

# When Perspective Taking Increases Taking: Reactive Egoism in Social Interaction

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Group members often reason egocentrically, believing that they deserve more than their fair share of group resources. Leading people to consider other members' thoughts and perspectives can reduce these egocentric (self-centered) judgments such that people claim that it is fair for them to take less; however, the consideration of others' thoughts and perspectives actually increases egoistic (selfish) behavior such that people actually take more of available resources. A series of experiments demonstrates this pattern in competitive contexts in which considering others' perspectives activates egoistic theories of their likely behavior, leading people to counter by behaving more egoistically themselves. This reactive egoism is attenuated in cooperative contexts. Discussion focuses on the implications of reactive egoism in social interaction and on strategies for alleviating its potentially deleterious effects.

*Keywords:* reactive egoism, egocentrism, perspective taking, negotiation, conflict

People in the midst of disagreements often fail to see “eye to eye.” Plaintiffs consistently request larger damage awards than defendants are willing to give. Environmentalists consistently demand more extensive changes to industrial practices than industry representatives believe are reasonable. And labor unions predictably argue that management undervalues their efforts, whereas management predictably argues that increasing salaries would reduce profitability and hasten bankruptcy. In just one of many recent examples, players from the National Hockey League were “locked out” of play by team owners in the summer of 2004, and the subsequent season was eventually canceled, at least in part, because players rejected a proposed salary cap that they considered to be patently unfair but that owners claimed was necessary to run a sustainable business. Divergent interests can lead to divergent perspectives, and failing to understand an opposing side's perspective can lead to egocentric assessments of fairness and can create

interpersonal conflict (Babcock & Loewenstein, 1997; Bazerman & Neale, 1982; Messick, 1995).

When such problems with psychological vision arise, a seemingly simple and effective strategy for determining the optimal solution would be to actively consider an opposing side's perspective. Labor union representatives, for instance, would seem well advised to consider management's likely concerns before going to the negotiating table. So too would environmentalists seem wise to consider constraints faced by industry representatives in order to propose changes that are likely to be implemented. And indeed, reducing egocentric biases by considering another person's perspective has been found to have a variety of beneficial effects in social interaction. Considering others' perspectives, for instance, increases the likelihood of helping another person in need (Batson, 1994), reduces the use of stereotypes when forming impressions (Galinsky & Moskowitz, 2000), increases negotiation effectiveness (Neale & Bazerman, 1983), and diminishes a variety of problematic egocentric biases in judgment (Savitsky, Van Boven, Epley, & Wight, 2005; Wade-Benzoni, Tenbrunsel, & Bazerman, 1996). It is therefore of little surprise that actively considering the other side's perspective is considered to be a critical component of successful conflict resolution (Paese & Yonker, 2001).

In this article, however, we suggest that the consequences of considering others' perspectives in social interactions may be more complicated than these positive results might suggest. Although reducing an egocentric focus on one's own concerns and interests by considering others' thoughts and perspectives may make an optimal solution more readily accessible, we suggest it can ironically lead people to behave in an even less optimal fashion. The reason involves the thoughts, attitudes, and likely behaviors that are activated when people shift their focus from their own concerns and interests to consider the concerns and interests of others. In particular, considering others' concerns and interests may high-

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light self-interested motives in others' perceptions or likely behavior.

A person selling a house, for instance, who considers a buyer's perspective might now be more focused on a buyer's interest in obtaining a low selling price. Although this seller may now recognize that his or her house may be worth less than originally thought, he or she may also now feel compelled to demand an even higher selling price to balance out a presumably low offer from the other side in order to obtain a fair offer. Or an oil executive who considers environmentalists' concerns may recognize the benefits of making environmentally friendly changes but may actually be even less willing to offer these changes in order to combat the presumably extreme demands that the environmental lobby is likely to make. Or team owners who try to predict the salary demands of their players may concede that the athletes deserve a pay increase but the owners may actually suggest a pay decrease to counteract the exaggerated demands they come to expect from the players' union. We suggest in this article that reducing an egocentric focus on one's own concerns and interests by considering others' perspectives in social interaction may reduce egocentric biases in judgment, but it may also lead to *reactive egoism* in behavior (i.e., egoistic or self-serving behavior in reaction to the presumably egoistic behavior of others).

