



## Report

## When happiness makes us selfish, but sadness makes us fair: Affective influences on interpersonal strategies in the dictator game

Hui Bing Tan, Joseph P. Forgas \*

University of New South Wales, Sydney, Australia

## ARTICLE INFO

## Article history:

Received 29 June 2009

Revised 8 January 2010

Available online 6 February 2010

## Keywords:

Affect

Social cognition

Economic games

Selfishness

## ABSTRACT

Does temporary mood influence how fair or selfish we are in interpersonal situations? These three experiments predicted and found that when people have the power to allocate scarce resources between themselves and others in the dictator game, positive mood increased selfishness, and sad mood produced greater fairness. In a public setting (Experiment 1), happy persons kept more raffle tickets to themselves when making allocations, and Experiment 2 confirmed this effect in the laboratory. Experiment 3 showed that mood effects on selfishness were strongest when the external norms for fairness were relaxed. The results are discussed in terms recent affect-cognition theories, suggesting that positive mood recruits more assimilative, internally focused processing, while negative affect promotes more externally oriented, accommodative processing and thus greater concern with social norms. The implications of the findings for everyday interpersonal decisions are considered.

© 2010 Elsevier Inc. All rights reserved.

## Introduction

If somebody gave you fifty dollars to divide between yourself and another person any way you like, how much would you keep to yourself? Does being in a good or a bad mood influence such decisions? We face such choices between being selfish and being fair in many everyday situations in our private and working lives, and the moral dilemma inherent in these choices has been a major topic for philosophers and writers since antiquity. Recent research in evolutionary psychology suggests that humans and other primates evolved a sense of justice and fairness as an adaptive strategy to constrain selfishness and maintain social cohesion and harmony (Forgas, Haselton, & von Hippel, 2007).

Surprisingly, the possibility that mood may influence interpersonal strategies and selfishness in basic, simple allocation tasks has not been investigated previously. Yet affect is one of the primary forces that drive interpersonal behavior (Fiedler, 2001; Forgas, 2002; Zajonc, 1980), and low-intensity moods in particular can have a subtle and enduring effect on thinking, judgments and action (Bless, 2000; Clore & Storbeck, 2006; Forgas, 2002, 2007). Although there has been extensive research on affective influences on altruism and helping, the findings have remained largely inconclusive, suggesting that both positive, and negative affect can promote altruism and pro-social behaviors, depending on the circumstances (Batson, 1991; Dovidio, Piliavin, Schroeder, & Penner, 2006). Unlike research on helping and altruism where out-

comes are highly context dependent, in these experiments we explored mood effects on selfishness in a simple, minimalist allocation task such as the dictator game, where benefiting the self or benefiting another are the only options available to participants.

*Selfishness in interpersonal allocations: the dictator game*

Economic games represent a reliable method to study interpersonal strategies such as fairness, selfishness, trust and cooperation. In the dictator game the allocator has the power to allocate a scarce resource (e.g., raffle tickets, a sum of money, etc.) between himself and another person. The game represents a minimalist context in which to study selfishness, unlike most prior research on altruism and helping where the situational context and expected rewards seem to determine responses (Batson, 1991; Dovidio et al., 2006). However, all things being equal, in-group members may be treated more fairly than out-group members (Forgas & Fiedler, 1996), a question we will investigate in Experiment 1 here.

Traditional economic theories predict that rational allocators in the dictator game should maximise earnings, and keep most of the resources to themselves. Actual research suggests a far more complex pattern. In fact, allocators often give 30%, and even 50% to others (Bolton, Katok, & Zwick, 1998; Forsythe, Horowitz, Savin, & Sefton, 1994). This suggests that allocators process this task in a constructive manner, and a subtle interplay of the conflicting *internal* demand of self-interest, and the *external* norm of fairness jointly determine their decisions (Haselhuhn & Mellers, 2005; Pillutla & Murnighan, 1995). Moods may influence selfishness by subtly shifting the way allocators process and interpret the

\* Corresponding author.

