



# Interpersonal instrumental emotion regulation



Liat Netzer<sup>a,\*</sup>, Gerben A. Van Kleef<sup>b</sup>, Maya Tamir<sup>a</sup>

<sup>a</sup> The Hebrew University of Jerusalem, Israel

<sup>b</sup> University of Amsterdam, Netherlands

## HIGHLIGHTS

- People regulate the emotions of others to achieve personal instrumental benefits.
- People can make both friends and foes feel bad, if they expect to benefit from it.
- Interpersonal regulation may depend on the perceived utility of others' emotions.

## ARTICLE INFO

### Article history:

Received 2 April 2014

Revised 23 January 2015

Available online 31 January 2015

### Keywords:

Emotion regulation  
Interpersonal regulation  
Motivation

## ABSTRACT

What motivates people to regulate the emotions of others? Prior research has shown that people are motivated to regulate the emotions of others to make others feel better. This investigation, however, was designed to test whether people are also motivated to regulate the emotions of others to promote personal instrumental benefits. We tested whether participants would be motivated to increase unpleasant (Studies 1–3) or pleasant (Study 3) emotions in others, when they expected to benefit from doing so. We found that participants tried to increase an emotion in others when it was expected to lead to desirable outcomes, but decrease an emotion in others when it was expected to lead to undesirable outcomes. These instrumental motives were found even when they led participants to make their partners feel worse and their rivals feel better. Furthermore, the more participants expected others' emotions to result in behaviors that would personally benefit (or harm) participants themselves, the more they were motivated to increase (or decrease) the corresponding emotion in others. These findings demonstrate the operation of instrumental motives in regulating the emotions of others, whether friends or foes.

© 2015 Elsevier Inc. All rights reserved.

## Introduction

We sometimes need the help of others to achieve our goals. We rely on our friends to confront those who try to take advantage of us, and we rely on our co-workers to help us meet important deadlines at work. In such cases, the attainment of our goals depends on the performance of others, which may be influenced by their emotional state. Our friends might be more effective in standing up to others when they are angry, and our colleagues might work harder when they are worried. From an instrumental perspective, we should be motivated to optimize the performance of others, if we stand to gain from it, even when that entails influencing their emotional experience (e.g., get them worked up or worried). Such cases in which we try to influence the emotions of others to attain personal benefits are the focus of the current investigation.

## Interpersonal emotion regulation

Humans are inherently motivated to connect with others (e.g., Baumeister & Leary, 1995). In this context, emotions often serve as antecedents and consequences of social interactions (e.g., Averill, 1983; Keltner & Haidt, 1999; Niedenthal & Brauer, 2012; Parkinson, Fischer, & Manstead, 2005). In part because one's emotional experiences influence social interactions, people sometimes try to regulate their emotions. The process by which individuals attempt to regulate or control their own emotional experiences is called intrapersonal emotion regulation (Gross & Thompson, 2007). Other times, people may try to regulate and control the emotions of others. The process by which individuals attempt to regulate or control the emotional experiences of other people is called interpersonal emotion regulation (Campos, Campos, & Barrett, 1989; Gross & Thompson, 2007).

People often regulate the emotions of others and have their emotions regulated by others (Butler, 2011; Butler & Randall, 2013). Such attempts to regulate the emotions of others occur both consciously (e.g., Niven, Totterdell, & Holman, 2009) and unconsciously (e.g., Parkinson, 2011), and appear to influence the well-being of the

\* Corresponding author. at: Department of Psychology, The Hebrew University, Mount Scopus, Jerusalem 91905, Israel.  
E-mail address: [liat.netzer@mail.huji.ac.il](mailto:liat.netzer@mail.huji.ac.il) (L. Netzer).

regulated person (e.g., [Diamond & Aspinwall, 2003](#)), the regulating person (e.g., [Niven, Totterdell, Holman, & Headley, 2012](#)), and the relationship between them (e.g., [Lakey & Orehek, 2011](#)).

Despite a growing interest in interpersonal emotion regulation, relatively little attention has been devoted to understanding what people want to achieve when they regulate the emotions of others. Goals in emotion regulation are critical because they set the direction of the regulatory process ([Mauss & Tamir, 2014](#)). Understanding what motivates interpersonal emotion regulation, therefore, is important from both theoretical and applied perspectives.

### *Hedonic interpersonal emotion regulation*

Most of the available evidence for interpersonal emotion regulation involves cases in which people try to increase pleasant emotions (e.g., [Gable & Reis, 2010](#)) or decrease unpleasant emotions (e.g., [Rimé, 2007](#)) in the other. According to [Zaki and Williams \(2013\)](#), decreasing unpleasant emotions or increasing pleasant emotions in others makes people (i.e., the regulators) feel better. One possibility, therefore, is that people regulate the feelings of others, in part, to achieve hedonic benefits.

The manner in which others' pleasure or pain influences our own emotional experiences, however, varies as a function of our relationship with them. People tend to identify with their partners or members of their ingroup and favor them over rivals or members of the outgroup (e.g., [Brewer, 1979](#); [Tajfel, Billig, Bundy, & Flament, 1971](#)). As a result, people typically want their friends and allies to feel good (e.g., [Brewer & Kramer, 1985](#); [Halevy, Bornstein, & Sagiv, 2008](#)), and rejoice in their good fortune (e.g., [Cialdini et al., 1976](#); [Sloan, 1989](#)). In contrast, people tend to dislike rivals or members of the outgroup ([Bar-Tal, Halperin, & de-Rivera, 2007](#); [Plant & Devine, 2003](#)). As a result, people typically want their foes and rivals to feel bad (e.g., [Bornstein & Ben-Yossef, 1994](#); [Brewer & Kramer, 1985](#)), and rejoice at their misfortune (e.g., [Cikara, Bruneau, & Saxe, 2011](#); [Smith, Powell, Combs, & Schurtz, 2009](#)). Hence, to the extent that interpersonal emotion regulation is hedonically driven, people may be motivated to decrease unpleasant emotions or increase pleasant emotions among partners, and to decrease pleasant emotions or increase unpleasant emotions among rivals.

### *Instrumental interpersonal emotion regulation*

Regardless of their hedonic impact, emotions can promote goal attainment (e.g., [Oatley & Jenkins, 1992](#); [Parrott, 2001](#)). For example, anger can promote aggressive and confrontational behaviors (e.g., [Van Kleef, De Dreu, & Manstead, 2004](#)). Because emotions can influence behavior in a manner that promotes goal attainment, people are sometimes motivated to regulate their own emotions for instrumental reasons. People are even willing to experience unpleasant emotions to attain instrumental benefits. For instance, people who were about to perform a confrontational task chose to increase their level of anger in preparation for the task ([Tamir, Mitchell, & Gross, 2008](#)). Increasing anger indeed resulted in better performance in the confrontational task. The motivation to increase anger, in turn, was linked to the belief that anger is useful for the task at hand ([Tamir & Bigman, 2014](#); [Tamir & Ford, 2012b](#)).

If people are motivated to regulate their own emotions for instrumental reasons, they might also be motivated to regulate the emotions of others for instrumental reasons, regardless of the hedonic benefit or cost this may carry for the other person. We propose that people can be motivated to increase unpleasant emotions in others to attain personal instrumental benefits. Such instrumental motives might override hedonic ones, such that people may even be motivated to increase unpleasant emotions in their partners and decrease such emotions in their rivals when doing so is instrumental for them.

### *The current investigation*

We hypothesized that if people expect certain emotions in others to be beneficial for them personally, they would want to increase these emotions in others, even when these emotions are unpleasant. To test our hypotheses, we examined how people regulated the emotions of others when they were likely to benefit or lose from an emotional other. In three studies, participants were told they would be paired with another person who would play an aggressive computer game (or a dancing game in Study 3). Across studies, participants could benefit (or lose) from the confrontational behavior of their presumed counterpart. Therefore, since anger can promote confrontational behavior, the others' anger should be beneficial (or harmful) for participants. We measured what participants wanted the other person to feel while playing the game, as well as how they tried to regulate the emotions of the other by selecting emotion-inducing stimuli for the other.

In all studies, we informed participants of the potential gain or loss resulting from the other persons' behavior. In Studies 1 and 3, we also introduced others in relational terms, such that others in the gain condition were considered 'partners' and others in the loss condition were considered 'rivals'. To test the generalizability of our account, in Study 3, we included additional conditions in which participants could either gain or lose from the others' outgoing behavior, which may be promoted by happiness.

We predicted that participants who expected to gain from a specific emotion in the other would want to increase that emotion in the other and prefer to expose the other to stimuli that induce that emotion. In contrast, we predicted that participants who expected to lose from a specific emotion in the other would want to decrease that emotion in the other and prefer to expose the other to less stimuli that induce that emotion and to more neutral stimuli. We expected such interpersonal preferences to be a function of the expected instrumentality of the emotion, rather than a tendency to act in accordance with concurrent feelings, or a desire to share concurrent feelings with the other.

### **Study 1**

Social interactions critically depend on the nature of the social relationship. People tend to feel closer to partners than to rivals and want what is best for their partners. Previous research demonstrated that merely labeling others as 'partners' or 'rivals' brings people to act more favorably towards the former than the latter ([Burnham, McCabe, & Smith, 2000](#)). Much in the same way, we expected people to generally want partners, but not rivals, to feel good. Therefore, in Study 1 we tested whether instrumental motives could drive interpersonal emotion regulation even when the other is considered a partner or a rival. Specifically, we tested whether people would be motivated to increase anger in a partner (but not in a rival) when they could benefit from doing so.

