequences of rejection were high ( $F(1, 99) = 25.01, p < .0001$ ), whereas the offers to a happy recipient were not significantly affected by the consequences of rejection ( $F(1, 99) = 0.91, ns$ ). Moreover, in the low consequences conditions, participants offered fewer chips to an angry recipient than to a happy recipient ( $F(1, 99) = 16.62, p < .0001$ ). Tukey HSD tests ( $p < .05$ ) indicated that offers were significantly lower when the recipient was angry and consequences of rejection were low than in any of the other conditions ( $ps <$



.05).

#### *Likelihood that the Recipient Will Accept the Offer*

As in Experiments 1 and 2, we asked the participants about the likelihood that the recipient would accept their offer (1 = *very unlikely*, 7 = *very likely*). A  $2 \times 2$  ANOVA indicated significant main effects of recipient's emotion ( $F(1, 99) = 22.84, p < .0001, \eta^2 = .19$ ) and consequences of rejection ( $F(1, 99) = 17.73, p < .0001, \eta^2 = .16$ ), that were qualified by a significant Recipient's Emotion  $\times$  Consequences of Rejection interaction ( $F(1, 99) = 6.82, p < .01, \eta^2 = .06$ ). As Table 5 shows, especially participants in the angry recipient and low consequences condition anticipated a low likelihood of acceptance. Tukey HSD tests ( $p < .05$ ) indicated that the anticipated likelihood of acceptance was significantly lower in this cell than in each of the other cells ( $ps < .05$ ). Apparently the participants did anticipate the possibility that the low offer they made would be rejected, which accords with the notion that bargainers may be less concerned with getting to yes when the consequences of rejection are low.

#### *The Importance of Rejection*

We asked participants to what extent the fact that the recipient had the possibility to reject their offer had affected their decision (1 = *absolutely not*; 7 = *absolutely*). A  $2 \times 2$  ANOVA only revealed a main effect of consequences of rejection ( $F(1, 99) = 18.03, p < .0001, \eta^2 = .15$ ), suggesting that the recipient's option to reject was less essential to the participants' decision when the consequences of rejection were low ( $M = 3.78, SD = 1.78$ ) than when the consequences of rejection were high ( $M = 5.19, SD = 1.57$ ).

#### *Perceived Recipient's Limit*

To assess the perceived limit of the recipient, we asked the participants how many chips they believed that the recipient should be offered to accept. A 2 (Recipient's Emotion)

$\times 2$  (Consequences of Rejection) ANOVA on this number only yielded a main effect of recipient's emotion ( $F(1, 99) = 4.71, p < .04, \eta^2 = .05$ ), indicating that participants believed that the angry recipient's limit ( $M = 49.37, SD = 11.04$ ) was higher than the happy recipient's limit ( $M = 45.14, SD = 8.24$ ).

### *Participants' Emotions*

As in Experiments 1 and 2, we asked participants whether they felt angry and happy. A  $2 \times 2$  ANOVA on the anger ratings yielded only a main effect of recipient's emotion ( $F(1, 99) = 61.71, p < .0001, \eta^2 = .38$ ), indicating that participants in the angry recipient conditions reported being more angry ( $M = 3.29, SD = 1.94$ ) than did participants in the happy recipient conditions ( $M = 1.14, SD = .35$ ). A  $2 \times 2$  ANOVA on the happiness ratings yielded a main effect of recipient's emotion ( $F(1, 99) = 123.42, p < .0001, \eta^2 = .56$ ), indicating that participants in the angry recipient conditions reported being less happy ( $M = 3.06, SD = 1.41$ ) than did participants in the happy recipient conditions ( $M = 5.63, SD = 1.22$ ). In addition, we also observed a main effect of consequences of rejection ( $F(1, 99) = 4.46, p < .05, \eta^2 = .04$ ), indicating that participants reported being a bit more happy when the consequences of having their offer rejected would be low ( $M = 4.24, SD = 1.91$ ) than when the consequences were high ( $M = 3.74, SD = 1.89$ ).

