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# So You Want Me to Believe You're Happy or Angry? How Negotiators Perceive and Respond to Emotion Deception

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## Abstract

Past work suggests that emotion deception in negotiations – communicating a different emotion than experienced – is perceived negatively. We, however, argue that this depends on the type of emotion deception. We compared two emotion deception types – communicating anger while actually being happy, and communicating happiness while being angry – to genuine communications of happiness and anger. In three preregistered experiments ( $N=500$ ), participants played the role of employee or supervisor and negotiated with an opponent about salary raises. After their initial offer, participants learned their opponent's experienced (happiness vs. anger) and communicated emotion (happiness vs. anger). Then, participants made their final demand and reported perceptions of their opponent's limits and sacrifice. Results showed that participants perceived opponents who communicated genuine anger as having stricter limits and conceded more to them than to opponents using the other emotion communication types. Moreover, opponents who communicated happiness but experienced anger were perceived as making more of a sacrifice than opponents who communicated anger but experienced happiness. In Experiment 3, we also examined effects of emotion deception on non-negotiated outcomes, by assessing the likelihood to hand the opponent a year-end bonus. Participants were most likely to allocate the bonus to opponents that truthfully communicated happiness. Moreover, participants were more likely to allocate the bonus to opponents who communicated happiness but experienced anger than to opponents who communicated anger but experienced happiness. These findings extend social functional accounts of emotion communication, by showing that effects of emotion deception depend on the type of experienced and/or communicated emotions.

**Keywords** Emotion deception · Negotiation · Happiness · Anger · Limits · Sacrifice

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Extended author information available on the last page of the article

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People often negotiate and bargain with others to resolve issues or conflicting interests. Such encounters can be very emotional. Bargainers may communicate their emotions to opponents (for a review see Sharma et al. 2020), which may involve both positive (e.g., communicating happiness about an offer) and negative (e.g., communicating anger about an offer) emotions.

The exchange of emotions is important because the emotions people communicate may impact how opponents respond. Such interpersonal effects of emotions have been extensively studied during the past decades, with a special focus on the two emotions mentioned above: happiness and anger (for reviews see Olekalns and Druckman 2014; Van Kleef and Côté 2022). This research has revealed that negotiators respond differently to these emotions. For instance, it was found that negotiators make more concessions when their opponents communicate anger rather than happiness (Jäger et al. 2017; Van Kleef et al. 2004a, 2004b). This finding is generally explained by the fact that negotiators associate communicating anger with having strict limits (Chertkoff and Baird 1971; De Melo et al. 2011; Druckman and Olekalns 2008; Pruitt and Carnevale 1993). In other words, negotiators infer that angry opponents need a better offer to come to an agreement and not let the negotiation end in impasse. When opponents communicate happiness, negotiators may take this as a signal that these opponents are likely to accept the current offer or demand, and do not require high offers. As a result, negotiators do not tend to make concessions to those who communicate they are happy (Sinaceur and Tiedens 2006; Tng and Au 2014).

The fact that the emotions people communicate during negotiations may impact their opponents opens up the possibility of strategic communication of emotions (Barry 1999; Thompson et al. 1999). For instance, even when negotiators are not happy, they may communicate happiness to build or maintain a good relationship with the other party. And even when they are not angry, negotiators may communicate anger to signal having strict limits to make their opponents give in. In other words, negotiators may communicate an emotion that they do not experience, or communicate an emotion with a different intensity than experienced.

One could, of course, argue that if the deception remains undetected, responses will be the same as if the communication would have been genuine. Sometimes, however, negotiators do know, or strongly suspect, that their opponents' communicated emotions are deceptive. It is, therefore, important to understand how negotiators using emotion deception are perceived by their opponents, and how negotiators respond when truth comes out. The current research focuses on how negotiators perceive and respond to different deceptive emotion communications and on the differences between deceptive and genuine emotion communications involving the emotions happiness and anger. In other words, we aim to investigate how negotiators perceive and respond to opponents who deceptively communicate happiness versus anger, and how the effects of such deceptive emotion communications differ from the genuine communication of these emotions.

## 1 Theoretical Framework

Social functional accounts of emotions (Frijda 1994; Keltner and Haidt 1999) assume that people can infer information from the emotion communication of others, which influences people's perceptions, intentions, and behaviors. Specifically, the "Emotion as Social Information" model (the EASI model; Van Kleef 2009) suggests that in interpersonal settings, such as negotiations, negotiators may be influenced by opponents' emotion communications via an inferential path and/or an affective path. Importantly, the current theorizing on the EASI model states that negotiators' reactions may be influenced by whether or not the opponents' emotion communications are genuine. The two most recent overviews on the EASI model (Van Kleef and Côté 2018, 2022) both suggest that deceptive emotion communications – where communications do not match internal feelings – are considered negatively, and inappropriate. That is, the perceived appropriateness and genuineness of emotion communications depends on the degree to which the communication corresponds to what the expressor actually appears to be feeling (see also Olekalns and Druckman 2014; Van Kleef 2009, 2010, 2014; Van Kleef et al. 2012).

But whether, and to what extent, deceptive communications are indeed always perceived negatively, is an empirical question. An important goal of the current article is to put this question to the test. Focusing on anger and happiness, we compared two equally deceptive communications: communicating happiness while experiencing anger, and communicating anger while experiencing happiness. While the EASI model would assume that people perceive both types of deception as negative, we propose that they may in fact be perceived very differently.

Past studies did provide some relevant insights on how negotiators perceive and react to emotion deception. Exaggerating one's anger (i.e., communicating a higher intensity than actually experienced), for instance, is usually perceived negatively (Cheshin et al. 2018; Gaspar and Schweitzer 2013; Tng and Au 2014). Knowing that one's opponent exaggerated his or her anger reduces trust (Campagna et al. 2016) and increases demands (Côté et al. 2013; Hideg and Van Kleef 2017). However, not all exaggerations are evaluated as equivalently negative. Barry (1999) found that the exaggeration of positive emotions was evaluated as more appropriate and ethical than the exaggeration of negative emotions (see also Fulmer et al. 2009; Rivers and Volkema 2013). And more recently, Kang and Schweitzer (2022) suggested that exaggerating anger (and sadness) is perceived as more unethical and harmful than truthfully reporting or downplaying one's anger (and sadness).

Note, however, that the above insights rely on findings on exaggerating or downplaying emotions. The literature currently lacks empirical evidence on how negotiators perceive and respond to opponents who experience one type of emotion, but communicate another; which is referred to as 'emotion type deception' (see also Barry 1999; Fulmer et al. 2009; Gaspar and Schweitzer 2013; Kang and Schweitzer 2022). By studying how negotiators perceive and respond to opponents who experience one type of emotion (happiness, anger) but communicate another (anger, happiness), the current research aims to extend the EASI model by investigating whether specific types of emotion deception can have positive effects in negotiations. In particular, an important goal was to examine whether communicating happiness while experienc-

ing anger may be perceived and responded to more positively than communicating anger while experiencing happiness.

## 2 Not all Types of Emotion Deception Are Perceived Negatively

To our knowledge, the study conducted by Van Kleef et al. (2004a, Experiment 3) has been the only study that tested how an inconsistency between experienced and communicated emotions of happiness and anger affects negotiators' responses. In their computer-mediated negotiation study, participants negotiated with (simulated) opponents, whose communicated emotions were delivered via text and experienced emotions were revealed by the experimenter. They found that participants who learned that their opponent experienced anger but communicated happiness were willing to concede more than those who learned that their opponent experienced happiness but communicated anger. Moreover, experiencing anger but communicating happiness evoked even more concessions than when anger and happiness were genuinely communicated. This study provided the first insight that emotion type deception may affect opponents' negotiation behaviors. However, as the study mainly focused on behavioral reactions, it did not provide in-depth insight into how these emotion communications were perceived. As a result, it also remained unclear why experiencing anger but communicating happiness was effective in increasing concessions. The current research, therefore, aims to fill this gap by investigating how emotion type deceptions are perceived, and how these perceptions may influence subsequent behaviors.