Participants were told that the experiment involves another person who would play a computer game in which successful performance is indicated by the number of enemies killed, and that participants themselves would be eligible for a monetary prize depending on the other's performance. Participants in the partnership condition were told that they would be paired with a partner and that if their partner performs well, their chances of winning a monetary prize would increase. Participants in the rivalry condition were told that they would be paired with a rival and that if their rival performs well, their chances of winning a monetary prize will decrease. If anger is expected to promote aggression, then anger in the other could be beneficial for participants in the partnership condition, but detrimental for participants in the rivalry condition. Therefore, to the extent that people want to benefit from the emotions of others, they might be willing to make partners feel worse (by increasing their level of anger) and rivals feel better.

We tested the extent to which participants wanted to increase anger in the other, by testing how much they wanted to expose the other to either anger-inducing or neutral stimuli before playing the game. To

test whether this preference for anger was mediated by the expected impact of the other's anger on performance, participants also reported how beneficial they thought anger would be for the performance of the other. Finally, to confirm that participants understood that they would make others feel bad, we asked them to rate the amount of pleasure they expected each stimulus to elicit in the other, and which emotion they expected the other to feel when exposed to these stimuli. We predicted that participants in the partnership (vs. rivalry) condition would try to increase anger in their partner before the game, by choosing more anger-inducing stimuli for the other. Furthermore, we expected the perceived utility of anger to moderate the effect of condition on emotional preferences for the other.

## Method

### Participants

Participants were 64 female undergraduate students ( $M_{\text{age}} = 23.57$ ), who completed the study for course credit or approximately \$7.

### Procedure

The study was presented as examining performance in complex tasks, such as computer games. Participants were told that following the experimental session, another participant would play an aggressive computer game (i.e., *Soldier of Fortune*; Tamir et al., 2008). The game is a first person shooter game, in which the goal is to find and kill as many enemies as possible. Participants rated their current emotional experiences and then played the computer game for 5 min to better familiarize themselves with the game. They were randomly assigned to one of the two conditions. Participants in the partnership condition were told that they would be more likely to win a monetary prize the more enemies their partner would kill in the game. Participants in the rivalry condition were told that they would be less likely to win a monetary prize the more enemies their rival would kill in the game. At this point, participants were told that we are interested in the influence of different forms of media on game performance and that we intend to have the other participant listen to music or read game descriptions before playing the game. They were then asked to help us select musical clips and game descriptions for the other. Participants rated the extent to which they wanted the other participant to listen to various music clips and the extent to which they wanted the other participant to read the game descriptions before playing the game. Participants indicated their explicit emotional preferences for the other, and rated the perceived utility of anger. Finally, participants rated how angry and how pleasant they expected the other participant to feel upon listening to the music clips or reading the game descriptions (1 = *very little*, 9 = *a lot*).

### Materials

**Current emotional experiences.** Participants rated the extent to which they currently felt *angry* and *calm* (0 = not at all, 6 = a lot).

**Preferences for emotion-inducing stimuli for the other.** Participants were asked to rate the extent to which they wanted to expose the other participant to two types of emotion inducing stimuli – namely, music clips and computer game descriptions, before the other plays the aggressive computer game. Each type of stimuli included an anger-inducing and a neutral exemplar. We included two distinct types of emotion-inducing stimuli to test whether preferences are driven by the emotional tone of the stimuli (e.g., preferences for stimuli that induce anger), rather than the stimulus type (e.g., preferences for angry game descriptions) (see Tamir, Chiu, & Gross, 2007; Tamir & Ford, 2012a; Tamir, Ford, & Ryan, 2013).

**Music clips.** Participants listened to two anger-inducing (*Refuse/Resist* by Apocalyptica and *The Decaying Process* by Michael Andrew) and two neutral (*Treefingers* by Radiohead and *First Thing* by Four Tet)

musical clips, and rated the extent to which they wanted the other participant to listen to each clip before playing the game (1 = *very little*, 7 = *a lot*). All clips were 1 minute long.<sup>1</sup>

**Computer game descriptions.** Participants were presented with two short game descriptions designed to elicit either anger or a neutral state. The anger-inducing description described the main character fighting enemies after they had destroyed her village. The neutral description described the main character monitoring her surroundings on the battlefield.<sup>2</sup> Participants rated the extent to which they wanted the other participant to read each description before playing the game (1 = *very little*, 7 = *a lot*).

**Explicit emotional preferences.** Participants rated how much they wanted the other participant to experience *anger* while playing the game (1 = *not at all*, 7 = *a lot*).

**Perceived utility of anger.** Participants rated the extent to which they expected *anger* and *irritation* in the other ( $\alpha = .91$ ) to lead her to kill more enemies in the game (0 = *not at all*, 6 = *a lot*). Participants also rated various filler items (e.g., *boredom*).

## Results

### Explicit emotional preferences for the other

To test whether the manipulation influenced explicit preferences for anger in the other, we ran an independent sample *t*-test. As expected, we found that participants in the partnership condition wanted the other participant to experience significantly more anger ( $M = 3.75$ ) than those in the rivalry condition ( $M = 2.62$ ),  $t(62) = 2.08$ ,  $p = .041$ . These effects did not change when we controlled for concurrent anger or calmness.

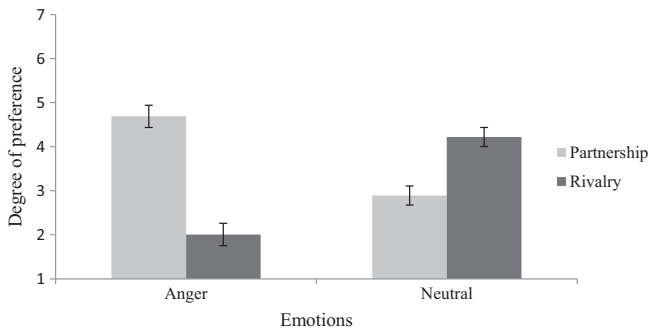
### Preferences for emotion-inducing stimuli for the other

Preliminary analyses confirmed that participants expected the emotional stimuli to induce the target emotions in the other. Furthermore, participants expected the anger-inducing stimuli to be less pleasant for the other to experience than the neutral stimuli ( $M_s = 4.02$  and  $5.60$ , respectively),  $F(1, 62) = 47.90$ ,  $p < .001$ ,  $\eta_p^2 = .44$  (see “1. Study 1 – Preliminary Analyses” in the Supplementary Materials).

We hypothesized that participants in the partnership, but not the rivalry, condition would try to increase anger in the other, by wanting to expose the other to more anger-inducing than neutral stimuli. To test this hypothesis, we conducted a repeated-measures ANOVA with condition (partnership vs. rivalry) as a between-subjects variable, and emotion (anger-inducing vs. neutral) and stimulus type (music vs. game descriptions) as within-subject variables. Supporting our prediction, we found a significant Emotion  $\times$  Condition interaction,  $F(1, 62) = 61.21$ ,  $p < .001$ ,  $\eta_p^2 = .50$ . As shown in Fig. 1, participants in the partnership condition wanted to induce anger in the other participant more than participants in the rivalry condition,  $F(1, 62) = 55.46$ ,  $p < .001$ ,  $\eta_p^2 = .47$ . In contrast, participants in the rivalry condition wanted to induce a neutral state in the other more than participants in the partnership condition,  $F(1, 62) = 18.98$ ,  $p < .001$ ,  $\eta_p^2 = .23$ . Pairwise comparisons confirmed that participants in the partnership condition wanted to induce anger more than a neutral state in the other,  $d = 1.80$ ,  $SE = .36$ ,  $p < .001$ , whereas those in the rivalry condition tried to induce a neutral state more than anger in the other,  $d = 2.21$ ,  $SE = .36$ ,  $p < .001$ .

<sup>1</sup> In a pilot test ( $N = 16$ ), we found that the anger-inducing clips induced significantly more anger than the neutral clips ( $M_s = 4.15$  and  $1.31$ , respectively),  $t(15) = 5.97$ ,  $p < .001$ .

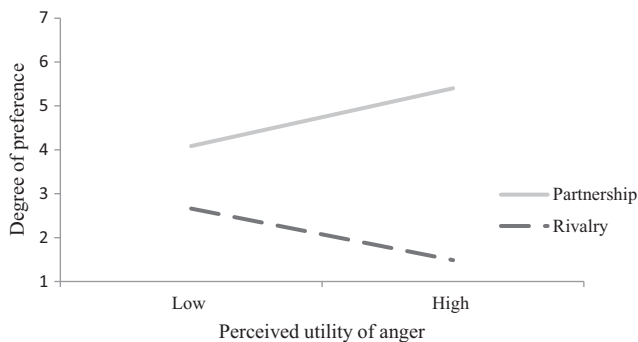
<sup>2</sup> A pilot study ( $N = 34$ ) confirmed that the anger-inducing description was expected to induce more anger than the neutral game descriptions ( $M_s = 4.94$  and  $2.53$ , respectively),  $t(33) = 6.51$ ,  $p < .001$ .



**Fig. 1.** Preferences for emotion-inducing stimuli for the other as a function of condition (partnership vs. rivalry). Error bars represent  $\pm 1$  standard error of the mean (Study 1).

This interaction qualified a main effect for condition,  $F(1, 62) = 10.01$ ,  $p = .002$ ,  $\eta_p^2 = .14$ , and a significant Stimulus Type  $\times$  Condition interaction,  $F(1, 62) = 35.21$ ,  $p < .001$ ,  $\eta_p^2 = .36$ . The Emotion  $\times$  Stimulus Type interaction approached significance,  $F(1, 62) = 11.6$ ,  $p = .052$ . These effects did not change when we controlled for the concurrent experience of anger and calmness (for descriptions of additional findings, less relevant to our hypotheses, see “2. Study 1 – Additional Analyses Regarding Preferences for Emotion-Inducing Stimuli” in the Supplementary Materials).