### *Mediation Analysis*

In Experiments 1 and 2, we identified perceived limits as a crucial mediator, both on theoretical and empirical grounds. In this experiment, however, perceived limits were not assumed to be crucial for explaining the offers. The fact that the manipulation of the consequences of rejection significantly affected the offers but not the perceived recipient's limit corroborates this notion. On theoretical grounds, we did anticipate an alternative mediator: The participants' emotions. In particular, we reasoned that the effects of emotion

would be mediated by the participants' anger<sup>2</sup>, but primarily so when the consequences of rejection were low. This means that we anticipated mediated moderation (Baron & Kenny, 1986; Muller, Judd, & Yzerbyt, 2005).

We tested whether the three conditions needed for establishing mediated moderation were satisfied (Muller et al., 2005) by testing (1) whether our independent variables (delta, recipient's emotion, and their interaction) affected the offers, (2) whether they affected the participants' anger (i.e., the mediator), and (3) whether after inclusion of the interaction between the consequences of rejection and participants' anger, the reported Consequences of Rejection  $\times$  Recipient's Emotion interaction would become nonsignificant. As our ANOVA findings on the offer already showed, the first condition was met by showing significant effects of consequences of rejection, emotion and the Consequences of Rejection  $\times$  Recipient's Emotion interaction (for consequences of rejection,  $\beta = -.37, p < .0001$ ; for recipient's emotion,  $\beta = .27, p < .01$ ; for the interaction,  $\beta = .27, p < .01; R^2 = .28$ ). The second condition was met by the significant effect for recipient's emotion on the participants' anger ( $\beta = -.61, p < .0001; R^2 = .41$ ). Finally, the results of our regression analyses showed that after inclusion of the participants' anger and the Consequences of Rejection  $\times$  Participants' Anger interaction term, the effects of participant's anger and the Consequences of Rejection  $\times$  Participants' Anger interaction term reached significance (respectively,  $\beta = -.25, p = .02; \beta = -.55, p = .001$ ) whereas the main effects of consequences of rejection and recipient's emotion, and the Consequences of Rejection  $\times$  Recipient's Emotion interaction all became nonsignificant (for consequences of rejection,  $\beta = .03, p = .85$ ; for recipient's emotion,  $\beta = .17, p = .10$ ; for the interaction,  $\beta = .09, p = .36; R^2 = .38$ ). These findings thus suggest that the fact that offers in the case of delta = 0.9 were significantly affected by the recipient's emotion, can be explained by the fact that in that condition the effect on offers

was mediated by the participants' anger. A Sobel test indicated that the reduction was significant ( $Z = -2.28, p < .05$ ).

### *Discussion*

The results of Experiment 3 again suggest that communicating anger is not without risk. In the low consequences conditions, participants offered fewer chips to a recipient who communicated anger than to a recipient who communicated happiness. And again it appears that the consequences of rejection play an important role in shaping the effect of emotions on bargaining behavior. When the consequences of rejection were low, the participants appeared to be less bothered by the fact that the recipient might reject their offer. It is in this condition that communication of anger backfired, and led to lower offers. Moreover, as our mediation analyses showed, it appears that the process that can be held accountable for this adverse effect is that when the consequences of rejection are low, the participants 'released' their own anger by making low offers.

It is also interesting to see that in contrast to Experiments 1 and 2, now our manipulations did affect the estimated likelihood of acceptance. As we stated in our introduction of Experiment 3, this finding is explained by the fact that we now manipulated the consequences of rejection. When the consequences of rejection are low, perceived acceptability of the offer becomes a less important determinant of bargaining behavior because high outcomes can be obtained even after rejection.

The findings of Experiment 3 thus corroborate our main reasoning by revealing the adverse effects of showing anger. It may be noted, however, that there is one other aspect in which the results of Experiment 3 differed from the findings of Experiments 1 and 2. In Experiments 1 and 2 we found that in the case of symmetric information participants made higher offers to the angry recipient than to the happy recipient. In the current experiment, we

did not observe such a significant difference in the condition where the consequences of rejection were high. In essence, the structure of the symmetric information conditions of Experiments 1 and 2 resembled the structure of the high consequences condition of Experiment 3 (i.e., in all these conditions both players would obtain zero outcomes if the offer would be rejected). Why then did we not observe a similar effect in Experiment 3? To understand why, one should acknowledge that there is one important difference in which the setup in Experiment 3 differed from Experiments 1 and 2: Whereas in Experiments 1 and 2 the bargaining situation was *asymmetric* (i.e., parties bargained over the chips of *unequal* value), the situation in Experiment 3 was *symmetric* (i.e., parties bargained over the chips of *equal* value). This observation is important because previous research and theorizing suggest that there may be more leeway in distributing scarce resources in situations of asymmetry than in situations of symmetry (e.g., Wade-Benzoni, Tenbrunsel, & Bazerman, 1996; Loewenstein & Moore, 2003).