E-mail address: [jp.forgas@unsw.edu.au](mailto:jp.forgas@unsw.edu.au) (J.P. Forgas).

available information. This mood effect may be reduced when the allocation concerns in-group members with whom allocators may feel a higher degree of solidarity (Experiment 1).

### *Affect and interpersonal strategies*

Affective states may have an effect on interpersonal strategies by (a) influencing the valence and content of the information considered (*informational effects*), and (b) influencing the processing strategies used (*processing effects*).

#### *Informational effects*

Affect may influence interpersonal decisions by selectively priming access to mood-consistent information in memory (Bower, 1981; Forgas & Bower, 1987). As a result, happy persons tend to recall more positive information, and may behave in a more optimistic and assertive manner (Forgas, 1999). Negative mood in turn, by priming negative information, increases the likelihood of cautious, pessimistic and socially constrained responses (Forgas, 1998, 2002). Several studies suggest that positive moods promote a more positive, assertive, confident, and optimistic interpersonal style. Happy people are often more direct and less polite in social situations (Forgas, 1999), are more effective negotiators (Forgas, 1998), and are more likely to impose their internal preferences on the social world (Bless & Fiedler, 2006). Happy mood may also function as a motivational resource (Trope, Ferguson, & Raghunathan, 2001), allowing happy individuals to accept greater risks. These findings suggest that happy mood should promote a more confident, selfish allocation strategy, while negative mood should trigger more cautious, fair allocations.

#### *Processing effects*

There is also growing evidence that moods may influence *processing tendencies*, that is, how people deal with social information (Bless, 2000; Bless & Fiedler, 2006). Negative mood seems to promote a more *accommodative*, externally focused, processing style, while positive affect facilitates a more internally focused, *assimilative* style of thinking. Allocation decision in the dictator game represent a conflict between the *internal* impulse to be selfish, as against paying attention to the *external* social norms requiring fairness that should temper selfish impulses.

Accordingly, people in a positive mood, processing *assimilative*, should be more likely to follow their internal impulses and as a result, display greater selfishness in their allocations. Sad mood, in contrast, by promoting *accommodative* thinking and focusing greater attention on external norms, should increase fairness (Forgas, 2002). The prediction that negative affect produces more externally focused, *accommodative* processing is also consistent with recent studies showing that people in a bad mood are better at detecting deception (Forgas & East, 2008), have better eyewitness memories (Forgas, Goldenberg, & Unkelbach, 2009), are less likely to rely on stereotypes (Unkelbach, Forgas, & Denson, 2008), and are less likely to commit the fundamental attribution error (Forgas, 1998).

Thus, extrapolating from prior evidence for the *informational* and *processing* effects of moods, we expected that feeling good should increase selfishness and negative mood should increase fairness in interpersonal decisions in the dictator game. Experiments 1 and 2 investigated mood effects in a public setting, and in a controlled laboratory study respectively. Experiment 3 explicitly manipulated the salience of fairness norms to test the prediction that mood effects are greater when fairness norms are reduced.

## Experiment 1

This experiment explored the effects of mood, and relationship to the receiver on fairness and selfishness in the dictator game. We expected that positive mood should increase selfishness overall. We also expected that mood effects should be reduced when the decision concerns an in-group member where the norms of solidarity may constrain mood effects (Forgas & Fiedler, 1996).

### *Method*

#### *Participants, overview and design*

Participants were 45 students asked to volunteer for the experiment in public places on campus. After a false-feedback mood induction, they played the dictator game and made allocations either to an in-group member or an unknown person. The experiment comprised of a  $2 \times 2$  between-subjects design, with mood (happy, sad) and relationship (in-group, unknown) as the independent variables.

#### *Mood induction*

Participants first completed a bogus six-item “test of cognitive-spatial abilities”, estimating the surface area of randomly sized geometric figures. After ‘scoring’ their responses, they received positive or negative manipulated feedback describing their performance as ‘outstanding’ or ‘poor’ to induce good or bad mood (e.g., Forgas, 2007). On a ‘post-experimental questionnaire’ they rated their mood on 7 point happy–sad, good–bad and tense–relaxed scales (the mood validation).