Perceptions of the two emotion type deceptions involving happiness and anger may differ because negotiators feel that opponents use them for different reasons. We specifically focus on two perceptions: perceptions regarding the limits of the negotiator and perceptions as to whether the negotiator made a sacrifice. As discussed above, the communication of anger may signal stricter limits than the communication of happiness (e.g., De Melo et al. 2011; Druckman and Olekalns 2008; Van Kleef et al. 2004a, 2004b). Negotiators who experience happiness but choose to communicate anger may then be perceived as focusing on their own interests, by signaling strict limits, and trying to force opponents to give in. Relatedly, negotiators who experience anger but choose to communicate happiness may signal lenient limits.

It may also, however, be taken as a signal of making a sacrifice. The concept of sacrifice has been defined as the willingness to give up one's own benefits or gains for the benefits or well-being of others, without expecting tangible personal rewards in return (Perry 1996). As Bouwman et al. (2019) argued, sacrificial behavior is central to the process of negotiations. By making concessions, negotiators engage in making small sacrifices to reach an agreement (see also Brewer and Selden 1998; Perry 1996; Vandenberghe 2007). Also, Amanatullah et al. (2008) and Tuncel et al. (2016) indicated that negotiators' sacrificial behaviors (i.e., sacrificing own interests) are associated with their concerns about relational strain and/or impasses (see also Mannix et al. 1995). Finally, a recent study (Thi et al. 2020) operationalized self-sacrificial behaviors in negotiations as giving an increased offer to the opponent to prevent the negotiation from impasse, even though the negotiator obtained lower gains (see also Tuncel et al. 2016).

In the current article, we argue that the concept of sacrifice in negotiations may not only be related to concrete behaviors like making increased offers or lowering one's demands. In particular, we reasoned that communicating positive emotions while actually experiencing negative emotions might be perceived as making a sacrifice. Our argument is not that the mere act of communicating a different emotion than one experienced will be perceived as making a sacrifice. Our reasoning is more specific. We argue that especially communicating being happy with an offer while actually being angry could be perceived as making a sacrifice as it could be related to an intent to avoid impasse – just as previous studies on concession making showed. However, the connection may be broader. Evidence from past research on the suppression of emotions supports the argument that especially the suppression of negative emotions may be costly, which could thereby be positively perceived as a sacrifice (Impett et al. 2012). For example, individuals who regulate their negative emotions are favorably perceived as prosocial and interpersonally sensitive (Lopes et al., 2005). In agreement with this view, a mismatch between experienced and communicated anger is perceived as cognitively effortful (Shao et al. 2015) and links to negative physiological and psychological costs, which harms individuals' well-being in the long run (Coté 2005; Coté & Morgan 2002; Zapf 2002).

### 3 Overview of the Current Research

The main aim of the current research was to investigate how negotiators perceive opponents who use the two types of emotion deception in terms of limits and sacrifice, and also to explore how these perceptions may sequentially influence behavior. We mainly focused on how negotiators differentially perceive and respond to opponents who use the two different types of emotion deception – communicating happiness when actually experiencing anger and communicating anger when actually experiencing happiness. Specifically, we examined the effects of these two types of emotion deception on the perceived limits, perceived sacrifice, and on concession-making. To ensure that the findings describe the effects of emotion deception and not the effects of communicated happiness versus anger, we compared the effects of the two types of emotion deceptions to the effects of genuine emotion communications: experiencing and also communicating happiness, and experiencing and also communicating anger.

The paradigm we used described a salary negotiation scenario between a supervisor and an employee, in which participants were assigned the role of either employee (Experiment 1) or supervisor (Experiments 2 and 3). Experiments 1 and 2 focused on how emotion deceptions differently signal limits and sacrifice to negotiators, and how these different perceptions influence negotiated outcomes (i.e., concessions regarding the salary), from the perspectives of supervisors and employees, respectively. Experiment 3 extended findings of the first two studies by also examining the effects of emotion deception on non-negotiated outcomes, i.e., on outcomes other than the salary that was the topic of the negotiation. We explored this because we reasoned that what is an effective or ineffective communication within a negotiation is not necessarily effective or ineffective in getting outcomes beyond the negotiation. In

particular, we envisaged that positive effects of having made a sacrifice could also extend to non-negotiated outcomes. For this purpose, we investigated in Experiment 3, after the negotiation had ended, whether participants - in their role of employer - would be willing to allocate the employee a year-end bonus.

## 4 Experiment 1

In this preregistered experiment (<https://osf.io/xr4ye> on Open Science Framework), participants were assigned the role of employee in a negotiation scenario about a salary raise. In the negotiation scenario, participants first learned that they had indicated initial demands to the supervisor (i.e., the percentage of salary raise). Participants were then presented with the supervisor's experienced (happiness vs. anger) and communicated emotions (happiness vs. anger). In the emotion deception conditions, supervisors' communicated emotions differed from the emotions they experienced. In the genuine emotion conditions, supervisors' experienced and communicated emotions were the same. Then, participants submitted a final demand of their salary raise (i.e., demand levels) to the supervisor, and participants reported their perceptions of the supervisor's limits and sacrifice.

For perceived limits, we predicted main effects of experienced and communicated emotion, because the literature that either studied effects of experienced, or communicated emotions, suggested that anger would signal stricter limits than happiness (De Melo et al. 2011; Druckman and Olekalns 2008; Van Kleef et al. 2004a). For perceived sacrifice, we predicted an interaction effect between experienced and communicated emotions. Specifically, participants would perceive the supervisor who experienced anger but communicated happiness as making more of a sacrifice compared to supervisors in all other conditions. Experiencing anger but communicating happiness may be considered more of a sacrifice, as it may be perceived as a cognitive effort (Shao et al. 2015) aimed at the common interest by sacrificing emotional well-being of the self (Impett et al. 2012). Finally, for demands we predicted main effects of experienced and communicated emotion, in line with literature showing that anger induces more concession making in opponents compared to happiness (De Melo et al. 2011; Druckman and Olekalns 2008; Van Kleef et al. 2004a). Based on Van Kleef et al. (2004a, Experiment 3), the only other study with a similar design, we also predicted these main effects to be qualified by an interaction effect between experienced and communicated emotions. Based on the notion that negotiators would perceive an opponent who was angry but communicate being happy as having made a sacrifice, we anticipated that participants might make lower demands to the supervisor who experienced anger but communicated happiness compared to supervisors in all other conditions.

## 4.1 Method

### 4.1.1 Participants and Design

We recruited 170 participants from prolific.co, who were between 18 and 65, British, and native English. Following the preregistration, we excluded 24 participants who failed to pass manipulation checks. In addition, we identified two other extreme answers as outliers<sup>1</sup>. The final dataset included 144 participants ( $M_{\text{age}} = 37.60$ ,  $SD_{\text{age}} = 12.55$ ); 42 men and 102 women. Sensitivity power analyses with a power of 0.80 and an alpha of 0.05 showed that this sample allowed us to detect a medium effect size,  $f = 0.24$ , of the interaction between experienced emotion and communicated emotion.

We employed a 2 (experienced emotion: happiness vs. anger)  $\times$  2 (communicated emotion: happiness vs. anger) between-participants design; and participants were randomly assigned to one of the four conditions. That means that there were two genuine and two deceptive conditions.

### 4.1.2 Procedure and Materials

After reading and signing the informed consent, participants read the following scenario:

“Please imagine that you are an employee of a company, and have already worked for this company for one year. Your supervisor then needs to evaluate your performance during the past year and negotiate with you about your salary raise. Your supervisor and you have a meeting about this. After reviewing your work during the past year, he asks your thought on your salary raise. You say that you are thinking of a 5.5% raise.”