In particular, it has been argued that in situations of symmetry, equal division provides a strong anchor for decisions (cf. Allison & Messick, 1990; see also Messick, 1993, who talked about the attractiveness of the equal division rule). In situations of asymmetry, however, there may be more (normative) ambiguity on how to distribute outcomes. For example, in Experiments 1 and 2, one could argue that the chips should be distributed equally (which would lead to an unequal distribution of the money) but also that one should compensate for the asymmetric value of the chips (i.e., strive for an equal distribution of the money). The fact that there may be several interpretations as to what would be fair, may render the situation more ambiguous (see also Wade-Benzoni et al. 1996). Loewenstein and Moore (2003) were very explicit about this when applying this notion to bargaining. With regard to bargaining in situations of symmetry, they noted and found that when parties hold similar interest and power

(i.e., a situation like the one we now studied in the case of  $\Delta = 0$ ), an equal split is generally a focal settlement for bargainers. In more ambiguous situations, they argued, it would be less likely to find such a strong focal point. In this respect, Loewenstein and Moore explicitly referred to asymmetry between parties, and noted that “if there is ambiguity in the situation that allows for alternative interpretations, motivations and expectations will have an effect.” (p. 41). The fact that we did observe an effect of communicated emotions in Experiments 1 and 2 in the symmetric information condition accords with this view.<sup>3</sup>

### General Discussion

In agreement with the social functional account of emotions (see e.g., Keltner & Haidt, 1999), the current findings show that emotions strongly shape the bargaining process. Previous research on the interpersonal effects of emotions basically suggested that it pays to be angry in bargaining (Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, b). The current findings paint a more complex and differentiated picture of the emotion-behavior link in bargaining. The results underscore the importance of distinguishing between the informational effects and the behavioral effects of communicated emotions. The three studies show uniform effects when it comes to the informational consequences of communicating anger, but they differ with regard to the behavioral consequences. Whereas all three experiments suggested that people infer that angry bargainers have higher limits, the findings of Experiment 2 and 3 indicate that behavioral effects strongly depend on the structural characteristics of the bargaining situation. In particular, the results show that communicated anger may backfire if bargainers can deceive their angry opponent (Experiment 2), or if the consequences of rejection are reduced (Experiment 3).

It should be noted that despite these insights, the current studies do not refute the basic reasoning underlying the analysis or previous theorizing on communicated emotions

(e.g., Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, b). In agreement with these previous studies, we too assign a central role to perceived limits in bargaining and the negative consequences that bargainers may ascribe to making low offers to angry opponents. Moreover, the results of Experiment 1 corroborate the findings and reasoning of such prior research. We obtained these findings by manipulating emotion independently from the offer. In this sense, our manipulation was different from the manipulations used in previous research where manipulated emotions were closely connected to the offers (e.g., Van Kleef et al., 2004a, b). In these studies, participants made an offer and then, for example, learned that their opponent reacted with anger to their offer (e.g., by communicating ‘this offer makes me really angry’). We decided to disentangle the offer from the communicated emotions by having the recipients (supposedly) respond to the general information participants typed about how they viewed bargaining in general. The advantage of this procedure is that it precludes the possibility that communicated anger is primarily an evaluation of the offer. As a consequence, it excludes the possibility that people decide to give in to an angry opponent because they conclude that apparently their opponent did not like the offer. With the alternative procedure we were able to show identical effects as Van Kleef et al. in our Experiment 1, thereby lending more credence to their basic reasoning.