#### *The allocation task*

The dictator game was introduced as requiring the allocator to distribute ten raffle tickets between themselves and another person, with a \$20 voucher as the ultimate prize. Thus, every raffle ticket gained would increase one’s chances of winning the prize. After apparently consulting a ‘randomization schedule’, all participants were told by the experimenter that they have been randomly assigned to be allocators. In the in-group condition, they were also told that coincidentally, they will be allocating tickets to a fellow student in their own faculty (the in-group manipulation). A careful debriefing completed the procedure revealing no evidence of suspicion of the manipulations. Care was taken to eliminate any residual mood effects.

## Results

#### *Mood validation*

Self-ratings on the happy–sad, good–bad and relaxed–tense scales were highly correlated and were combined into a single *affect valence* measure (Cronbach’s  $\alpha = 0.80$ ). An ANOVA showed that sad individuals felt significantly worse than happy individuals ( $M = 5.44$ ;  $SD = 1.60$  vs.  $M = 3.06$ ;  $SD = 1.09$ ;  $F(1, 43) = 45.74$ ;  $p = 0.01$ ), confirming the effectiveness of the mood induction.

#### *Mood effects on selfishness*

A  $2 \times 2$  ANOVA of allocations found a significant mood main effect,  $F(1, 44) = 5.02$ ;  $p < 0.05$ , but no other effects. Happy students kept more raffle tickets than did sad students ( $M = 5.61$  vs. 4.68). Results also show a non-significant trend for greater selfishness towards a stranger in positive mood ( $M = 5.17$  vs. 6.09) but no difference in negative mood ( $M = 4.69$  vs. 4.67) (Fig. 1).

These results confirm that transient mood had a significant influence on fairness vs. selfishness. Most allocations clustered around the 50% mark, suggesting that some mixture of fairness and selfishness guided decisions, with mood providing a further

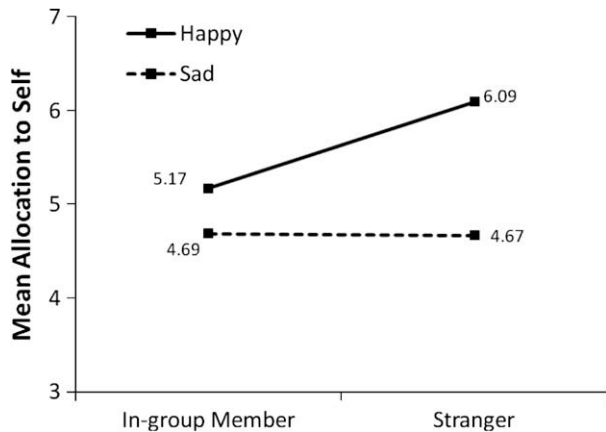


Fig. 1. The effects of mood (good, bad) and relationship (in-group member vs. stranger) on the selfishness of allocations in a dictator game.

subtle influence on allocations. Experiment 2 was designed to confirm and extend these findings.

## Experiment 2

This experiment incorporated several methodological improvements. A different mood induction (affect-inducing films) was used. As all mood-induction methods produce some unintended confounds (priming effects, motivational tendencies, etc.) it is desirable to use a variety of mood-induction methods in related experiments in order to triangulate the underlying mood effect. Instead of a one-shot allocation task, a series of eight allocations to different partners was used, with the names and photos of partners displayed for each task to increase the realism of the task.

### Method

#### Overview, participants, and mood induction

Participants first evaluated 'films' for use in a later study (in fact, the mood induction), before participating in an 'unrelated' second task, an interpersonal game (the allocation task). Participants were 72 students (42 females, 30 males) with a mean age of 20.10 years, who completed the study for course credit (36 in the positive mood condition and 35 in the negative mood condition). Participants viewed brief 10 min video clips designed to induce good or bad moods, featuring an excerpt from a popular British comedy series 'Fawlty Towers' and excerpts from a sad movie dealing with family misfortune (Angela's Ashes) (Forgas, 2002, 2007).