Then, participants learned their supervisor’s experienced anger (happiness) by reading “After you share your thought on your salary raise (5.5%), your supervisor feels angry (happy)”. In the genuine conditions, participants learned their supervisor’s communicated anger (happiness) by reading “This is also what he communicates to you. He communicates to you that he is angry (happy)”. In the deceptive conditions, participants learned their supervisor’s communicated happiness (anger) by reading “This is, however, not what he communicates to you. He communicates to you that he is happy (angry)”.

The scenario continued by informing participants about the upcoming submission of their formal (and also final) request for the salary raise. Participants then answered two manipulation check items: “What emotion did your supervisor communicate to you?” and “What emotion did your supervisor truly feel?”. These were multiple choice questions where participants could choose between the answers *happiness* and

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<sup>1</sup> Instead of employing the preregistered Mediation Absolute Deviation (MAD) method (Leys et al., 2013), we used the Standard Deviation (SD) method (Dixon, 1953) - the mean  $\pm$  3 SD after transferring data to  $z$  scores - to detect outliers. We did this because the MAD identified 40 participants as outliers in demand levels, which would result in a low power to detect the interacted effects. By employing the SD method, we identified two extreme scores (45% and 55%). While we could imagine that these two participants might have meant to type 4.5% and 5.5%, we excluded them from analyses.



*anger*. Answers of emotions that did not match the conditions that participants were assigned to were coded as incorrect.

Afterwards, participants were asked to indicate their formal request for the salary raise:

Now the next meeting is coming up in which you submit your formal request for the salary raise to your supervisor. You are considering what your request will be. Please indicate below what percentage of the salary raise you would submit to your supervisor in that meeting? I would submit a formal request of \_\_\_\_%.

Lower percentages of the salary raise indicate lower demand levels (i.e., more concessions).

Then, participants reported their perceptions of what the supervisor's limit would be for accepting/rejecting their formal request for the salary raise. For this purpose, participants completed the items "I think my supervisor would accept any request equal to or lower than \_\_\_\_%", and "I think my supervisor would reject any request equal to or higher than \_\_\_\_%" (both adapted from Van Kleef et al. 2004a). We averaged the two scores into a reliable scale for perceived limits ( $\alpha=0.79$ ). Lower percentages indicate stricter perceived limits.

Then, participants reported their perceptions of the supervisor's sacrifice on the item "To what extent do you think your supervisor made a sacrifice to you when he communicated to you that he was angry (happy)?" (1 = *not at all*, 7 = *very much*).

Finally, participants answered some exploratory questions<sup>2</sup> and reported demographics (i.e., age and gender). Participants were fully debriefed and thanked. They received £0.9 as reward. The above procedures and all following studies were approved by the Psychology Research Ethics Committee of Leiden University.

## 4.2 Results

To test our predictions, we employed two-way ANOVAs in the General Linear Model in R (version 1.1.463). In addition to analyzing the main and interaction effects, we compared opponents' communicated emotions (anger vs. happiness) when they experienced happiness and when they experienced anger, separately. As a main focus of the current research is how negotiators differently perceive and respond to opponents who use the two different types of emotion deception (i.e., experiencing anger but communicating happiness versus experiencing happiness but communicating anger), we also present the contrasts between the two deceptive conditions in the absence of significant interaction effects. Please note that in the case of nonsignificant interactions these contrasts should be interpreted with caution. For means and standard deviations of the dependent variables see Table 1.

<sup>2</sup>In this and the subsequent experiments, we also measured participants' perceptions of negotiators' relationship-focused and self-interested motivations. For measures and results of these two variables see the Supplementary Materials.

**Table 1** Means and Standard Deviations (SD) for the Dependent Variables as a Function of Experienced Emotion and Communicated Emotion in Experiment 1

	Experienced emotion			
	Happiness		Anger	
	Communicated emotion			
	Happiness <i>M(SD)</i>	Anger <i>M(SD)</i>	Happiness <i>M(SD)</i>	Anger <i>M(SD)</i>
Supervisor's perceived limit (%)	6.33(0.96)	5.63(1.06)	4.77(1.37)	4.05(1.20)
Supervisor's perceived sacrifice	3.36(2.08)	3.31(1.81)	3.35(1.84)	3.02(1.94)
Participant's demand level (%)	5.95(1.12)	5.25(0.79)	5.14(0.90)	4.82(1.05)

#### 4.2.1 Perceived Limits

The  $2 \times 2$  ANOVA on perceived limits yielded a main effect of experienced emotion,  $F(1, 140) = 63.92, p < .001, \eta_p^2 = 0.34$ , indicating that participants perceived the supervisor who experienced anger as having stricter limits than the supervisor who experienced happiness. The main effect of communicated emotion was also significant,  $F(1, 140) = 13.09, p < .001, \eta_p^2 = 0.09$ , indicating that participants perceived the supervisor who communicated anger as having stricter limits than the supervisor who communicated happiness. The interaction between experienced emotion and communicated emotion was not significant,  $F(1, 140) = 0.01, p = .936, \eta_p^2 = 0.00$ . Because our hypotheses focused on the potential contrast between the two deceptive conditions, we also conducted post hoc analysis. These analyses showed that participants perceived the supervisor who experienced happiness but communicated anger as having stricter limits than the supervisor who experienced anger but communicated happiness,  $t(140) = 2.90, p = .004$ .

#### 4.2.2 Perceived Sacrifice

The  $2 \times 2$  ANOVA on perceived sacrifice did not yield significant main effects of experienced emotion,  $F(1, 140) = 0.19, p = .662, \eta_p^2 = 0.00$ , or communicated emotion,  $F(1, 140) = 0.33, p = .568, \eta_p^2 = 0.00$ , and no interaction,  $F(1, 140) = 0.18, p = .674, \eta_p^2 = 0.00$ . Post hoc analysis showed the differences between conditions were not significant,  $ps > .443$ .

#### 4.2.3 Demand Level

The  $2 \times 2$  ANOVA on demand level yielded a main effect of experienced emotion,  $F(1, 140) = 13.42, p < .001, \eta_p^2 = 0.11$ , indicating that participants made lower demands to the supervisor who experienced anger than to the supervisor who experienced happiness. In addition, we found a main effect of communicated emotion,  $F(1, 140) = 9.28, p = .003, \eta_p^2 = 0.06$ , indicating that participants made lower demands to the supervisor who communicated anger than to the supervisor who communicated happiness. The interaction between experienced emotion and communicated emotion

was not significant,  $F(1, 140)=1.25$ ,  $p=.266$ ,  $\eta_p^2=0.01$ . Post hoc analysis showed that participants did not make different demands to the supervisor who experienced anger but communicated happiness and the supervisor who experienced happiness but communicated anger,  $t(140)=0.41$ ,  $p=.683$ .

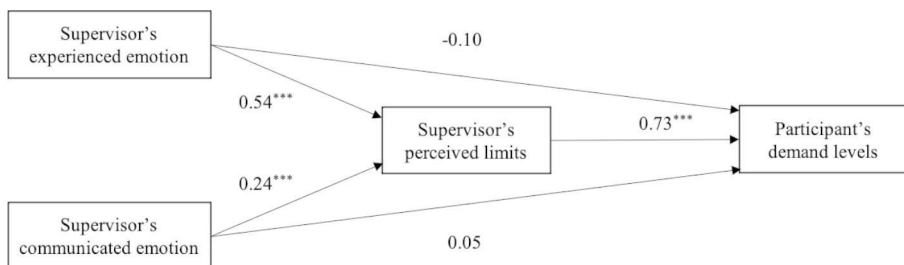
#### 4.2.4 Mediation Effects of Perceived Limits

To explore whether experienced emotion and communicated emotion influenced demand levels via limits, we employed the GLM Mediation Model in R (version 1.1.463). In the mediation model, we included experienced emotion and communicated emotion as independent variables, perceived limits as the mediator, and demand levels as the dependent variable (Fig. 1). With 10,000 bootstrap resamples, we employed the mediation analysis to estimate the confidence intervals (CIs) of the indirect effects at the 95% level (Preacher and Hayes 2008). We did not explore a possible mediation effect of sacrifice as this measure was not affected by our manipulations.