*Perceived utility of anger as a moderator.* To test whether preferences for anger-inducing stimuli for the other were contingent upon the perceived utility of anger, we first ran an independent sample  $t$ -test to confirm that participants in the two conditions did not differ in the extent to which they expected anger to promote performance in the game,  $t(62) < 1$ . Then, we ran a regression analysis predicting preferences for anger-inducing stimuli (averaged across the two stimulus types) for the other, from condition ( $-1$  = rivalry condition,  $1$  = partnership condition), centered perceived utility of anger, and their interaction. We found a main effect for condition,  $\beta = .66$ ,  $p < .001$ , such that participants in the partnership condition tried to increase anger in the other more than participants in the rivalry condition. As expected, this effect was qualified by a significant Condition  $\times$  Anger utility interaction,  $\beta = .31$ ,  $p = .001$ . As shown in Fig. 2, participants in the partnership condition wanted to expose the other to more anger-inducing stimuli, the more they expected anger to promote performance in the game,  $r(32) = .42$ ,  $p = .018$ . The opposite pattern emerged for participants in the rivalry condition,  $r(32) = -.45$ ,  $p = .009$ . No other effect was significant,  $t < 1$ . These patterns were replicated when predicting explicit preferences for anger (see “3. Study 1 – Moderation of Explicit Anger Preferences” in the Supplementary Materials). The relation between condition and emotional preferences for the other did not depend on



**Fig. 2.** Preferences for anger-inducing stimuli for the other, as a function of condition (partnership vs. rivalry) and the belief that anger can increase aggressive performance ( $\pm 1$  SD from the mean; Study 1).

the degree of pleasure participants expected others to derive from the anger-inducing stimuli,  $t_s < 1.02$ .

## Discussion

Consistent with our proposed instrumental account, the findings of Study 1 demonstrate that people try to regulate the emotions of others in order to maximize their own instrumental benefit. Compared to participants who could lose from having an angry counterpart, participants who could gain from having an angry counterpart reported that they wanted the other to feel angrier and wanted to expose the other to more anger-inducing stimuli. These patterns were found even though such preferences involve increasing anger in a partner, and decreasing anger in a rival. Furthermore, these patterns were found despite the fact that all participants expected the anger-inducing stimuli to be less pleasant than alternative neutral stimuli, suggesting that hedonic considerations are unlikely to underlie such preferences. Such effects were independent of the participant's own level of anger. This helps to rule out alternative explanations, such as emotion-consistent choices or the desire to match one's feelings to that of the other (e.g., [Erber, Wegner, & Theriault, 1996](#)).

Importantly, the findings of Study 1 demonstrate that the degree to which participants tried to induce anger in their counterparts depended on what they expected to gain from it. Participants who wanted their partner to kill more enemies in the game wanted to increase anger in their partner the more they expected anger to increase the number of kills. In contrast, participants who wanted their partner to kill less enemies wanted to decrease anger in their partner the more they expected anger to increase the number of kills. This pattern provides direct support for the proposed instrumental account.

## Study 2

Study 2 was designed to replicate and extend the findings in Study 1 in several ways. First, in Study 1 we found that people tried to induce anger in others in a confrontational situation, to attain personal benefits. However, it is plausible that these patterns reflect differences in preferences for levels of arousal or valence, rather than anger, per se. We tested this possibility in Study 2, by assessing preferences for anger as well as fear in the other. Although anger and fear are equivalent in valence and arousal, their behavioral implications are distinct ([Frijda, 1986](#)), thus anger is expected to be more beneficial than fear in confrontational situations.

Second, in Study 1, we informed people of the instrumentality of the other's aggressive behavior, while also labeling the other as a partner or a rival. To ensure that the instrumentality of the other's aggressive behavior was driving our effects, in Study 2, we informed people of the instrumentality of the other's aggressive behavior (i.e. being able to either gain or lose from the other's behavior), without labeling the other as either a partner or a rival. Accordingly, in Study 2 the conditions were labeled as either a gain or a loss condition. Third, in Study 1, we assessed preferences for the other, but not for the self. It is possible that preferences for the other simply reflect preferences for the self. We tested this possibility in Study 2, by asking participants to report on their emotional preferences for the other as well as for themselves. Finally, to establish the generalizability of our findings, in Study 2, we used different indices of emotional preferences. Specifically, participants rated preferences for game descriptions and bogus emotion-inducing newspaper articles. We predicted that participants in the gain (vs. loss) condition would actively try to increase anger (but not fear) in the other, by choosing more anger-inducing stimuli for the other. Furthermore, as in Study 1, we predicted that the perceived utility of anger or fear would moderate the effects of condition on emotional preferences for the other.



## Method

### Participants

Participants were 59 female undergraduate students ( $M_{\text{age}} = 22.88$ ), who completed the study for course credit.

### Procedure

The study was presented as examining performance in complex tasks, such as computer games. Participants were told that following the experimental session, another participant will play an aggressive computer game, and that they would be rewarded based on the other participant's performance in that game. In the gain condition, participants were told that they would earn money for each enemy the other participant kills in the game. In the loss condition, participants were told that they would lose money for each enemy the other participant kills in the game. Participants then played the computer game for 3.5 min to familiarize themselves with the game, and rated their current emotional experiences. Participants indicated their preferences for newspaper headlines and game descriptions to expose the other participant to, indicated their emotional preferences for the other participant and for themselves, and rated the perceived utility of these emotions. Finally, participants rated how angry and fearful they expected the other participant to feel upon reading each newspaper article and each game description (1 = *very little*, 9 = *a lot*).

### Materials

**Current emotional experiences.** Participants rated the extent to which they currently felt *angry*, *calm* and *afraid* (0 = *not at all*, 6 = *a lot*).

### Preferences for emotion-inducing stimuli for the other

**Computer game descriptions.** Participants read three short game descriptions designed to elicit either anger, fear or a neutral state. The anger-inducing and neutral descriptions were the same as in Study 1. The fear-inducing description described the main character surrounded by dangerous enemies who want to kill her.<sup>3</sup> Participants rated the extent to which they wanted the other participant to read each description before playing the game (1 = *very little*, 7 = *a lot*).

**Newspaper headlines.** Participants were presented with three short headlines of presumably recent newspaper articles. Each headline was designed to elicit either anger (i.e., depicting a sector of the population that refuses to fulfill civic duties despite being funded by the government), fear (i.e., predicting an upcoming plague) or a neutral state (i.e., describing new laws supporting local film productions).<sup>4</sup> Participants were asked to rate the extent to which they wanted the other participant to read the respective article before playing the computer game (1 = *very little*, 7 = *a lot*).

**Explicit emotional preferences for the other and the self.** Participants rated how much they wanted the other participant and themselves to feel *angry and irritated* ( $\alpha = .91$  and  $.83$  for others and self, respectively), as well as *fearful and anxious* ( $\alpha = .81$  and  $.49$  for others and self, respectively; 1 = *not at all*, 7 = *a lot*).

**Perceived utility of emotions.** Participants rated the extent to which they expected specific emotional experiences in the other to increase the

number of kills in the game (0 = *not at all*, 6 = *a lot*). Feelings included *angry and irritated* ( $\alpha = .89$ ) as well as *fearful and anxious* ( $\alpha = .89$ ).

### Results

#### Explicit emotional preferences for the other and for the self

We predicted that the manipulation would influence emotional preferences for the other, but not necessarily for the self. To test this, we ran a repeated-measures ANOVA, with condition (gain vs. loss) as a between-subjects variable, and emotion (anger vs. fear) and target (self vs. other) as within-subject variables. As expected, we found a significant Condition  $\times$  Emotion  $\times$  Target interaction,  $F(1, 57) = 30.01$ ,  $p < .001$ ,  $\eta_p^2 = .35$ . As shown in Fig. 3, participants in the gain condition wanted the other participant to feel more anger,  $F(1, 57) = 14.27$ ,  $p < .001$ ,  $\eta_p^2 = .20$ , and less fear,  $F(1, 57) = 5.00$ ,  $p = .029$ ,  $\eta_p^2 = .08$ , compared to participants in the loss condition. Conditions did not differ in emotional preferences for the self,  $F_s < 1$ .

This interaction qualified a main effect for target,  $F(1, 57) = 78.46$ ,  $p < .001$ ,  $\eta_p^2 = .58$  such that participants wanted more intense emotional experiences for others than for themselves ( $M_s = 3.25$  and  $1.39$ , respectively). The interaction also qualified a significant Emotion  $\times$  Condition interaction,  $F(1, 57) = 36.34$ ,  $p < .001$ ,  $\eta_p^2 = .39$ , such that participants in the gain condition had stronger preferences for anger than participants in the loss condition ( $M_s = 2.83$  and  $1.88$ , respectively),  $F(1, 57) = 9.26$ ,  $p = .004$ ,  $\eta_p^2 = .14$ . The effects persisted when controlling for concurrent anger, fear, and calmness.