#### The allocation task

Next, the 'interpersonal' game was introduced as a series of real-time on-line computer-mediated interactions with eight randomly assigned others. A webcam picture was taken of each participant, and they were told that they will also see the faces and names of people they are playing with in order to make the allocation task more realistic. All participants were informed that they have been randomly assigned to be allocators in this session, and their task is to allocate 10 points between themselves and their partner in each of eight encounters. Each additional point gained increased one's chances of receiving desirable movie passes. After a practice trial, each of the eight allocation decisions was separately displayed, showing the face of the 'partner', and asking participants to decide how many points they want to keep for themselves out of 10, and how many they wished to give to their 'partner'.

### Debriefing

Finally, participants completed a 'post-experimental questionnaire', rating their mood on 7 point bipolar scales (happy–sad, good–bad, tense–relaxed). A thorough debriefing concluded the procedure, and revealed no suspicion about the manipulations. Care was taken to remove any residual mood effects at this time.

### Results

#### Mood validation

Mood ratings on the three scales were highly correlated, and were combined into a single measure of mood *valence* (Cronbach's alpha = 0.89). An ANOVA showed that those in the happy condition were significantly happier than those in the sad condition,  $F(1, 70) = 274.21$ ;  $p = .01$  ( $M = 1.89$ ;  $SD = 1.04$  vs.  $-1.33$ ;  $SD = 0.49$ ), confirming the effectiveness of the mood induction.

#### Mood effects on selfishness

An ANOVA revealed a significant mood main effect. Overall, happy individuals kept more points to themselves ( $M = 6.68$  out of 10;  $SD = 1.47$ ) than did sad individuals ( $M = 5.82$ ;  $SD = 1.63$ ;  $F(1, 70) = 5.45$ ;  $p < 0.05$ ), supporting our main hypothesis. To evaluate allocations across the eight trials, a two by eight mixed ANOVA was also carried out and showed a significant interaction between mood and the eight trials,  $F(7, 64) = 3.31$ ;  $p < 0.01$ , as well as a significant trial by mood linear trend,  $F(1, 70) = 8.17$ ;  $p < 0.01$ . As the trials progressed, happy individuals became more selfish, and sad individuals became more fair (Fig. 2).

## Experiment 3

Experiment 3 was designed to extend and confirm these findings, and also gain further insight into the psychological mechanisms underlying these effects. In this experiment we explicitly manipulated fairness norms, by providing allocators with information about the fair or unfair behaviors of previous players. Exposure to fair allocations by others should reinforce the desirable social norm of acting fairly and constrain selfish allocation. In contrast, information about prior unfair allocations should weaken the external social norm, and give free rein for participants to follow their internal inclination to be selfish, and increase the latitude for individual deliberations, thus increasing the scope for mood priming and processing effects to occur. Thus, mood effects should be strongest when prior behavior by others is selfish and so undermines the external social norm of fairness.

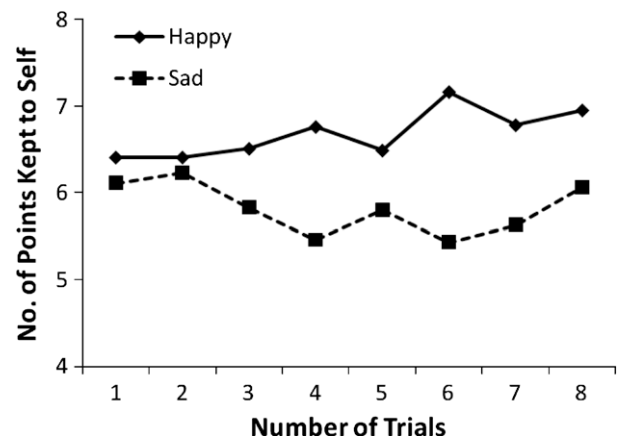


Fig. 2. The effects of mood on selfishness vs. fairness: happy persons kept more rewards to themselves, and this effect is more pronounced in later trials.