For experienced emotion, its total effect on demand levels was significant,  $\beta=0.30$ , 95%CI = [0.31, 0.97],  $p<.001$ , while its direct effect on demand levels was not significant,  $\beta=-0.10$ , 95%CI = [-0.49, 0.07],  $p=.148$ . The indirect effect of perceived limits from experienced emotion to demand levels was significant,  $\beta=0.39$ , 95%CI = [0.53, 1.18],  $p<.001$ . Thus, the effect of experienced emotion on demand levels was fully mediated by perceived limits. For communicated emotion, its total effect on demand levels was significant,  $\beta=0.23$ , 95%CI = [0.17, 0.82],  $p=.003$ , while its direct effect on demand levels was not significant,  $\beta=0.05$ , 95%CI = [-0.15, 0.39],  $p=.393$ . The indirect effect of perceived limits from communicated emotion to demand levels was significant,  $\beta=0.18$ , 95%CI = [0.14, 0.63],  $p=.002$ . Thus, the effect of communicated emotion on demand levels was fully mediated by perceived limits.

### 4.3 Discussion

Results showed that participants perceived supervisors who experienced anger (vs. happiness) or communicated anger (vs. happiness) as having stricter limits, and made lower demands (i.e., conceded more) to them. Our mediation analysis suggested that



**Fig. 1** The Mediation Effects of Perceived Limits from Experienced Emotion and Communicated Emotion to Demand Level (Experiment 1)

Note: \*\*\* indicates  $p<.001$ .

reduced demands were associated with participants' perceptions that the supervisors who experienced anger (vs. happiness) or communicated anger (vs. happiness) had strict limits. Interestingly, the supervisor's communicated anger (vs. happiness) signaled stricter limits to participants regardless of the supervisor's experienced happiness or anger. The supervisor's communicated anger (vs. happiness), however, led to participants' lower demands only when the supervisor experienced happiness. In addition, results confirmed our hypothesis that participants perceived the supervisor who experienced happiness but communicated anger as having stricter limits than the supervisor who experienced anger but communicated happiness.

The manipulations did not affect perceived sacrifice. A post hoc explanation could be that in the scenario participants reasoned that the supervisor might not usually make a sacrifice. Perhaps, supervisors are less likely to be perceived as making a sacrifice to their employees because supervisors have a higher power position than employees. In line with this reasoning, research on close relationships found that high-power (vs. low-power) individuals tend to sacrifice less to their partner because they are more self-oriented (Righetti et al. 2015). In their role of employee, participants could have considered it unlikely that the supervisor would make a sacrifice to them. Being interested in a possible role of sacrifice we adjusted the scenario for Experiment 2, by now instructing participants to imagine that they were the supervisor, negotiating with their employee who either deceptively or genuinely communicated happiness or anger.

## 5 Experiment 2

In this preregistered experiment (<https://osf.io/38g5f> on OSF), participants were assigned the role of supervisor. Participants were presented with the employee's experienced and communicated emotions. After that, participants reported their perceptions of the employee in terms of limits and sacrifice, and they indicated their percentage of salary raise as offer levels. Hypotheses were similar as those in Experiment 1.

### 5.1 Method

#### 5.1.1 Participants and Design

We recruited 180 participants from prolific.co, who were between 18 and 65, British, native English, and did not participate in our Experiment 1. Following the preregistration, we excluded four participants who failed to pass manipulation checks. The final dataset included 176 participants ( $M_{\text{age}} = 38.70$ ,  $SD_{\text{age}} = 11.70$ ); 39 men and 135 women, two participants preferred not to report their gender. Sensitivity power analyses with a power of 0.80 and an alpha of 0.05 showed that this sample size allowed us to detect a small to medium effect size,  $f = 0.21$ , of the interaction between experienced emotion and communicated emotion.

We employed a 2 (experienced emotion: happiness vs. anger)  $\times$  2 (communicated emotion: happiness vs. anger) between-participants design; participants were randomly assigned to one of the four conditions.

### 5.1.2 Procedure and Materials

Participants completed the same procedure as that in Experiment 1, but now they had the role of supervisor. After having made an initial offer (5.5% salary raise) to their employee, they learned their employee's experienced and communicated emotion. After that, participants made a formal decision about the employee's salary raise (i.e., offer level). Then, participants completed manipulation checks and reported their perceptions of the employee's limits and sacrifice. Finally, participants answered some exploratory questions as well as demographic items (i.e., age and gender). Participants were fully debriefed and thanked. They received £0.9 as reward.

## 5.2 Results

To test our predictions, we employed two-way ANOVAs in the General Linear Model in R (version 1.1.463). Similar to the Experiment 1, we analyzed the main and interaction effects, and compared opponents' communicated emotions (anger vs. happiness) when they experienced happiness and when they experienced anger, separately. For means and standard deviations of the dependent variables see Table 2.

### 5.2.1 Perceived Limits

The 2  $\times$  2 ANOVA on perceived limits yielded a main effect of experienced emotion,  $F(1, 172)=24.61$ ,  $p<.001$ ,  $\eta_p^2=0.20$ , indicating that participants perceived the employee who experienced anger as having stricter limits than the employee who experienced happiness. The main effect of communicated emotion was significant,  $F(1, 172)=8.63$ ,  $p=.004$ ,  $\eta_p^2=0.05$ , indicating that participants perceived the employee who communicated anger as having stricter limits than the employee who communicated happiness. These main effects were qualified by an interaction between experienced emotion and communicated emotion,  $F(1, 172)=8.04$ ,  $p=.005$ ,

**Table 2** Means and Standard Deviations (SD) for the Dependent Variables as A Function of Experienced Emotion and Communicated Emotion in Experiment 2

	Experienced emotion			
	Happiness		Anger	
	Communicated emotion			
	Happiness <i>M</i> ( <i>SD</i> )	Anger <i>M</i> ( <i>SD</i> )	Happiness <i>M</i> ( <i>SD</i> )	Anger <i>M</i> ( <i>SD</i> )
Employee's perceived limit (%)	4.97(0.80)	4.98(0.97)	5.28(0.86)	6.13(1.21)
Employee's perceived sacrifice	2.28(1.54)	2.60(1.62)	4.83(1.61)	3.31(1.79)
Participant's offer level (%)	5.53(0.45)	5.57(0.90)	5.66(0.48)	6.08(1.08)

$\eta_p^2=0.04$ . Simple effect tests showed that participants perceived the employee who experienced anger, as having stricter limits when he communicated being angry than when he communicated being happy,  $F(1, 172)=15.48, p<.001, \eta_p^2=0.08$ . When the employee experienced happiness, the communicated emotion did not affect the perceived limit,  $F(1, 172)=0.00, p=.942, \eta_p^2=0.00$ . Post hoc analysis showed that participants did not perceive the employee who experienced anger but communicated happiness as having a different limit than the employee who experienced happiness but communicated anger,  $t(172)=1.41, p=.161$ .

### 5.2.2 Perceived Sacrifice

The  $2 \times 2$  ANOVA on perceived sacrifice yielded a main effect of experienced emotion,  $F(1, 172)=43.10, p<.001, \eta_p^2=0.20$ , indicating that participants perceived the employee who experienced anger as having made more of a sacrifice to them than the employee who experienced happiness. The main effect of communicated emotion was significant,  $F(1, 172)=5.85, p=.017, \eta_p^2=0.03$ , indicating that participants perceived the employee who communicated happiness as having made more of a sacrifice to them than the employee who communicated anger. Importantly, these main effects were qualified by an interaction between experienced emotion and communicated emotion,  $F(1, 172)=13.82, p<.001, \eta_p^2=0.07$ . Simple effect tests showed that participants perceived the employee who experienced anger more as having made a sacrifice when he communicated happiness than when he communicated anger,  $F(1, 172)=18.62, p<.001, \eta_p^2=0.10$ . When the employee experienced happiness, the communicated emotion did not significantly affect perceived sacrifice,  $F(1, 172)=0.85, p=.357, \eta_p^2=0.00$ . In line with our reasoning, post hoc analysis showed that participants perceived the employee who experienced anger but communicated happiness as having made more of a sacrifice to them than the employee who experienced happiness but communicated anger,  $t(172)=6.25, p<.001$ .