#### Preferences for emotion-inducing stimuli for the other

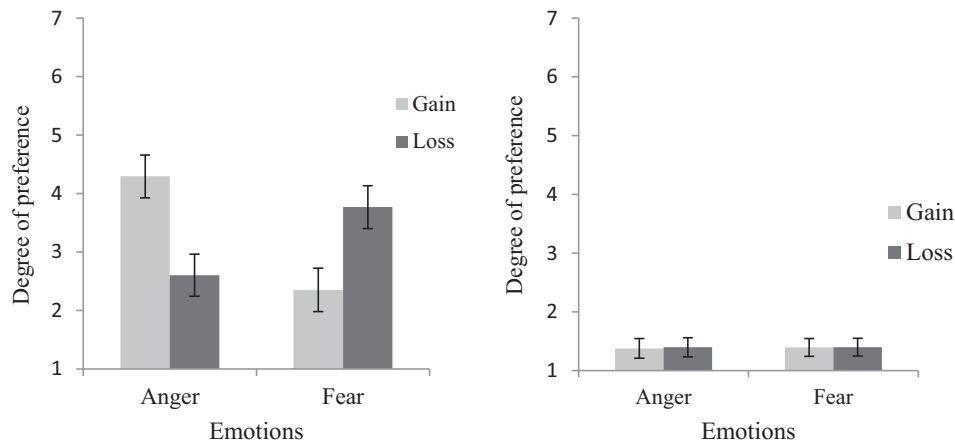
Preliminary analyses confirmed that participants expected the emotional stimuli to induce the target emotions in the other (see "4. Study 2 – Preliminary Analyses" in the Supplementary Materials). We predicted that participants would differ in the extent to which they would want the other to be exposed to various emotion-inducing stimuli before the game. To test this, we ran a repeated-measures ANOVA with condition (gain vs. loss) as a between-subjects variable, and emotion (anger-inducing, neutral and fear-inducing) and stimulus type (headlines and game descriptions) as within-subject variables. As expected, we found a significant Emotion  $\times$  Condition interaction,  $F(2, 114) = 46.29$ ,  $p < .001$ ,  $\eta_p^2 = .45$ . As shown in Fig. 4, compared to participants in the loss condition, participants in the gain condition wanted to expose the other participant to more anger-inducing,  $F(1, 57) = 62.71$ ,  $p < .001$ ,  $\eta_p^2 = .52$ , less fear-inducing,  $F(1, 57) = 4.32$ ,  $p = .042$ ,  $\eta_p^2 = .07$ , and less neutral stimuli,  $F(1, 57) = 23.60$ ,  $p < .001$ ,  $\eta_p^2 = .29$ . Pairwise comparisons showed that participants in the gain condition wanted to induce more anger than fear,  $d = 2.74$ ,  $SE = .39$ ,  $p < .001$ , or a neutral state,  $d = 3.17$ ,  $SE = .38$ ,  $p < .001$ , in the other. In contrast, participants in the loss condition wanted to induce more fear than anger,  $d = 1.22$ ,  $SE = .39$ ,  $p = .003$ , and more of a neutral state than anger,  $d = 1.58$ ,  $SE = .38$ ,  $p < .001$ , in the other. Preferences for fear-inducing stimuli did not differ significantly from preferences for neutral stimuli in both conditions,  $d_s < .43$ .

This interaction qualified a main effect for emotion,  $F(2, 114) = 5.77$ ,  $p = .004$ ,  $\eta_p^2 = .09$ , and a significant Stimulus Type  $\times$  Condition interaction,  $F(1, 57) = 7.95$ ,  $p = .007$ ,  $\eta_p^2 = .12$ . Finally, we found an Emotion  $\times$  Stimulus Type  $\times$  Condition interaction,  $F(2, 114) = 12.8$ ,  $p < .001$ ,  $\eta_p^2 = .183$ . This interaction indicates that our predicted effect was found in both stimulus types, but was more pronounced when selecting game descriptions. These effects remained significant when concurrent anger, fear and calmness were included as covariates in the model (for additional findings that are less relevant to our hypotheses, see "5. Study 2 – Additional Findings Regarding Preferences for Emotion-Inducing Stimuli" in the Supplementary Materials).

**Perceived utility of emotions as a moderator.** We tested whether participants' attempts to induce emotions in others were contingent upon the perceived utility of anger and fear. First, to confirm that across

<sup>3</sup> A pilot study ( $N = 34$ ) confirmed that the anger-inducing description was expected to induce more anger than the fear-inducing and neutral game descriptions ( $M_s = 4.91, 4.09$  and  $2.53$ , respectively),  $F(2, 66) = 22.84$ ,  $p > .001$ , whereas the fear-inducing description was expected to induce more fear than the anger-inducing or neutral game descriptions ( $M_s = 5.56, 3.74$  and  $4.12$ , respectively),  $F(2, 66) = 20.66$ ,  $p > .001$ .

<sup>4</sup> In a pilot study ( $N = 51$ ), the anger-inducing headline was expected to induce more anger than the fear-inducing and neutral headlines ( $M_s = 6.75, 2.67$  and  $2.84$ , respectively),  $F(2, 100) = 49.93$ ,  $p > .001$ , whereas the fear-inducing headline was expected to induce more fear than the anger-inducing or neutral headlines ( $M_s = 6.18, 2.65$  and  $1.98$ , respectively),  $F(2, 100) = 55.41$ ,  $p > .001$ .

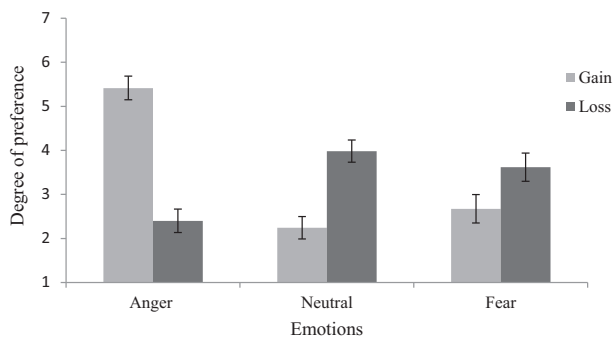


**Fig. 3.** Preferences for anger and fear in the other (left panel) and in the self (right panel), as a function of condition (gain vs. loss). Error bars represent  $\pm 1$  standard error of the mean (Study 2).

conditions anger was perceived as more useful than fear for killing enemies in the game, we conducted a repeated measures ANOVA with emotion utility (anger vs. fear) as a within-subject variable and condition (gain vs. loss) as a between-subjects variable. As expected, we found a main effect for emotion utility,  $F(1, 56) = 44.43, p < .001$ , such that participants expected anger to be more useful than fear ( $M_s = 4.16$  and  $2.42$ , respectively). No other effects were significant,  $F_s < 1.46$ .

Second, to test whether the perceived utility of an emotion moderated the effect of condition on participants' preferences for emotion-inducing stimuli for the other, we first averaged preferences for anger- and fear-inducing stimuli across stimulus types. We then ran a series of regressions, predicting preferences for anger- or fear-inducing stimuli for the other, with condition ( $-1 = \text{loss}$ ,  $1 = \text{gain}$ ), centered perceived utility of the target emotion, and their interaction as simultaneous predictors. In both regression analyses we found main effects for condition,  $\beta = .72, p < .001$  and  $\beta = -.26, p = .044$ , for anger and fear, respectively. More importantly, as predicted, the effects of condition on preferences for both anger-inducing and fear-inducing stimuli for the other depended on participants' beliefs about the potential utility of anger,  $\beta = .42, p < .001$ , and fear,  $\beta = .28, p = .034$ , respectively.

As shown in Fig. 5, participants in the gain condition wanted to expose the other to more anger-inducing stimuli, the more they believed anger would increase the number of kills in the game,  $r(29) = .60, p = .001$ . The opposite pattern emerged for participants in the loss condition,  $r(29) = -.62, p < .001$ . Similarly, participants in the gain condition wanted to expose the other to more fear-inducing stimuli, the more they believed that fear would increase the number of kills in the game,  $r(29) = .45, p = .015$ . Participants in the loss condition showed a non-significant trend in the opposite direction,  $r(29) = -.16, p = .410$ .

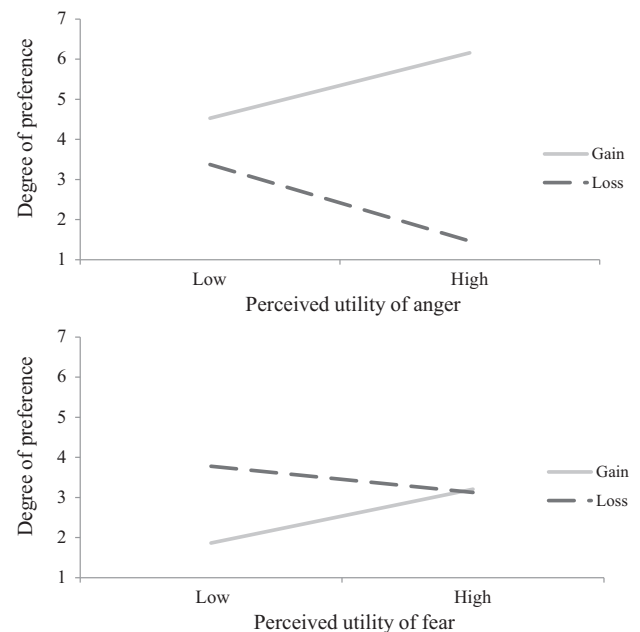


**Fig. 4.** Preferences for emotion-inducing stimuli for the other, as a function of condition (gain vs. loss). Error bars represent  $\pm 1$  standard error of the mean (Study 2).

These patterns were replicated when we tested whether beliefs about the utility of emotions moderated explicit emotional preferences for the other (see "6. Study 2 – Moderation of Explicit Emotional Preferences" in the Supplementary Materials).