## Method

### Overview, design and participants

The procedure was similar to Experiment 2: participants first viewed affect-inducing films as part of an alleged film evaluation task, before playing the allocation task with a randomly assigned partner. Before making allocations, participants were exposed to information about *fair* or *unfair* offers of “past proposers” to emphasize or de-emphasize the fairness norm. The experiment employed a  $2 \times 2$  between subject design with mood (positive and negative) and prior allocations (fair vs. unfair) as the independent variables, and selfishness (the number of points kept) as the dependent variable. Participants were 64 students (36 females, 28 males) with a mean age of 20.04 ( $SD = 5.04$ ) years who received course credit for their participation.

### Materials and procedure

The mood induction videos were different from the ones used in Experiment 2, in order to reduce the likelihood of incidental priming effects. Excerpts from the popular television comedy series “Monty Python: Life of Brian” were used to induce positive mood, and scenes from the movie “My Life” were used to induce negative mood. Following mood induction, the allocation task was introduced as investigating interpersonal behavior, using the same instructions as in Experiment 2. Participants were informed that they were randomly allocated the role of the proposer. They were next shown four past allocations made by “previous participants” that were either fair (e.g., 6:4, 5:5), or were unfair (e.g., 9:1, 8:2) in order to emphasize or de-emphasize the fairness norm. After the allocation trials, participants completed a “Film Evaluation Questionnaire” (in fact, the mood validation) rating their current mood on three self-reported, 7 point bipolar scales (happy–sad, good–bad, relaxed–tense). A careful debriefing completed the experiment, and care was taken to remove any residual mood effects.

## Results

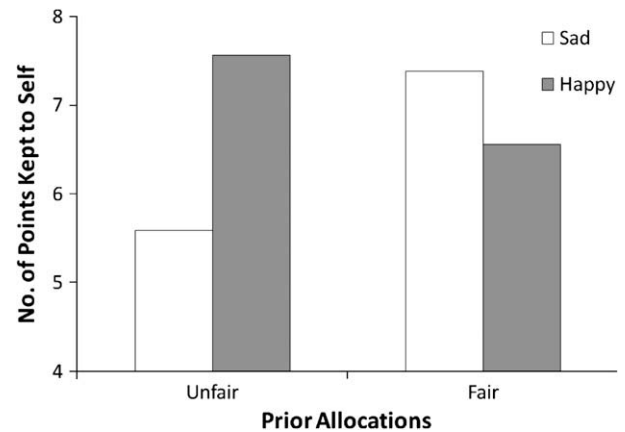
### Mood validation

Ratings on the happy–sad, good–bad and relaxed–tense scales were highly correlated and were combined to create a single mood valence index (Cronbach’s  $\alpha = 0.83$ ). A  $2 \times 2$  (mood  $\times$  fairness) between-subjects ANOVA showed a significant mood main effect,  $F(1, 60) = 215.56$ ;  $p = .001$ . Happy participants rated their mood as significantly better than did the negative group ( $M = 1.91$ ,  $SD = 1.08$  vs.  $M = -1.24$ ,  $SD = 0.86$ ), confirming the effectiveness of the mood induction. Neither the fairness manipulation ( $F(1, 60) = 3.19$ ;  $p > .05$ ), nor a mood by fairness interaction influenced self-rated mood ( $F(1, 606) = 1.18$ ;  $p > .20$ ).

### Allocation strategies

Allocations were analysed using a  $2 \times 2$  ANOVA. Neither mood,  $F(1, 60) = .764$ ;  $p > .385$ , nor the fairness of prior allocators had a significant main effect,  $F(1, 60) = .376$ ;  $p > .542$ . However, there was a significant interaction between mood and fairness norm,  $F(1, 60) = 4.35$ ;  $p < .037$  (Fig. 3). When prior allocations emphasized fairness there was no difference in allocations between happy and sad participants,  $F(1, 27) = 1.18$ ;  $p < .287$  ( $M = 6.56$ ;  $SD = 1.78$ ;  $M = 7.38$ ;  $SD = 2.29$ ). When prior allocators were unfair, there was a significant difference between happy and sad people  $F(1, 33) = 3.79$ ;  $p < .05$ : happy allocators were significantly more selfish ( $M = 7.56$ ;  $SD = 2.47$ ) than the sad group ( $M = 5.59$ ;  $SD = 3.44$ ).