### 5.2.3 Offer Level

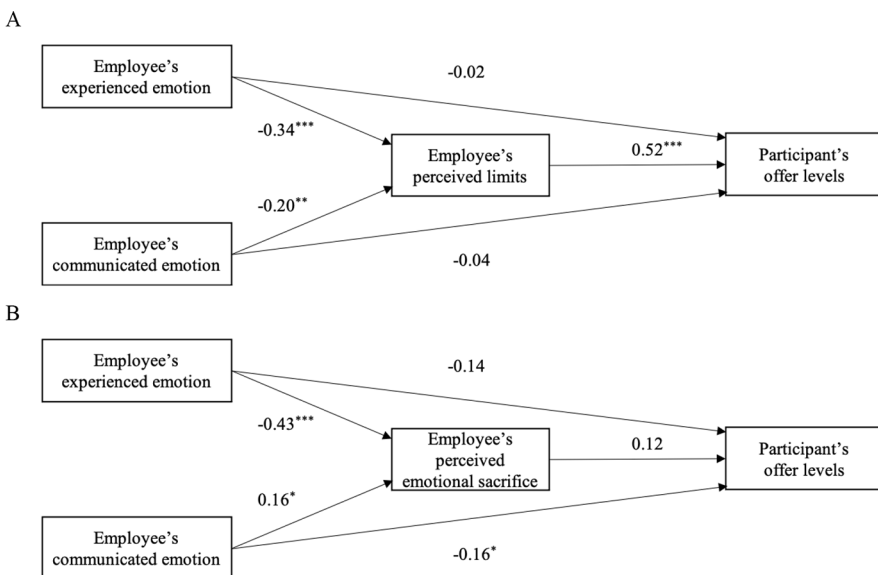
The  $2 \times 2$  ANOVA on offer level yielded a main effect of experienced emotion,  $F(1, 172)=7.26, p=.004, \eta_p^2=0.04$ , indicating that participants made higher offers to the employee who experienced anger than the employee who experienced happiness. The main effect of communicated emotion was marginally significant,  $F(1, 172)=3.72, p=.055, \eta_p^2=0.02$ , indicating that participants made higher offers to the employee who communicated anger than to the employee who communicated happiness. The interaction between experienced emotion and communicated emotion was not significant,  $F(1, 172)=2.54, p=.113, \eta_p^2=0.01$ . Post hoc analysis showed that participants did not make different offers to the employee who experienced anger but communicated happiness and to the employee who experienced happiness but communicated anger,  $t(172)=0.53, p=.596$ .

## 5.2.4 Mediation Effects of Perceived Limits and Perceived Sacrifice

Similar to Experiment 1, we employed mediation analyses to explore whether experienced emotion and communicated emotion would influence offer levels via limits (Fig. 2A) and/or via sacrifice (Fig. 2B).

**5.2.4.1 Perceived Limits as The Mediator** For experienced emotion, its total effect on offer levels was significant,  $\beta = -0.20$ , 95%CI = [-0.54, -0.09],  $p = .007$ , while its direct effect on offer levels was not significant,  $\beta = -0.02$ , 95%CI = [-0.20, 0.13],  $p = .703$ . For communicated emotion, its total effect on offer levels was marginally significant,  $\beta = -0.14$ , 95%CI = [-0.45, 0.00],  $p = .056$ , while its direct effect on offer levels was not significant,  $\beta = -0.04$ , 95%CI = [-0.26, 0.16],  $p = .587$ . The indirect effect of perceived limits from experienced emotion to offer levels was significant,  $\beta = -0.18$ , 95%CI = [-0.52, -0.05],  $p = .018$ . Thus, the effect of experienced emotion on offer levels was fully mediated by perceived limits. The indirect effect of perceived limits from communicated emotion to offer levels was significant,  $\beta = -0.10$ , 95%CI = [-0.31, -0.02],  $p = .027$ . Thus, the effect of communicated emotion on offer levels was fully mediated by perceived limits.

**5.2.4.2 Perceived Sacrifice as The Mediator** For experienced emotion, its total effect on offer levels was significant as that in perceived limits, and its direct effect on offer levels was not significant,  $\beta = -0.14$ , 95%CI = [-0.49, 0.02],  $p = .078$ . For communi-



**Fig. 2** The Mediation Effects of Perceived Limits (A) and Perceived Sacrifice (B) from Experienced Emotion and Communicated Emotion to Offer Level (Experiment 2)

Note: \* indicates  $p < .05$ , \*\* indicates  $p < .01$ , \*\*\* indicates  $p < .001$ .

cated emotion, its total effect on offer levels was that in perceived limits, and its direct effect on offer levels was significant,  $\beta = -0.16$ , 95%CI = [-0.47, -0.04],  $p = .022$ . The indirect effect of perceived sacrifice from experienced emotion,  $\beta = -0.05$ , 95%CI = [-0.21, 0.04],  $p = .187$ , or communicated emotion,  $\beta = 0.02$ , 95%CI = [-0.02, 0.08],  $p = .268$ , to offer levels were not significant. Thus, the effect of experienced or communicated emotion on offer levels was not mediated by perceived sacrifice.

### 5.3 Discussion

We extended Experiment 1, by assigning participants to the role of supervisor. We replicated findings of Experiment 1 such that participants perceived the employee who experienced or communicated anger (vs. happiness) as having stricter limits, and participants increased offers to them. Our mediation analysis suggested that the increased offers were associated with participants' perceptions that the employees who experienced anger (vs. happiness) or communicated anger (vs. happiness) had strict limits. In addition, the employee's communicated anger (vs. happiness) signaled stricter limits and increased offers of participants only when employees experienced anger, which partially replicated what we found in Experiment 1.

Different than in Experiment 1, we now did observe that participants inferred the employee had made more of a sacrifice if the employee felt angry but communicated being happy than if the employee felt angry and also communicated being angry. Note, however, that this did not lead participants to make a high(er) offer to their employee. This may suggest that, while viewed positively in terms of making a sacrifice, participants did not feel that this should be 'rewarded' with an increased salary offer. Indeed, if an employee communicates being happy (even when actually being angry) with a salary offer, it may seem out-of-role to offer them a higher salary than the salary they just stated being happy about. Higher salary offers may then not be considered a fitting response, even if the communicated happiness may be seen as a signal of making a sacrifice. This does not mean that supervisors might not be willing to grant other types of rewards to those who make a sacrifice. Salary raises are only one of the instruments that may be available to supervisors to reward employees. Monetary bonuses, for example, are usually not the subject of salary negotiations and may also be given at other points in time. This raises the possibility that perceptions of deceptiveness/genuineness of other's communicated emotions could impact the allocation of such non-negotiated outcomes. Would supervisors be more willing to allocate such outcomes to employees who in the negotiation had made a sacrifice by communicating they were happy while actually they had been angry?

In the following experiment we, therefore, not only studied whether the findings we observed in Experiment 2 would replicate in a study in which participants again took on the role of supervisor negotiating with their employee about a salary raise; we also explored whether emotion deception might impact their likelihood of allocating a year-end bonus to the employee.



## 6 Experiment 3

In this preregistered experiment (<https://osf.io/h8pg3> on OSF), we primarily aimed to replicate findings of Experiment 2 in terms of limits, sacrifice, and offers. In addition, we explored whether emotion communications would have additional impacts other than the immediate negotiation outcomes if participants have the possibility to allocate a year-end bonus. Past work has indicated that emotion communications can influence non-negotiated outcomes of employees to a large extent (Baskar and Prakash Rajkumar 2015; Danish and Usman 2010; Kopelman et al. 2006; Terera and Ngirande 2014). To study this, participants were instructed to imagine that they could hand out a year-end bonus to their opponent after the negotiation. The salary negotiation was the same as the one used in Experiment 2, where participants were assigned the role of supervisor, and learned the employee's experienced and communicated emotions. For this negotiation, participants indicated perceived limits and sacrifice of the employee, and provided their final offer. After answering these questions, participants were presented with an opportunity to reward the employee a (non-negotiated) bonus.