Notice that our predictions about the consequences of perspective taking focus solely, at this point, on what psychologists commonly refer to as *cognitive perspective taking*. Cognitive perspective taking involves intuiting, as accurately as possible, another person's thoughts, feelings, attitudes, interests, or concerns in a particular situation (Chartrand & Bargh, 1999; Davis, 1983; Epley, Savitsky, & Gilovich, 2002; Mead, 1934; Savitsky, Epley, & Gilovich, 2001; Stotland, 1969). Although very common in daily life, this form of perspective taking is also very specific and should not be confused with other meanings of the term such as empathizing with another person's distress (Batson, 1994), simulating one's own reactions in another person's situation (*imagine-self perspective*; Stotland, 1969; see also Galinsky & Moskowitz, 2000), or visually "seeing" a scene from another person's perspective (Piaget, 1932/1965). Whether the predictions we make about the consequences of cognitive perspective taking generalize to these other forms of perspective taking is an issue we consider further in the General Discussion.

Notice also that our predictions about the consequences of perspective taking involve a critical interaction between judgment and behavior. In particular, we predict that considering others' perspectives should decrease egocentric or self-centered biases in judgments of what is objectively fair but should increase egoistic or self-interested behavior compared with those who remain more egocentrically focused and do not consider others' perspectives. Homeowners who consider a buyer's perspective may believe their house is not worth as much as they would have thought but will ask for more nonetheless. An oil executive may see the wisdom in an environmentally friendly policy but may offer fewer environmentally friendly changes. And a team owner may privately value a star player's skills more after taking the player's perspective but may offer a smaller salary at the negotiating table. Understanding this interaction between judgment and behavior therefore requires two separate explanations, one detailing why considering others' perspectives should reduce egocentric biases in judgment and another detailing why considering others' perspectives should in-

crease egoism in behavior. We offer each of these explanations in turn.

### Egocentrism in Judgment

Some people occasionally report out-of-body experiences, but life for most people is very much an in-body enterprise. People perceive the world directly through their own sensory organs and interpret those perceptions by using schemas and expectations that are firmly planted in their own brains. This means that one's own unique perspective on the world is immediately and easily available, whereas others' perspectives must be deliberately inferred. Experience is faster and more reliable than inference, meaning that a person's egocentric perspective generally serves as a default in judgment that must be deliberately corrected or adjusted when necessary. Because such correction processes are notoriously insufficient (Epley & Gilovich, 2004; Gilbert, 2002; Tversky & Kahneman, 1974), many social judgments are egocentrically biased. For instance, people tend to overestimate the extent to which others share their knowledge, preferences, and attitudes (Keysar & Bly, 1995; Keysar, Ginzel, & Bazerman, 1995; Nickerson, 1999; L. Ross, Greene, & House, 1977), overestimate the extent to which others attend to their behavior and appearance (Gilovich, Medvec, & Savitsky, 2000; Gilovich, Savitsky, & Medvec, 1998), and overestimate the extent to which others' impressions of them will match their self-assessments (Epley et al., 2002; Kenny & DePaulo, 1993; Savitsky et al., 2001).

More relevant for the current research, people's assessments of fairness in social interactions tend to be egocentrically biased as well (Babcock & Loewenstein, 1997; Paese & Yonker, 2001). People tend to believe that they deserve more credit for collaborative endeavors than is logically (and statistically) possible (Leary & Forsyth, 1987; M. Ross & Sicoly, 1979) and that they also deserve a larger share of available resources than others believe is fair (Babcock & Loewenstein, 1997). In one study, for instance, participants believed that they should be paid nearly \$5 more, on average, than their partner for identical work (Messick & Sentis, 1983). In another, plaintiffs in a mock court case believed it was fair for them to receive approximately twice as much in damages, on average, than defendants believed was fair (Loewenstein, Issacharoff, Camerer, & Babcock, 1993). What is more, these participants believed that their egocentric biases would be shared by the trial judge as well (Babcock, Loewenstein, Issacharoff, & Camerer, 1995; Loewenstein et al., 1993). These egocentric perceptions of fairness can then create conflict between individuals and groups. In the mock court case just described, the magnitude of egocentric biases between plaintiffs and defendants significantly predicted an impasse that required third-party adjudication. Similar negative influences of egocentric biases have been reported elsewhere (Thompson & Loewenstein, 1992; Wade-Benzoni et al., 1996).