Thus Experiment 3 confirmed our prediction that emphasis on fairness reduced mood effects. In contrast, information about selfish behavior by prior allocators undermined the fairness norm and resulted in greater mood-induced differences in allocations. This



**Fig. 3.** The effects of mood and emphasizing or de-emphasizing the norm of fairness on allocations in the dictator game: mood effects are stronger when the fairness norm is de-emphasized (prior allocators are unfair) rather than emphasized (prior allocators are fair).

pattern is conceptually consistent with our prediction that mood effects on selfishness are greatest when fairness norms are weak, allowing greater scope for mood-induced differences in processing style to influence outcomes.

## Discussion

These three experiments consistently showed that happy mood increased selfishness when allocating resources in the dictator game compared to sad individuals, both in a public setting (Experiment 1) and in the laboratory (Experiment 1). Experiment 3 confirmed that mood effects are greater when the norm of fairness is de-emphasized, as in the absence of normative expectations the informational and processing effects of moods are more likely to exert and influence on the strategies adopted by allocators. These results have some interesting theoretical and practical implications for understanding mood effects on interpersonal fairness.

### Theoretical implications

These findings show that positive mood significantly increased, and negative mood reduced selfishness in the dictator game, a minimalist interpersonal task relatively devoid of context. These findings are conceptually consistent with recent functionalist affect-cognition theories suggesting that affect has an important signalling function about situational requirements (Clore & Storbeck, 2006; Forgas et al., 2007; Schwarz, 1990), with negative affect recruiting a more externally focused, accommodative orientation, and positive affect promoting a more assimilative, internally focused strategy (Bless, 2000; Bless & Fiedler, 2006; Fiedler, 2001).

To the extent that allocations in the dictator game depend on the relative weight players give to their internal, selfish impulses as against the external social norms of fairness, our results are consistent with theories predicting mood-induced differences in processing style (Bless & Fiedler, 2006). Allocators in a good mood, thinking more assimilatively may be more willing to follow their internal selfish dispositions. Those in a negative mood, thinking more accommodatively, pay more attention to the external norm of fairness, and should be less hesitant to make selfish allocations. Paying greater attention to external information when in a bad mood is also in line with recent findings showing that negative mood improves eyewitness memory, reduces stereotyping, increases politeness, and reduces judgmental errors (Forgas, 1998, 1999; Forgas et al., 2009; Unkelbach et al., 2008).



Further, our results are also consistent with prior work showing that positive affect selectively primes positive information, and generally produces more assertive, confident and optimistic interpersonal strategies, while negative mood triggers more pessimistic, cautious responses sensitive to external demands (Bless & Fiedler, 2006; Fiedler, 2001; Forgas, 1999, 2002). The suggestion that moods exert their effect on selfishness by selectively priming mood-congruent information is also consistent with the results of Experiment 3, where we found an absence of mood effects when open processing was constrained through emphasizing the external norm of fairness.

Why did sad people not simply follow the norm – fairness or selfishness – and happy people follow their own internal state (i.e., ignore the norm and act selfishly) in this study? It is likely that information provided about the selfish behavior of others, being socially undesirable, could not invoke an acceptable, alternative shared social norm, and so served merely to undermine the powerful norm of fairness, allowing full scope for mood effects to occur. In contrast, information about the socially desirable, fair behavior by others served to reinforce a powerful existing social norm and so constrained mood effects, as found here.

The dictator game is an unusual experience where people can impose allocations on others. Could greater concern with social desirability, such as being evaluated by the experimenter, or by the partner influence responses? As we clearly instructed players that their responses will remain anonymous, and there was no expectation of any contact with the partner, we do not believe that social desirability or evaluation anxiety played an important role. Rather, moods are likely to have played an indirect cognitive effect, as also found in other strategic interpersonal tasks, with negative affect selectively priming cautious, negative interpretations of an inherently complex and ambiguous situation, and positive mood priming optimistic, assertive interpretations (e.g., Forgas, 2002), ultimately producing greater selfishness in responses.