### Discussion

Study 2 replicated the findings of Study 1 in demonstrating that people can be motivated to regulate the emotions of others to maximize their own instrumental benefit. As anger is generally considered more useful for aggressive behavior than fear, participants who expected to gain from an aggressive other wanted to induce more anger in the other, whereas participants who were about to lose from an aggressive other wanted to induce more fear or a neutral state in the other. Such preferences, in turn, depended on the belief that anger (or fear) was useful for performance. The more people expected an emotion in the other to benefit performance, the more they wanted to induce such emotion in the other, if they expected to gain from better performance



**Fig. 5.** Preferences for stimuli that induce anger (top panel) or fear (bottom panel) in the other, as a function of condition (gain vs. loss) and the belief that anger or fear can increase aggressive performance ( $\pm 1$  SD from the mean; Study 2).

of the other, and the less they wanted to induce such emotion in the other if they expected to lose from it. The fact that participants who were about to gain from an aggressive other wanted to increase anger in the other, but not fear (and vice versa in the loss condition), demonstrates that people do not necessarily want to influence how badly another feels. Instead, they want the other to feel an emotion that they believe would be personally useful to them. These effects did not depend on what the participants were feeling at the time, nor were they related to what participants wanted to feel themselves.

### Study 3

Studies 1–2 demonstrate that people take instrumental considerations into account when trying to regulate unpleasant emotions (i.e., anger or fear) in others. In Study 3, we tested whether instrumental considerations can also guide the regulation of pleasant emotions (e.g., happiness) in others. We expected that regardless of whether others are perceived as partners or rivals, people would be motivated to increase (or decrease) happiness in the other if they stand to gain (or lose) from doing so. To test this in Study 3, participants were led to expect to either gain or lose from the performance of another participant in a game that could benefit from either anger (i.e., a game that requires shooting) or happiness (i.e., a game that requires dancing). As in Study 1, participants who expected to gain from the others' anger (or happiness) were told that the other was their partner, whereas participants who expected to lose from the other's anger (or happiness) were told that the other was their rival.

Our studies test the possibility that people are motivated to regulate the emotions of others in ways that benefit them, even when that requires making a partner feel good or a rival feel bad. This hypothesis is based on the assumption that people generally feel closer to partners than to rivals. To confirm that our manipulation was effective in increasing perceived closeness to partners (vs. rivals), in Study 3 we assessed how close participants felt to the other participant. We expected participants to feel closer to the other participant when they consider the other as a partner (vs. a rival), but nonetheless try to increase their anger, when they can personally benefit from it.

Finally, to establish the generalizability of our findings, in Study 3 we included both male and female participants. We predicted that when the other was expected to play a shooting game, participants would try to make their partner angrier in the partnership (vs. rivalry) condition. However, when the other was expected to play a dancing game, participants would try to make their partner happier in the partnership (vs. rivalry) condition. As in Studies 1–2, we expected the perceived utility of each emotion to moderate the effects of condition on emotional preferences for the other.

### Method

#### Participants

Participants were 121 undergraduate students ( $M_{\text{age}} = 23.46$ ; 35.5% male), who completed the study for approximately \$8.

#### Procedure

After rating their current emotional experiences participants were assigned to either the partnership or the rivalry condition. In the partnership condition, participants were asked to consider the other as their partner and were explained that they had higher chances of winning a monetary prize if the other performed well in the game. In the rivalry condition, participants were told to consider the other as their rival and were explained that they had higher chances on winning a monetary prize if the other performed poorly in the game.<sup>5</sup> Participants were then randomly assigned to a game condition. In the shooting

game condition, participants were told that the other would play a game in which the goal is to shoot down enemies, and performance would be measured by the number of enemies killed. In the dancing game, participants were told that the other would play a game in which the goal is to imitate dance moves of figures on the screen and that performance would be measured by how closely the moves are imitated. Participants then rated the extent to which they wanted the other participant to listen to music clips and read newspaper articles before playing the game. Then they indicated their explicit emotional preferences for the other, and rated the perceived utility of emotions. They also rated how close they felt to the other participant. Finally, participants rated how angry, happy, fearful and pleasant they expected the other participant to feel upon listening to each music clip or reading each game description (1 = *very little*, 9 = *a lot*).

### Materials

*Current emotional experiences.* Participants rated the extent to which they currently felt *angry*, *fearful*, and *happy* (0 = not at all, 6 = a lot).

#### Preferences for emotion-inducing stimuli for the other

*Music clips.* Participants listened to the same anger-inducing music clips as in Study 1. They also listened to two fear-inducing (e.g., The Bone Dam by Julyan, D.), and two happiness-inducing (e.g. the opening theme from the movie *the triplets of Belleville* by Benoît Charest) music clips (see Tamir & Ford, 2009) and rated the extent to which they wanted the other to listen to each clip before playing the game (1 = *very little*, 7 = *a lot*).

*Newspaper headlines.* Participants were presented with headlines of newspaper articles that were designed to induce anger, fear or happiness (two headlines for each emotional state).<sup>6</sup> Participants rated the extent to which they wanted the other participant to read the full article depicted by these headlines before playing the computer game (1 = *very little*, 7 = *a lot*).

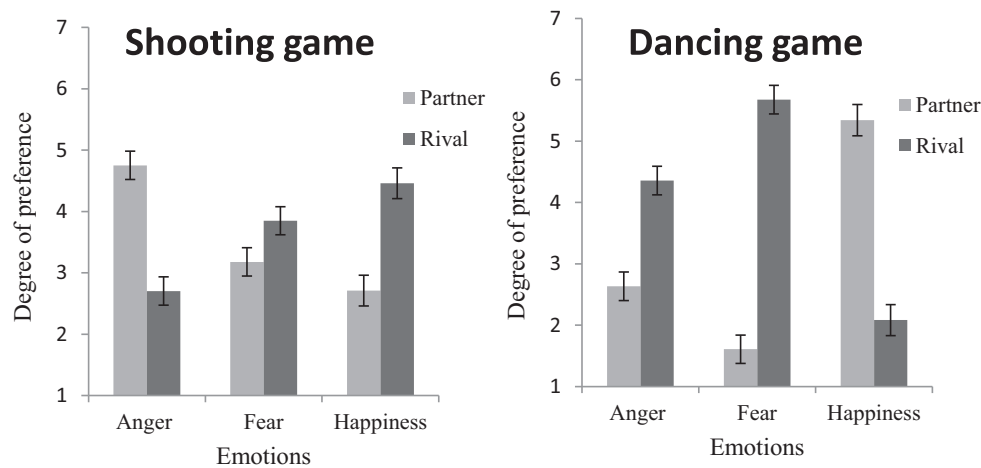
*Explicit emotional preferences for the other.* Participants rated how much they wanted the other participant to feel *angry and irritated* ( $\alpha = .94$ ), *fearful and anxious* ( $\alpha = .87$ ) and *happy and cheerful* ( $\alpha = .95$ ; 1 = not at all, 7 = a lot).

*Perceived utility of emotions.* Participants rated the extent to which they expected specific emotional experiences in the other to improve their game performance (1 = not at all, 7 = a lot). Emotions included *angry and irritated* ( $\alpha = .90$ ), *fearful and anxious* ( $\alpha = .76$ ) and *happy and cheerful* ( $\alpha = .91$ ).

*Perceived closeness to the other.* Participants completed a modified version of the Inclusion of Other in the Self Scale (ISO; Aron, Aron, & Smollan, 1992). The task included seven images of two circles, one representing the participant and the other representing the other participant. Each image represented a different level of closeness to the other, by modifying the distance between the circles (1 = very distant, 7 = almost completely overlapping). Participants picked the image that best described how close they felt to the other participant.

<sup>5</sup> In a pilot study ( $N = 20$ ), anger-inducing headlines were expected to induce more anger than the fear- and happiness-inducing headlines ( $M_s = 5.63, 2.90$  and  $1.03$ , respectively),  $F(2, 38) = 138.66, p > .001$ , the fear-inducing headlines were expected to induce more fear than the anger- or happiness-inducing headlines ( $M_s = 4.98, 2.45$  and  $1.08$ , respectively),  $F(2, 38) = 103.76, p > .001$ , and the happiness-inducing headlines were expected to induce more happiness than the anger- and fear-inducing headlines ( $M_s = 5.35, 1.08$  and  $1.08$ , respectively),  $F(2, 38) = 505.53, p > .001$ .

<sup>6</sup> Male participants were ostensibly paired with a male other, whereas female participants were ostensibly paired with a female other.



**Fig. 6.** Preferences for emotion-inducing stimuli for the other as a function of relationship condition (partnership vs. rivalry) and game condition (shooting vs. dancing). Error bars represent  $\pm 1$  standard error of the mean (Study 3).

## Results

### Manipulation check

To test whether participants actually felt close to the other when the other was presented as a partner (vs. rival), we ran a univariate ANOVA predicting perceived closeness from relationship condition (partnership vs. rivalry) and game condition (shooting vs. dancing) as independent variables. As expected, we found a significant main effect for relationship condition  $F(1, 117) = 29.92, p < .001, \eta_p^2 = .204$ , such that partners were perceived as closer than rivals in both game conditions ( $M_s = 4.05$  and  $2.49$ , respectively). No other effect was significant  $F_s < .24$ .

### Preferences for emotion-inducing stimuli for the other

Preliminary analyses confirmed that participants expected the emotional stimuli to induce the target emotions in the other. Furthermore, participants expected the happiness-inducing stimuli to be more pleasant for the other to experience than the anger- or fear-inducing stimuli ( $M_s = 7.75, 3.25$  and  $3.01$ , respectively)  $F(2, 234) = 1060.71, p < .001, \eta_p^2 = .90$  (see “7. Study 3 – Preliminary Analyses” in the Supplementary Materials).