Such egocentric biases in fairness and resource allocation appear to arise from both motivational and cognitive sources. Motivationally speaking, people are likely to seek evidence consistent with preferred or self-interested outcomes and to evaluate evidence inconsistent with these preferred outcomes more critically than evidence consistent with preferred outcomes (Dawson, Gilovich, & Regan, 2002; Ditto & Lopez, 1992; Ditto, Scepansky,

Munro, Apanovitch, & Lockhart, 1998; Lord, Ross, & Lepper, 1979).

More relevant for the current research, however, are cognitive mechanisms that render evidence supporting self-serving assessments of fairness more readily accessible than evidence supporting self-defeating assessments. People are more likely to notice and to attend to their own contributions to group endeavors than to others' contributions, making a self-serving allocation of rewards seem justifiable (M. Ross & Sicoly, 1979; Thompson & Kelly, 1981). So too are people likely to be more focused on their own interests and concerns than on others' interests and concerns, leading them to notice and to attend to information that supports their interests more than information that supports others' interests (Lord, Ross, & Lepper, 1979), to weight such supportive evidence more heavily in judgment (Babcock et al., 1995; Messick & Sentis, 1979), and to recall more easily such supportive evidence in memory (Thompson & Loewenstein, 1992). One reason people believe it is fairer to satisfy their own interests than others' interests is because they do not notice, attend to, or care about others' interests as much as their own. These results make it clear why increasing the focus on others' contributions and interests may highlight information that an individual might have naturally overlooked and might reduce self-serving allocations of responsibility and judgments of fairness (Savitsky et al., 2005).

### Reactive Egoism in Behavior

If failing to consider others' perspectives in social interaction creates egocentric biases and conflict, and if considering others' perspectives can reduce egocentric biases that apparently create such conflict, then it is more of a logical syllogism than an empirical hypothesis that considering others' perspectives should reduce interpersonal conflict. Although this analysis is perfectly logical, it is not perfectly psychological for three reasons.

First, people's judgments need not match their behavior. People eat Twinkies when they know they should not, spend money when they know they should be saving, and go on vacations when they know they should be working. In one of many empirical examples of this divergence between attitudes and behavior, undergraduates in one experiment universally expressed anger at the lack of adequate student housing on campus, but only those personally affected actually took action to fix the problem (Regan & Fazio, 1977). Similarly, knowing what is fair in a social interaction or negotiation and behaving fairly are two very different things (Batson, Kobrynowicz, Dinnerstein, Kampf, & Wilson, 1997; Batson, Thompson, & Chen, 2002). Altering people's egocentric assessments of fairness does not therefore necessitate an analogous change in behavior.

Second, much of social interaction is strategic, aimed at achieving some underlying goal. This is especially true in the competitive contexts that lead to divergences in interests and create conflict like those mentioned in the opening paragraph. Altering people's otherwise egocentric focus on their own concerns and interests may make a purely egocentric allocation of resources, for instance, seem unfair, but it is unlikely to alter the underlying interests and concerns on which these egocentric perceptions were based. As a result, behavior may be less likely to change in competitive or strategic interactions than might perceptions of fairness, making a

disconnect between judgment and behavior especially likely in these contexts.

Finally, and perhaps most importantly, reducing egocentric biases in social interaction by shifting the focus to others' perspectives means that people's behavior is now likely to be determined in large part by what they see when they look into the mind of those people. Several empirical findings suggest that such perceptions are unlikely to be especially flattering or conducive to cooperative behavior. Chief among them is that people tend to believe they are fairer and more moral than are others (Allison, Messick, & Goethals, 1989; Epley & Dunning, 2000; Messick, Bloom, Boldizar, & Samuelson, 1985). Considering what another person is likely to believe is a fair resolution to a dispute will almost certainly highlight a resolution that appears anything but fair.