#### Practical implications

Many everyday social situations in our private as well as working lives involve some conflict between acting selfishly and acting fairly. Despite some evidence for mood effects on interpersonal behaviors (Forgas, 2002, 2007), the real-life effects of moods on selfishness as in the dictator game have not been explored previously. The kind of mood effects on selfishness demonstrated here may have important implications for real-life behaviors in romantic relationships, organizational decisions, and many other everyday situations where decisions by one person have incontestable consequences for others.

Interestingly, our results further challenge the common assumption in much of applied, organisational, clinical and health psychology that positive affect has universally desirable social consequences. Together with other recent experimental studies, our findings confirm that negative affect often produces adaptive and more socially sensitive outcomes. For example, negative moods can improve the detection of deception (Forgas & East, 2008), reduce judgmental errors (Forgas, 1998), improve eyewitness accuracy (Forgas, Vargas, & Laham, 2005), and improve interpersonal communication strategies (Forgas, 2007). The present experiments confirm this pattern by demonstrating that mild negative moods also increase fairness and sensitivity to the needs of others.

#### Limitations and future prospects

As we have seen, mood effects on selfishness may be highly dependent on the processing strategies adopted by allocators (Fiedler, 2001; Forgas, 1995, 2002; Sedikides, 1995), which in turn are often influenced by a variety of contextual factors. Having the

power to impose one's preferences (as in the dictator game) represents a simple, minimalist measure of selfishness vs. fairness with considerable face validity. Other kinds of interpersonal decisions involving a variety of contextual influences may well recruit different processing approaches, and may produce different results, as has been found in the voluminous literature on altruism and helping (Batson, 1991; Dovidio et al., 2006). Mood may also affect decisions differently when the other party is familiar, has a say in the outcome (as is the case in other economic games such as the ultimatum game), has a chance to reciprocate, or when being more generous produces personal benefits. Investigating such issues deserves further attention.

Could it be that the negative mood induction films used in Experiments 2 and 3, featuring sad themes, may have primed attitudes of empathy, or perhaps induced 'mortality salience' resulting in less selfish allocations in negative mood? This seems unlikely, as Experiment 1 used a non-film mood induction procedure, and Experiments 2 and 3 used thematically different films, yet all three found similar effects. Thus, thematic priming or increased mortality salience are not a plausible or parsimonious explanation for the pattern of findings across all three experiments. Further, allocating rewards to self and others in the dictator game is a rather de-contextualized task unlikely to be influenced by primed feelings of interpersonal empathy, or terror management strategies.

Another question concerns the generalizability and external validity of our findings. As our results were consistent across three experiments, we can be reasonably confident about their reliability. However, it would be desirable to replicate these effects in other real-life situations, with different decision tasks and a variety of partner relationships. Also, we focused on the decisional consequences of mild mood states here; more intense and specific emotions like anger, disgust, pride or embarrassment might have different effects, a question deserving further investigation (Lerner & Keltner, 2001).

In conclusion, interpersonal allocations involving a conflict between selfishness and fairness represent a common everyday task that seems open to affective influences. These experiments extend research on affect and social cognition (Bower, 1981; Fiedler, 2001; Fiedler & Bless, 2001; Forgas, 1995, 2002) to the new domain of selfishness and fairness in the dictator game, and show that negative mood can reduce, and positive mood increase selfishness. Our results are broadly consistent with recent affect-cognition theorizing (Bless & Fiedler, 2006), and suggest that further research on affective influences on interpersonal strategies is likely to be of considerable theoretical as well as applied interest.