For perceived limits, perceived sacrifice, and salary offer levels, we tested the same hypotheses as those in Experiments 1 and 2. To study the effects on non-negotiated outcomes, and the possibility that participants would like to reward an employee for having made a sacrifice, we tested whether they would be more likely to give the monetary bonus to employees in the experienced anger but communicated happiness conditions than to employees in the other conditions (thereby predicting an interaction effect).

### 6.1 Method

#### 6.1.1 Participants and Design

We recruited 180 participants from prolific.co, who were between 18 and 62, British, native English, and did not participate in Experiments 1 and 2. All participants ( $M_{\text{age}} = 26.08$ ,  $SD_{\text{age}} = 9.40$ ) passed manipulation checks. The sample included 31 men and 147 women, two participants preferred not to report their gender. With a power of 0.80 and an alpha of 0.05, this sample size allowed us to detect a small to medium effect size,  $f=0.21$ , of the interaction effect between experienced emotion and communicated emotion.

We employed a 2 (experienced emotion: happiness vs. anger)  $\times$  2 (communicated emotion: happiness vs. anger) between-participants design; participants were randomly assigned to one of the four conditions.

#### 6.1.2 Procedure and Materials

The procedure was similar as that used in Experiment 2. To increase participants' engagement with the scenario, we employed short videos where both parties were represented by avatars to increase perspective taking/visualization. In the video, we

presented what the employee felt and what the employee communicated to participants with thought clouds and speech bubbles, respectively (see Fig. 3).

After presenting the employee's experienced and communicated emotions, participants completed measures of manipulation checks, perceived limits, perceived sacrifice, offer levels, and some exploratory questions<sup>3</sup>.

To study the allocation of non-negotiated outcomes, participants read:

"After the final meeting, you learned that your company is doing well this year and that you will have an opportunity to reward one of your employees. This means that you will have a year-end bonus that you can give to one of your employees."

Then, participants indicated their likelihood of giving the bonus to the employee they just negotiated with, from 1 = *not at all* to 7 = *very much*.

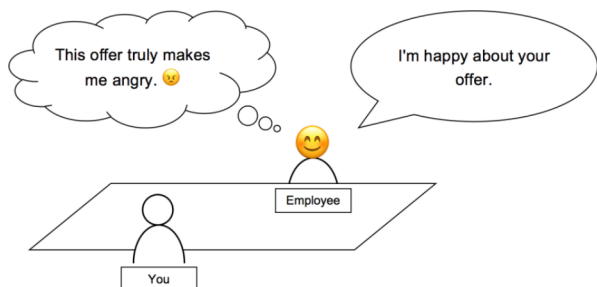
## 6.2 Results

To test our predictions, we employed two-way ANOVAs in the General Linear Model in R (version 1.1.463). For means and standard deviations for the dependent variables see Table 3.

### 6.2.1 Perceived Limits

The 2×2 ANOVA on perceived limits yielded a main effect of experienced emotion,  $F(1, 176)=60.34, p<.001, \eta_p^2=0.26$ , indicating that participants perceived the employee who experienced anger as having stricter limits than the employee who experienced happiness. The main effect of communicated emotion was also significant,  $F(1, 176)=49.76, p<.001, \eta_p^2=0.22$ , indicating that participants perceived the employee who communicated anger as having stricter limits than the employee who communicated happiness. The interaction was not significant,  $F(1, 176)=3.27, p=.072, \eta_p^2=0.02$ . Post hoc analysis showed that the participants did not perceive the employee who experienced anger but communicated happiness as having a different limit than the employee who experienced happiness but communicated anger,  $t(176)=0.50, p=.616$ .

**Fig. 3** The Employee's Experienced Emotion and Communicated Emotion in Videos



<sup>3</sup> Exploratory questions were similar to those used in Experiment 1 and 2. In addition, we measured participants' perceived emotion intensity (see Experiment 3 in Supplementary Materials).

**Table 3** Means and Standard Deviations (SD) for the Dependent Variables as A Function of Experienced Emotion and Communicated Emotion in Experiment 3

	Experienced emotion			
	Happiness		Anger	
	Communicated emotion			
	Happiness <i>M(SD)</i>	Anger <i>M(SD)</i>	Happiness <i>M(SD)</i>	Anger <i>M(SD)</i>
Employee's perceived limit (%)	4.65(0.89)	5.26(0.56)	5.35(0.73)	6.38(0.89)
Employee's perceived sacrifice	2.65(1.57)	3.52(1.90)	5.13(1.63)	4.36(1.87)
Participant's offer level (%)	5.64(0.31)	6.07(0.55)	6.10(0.89)	6.62(1.19)
Participant's likelihood to allocate a bonus	5.13(1.31)	3.00(1.33)	4.24(1.48)	3.78(1.26)

### 6.2.2 Perceived Sacrifice

The  $2 \times 2$  ANOVA on perceived sacrifice yielded a main effect of experienced emotion,  $F(1, 176) = 40.49$ ,  $p < .001$ ,  $\eta_p^2 = 0.19$ , indicating that participants perceived the employee who experienced anger as having made more of a sacrifice to them than the employee who experienced happiness. The main effect of communicated emotion was not significant,  $F(1, 176) = 0.03$ ,  $p = .859$ ,  $\eta_p^2 = 0.00$ . Importantly, the above main effect was qualified by an interaction between experienced emotion and communicated emotion,  $F(1, 176) = 10.02$ ,  $p = .002$ ,  $\eta_p^2 = 0.05$ . Simple effect tests showed that participants perceived the employee who experienced anger more as having made a sacrifice when he communicated happiness than when he communicated anger,  $F(1, 176) = 4.46$ ,  $p = .036$ ,  $\eta_p^2 = 0.02$ . Conversely, participants perceived the employee who experienced happiness more as having made a sacrifice when he communicated anger than when he communicated happiness,  $F(1, 176) = 5.59$ ,  $p = .019$ ,  $\eta_p^2 = 0.03$ . Post hoc analysis showed that participants perceived the employee who experienced anger but communicated happiness as having made more of a sacrifice than the employee who experienced happiness but communicated anger,  $t(176) = 4.35$ ,  $p < .001$ .

### 6.2.3 Offer Level

The  $2 \times 2$  ANOVA on offer levels yielded a main effect of experienced emotion,  $F(1, 176) = 17.41$ ,  $p < .001$ ,  $\eta_p^2 = 0.09$ , indicating that participants made higher offers to the employee who experienced anger than to the employee who experienced happiness. The main effect of communicated emotion was also significant,  $F(1, 176) = 15.13$ ,  $p < .001$ ,  $\eta_p^2 = 0.08$ , indicating that participants made higher offers to the employee who communicated anger than to the employee who communicated happiness. The interaction was not significant,  $F(1, 176) = 0.12$ ,  $p = .728$ ,  $\eta_p^2 = 0.00$ . Post hoc analysis showed offers did not differ significantly between the two deceptive emotion communications,  $t(176) = 0.20$ ,  $p = .843$ .