We extend and qualify previous findings, however, by explicitly distinguishing between the informational and behavioral consequences of communicated emotions, as well as pointing to the situational contingencies that govern and determine the behavioral implications of emotional expressions. We have demonstrated that expressions of anger versus happiness carry information that has consequences for the perceiver’s subsequent behavior. Moreover, these consequences depend on the structural characteristics of the bargaining situation. For example, building on previous insights derived from the ultimatum

bargaining literature, we suggest that people may actively try to lower the angry opponent's limits by using deception as a strategic tool.

In this respect, the current findings also add to the literature on deception in bargaining. It has been noted that the bargaining process is ripe with opportunities for deception (e.g., Bok, 1978; Boles, Croson, & Murnighan, 2000; O'Connor & Carnevale, 1997; Steinel & De Dreu, 2004). Research on deception in bargaining is still in its embryonic phase, however, especially with regard to the antecedents of deception. Prior research on the use of deception in bargaining has predominantly taken an individual and instrumental perspective in the sense that people are assumed to be more likely to resort to deception the more likely it is that deception will bring them higher personal outcomes (e.g., Boles et al., 2000; Lewicki, 1983; Lewicki & Litterer, 1985; O'Connor & Carnevale, 1997; Tenbrunsel, 1998; see also Trevino & Youngblood, 1990). On the one hand, the findings of Experiment 2 align with this framework because they suggest that people strategically use deception to lower the other's limits. On the other hand, they illustrate that people do not indiscriminately turn to defection in the sense that they are more likely to refrain from deceiving the happy recipient, to the point where they even offered more chips to the happy recipient than to the angry recipient. This view of 'tailored deception' accords with more recent insights by Steinel and De Dreu (2004) who demonstrated that people are more willing to deceive competitive opponents than cooperative opponents. It also accords with findings reported by Paese and Gilin (2000; see also Paese, Schreiber, & Taylor, 2003), who found that "nice" behavior in bargaining, in the form of honest disclosure of own alternatives, increased negotiator's willingness to share information and make concessions.

At this point, it is interesting to further discuss the differences between the findings we obtained in Experiments 1 and 2 in which we varied the distribution of information



(symmetric vs. asymmetric). As we noted, this manipulation has been successfully used before, both in the way we used it in Experiment 1 (i.e., in which participants could only make an offer), and in Experiment 2 (i.e., where participants could also send information prior to making their offer). What our findings show is that effects of information advantage may be fundamentally different in situations where people can only make an offer than in situations where people can also send information prior to making their offer. That is, we did observe a significant interaction between emotion and information on the offers in Experiment 2, but not in Experiment 1. As we reasoned, this difference was due to the fact that with a pre-offer sending of information bargainers may actively change the limits of their opponent. It appears that this active process is necessary for the emotion  $\times$  information interaction to emerge.

Prior research has never acknowledged this difference. Of course this has much to do with the reason why these situations were studied in the first place. As we reasoned in our general introduction the main purpose of introducing asymmetry of information in research on ultimatum bargaining research has been to demonstrate that people often make high offers because they fear that low offers will be rejected. In this respect, both possibilities provide the opportunity to make lower offers, and as such both situations have primarily been regarded as evidence for the fear of rejection hypothesis (e.g., Pillutla & Murnighan, 2003). On the theoretical level, this means that in previous research a situation like that of Experiment 1 was not treated as being fundamentally different from a situation in which people could send information, and as such making low offers in both situations was mainly interpreted as strategic and self-interested behavior. The current findings corroborate this reasoning, but in addition show that the possibility of sending information offers new possibilities and behavioral effects that do not necessarily surface in a situation without

exchange of information. Indeed, the findings of Experiment 2 show that people are especially likely to deceive an angry opponent. Put differently, it also means that with a happy opponent people do not want to go “all the way” to further their own outcomes. Thus, there are limits to the strategic means that people use to further their own outcomes, and these limits are partly shaped by interpersonal effects of emotions.