To test our predictions, we ran a repeated-measures ANOVA with relationship condition (partnership vs. rivalry) and game condition (shooting vs. dancing) as between-subjects variables, and emotion (anger, fear, and happiness) and stimulus (music vs. headlines) as within-subject variables. Supporting our prediction, we found a significant Emotion  $\times$  Relationship Condition  $\times$  Game Condition interaction,  $F(2, 234) = 93.06, p < .001, \eta_p^2 = .44$ . As shown in Fig. 6, in the shooting game, compared to participants in the rivalry condition, participants in the partnership condition wanted to expose the other to stimuli that were more anger-inducing,  $F(1, 117) = 39.06, p < .001, \eta_p^2 = .25$ , less fear-inducing,  $F(1, 117) = 4.25, p = .042, \eta_p^2 = .04$ , and less happiness-inducing,  $F(1, 117) = 24.09, p < .001, \eta_p^2 = .17$ . In the dancing game, compared to participants in the rivalry condition, participants in the partnership condition wanted to expose the other to stimuli that were more happiness-inducing,  $F(1, 117) = 82.04, p < .001, \eta_p^2 = .41$ , less anger-inducing,  $F(1, 117) = 27.26, p < .001, \eta_p^2 = .19$ , and less fear-inducing,  $F(1, 117) = 153.09, p < .001$ .

This interaction qualified a main effect for relationship condition,  $F(1, 117) = 17.86, p < .001, \eta_p^2 = .13$  (for additional significant findings, less relevant to our hypotheses, see “8. Study 3 – Additional Findings Regarding Preferences for Emotion-Inducing Stimuli” in the Supplementary Materials). These effects did not change when we controlled

for the current experience of anger, fear and happiness.<sup>7</sup> These patterns were replicated when predicting explicit emotional preferences (See “9. Study 3 – Explicit Emotional Preferences for the Other” in the Supplementary Materials).

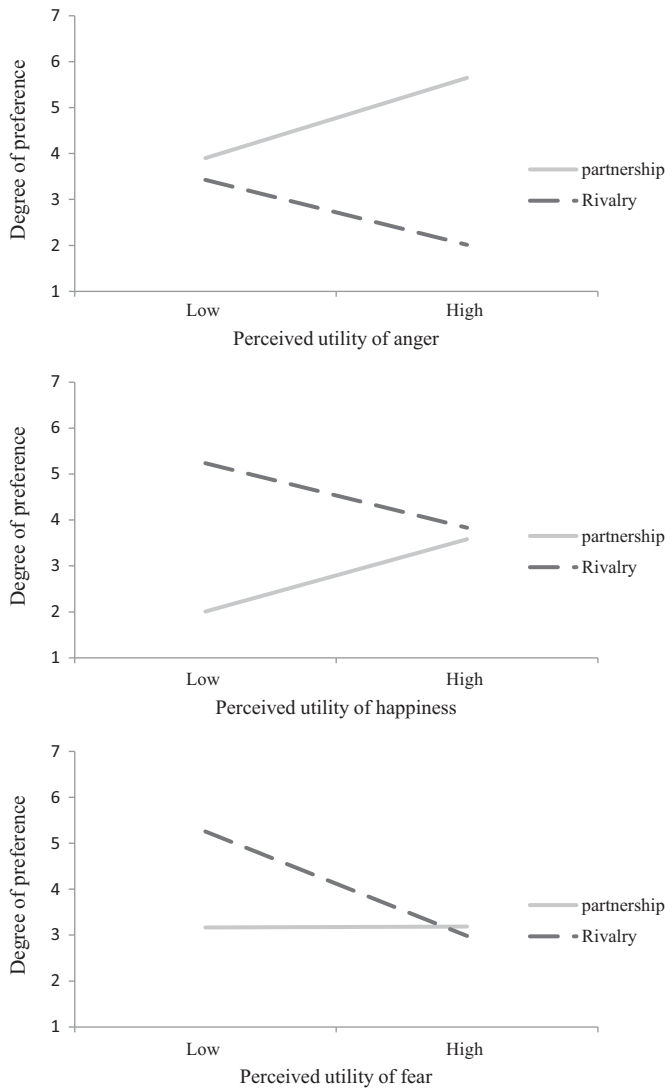
*Perceived utility of emotions as a moderator.* We first tested whether participants in the different relationship conditions differed in how useful they thought anger, fear, and happiness would be in each game. Within each game condition, we conducted a repeated measures ANOVA with emotion utility (anger, fear or happiness) as a within-subject variable and relationship condition (partnership vs. rivalry) as a between-subjects variable. In the shooting game, we found a main effect for emotion utility,  $F(2, 118) = 25.36, p < .001$ , such that participants expected anger to be more useful than fear,  $d = 2.21, SE = .22, p < .001$ , and somewhat more useful than happiness,  $d = .72, SE = .37, p = .054$  ( $M_s = 4.79, 2.58$  and  $4.07$  for anger, fear and happiness, respectively). We also found a main effect for condition,  $F(1, 59) = 4.01, p = .050$ , such that rivals expected all emotions to be more useful than partners ( $M_s = 4.01$  and  $3.62$ , respectively). In the dancing game, we found a main effect for emotion utility,  $F(2, 116) = 283.80, p < .001$ , such that participants expected happiness to be more useful than anger,  $d = 4.02, SE = .25, p < .001$ , and fear,  $d = 4.40, SE = .21, p < .001$  ( $M_s = 6.19, 2.18$  and  $1.79$  for happiness, anger and fear, respectively). No other effects were significant,  $F_s < 1.33$ .

Second, to test whether emotion utility moderated participants' preferences for the corresponding emotion-inducing stimuli, we ran similar moderation analyses as in Studies 1–2, separately within each game condition. In the shooting game, we found a main effect for condition when predicting preferences for anger-inducing stimuli,  $\beta = .26, p = .020$ , and main effects for condition,  $\beta = -.41, p = .001$ , and fear utility,  $\beta = -.37, p = .002$ , when predicting preferences for fear-inducing stimuli. More importantly, as predicted, the effects of condition on preferences for anger-, happiness- and fear-inducing stimuli for the other depended on participants' beliefs about the potential utility of the corresponding emotion,  $\beta = .58, p < .001$  for anger,  $\beta = .47, p = .001$ , for happiness, and  $\beta = .38, p = .001$  for fear.

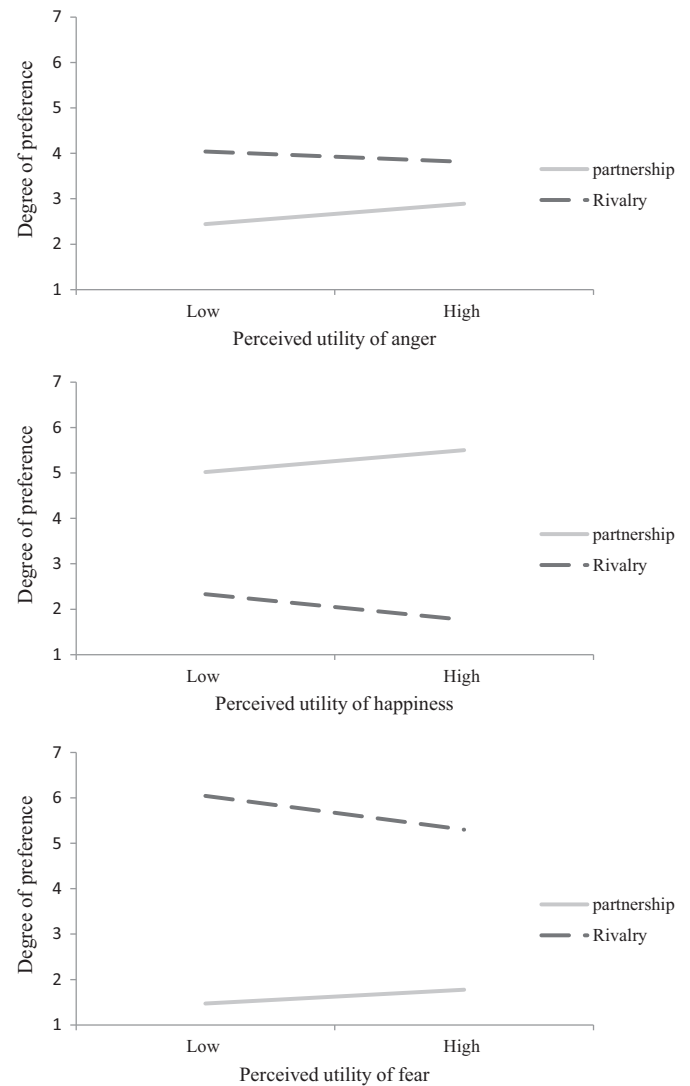
As shown in Fig. 7, participants in the partnership condition wanted to expose the other to more anger-inducing stimuli, the more they believed the other's anger would improve performance in the game,  $r(30) = .59, p = .001$ , and vice versa for participants in the rivalry

<sup>7</sup> When gender was included in the analysis, the Emotion  $\times$  Relationship Condition  $\times$  Game Condition remained significant and was not qualified by gender,  $F < 1$ .





**Fig. 7.** Preferences for stimuli that induce anger (top panel), happiness (middle panel), or fear (bottom panel) in the other in the shooting game, as a function of condition (partnership vs. rivalry) and the belief that anger, happiness, or fear can promote the other participant's game performance ( $\pm 1$  SD from the mean; Study 3).



**Fig. 8.** Preferences for stimuli that induce anger (top panel), happiness (middle panel), or fear (bottom panel) in the other in the dancing game, as a function of condition (partnership vs. rivalry) and the belief that anger, happiness, or fear can improve the other participant's game performance ( $\pm 1$  SD from the mean; Study 3).

condition,  $r(31) = -.55$ ,  $p = .001$ . Similarly, the more participants believed happiness would improve the other's performance the more they wanted to expose the other to happiness-inducing stimuli in the partnership condition,  $r(30) = .56$ ,  $p = .001$ , and the opposite trend emerged in the rivalry condition,  $r(31) = -.34$ ,  $p = .060$ . With respect to fear, the more participants in the rivalry condition believed fear can improve performance, the less they wanted to expose the other to fear-inducing stimuli,  $r(31) = -.71$ ,  $p < .001$ . This was not the case in the partnership condition,  $r(30) = .01$ .