But not only do people believe they are fairer than others in a relative sense, research has suggested that people may believe that others are patently unfair and self-interested in an absolute sense. People tend to assume that others' behavior is guided by their self-interest with relatively little concern about fairness or justice (Kramer, 1994), a belief that would not be especially problematic except that it often exaggerates the impact of self-interest on others' attitudes and thoughts (Miller, 1999; Miller & Ratner, 1998). In one study, for instance, spouses were asked to allocate responsibility for a series of positive as well as negative marital tasks (e.g., resolving conflicts and causing arguments, respectively), and to anticipate how their spouse would allocate responsibility for these same tasks (Kruger & Gilovich, 1999). Spouses actually allocated responsibility in a self-centered way, claiming more responsibility for both positive and negative tasks (see also M. Ross & Sicoly, 1979). Spouses believed their partners, however, would allocate responsibility in a self-serving way by claiming more responsibility for positive tasks but less responsibility for negative tasks. People's judgments of the external world may or may not be distorted by their self-interest, but it is clear that they are not as distorted by self-interest as others believe them to be.

Notice how this *naive cynicism* (Kruger & Gilovich, 1999) can work against benefits otherwise gleaned from reducing egocentric biases in social interaction. Looking into the minds of others may highlight cynical and self-interested motivations that would have been otherwise overlooked if people were egocentrically focused on their own interests and concerns. To counteract these presumably selfish motivations in others, people may react by behaving even more selfishly in return. This hypothesis is consistent with the *reciprocity norm* observed in bargaining negotiations (Esser & Komorita, 1975), in which the behavior of one person often leads to similar (if not identical) behavior in another.

In addition, predictions about another's behavior can influence how one decides to act. For instance, in one prisoner's dilemma game, those who defected anticipated approximately four times as much defection from others compared with those who cooperated (Dawes, McTavish, & Shaklee, 1977). What's more, people tend to fear that they will be exploited by the selfish behavior of others if they behave charitably and are therefore motivated to behave in line with their own self-interest (Kelley & Stahelski, 1970; Messé & Sivacek, 1979). When people expect others to behave selfishly, such reactive egoism could heighten rather than diminish conflict and disagreement in social interaction, producing exactly the op-

posite results that adopting others' perspectives was designed to produce.

### Current Research

We therefore predicted that considering others' perspectives in social interactions—namely competitive social interactions—would decrease egocentric biases in perceptions of fairness and resource allocations but would ironically increase egoistic behavior in those interactions compared with people who did not consider others' perspectives. We tested these hypotheses in four separate experiments involving both simulated (Experiments 1, 2, 3, and 5) as well as actual (Experiment 4) resource allocation negotiations. We predicted that reactive egoism would be caused by the increasingly cynical thoughts that were activated upon considering others' perspectives, and we tested this hypothesis directly in Experiments 2 and 4. Finally, we investigated the extent to which reactive egoism in social interaction would be moderated by the competitive versus cooperative nature of the interaction. Cynical thoughts about others' behaviors should be especially likely to come to mind in competitive environments when others' interests are opposed to one's own but should be less likely in cooperative environments where interests align. We tested this situational moderator in Experiments 4 and 5.

### Experiment 1: Fish

*Commons dilemmas* provide textbook contexts for observing egocentric biases and conflict in social interaction. Such dilemmas involve multiple parties making decisions that affect all of their final outcomes. Commons dilemmas are defined by a context in which each party has a choice to cooperate or defect (or to select a behavior on a continuum between the two) in which all parties would benefit through mutual cooperation but individuals would profit through defection.

In real life, people often fail to solve these dilemmas optimally. Too few behave in a manner that is best for the group as a whole, and the fixed pool of resources is quickly depleted. Such a case happened with commercial fishermen in the North Atlantic in the 1980s who overharvested the once abundant cod until it was on the brink of collapse and the fishery was closed by government regulators (and it is still closed to this day). We modeled Experiment 1 after this very incident by adapting the Shark Harvesting and Resource Conservation (SHARC) case (Wade-Benzoni et al., 1996), a negotiation exercise based on the North Atlantic fishery collapse.