With our Experiment 3 on delta bargaining we were also able to show that the interpersonal effects of emotions in bargaining may be contingent on the consequences of rejection. With regard to the theoretical analysis regarding emotion effects in bargaining, the findings suggest that when fear for rejection is low, communicating anger may backfire. At this point it seems appropriate to elaborate some more on the difference in processes leading up to the findings we reported in Experiments 2 and 3. Whereas both studies suggest that communicating anger may backfire, and both studies assign a crucial role to fear of rejection, it should be noted that the underlying process is fundamentally different for Experiments 2 and 3. Note that in Experiment 2, our deception study, the process is essentially based on the notion that in all conditions, participants fear the consequences of having their offers rejected, and that deception offers bargainers the possibility to reach acceptance of low offers. Thus, deception did not alter the *consequences* of rejection, but merely functioned as a strategic tool to *prevent rejection*. In contrast, in Experiment 3, the manipulation of relative power pertained to the consequences of rejection. As a result, participants in Experiment 3 did not seem unequivocally concerned to prevent rejection. Our data suggest that participants could live with the idea that the angry opponent would reject their offer, as long as the consequences of rejection were mild. A more explicit comparison of the data on how likely participants thought it to be that the recipient would accept their offer corroborates this view. In Experiments 1 and 2, these likelihood ratings were high and not affected by our

manipulations, suggesting that in all conditions participants were equally focused on getting their offer accepted. In Experiment 3, the likelihood ratings were especially low when consequences of rejection were low and the recipient was angry.

Another way of putting it is that in Experiment 3, the participants' anger could find its way to the person responsible for their anger, the angry recipient. As we demonstrated, communicated anger also backfired in Experiment 2, when the participants had an information advantage and could deceive the recipient. Our mediation analysis indicated that in that experiment, the offers were mediated by the perceived limits, which fits with the notion that if the consequences of rejection are high, people primarily let their decisions be influenced by the limits they assign to their opponent. One might wonder, however, whether the process might also run via the participants' emotions, as it did in Experiment 3. We did check for this possibility by testing for moderated mediation along the lines of Experiment 3. This analysis indicated that the offers in Experiment 2 were not mediated by the participants' emotion (neither anger, nor happiness). It thus seems that, if the consequences of rejection are high, the bargainers' first interest is to deal with their opponent's limits, and not to act on their own emotions. If, however, the consequences of rejection are low, the own emotions come into play. As such, our findings also constitute first evidence for the possibility that the reciprocity of emotions (Hatfield et al., 1994; Van Kleef et al., 2004a) in bargaining contexts is not only restricted to the experienced emotion (I get angry if you get angry), but may also directly translate into behavior. Prior theorizing on communicated emotions did acknowledge the possibility of detrimental effects due to reciprocated emotions, but the lack of behavioral effects has led researchers to conclude that its influence might be limited, especially in the short term. For example, Sinaceur and Tiedens (2006, p. 321) concluded that "the expression of anger may be a strategy best suited for relatively short single-shot negotiations. But in that

context, expressions of anger appear to be a powerful strategy for claiming value.” The current findings argue against such a general advice, as it is hard to imagine a negotiation setting that would be even shorter than the ultimatum bargaining settings we used.

The advantage of concentrating on ultimatum bargaining was that it constitutes a clear bargaining setting with a clear outcome structure, in which many dynamics due to making offers and counteroffers are kept out of the picture. Thanks to this inherent simplicity, we were able to provide clear findings and conclusions regarding interpersonal effects of emotions. In future research, it may also be interesting to broaden the scope by also including other determinants of the power/dependency relation between bargainers, such as the number and attractiveness of the alternatives that allocators and recipients have at their disposal. Bargainers are less dependent on their opponent the more and the higher their alternatives are (e.g., Fisher & Ury, 1981, Pinkley, 1995). If we would include this in our current ultimatum paradigms, it seems likely that communicating anger is especially detrimental when one’s opponent has a high alternative and/or many alternatives.