In the dancing game, we found main effects for condition when predicting preferences for anger- ( $\beta = -.32$ ,  $p = .027$ ), happiness- ( $\beta = .70$ ,  $p < .001$ ), and fear- ( $\beta = -.85$ ,  $p < .001$ ) inducing stimuli. More importantly, participants' beliefs about the potential utility of the corresponding emotion moderated these effects ( $\beta = .41$ ,  $p = .005$  for anger,  $\beta = .22$ ,  $p = .046$  for happiness, and  $\beta = .13$ ,  $p = .032$  for fear). The simple effects in the dancing game, however, were weaker than those in the shooting game. As shown in Fig. 8, the more participants believed happiness would improve performance, participants in the rivalry condition tended to induce less happiness,  $r(30) = -.36$ ,  $p = .054$ . This was not the case for participants in the partnership condition,  $r(30) = .21$ ,  $p = .266$ . In addition, the more participants believed

anger would improve performance, participants in the rivalry (but not in the partnership) condition wanted to expose the other to less anger-inducing stimuli,  $r(30) = -.47$ ,  $p = .009$  and,  $r(30) = .23$ ,  $p = .226$  for rivals and partners, respectively. Preferences for fear inducing-stimuli showed similar non-significant trends,  $r(30) = .27$ ,  $p = .155$ , and  $r(30) = -.30$ ,  $p = .103$ , in the partnership and rivalry conditions, respectively. These patterns were replicated when predicting explicit emotional preferences for the other (see "10. Study 3 – Moderation of Explicit Emotional Preferences" in the Supplementary Materials). Expected pleasure did not moderate the effect of relationship conditions on stimuli preferences in the shooting game,  $t_s < 1.82$ . However, it did moderate stimuli preferences in the dancing game,  $t_s > 2.14$ ,  $p_s < .036$ .

### Discussion

Study 3 demonstrates that people regulate both unpleasant and pleasant emotional states in others to maximize their own instrumental benefits. Participants who expected to benefit from the performance of a partner (vs. lose from the performance of a rival) in an aggressive game tried to induce more anger and less happiness or fear in the

other (despite feeling closer to partners), whereas participants who were about to benefit from the performance of a partner in a joyful game tried to induce more happiness and less anger or fear in the other. These preferences were generally driven by the expected utility of each emotion, demonstrating the role of instrumental motives in driving interpersonal emotion regulation.

Our findings also demonstrate the operation of hedonic motivation in interpersonal regulation. In the dancing game, where a pleasant emotion in the other was also expected to be useful, both the expected utility and the expected pleasure in the other moderated the selection of emotion-inducing stimuli for the other. Expected pleasure did not moderate the selection of emotion-inducing stimuli, however, in the shooting game, in which pleasure and utility were in conflict with each other. These findings suggest that although both hedonic and instrumental motives can drive interpersonal emotion regulation, when the two are in conflict, there are cases in which instrumental motives can override hedonic ones.

## General discussion

We are constantly influenced by how others behave, think, and feel. It is not surprising, therefore, that people try to influence the behavior, thoughts, and feelings of others. Research on attempts to influence the behavior and thoughts of others (e.g., persuasion, impression management, etc.) has typically focused on instrumental considerations. The current studies explored the premise that instrumental considerations can also guide attempts to influence the emotions of others.

Prior research on interpersonal emotion regulation (e.g., [Butler, 2011](#); [Zaki & Williams, 2013](#)) focused on hedonic considerations, showing that people try to influence the emotions of others in order to make them feel better. In this investigation, however, we demonstrate that people are also motivated to regulate the emotions of others to maximize personal instrumental benefits, even when doing so carries hedonic costs for the other. We found that participants tried to increase emotions in others if they expected to benefit from them, but decrease emotions in others if they expected to suffer from them. This was true for both anger (Studies 1–3) and happiness (Study 3). Such attempts could not be explained by ingroup favoritism or outgroup negativity (e.g., [Brewer, 1999](#)), as they were found even when they required subjecting partners to unpleasant stimuli and rivals to pleasant stimuli. In addition, the more people expected an emotion to improve the other's performance, the more likely they were to try to increase (or decrease) that emotion in the other if they expected to gain (or lose) from it.

### *An instrumental perspective on interpersonal emotion regulation*

Previous research has shown that the emotions of one person can influence others (e.g., [Keltner & Haidt, 1999](#); [Klinnert, Emde, Butterfield, & Campos, 1986](#); [Van Kleef, 2010](#)), and carry both costs and benefits for them (e.g., [Van Kleef et al., 2004](#)). This investigation is the first to demonstrate that people take such costs and benefits into account when trying to regulate the emotions of others. We show that people are not only motivated to make others feel good. Instead, they try to make others experience emotions that they expect would ultimately yield personal benefits.

Instrumental motives in interpersonal emotion regulation may help us understand personal goal pursuits as well as the dynamics of social interactions. On the one hand, manipulating the feelings of others could be an effective way to promote personal goal pursuits. On the other hand, influencing the emotions of others in a self-serving manner can also come at an emotional cost. The anticipation for such an emotional cost may shape our behavior (e.g., [Shepherd, Spears, & Manstead, 2013](#); [Van der Schalk, Kuppens, Bruder, & Manstead, 2014](#)). Future research should examine whether and how the anticipated emotional consequences of interpersonal emotion regulation, both for

the other and for the self, influence the operation of instrumental and hedonic motives. Similarly, regulating the emotions of others to achieve personal benefits is also likely to influence our relationships with them, for better or worse. An important question for future research, therefore, concerns the potential implications of interpersonal instrumental emotion regulation for the relationship between the regulator and regulated.

People are often motivated to make others feel better ([Rimé, 2009](#); [Zaki & Williams, 2013](#)), and this is especially true in close relationships ([Butler, 2011](#)). However, if instrumental motives also influence what people want others to feel, close relationships might offer an interesting case of conflicting motives in interpersonal emotion regulation. For instance, a person may want their spouse to feel good, but he may also want her to get angry and help him fight his battles. To better understand the role of instrumental motives in the regulation of others' emotions, it is necessary to identify the interplay between hedonic and instrumental benefits for the self and for the other. In the current studies, for instance, we examined the regulation of emotions among strangers. It is likely that making a stranger feel bad carries fewer hedonic costs to the self than making a close other (e.g., a spouse) feel bad. Future research could test when instrumental motives might take precedence over hedonic ones, and whether this depends on the nature of the social relationship.

### *An interpersonal perspective on instrumental emotion regulation*

The current investigation offers an interpersonal perspective on instrumental emotion regulation. Specifically, it sets instrumental emotion regulation in a broader context of multiple players. To achieve instrumental goals, people may regulate their own emotions, the emotions of others, or both. Although they overlap in some respects, interpersonal instrumental emotion regulation differs from its intrapersonal counterpart due to its relational nature. This suggests that how one tries to regulate the emotions of the other may depend not only on the hedonic and instrumental implications of emotions for both the self and the other, but also on the instrumental implications for the social unit as a whole. For example, making another person feel good could carry personal hedonic benefits (e.g., [Niven et al., 2012](#)) and impact the quality of the social relationship (e.g., [Lakey & Orehek, 2011](#)).

This implies that emotion regulation in a dyadic context may depend on both personal and prosocial goals that may or may not overlap. In close relationships, were spouses sometimes choose to disregard their own personal goals to satisfy their partners' or relational goals (e.g., [Aron, Mashek, & Aron, 2004](#); [Finkel & Rusbult, 2008](#)), this might bring people to try to regulate the emotions of their spouses to attain such goals rather than personal ones. For instance, to the extent that increasing worry promotes effort related to the worry-inducing task, a person may be motivated to increase worry in the partner to help her succeed at work (e.g., [Parkinson & Simons, 2012](#)), or decrease worry in the partner to promote a calmer home environment. In the future, to understand interpersonal instrumental emotion regulation, it may be necessary to identify the kind of goals that may shape instrumental regulation attempts in interpersonal relationships and the interplay between them.

The impact of social goals on the regulation of emotions in others may be even more pronounced in group contexts. Similar to the dyadic process examined in this investigation, it is likely that people regulate the emotions of other group members to satisfy both personal and group-level goals. Previous studies have shown that group-based emotions (i.e., the emotions one feels as a result of group membership) can bring people to act in an emotion-consistent manner (e.g., [Iyer & Leach, 2008](#); [Niedenthal & Brauer, 2012](#)). For example, group-based anger may lead people to reject outgroup members ([Smith, Seger, & Mackie, 2007](#)) and promote aggression towards them ([Mackie, Devos, & Smith, 2000](#); [Yzerbyt, Dumont, Wigboldus, & Gordin, 2003](#)). Future research could

examine whether people are motivated to regulate such group-based emotions among ingroup or outgroup members in a manner that either promotes or resolves conflict, depending on their specific group-level goals. The current findings pave the way to exploring such complex questions about instrumental regulation of emotions in social contexts.