#### References

- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Bless, H. (2000). The interplay of affect and cognition: The mediating role of general knowledge structures. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 131–152). New York: Cambridge University Press.
- Bless, H., & Fiedler, K. (2006). Mood and the regulation of information processing and behavior. In J. P. Forgas (Ed.), *Affect in social thinking and behavior* (pp. 65–84). New York: Psychology Press.
- Bolton, G. E., Katok, E., & Zwick, R. (1998). Dictator game giving: Rules of fairness versus acts of kindness. *International Journal of Game Theory*, 27(2), 269.
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, 36, 129–148.
- Clare, G. L., & Storbeck, J. (2006). Affect as information about liking, efficacy and importance. In J. P. Forgas (Ed.), *Affect in social thinking and behavior* (pp. 123–143). New York: Psychology.
- Dovidio, J. F., Piliavin, J. A., Schroeder, D. A., & Penner, L. A. (2006). *The social psychology of prosocial behavior*. Mahwah, NJ: Erlbaum.
- Fiedler, K. (2001). Affective influences on social information processing. In J. P. Forgas (Ed.), *Handbook of affect and social cognition* (pp. 163–185). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Fiedler, K., & Bless, H. (2001). The formation of beliefs in the interface of affective and cognitive processes. In N. Frijda, A. Manstead, & S. Bem (Eds.), *The influence of emotions on beliefs*. New York, NY: Cambridge University Press.

- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39–66.
- Forgas, J. P. (1998). Happy and mistaken? Mood effects on the fundamental attribution error. *Journal of Personality and Social Psychology*, 75, 318–331.
- Forgas, J. P. (1999). Feeling and speaking: Mood effects on verbal communication strategies. *Personality and Social Psychology Bulletin*, 25(7), 850–863.
- Forgas, J. P. (2002). Feeling and doing: Affective influences on interpersonal behavior. *Psychological Inquiry*, 13(1), 1–28.
- Forgas, J. P. (2007). When sad is better than happy: Mood effects on the effectiveness of persuasive messages. *Journal of Experimental Social Psychology*, 43, 513–528.
- Forgas, J. P., & Bower, G. H. (1987). Mood effects on person perception judgements. *Journal of Personality and Social Psychology*, 53, 53–60.
- Forgas, J. P., & East, R. (2008). On being happy and gullible: Mood effects on scepticism and the detection of deception. *Journal of Experimental Social Psychology*, 44, 1362–1367.
- Forgas, J. P., & Fiedler, K. (1996). Us and them: Mood effects on intergroup discrimination. *Journal of Personality and Social Psychology*, 70, 28–40.
- Forgas, J. P., Goldenberg, L., & Unkelbach, C. (2009). Can bad weather improve your memory? A field study of mood effects on memory in a real-life setting. *Journal of Experimental Social Psychology*, 44, 254–257.
- Forgas, J. P., Haselton, M., & von Hippel, W. (2007). *Evolution and the social mind*. New York: Psychology Press.
- Forgas, J. P., Vargas, P., & Laham, S. (2005). Mood effects on eyewitness memory: Affective influences on susceptibility to misinformation. *Journal of Experimental Social Psychology*, 41, 574–588.
- Forsythe, R., Horowitz, J. L., Savin, N. E., & Sefton, M. (1994). Fairness in simple bargaining experiments. *Games and Economic Behavior*, 6(3), 347–369.
- Haselhorn, M. P., & Mellers, B. A. (2005). Emotions and cooperation in economic games. *Cognitive Brain Research*, 23, 24–33.
- Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology*, 81, 146–159.
- Pillutla, M. M., & Murnighan, J. K. (1995). Being fair or appearing fair: Strategic behavior in ultimatum bargaining. *Academy of Management Journal*, 38, 1408–1426.
- Schwarz, N. (1990). Feelings as information: Informational and motivational functions of affective states. In E. T. Higgins & R. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 527–561). New York: Guilford Press.
- Sedikides, C. (1995). Central and peripheral self-conceptions are differentially influenced by mood: Test of the differential sensitivity hypothesis. *Journal of Personality and Social Psychology*, 69, 759–777.
- Trope, Y., Ferguson, M., & Raghunathan, R. (2001). Mood as a resource in processing self-relevant information. In J. P. Forgas (Ed.), *The handbook of affect and social cognition* (pp. 256–274). Mahwah: Erlbaum.
- Unkelbach, C., Forgas, J. P., & Denson, T. F. (2008). The turban effect: The influence of muslim headgear and induced affect on aggressive responses in the shooter bias paradigm. *Journal of Experimental Social Psychology*, 44, 1409–1413.
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, 35, 151–175.