An alternative course would be to see how our findings generalize to other types of bargaining. For example, it may be especially worthwhile to expand the view by also addressing integrative bargaining. In integrative bargaining, bargainers may generate integrative potential (i.e., realize a win-win situation; Fisher & Ury, 1981) if they disclose their true preferences to their opponent (Friedman & Shapiro, 1995). Based on the current findings, we suggest that communicated emotions may distort this process, and in particular that bargainers may be less willing to display their true preferences to an angry opponent. In our studies, the concealment of true preferences (and the sending of incorrect information) was used to promote the own outcomes. In the context of integrative bargaining, however, such a deceptive strategy might be counterproductive. As such, communicated anger might

do more than ‘just’ backfire to the person communicating the anger. It might prove to be detrimental for all people involved if it keeps the bargainers from realizing the integrative potential (see also Allred, Mallozzi, Matsui, & Raia, 1997; Barry, Fulmer, & Van Kleef, 2004; Forgas, 1998), and communicating happiness may be more beneficial for all parties involved (Carnevale & Isen, 1986; Moore, Kurtzberg, Thompson, & Morris, 1999).

To conclude, the current studies underscore the importance of the interpersonal effects of communicated emotions. In contrast to previous research, this does not result in a simple “what-to-do-in-bargaining” advice that can be applied no matter what. What it does show, is that one should think well before following up on the advice that communicating anger pays. Before doing so, be sure to assess the structural characteristics of the bargaining situation in terms of the consequences of rejecting offers, and the possibilities for deception.

## Footnotes

1. In terms of the formal description of the delta game (Suleiman, 1996; Van Dijk et al., 2004), this means that in the high consequences conditions, delta was set at 0, and that in the low consequences conditions, delta was set at 0.9.
2. We also considered the participants' happiness ratings as a potential mediator, but the analyses indicated that after inclusion of the Consequences of Rejection  $\times$  Participants' Happiness interaction, the Consequences of Rejection  $\times$  Recipient's Emotion interaction on the offers, although considerably reduced, remained significant ( $p = .04$ ). Apparently, and in agreement with the ascribed importance to anger in bargaining, anger played a more crucial role in explaining offers than happiness.
3. We did not check for this possibility, but some indirect support for the post hoc explanation comes from inspection of the standard deviations in the symmetric information conditions of Experiments 1 and 2, and the high consequences condition of Experiment 3. As this comparison shows, standard deviations were smaller in Experiment 3, which would fit with the notion that leeway was more restricted there. We are of course aware that this is a post hoc explanation with indirect empirical support, but it may be interesting to note that previous studies that allow for a similar comparison reveal a similar pattern. In their studies on the effects of social value orientations on the strategic use of fairness in ultimatum bargaining, Van Dijk et al. (2004) reported findings obtained in an ultimatum bargaining study with asymmetric values (similar to the setup we used in Experiment 1), and a delta game study with symmetric values (similar to the setup we used in Experiment 3). And they too found that standard deviations for the offers were smaller in the case of a delta game with chips of symmetric value than in the case of an ultimatum game with asymmetric value.

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Table 1

*Number of Chips Offered to the Recipient as a Function of Information and Recipient's Emotion, Experiment 2*

	Angry		Happy	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Symmetric information	62.04	8.95	56.50	6.27
Asymmetric information	49.96	9.61	57.58	12.56

Table 2

*Perceived Limits of the Recipient as a Function of Information and Recipient's Emotion,  
Experiment 2*

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	Angry		Happy	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Symmetric information	63.71	8.94	53.96	8.09
Asymmetric information	49.73	12.21	53.08	16.27

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Table 3

*Importance of the Fear of Rejection Motive when Sending Information and when Making Offer, as a Function of Information and Recipient's Emotion, Experiment 2*

	Symmetric information		Asymmetric information	
	Angry	Happy	Angry	Happy
Sending information				
<i>M</i>	4.93	5.12	5.77	4.77
<i>SD</i>	2.00	2.01	1.11	1.48
Making offer				
<i>M</i>	5.36	4.58	4.42	5.08
<i>SD</i>	1.55	2.08	1.90	1.44



Table 4

*Number of Chips Offered to the Recipient as a Function of Consequences of Rejection and Recipient's Emotion, Experiment 3*

	Angry		Happy	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
High consequences	47.52	7.11	47.67	4.89
Low consequences	32.56	16.31	45.21	9.03

Table 5

*Likelihood that the Recipient will Accept the Offer, as a Function of Consequences of Rejection and Recipient's Emotion, Experiment 3*

	Angry		Happy	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
High consequences	5.26	1.16	5.81	0.96
Low consequences	3.48	1.66	5.38	1.35