### Limitations and conclusions

The current investigation has a number of limitations. The goal of the current studies was to assess the motivation to regulate the feelings of others. To this end, participants indicated their intention to regulate the prospective feelings of tentative others and were provided with the tools to do so. In addition, participants were not required to interact with the other while trying to regulate her emotions, and they did not have to bear the costs of their regulation attempts. Although these procedural choices enabled us to maintain optimal experimental control, the ease with which one was able to regulate others' emotions and the lack of actual interaction raises questions regarding the external validity of our findings. Having provided evidence for instrumental interpersonal emotion regulation, it is now important to assess how it occurs outside the laboratory. Therefore, future research could examine the operation of instrumental motives during face-to-face social interactions and assess their emotional and social consequences. In particular, it is important to examine whether and how instrumental motives operate outside the laboratory, as people interact with acquaintances, colleagues, and close others. We believe that adding an instrumental perspective to interpersonal emotion regulation can help understand how and why people try to influence the emotions of others.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jesp.2015.01.006>.

### References

- Aron, A., Aron, E.N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596–612.
- Aron, A., Mashek, D., & Aron, E.N. (2004). Closeness, intimacy, and including other in the self. In D. Mashek, & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 27–41). Mahwah, NJ: Erlbaum.
- Averill, J.R. (1983). Studies on anger and aggression: Implications for theories of emotion. *American psychologist*, 38, 1145–1160.
- Bar-Tal, D., Halperin, E., & de-Rivera, J. (2007). Collective emotions in conflict situations: Societal implications. *Journal of Social Issues*, 63, 441–460.
- Baumeister, R., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529.
- Bornstein, G., & Ben-Yossef, M. (1994). Cooperation in intergroup and single-group social dilemmas. *Journal of Experimental Social Psychology*, 30, 52–67.
- Brewer, M.B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, 86, 307–324.
- Brewer, M.B. (1999). The psychology of prejudice: Ingroup love or outgroup hate. *Journal of Social Issues*, 55, 429–444.
- Brewer, M.B., & Kramer, R.M. (1985). The psychology of intergroup attitudes and behavior. *Annual Review of Psychology*, 36, 219–243.
- Burnham, T., McCabe, K., & Smith, V. (2000). Friend-or-foe intentionality priming in an extensive form trust game. *Journal of Economic Behavior and Organization*, 1244, 1–17.
- Butler, E.A. (2011). Temporal interpersonal emotion systems: The "TIES" that form relationships. *Personality and Social Psychology Review*, 15, 367–393.
- Butler, E.A., & Randall, A.K. (2013). Emotional coregulation in close relationships. *Emotion Review*, 5, 202–210.
- Campos, J.J., Campos, R.G., & Barrett, K.C. (1989). Emergent themes in the study of emotional development and emotion regulation. *Developmental Psychology*, 25, 394–402.
- Cialdini, R.B., Borden, R.J., Thorne, A., Walker, M.R., Freeman, S., & Sloan, L.R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology*, 34, 366–375.
- Cikara, M., Bruneau, E.G., & Saxe, R.R. (2011). Us and them: Intergroup failures of empathy. *Current Directions in Psychological Science*, 20, 149–153.
- Diamond, L.M., & Aspinwall, L.G. (2003). Emotion regulation across the life span: An integrative perspective emphasizing self-regulation, positive affect, and dyadic processes. *Motivation and Emotion*, 27, 125–156.
- Erber, R., Wegner, D.M., & Theriault, N. (1996). On being cool and collected: Mood regulation in anticipation of social interaction. *Journal of Personality and Social Psychology*, 70, 757–766.
- Finkel, E.J., & Russett, C.E. (2008). Prorrelationship motivation: An interdependence theory analysis of situations with conflicting interests. In J.Y. Shah, & W.L. Gardner (Eds.), *Handbook of motivation science* (pp. 547–560). New York: Guilford.
- Frijda, N.H. (1986). *The emotions*. New York: Cambridge University Press.
- Gable, S.L., & Reis, H.T. (2010). Good news! Capitalizing on positive events in an interpersonal context. *Advances in Experimental Social Psychology*, 42, 195–257.
- Gross, J.J., & Thompson, R.A. (2007). Emotion regulation: Conceptual foundations. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–24). New York, NY: Guilford Press.
- Halevy, N., Bornstein, G., & Sagiv, L. (2008). In-group love and out-group hate as motives for individual participation in intergroup conflict: A new game paradigm. *Psychological Science*, 19, 405–411.
- Iyer, A., & Leach, C.W. (2008). Emotion in inter-group relations. *European Review of Social Psychology*, 19, 86–125.
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, 13, 505–521.
- Klennert, M.D., Emde, R.N., Butterfield, P., & Campos, J.J. (1986). Social referencing: The infant's use of emotional signals from a friendly adult with mother present. *Developmental Psychology*, 22, 427–432.
- Lakey, B., & Orehek, E. (2011). Relational regulation theory: A new approach to explain the link between perceived social support and mental health. *Psychological Review*, 118, 482–495.
- Mackie, D.M., Devos, T., & Smith, E.R. (2000). Intergroup emotions: Explaining offensive actions in an intergroup context. *Journal of Personality and Social Psychology*, 79, 602–616.
- Mauss, I.B., & Tamir, M. (2014). Emotion goals: How their content, structure, and operation shape emotion regulation. In J.J. Gross (Ed.), *The handbook of emotion regulation* (pp. 361–375) (2nd ed.). New York, NY: Guilford Press.
- Niedenthal, P., & Brauer, M. (2012). Social functionality of human emotion. *Annual Review of Psychology*, 63, 259–285.
- Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion*, 9, 498–509.
- Niven, K., Totterdell, P., Holman, D., & Headley, T. (2012). Does regulating others' feelings influence people's own affective well-being? *Journal of Social Psychology*, 152, 246–260.
- Oatley, K., & Jenkins, J.M. (1992). Human emotions: Function and dysfunction. *Annual Review of Psychology*, 43, 55–85.
- Parkinson, B. (2011). Interpersonal emotion transfer: Contagion and social appraisal. *Social and Personality Psychology Compass*, 5, 428–439.
- Parkinson, B., Fischer, A.H., & Manstead, A.S.R. (2005). *Emotion in social relations: Cultural, group, and interpersonal processes*. New York: Psychology Press.
- Parkinson, B., & Simons, G. (2012). Worry spreads: Interpersonal transfer of problem-related anxiety. *Cognition and Emotion*, 26, 462–479.
- Parrott, W.G. (2001). Implications of dysfunctional emotions for understanding how emotions function. *Review of General Psychology*, 5, 180–186.
- Plant, E.A., & Devine, P.G. (2003). The antecedents and implications of interracial anxiety. *Personality and Social Psychology Bulletin*, 29, 790–801.
- Rimé, B. (2007). Interpersonal emotion regulation. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 466–485). New York: Guilford Publications.
- Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion Review*, 1, 60–85.
- Shepherd, L., Spears, R., & Manstead, A.S.R. (2013). The self-regulatory role of anticipated group-based shame and guilt in inhibiting in-group favoritism. *European Journal of Social Psychology*, 43, 493–504.
- Sloan, L.R. (1989). The motives of sports fans. In J.H. Goldstein (Ed.), *Sports, games and play: Social and psychological viewpoints* (pp. 175–240) (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Smith, R.H., Powell, C.A.J., Combs, D.J.Y., & Schurtz, D.R. (2009). Exploring the when and why of schadenfreude. *Social and Personality Psychology Compass*, 3, 530–546.
- Smith, E.R., Seger, C.R., & Mackie, D.M. (2007). Can emotions be truly group level? Evidence for four conceptual criteria. *Journal of Personality and Social Psychology*, 93, 431–446.
- Tajfel, H., Billig, M.G., Bundy, R.F., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Psychology*, 1, 149–177.
- Tamir, M., & Bigman, Y. (2014). Why might people want to feel bad? Motives in contrahedonic emotion regulation. In W.G. Parrott (Ed.), *The positive side of negative emotions* (pp. 201–223). New York, NY: Guilford Press.
- Tamir, M., Chiu, C.-Y., & Gross, J.J. (2007). Business or pleasure? Utilitarian versus hedonic considerations in emotion regulation. *Emotion*, 7, 546–554.
- Tamir, M., & Ford, B.Q. (2009). Choosing to be afraid: Preferences for fear as a function of goal pursuit. *Emotion*, 9, 488–497.
- Tamir, M., & Ford, B.Q. (2012a). Should people pursue feelings that feel good or feelings that do good? Emotional preferences and well-being. *Emotion*, 12, 1061–1070.
- Tamir, M., & Ford, B.Q. (2012b). When feeling bad is expected to be good: Emotion regulation and outcome expectancies in social conflicts. *Emotion*, 12, 807–816.
- Tamir, M., Ford, B.Q., & Ryan, E. (2013). Nonconscious goals can shape what people want to feel. *Journal of Experimental Social Psychology*, 49, 292–297.
- Tamir, M., Mitchell, C., & Gross, J.J. (2008). Hedonic and instrumental motives in anger regulation. *Psychological Science*, 19, 324–328.
- Van der Schalk, J., Kuppens, T., Bruder, M., & Manstead, A.S.R. (2014). The social power of regret: The effect of social appraisal and anticipated emotions on fair and unfair allocations in resource dilemmas. *Journal of Experimental Psychology: General*, 1–7.

- Van Kleef, G.A. (2010). The emerging view of emotion as social information. *Social and Personality Psychology Compass*, 3, 1–13.
- Van Kleef, G.A., De Dreu, C.K.W., & Manstead, A.S.R. (2004). The interpersonal effects of anger and happiness in negotiations. *Journal of Personality and Social Psychology*, 86, 57–76.
- Yzerbyt, V., Dumont, M., Wigboldus, D., & Gordin, E. (2003). I feel for us: The impact of categorization and identification on emotions and action tendencies. *British Journal of Social Psychology*, 42, 533–549.
- Zaki, J., & Williams, W.C. (2013). Interpersonal emotion regulation. *Emotion*, 13, 803–810.