## 6.2.4 Likelihood to Allocate Non-negotiated Bonus

The 2×2 ANOVA on the likelihood to allocate the year-end bonus did not yield a main effect of experienced emotion,  $F(1, 176)=0.07, p=.788, \eta_p^2=0.00$ . However, the main effect of communicated emotion was significant,  $F(1, 176)=41.81, p<.001, \eta_p^2=0.19$ , indicating that participants were more likely to allocate the bonus to the employee who communicated happiness than to the employee who communicated anger. The interaction between experienced emotion and communicated emotion was also significant,  $F(1, 176)=17.16, p<.001, \eta_p^2=0.09$ . Simple effect tests showed that when the employee had experienced happiness, participants were more likely to allocate him the bonus if he had communicated being happy than if he had communicated being angry,  $F(1, 176)=56.26, p<.001, \eta_p^2=0.24$ . When the employee had experienced anger, the communication did not significantly influence the allocation likelihood,  $F(1, 176)=2.7, p=.102, \eta_p^2=0.02$ . Post hoc analysis showed that participants were more likely to allocate the bonus to the employee who experienced anger but communicated happiness than to the employee who experienced happiness but communicated anger,  $t(176)=4.36, p<.001$ .

## 6.2.5 Mediation Effects of Perceived Limits and Perceived Sacrifice

### 6.2.5.1 Perceived Limits as the Mediator Similar to Experiments 1 and 2, we employed mediation analysis to explore whether the effect of experienced emotion and communicated emotion on offer levels would be mediated by limits (Fig. 4A).

For experienced emotion, its total effect on offer levels was significant,  $\beta = -0.29, 95\%CI = [-0.74, -0.27], p<.001$ , while its direct effect on offer levels was not significant,  $\beta = -0.12, 95\%CI = [-0.48, 0.11], p=.172$ . The indirect effect of perceived limits from experienced emotion to offer levels was significant,  $\beta = -0.17, 95\%CI = [-0.51, -0.12], p=.003$ . Thus, the effect of experienced emotion on offer levels was fully mediated by perceived limits. For communicated emotion, its total effect on offer levels was significant,  $\beta = -0.27, 95\%CI = [-0.70, -0.23], p<.001$ , while its direct effect on offer levels was not significant,  $\beta = -0.12, 95\%CI = [-0.46, 0.12], p=.187$ . The indirect effect of perceived limits from communicated emotion to offer levels was significant,  $\beta = -0.12, 95\%CI = [-0.48, -0.11], p=.003$ . Thus, the effect of communicated emotion on offer levels was fully mediated by perceived limits.

### 6.2.5.2 Perceived Sacrifice as the Mediator

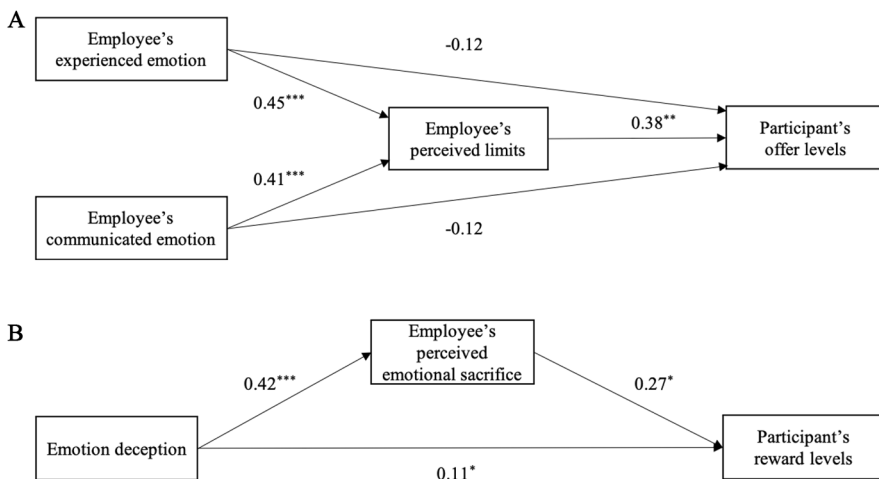
The results above show that participants wanted to allocate rewards to employees who genuinely communicated happiness, even though participants perceived that the employee who experienced anger but communicated happiness had made the largest sacrifice to them. This suggests that the high likelihoods to reward the employee who genuinely communicated happiness could not be explained by the employee's high perceived sacrifice. For the current purposes, we were especially interested in the comparison between the two deceptive emotion communications. There, we did find that the employee who experienced anger but communicated happiness was perceived as making a larger sacrifice and

also received more rewards than the employee who experienced happiness but communicated anger.

Similar to the mediation analysis conducted above, we therefore included the two deceptive conditions as the independent variable, perceived sacrifice as the mediator, and reward likelihoods as the dependent variable in the mediation model (Fig. 4B). The total effect of the deceptive conditions was significant,  $\beta=0.41$ , 95%CI = [0.66, 1.82],  $p<.001$ , and its direct effect was also significant,  $\beta=0.29$ , 95%CI = [0.24, 1.58],  $p=.008$ . The indirect effect of perceived sacrifice from the deceptive conditions to reward likelihoods was significant,  $\beta=0.11$ , 95%CI = [0.03, 0.66],  $p=.030$ . Thus, our exploratory mediation analysis showed that the effect of emotion deception on reward likelihoods was partially mediated by perceived sacrifice. The partial mediation effect of sacrifice was identified because the direct effect of emotion deception on reward likelihoods was significant, and emotion deception also significantly affected the mediator sacrifice, which significantly affected the dependent variable reward likelihoods. The direct effect of emotion deception became smaller when including the mediator sacrifice. The partial mediation effect suggests that sacrifice explains part of the process by which emotion deception influenced reward likelihoods, and thus, there were probably additional mechanisms (indirect effects) that could be examined empirically (Rucker et al. 2011).

### 6.3 Discussion

We replicated the finding of Experiment 2 that participants perceived the employee who experienced anger (vs. happiness) or communicated anger (vs. happiness) as



**Fig. 4** A. The Mediation Effect of Perceived Limits from Experienced Emotion and Communicated Emotion to Offer Level. B. The Mediation Effect of Perceived Sacrifice from Emotion Deception to Reward likelihoods

Note: \* indicates  $p<.05$ , \*\* indicates  $p<.01$ , \*\*\* indicates  $p<.001$ .

having stricter limits. Our mediation analysis suggested that these perceptions of the employee's limits increased subsequent offers. In addition, we replicated the finding that participants perceived an employee who experienced anger more as having made a sacrifice when he communicated happiness (vs. anger). Our mediation analysis suggested that participants were more likely to assign the bonus to the employee who experienced anger but communicated happiness than to the employee who experienced happiness but communicated anger, and that this can be explained by the difference in perceived sacrifice. Note that even though experiencing anger but communicating happiness increased the likelihood of allocating the bonus compared to experiencing happiness but communicating anger, participants were most likely to allocate the bonus to the employee who genuinely communicated happiness.

## 7 General Discussion

The current research investigated how negotiators perceived and responded to opponents who used emotion deceptions, i.e., opponents who experienced anger but communicated happiness, and those who experienced happiness but communicated anger. To study this, we examined how negotiators perceived their opponents who used emotion deception or genuinely communicated their emotions. In addition, we explored the behavioral effects on both negotiated outcomes (i.e., the salary) and non-negotiated outcomes (i.e., the year-end bonus).

With regard to the negotiated outcomes, our findings consistently indicated that negotiators who communicated or experienced anger received more concessions than negotiators experiencing or communicating happiness. Results of our mediation analyses revealed that participants conceded more to these opponents since participants perceived them as having stricter limits. Our findings further showed that perceived limits and offers were highest when opponents communicated genuine anger (when they communicated and also experienced anger). These results are consistent with previous studies: Negotiators perceive angry opponents as having stricter limits, and then concede to these opponents to avoid costly impasse (e.g., Lelieveld et al. 2011, 2012, 2013; Steinel et al. 2008; Van Kleef et al. 2004a, 2004b). Those findings, however, were all obtained in settings where participants were only presented opponents' communicated emotions. The current research, hence, contributed to the literature by confirming the effectiveness of communicating anger (vs. happiness) in signaling strict limits and producing concessions in settings where negotiators were not only presented with the communicated emotion, but also learned what the negotiator actually experienced.

Besides the effects of perceived limits, we also examined the role of sacrifice. We found that participants perceived opponents who communicated happiness when actually experiencing anger as making more of a sacrifice than opponents who used all other emotion communications. This perceived sacrifice did not substantially increase the offers in the negotiation.

Besides the negotiated outcomes, Experiment 3 also examined the effects of deceptive and genuine emotion communications on outcomes outside of the negotiation. The results showed that people were most likely to allocate a bonus to opponents

that truthfully communicated happiness than to opponents using the other emotion communications. We also specifically compared the two deceptive emotion communications – experiencing anger but communicating happiness versus experiencing happiness but communicating anger. Results showed that participants perceived opponents who experienced anger but communicated happiness as making more of a sacrifice, and participants were more likely to allocate a bonus to these opponents, as compared to opponents who experienced happiness but communicated anger. Our mediation analysis showed that this difference in rewards between the two deceptive emotion communications was partially mediated by perceived sacrifice. Possibly, negotiators who perceive their opponents as making a sacrifice may in turn distribute high rewards to these opponents, because they may appreciate their good intentions.

An important goal was to empirically test whether perceptions of and reactions to deceptive communication of emotions are always (equally) negative. Our findings indicate that they are not, and thereby also extend the literature on social functional accounts of emotions, especially the EASI model. We show that the effects of emotion deception depend on the type of emotion deception (i.e., deceptive anger or happiness) and on the type of outcomes (i.e., negotiated or non-negotiated outcomes; discussed in detail in the practical implications below). The communication of happiness (when experiencing anger) may signal more positive intentions (e.g., more relationship-focused and less self-interested motivations; see Supplementary Materials) to opponents, and may affect opponents' behaviors more positively, than the communication of anger (when experiencing happiness), even though both involve deceptive emotion communications (Van Kleef 2009, 2010, 2014). The positive effects of communicating happiness while actually being angry also add to the recent study of Kang and Schweitzer (2022). In a series of independent experiments, they showed that exaggerating anger was considered more unethical than downplaying one's anger (Study 3), and that exaggerating one's happiness was considered more unethical than downplaying one's happiness (Supplemental Study A3). Being focused on exaggeration and downplaying of separate emotions, the study did not address perceptions of communicating happiness while actually being angry. Our current findings do allow for such a comparison. And while we did not directly assess unethicity of emotions, our findings on the sacrifice perceptions do suggest that downplaying anger and at the same time increasing happiness may be positively perceived. Future research could study this possibility.

With regard to the practical implications of the current research, our findings suggest that, when experiencing anger in the negotiation, genuinely communicating that you are angry may be more beneficial for gaining earnings in the negotiation than communicating that you are happy. For outcomes outside of the negotiation, implications are less clear-cut. Even though angry negotiators may signal having made a sacrifice by communicating happiness, this may not necessarily lead them to receive higher outcomes outside of the negotiation (e.g., an extra bonus) than when they would genuinely communicate their anger. When experiencing happiness, however, negotiators who genuinely communicate being happy may obtain higher non-negotiated outcomes (e.g., an extra bonus), but lower negotiated outcomes (e.g., salary raises) than when they would communicate being angry. Negotiators should thus first

consider which outcomes they find most important, and then choose an appropriate and effective emotion to communicate.

## 8 Limitations and Future Directions

The current studies also have some limitations. First, it is important to note that the current research employed experimental scenario paradigms, in which the opponent's experienced and communicated emotions were explicitly presented to participants. This setup allowed us to investigate perceptions of genuine and deceptive communications of emotions. Literature demonstrated that scenarios are well-suited to study perceptions and determinants of unethical behavior (e.g., deception or cheating; Honeycutt et al. 2001; Jones and Kavanagh 1996; Schuhmann et al. 2013), and how emotion communication influences negotiation behavior (Lelieveld et al. 2011; Van Kleef et al. 2004a). We realize, however, that in real life negotiators are rarely completely certain about their opponents' true emotions. Often, however, negotiators may suspect that their opponents communicate a different emotion than what they feel. Future research may benefit from studying and assessing perceptions and behavior in settings where negotiators may suspect rather than know their opponent's emotions to see how our findings generalize.

Second, the effects on sacrifice were found when participants were the supervisor and the opponents were the employee, but not when these roles were switched. As discussed, this difference might reflect that people feel that supervisors are unlikely to engage in sacrificial behaviors since their high-power position may make them more self-oriented compared to the low-power employees (Righetti et al. 2015). While power may possibly moderate the effects of the emotion communications on perceived sacrifice and on the outcomes in- and outside of the negotiation, it was beyond the scope of the current studies to examine whether this is the case. We focused on how emotion deceptions would influence negotiators' perceptions and responses. Future studies can investigate whether the power of negotiators may influence perceptions of sacrifice by manipulating the relative power position of both negotiation parties (see for example Lelieveld et al. 2012). Our findings suggest that negotiators may perceive that opponents who communicate happiness while actually experiencing anger make more of a sacrifice when their opponents have high power than when their opponents have low power. More generally, future research could dive deeper into the role of (perceived) sacrifice in the interpersonal effects of emotion deception in negotiations, and examine the effects of sacrifice on different types of negotiation behavior using different operationalizations of sacrifice.

Third, we focused on how negotiators perceived emotion communications in terms of limits and sacrifice. The findings suggest that communicating being happy while actually experiencing anger is perceived as a signal of making a sacrifice. It would also be interesting to see whether negotiators interpret this emotion communication as being strategic. Negotiators may infer that their opponent spontaneously and non-strategically communicated the positive emotion happiness, even though they actually feel angry. It could, however, also be that they infer that their opponent strategically communicated happiness to build a good relationship between parties,



and eventually receive a higher outcome during or outside of the negotiation. Future research could measure whether or not negotiators perceive the emotion communication to be strategic, to examine whether this would influence the perceptions and responses of negotiators.

Fourth, the current research focused on emotion type deceptions – experiencing one type of emotion but communicating another – in the context of negotiation. One might wonder how widespread such mismatches are in real life. For now, we envisage that it may not be that uncommon. In many workplace settings, employees may find themselves hesitant to openly express even the slightest dissatisfaction or anger, despite experiencing significant internal frustration (Lebel 2016). This phenomenon often stems from a desire to please their leaders, maintain harmonious relationships, or avoid potential breakdowns in negotiation processes (Kish-Gephart et al. 2009; Milliken et al. 2003). Consequently, individuals may resort to masking their true emotions by outwardly displaying satisfaction and happiness, even when their true experiences suggest otherwise. Future studies can more directly compare the effects of emotion type and intensity deceptions by comparing employees' usage of as well as supervisors' perceptions of and reactions to both types of deceptions.

Finally, in our studies the participants' initial offers and demands were fixed. By setting the initial salary raise at 5.5%, we prevented variance in the initial demands. But, of course, this experimental control did prevent participants' freedom of developing their own offers, which could have reduced their sense of ownership over the negotiation outcomes. Future studies can ask participants to propose their own salary raise to the opponent, which may enhance the ecological validity of participants' reactions to the opponent.

## 9 Conclusion

To conclude, the current research investigated how negotiators perceive and respond to opponents' emotion deceptions and genuine communications of anger and happiness. The current findings not only accord with, but also extend social functional analyses of emotions, by showing that the use of emotion deception may not always have detrimental effects in negotiations, and can have beneficial effects for negotiators, depending on the type of emotion deception and the type of outcome. By providing a broader and more differentiated view of how emotion deception can affect negotiators, this work may contribute to a better understanding of how different types of emotion communications (i.e., deceptive as well as genuine emotion communications) affect other people.

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**Data Availability** The data described in this article are openly available in the Open Science Framework (<https://osf.io/upbcf/>).

## Declarations

**Conflict of Interest** No potential conflict of interest was reported by the authors.

**Ethics Statement** This research involves human participants. This research adheres to the ethical guidelines specified in the APA Code of Conduct as well as the Netherlands Code of Conduct for Research Integrity, and was reviewed and approved by the Psychology Research Ethics Committee of Leiden University.

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