In this simulated negotiation exercise, participants were assigned to represent one of four fishing industries and eventually to indicate the percentage of the overall fish stock that was fair for them to take as well as the percentage of the stock that they would actually take. Some groups completed these measures after considering other group members' perceptions of fairness, whereas others did not consider others' perceptions. We predicted that those who considered other group members' perceptions of fairness would report that it was fair for them to take less of the overall fishing stock but would actually take more of the stock compared with participants who did not consider the other members' perceptions.

### Method

#### Participants

Harvard University undergraduates ( $N = 160$ ) participated in this experiment as a class exercise in an introductory social psychology course. The course featured 2 lectures and 1 small discussion section per week. There were a total of 13 discussion sections in this course, each consisting of 14 to 18 students.

#### Procedure

Students within each section were divided into groups of 4, and participants within each group were randomly assigned to one of the four following association representative roles: "Large Commercial Fishers Association," "Small Commercial Fishers Association," "Recreational Competition Fishers Association," and "Recreational Tours Association." Two days before their section meeting, students received an e-mail containing a general overview of the SHARC case and their confidential role-specific information and instructions. Students were instructed to read through the materials and to prepare to interact with classmates representing the other three roles in the simulated conference, but they did not complete any dependent measures at this time.

These materials informed participants that they would be participating in a conference as a spokesperson for one of the four fishing associations mentioned above, all of which depend on shark fishing for income. The goal of the conference was to address the overharvesting crisis by determining the amount that each association of fishers should reduce their current harvesting level in order to preserve the fish stocks. The commercial fishers harvest more shark than the recreational fishers and are also less concerned with the future harvest of any particular species as switching to a different type of fish is relatively easy for them. The dilemma is therefore asymmetric in that each organization contributes a different amount to the current overharvesting problem and depends on the future health of the resource to a different extent, thereby creating different interests and concerns among the associations.

In trying to reach agreement about harvest reductions, participants from each association wanted to (a) maximize current profit and (b) avoid depleting the number of sharks left that would jeopardize future harvests. Participants received a formula to enable profit calculations on the basis of the combined harvesting levels of all groups, and they learned that each of the associations was currently harvesting at their maximum capacity such that the overall harvest would have to be cut in half to maintain a sustainable population (from a current total harvest of 5,000 metric tons to a total of 2,500 metric tons). Participants were told that all relevant concerns were accounted for in the information and profit equations that they received. Exact details of the profit calculations and equations participants received are available from the authors.

*Experimental conditions.* On arrival to the section meeting, participants were asked to review the materials they received over e-mail and to complete the first dependent measure in the experiment: estimates of fair harvesting levels. All participants indicated what they believed to be fair harvesting levels before being separated into individual groups for their discussion with the other association representatives. The way in which participants completed this dependent measure served as our key independent variable.

Participants in approximately half of the groups (i.e., the self-focused condition) were simply asked, "Of the total harvest taken, what do you think is a fair percentage for your group to harvest?" Participants in the remaining groups (i.e., the other-focused condition) first considered the perspectives of the other group members before indicating what was fair for them to harvest. In particular, participants in these groups were first told, "Please take a minute to think about the other groups. As you can imagine, they may have different priorities than you do and are likely to view this situation from a different perspective. Thinking about the other

groups, what amount will each of them indicate is fair for them to harvest?" These participants were then asked, "Now, what do you think are fair harvesting levels for each group, including your own?" The order of the list of associations was held constant throughout all versions to minimize order effects.

Assignment to the self-focused or other-focused conditions was done at the level of the course section to ease presentation of the stimulus materials in the large group setting. Random assignment to the self-focused versus other-focused groups was done at the level of the group, whereas assignment to each of the four roles was done randomly within each group.

*The simulated conference.* Students from each role were randomly assigned to groups of 4 when they arrived for their section meeting such that one representative from each of the four roles was included in each group. Because each group needed to have representation from just one of the roles, only complete groups of 4 were included in the analysis.

Each group was sent to a separate room with instructions to discuss how much each association would harvest. The first dependent measure form (which they had already completed) was collected from participants as they entered the room. Participants were told that they could follow any format they wished in discussing the issues and the potential solutions but that they were not allowed to make any binding commitments to specific harvesting levels (as happens in many real-life negotiations). After 25 min of discussion, the experimenter entered the room and distributed the second set of materials. Participants received role-specific final instructions, including the final two dependent measures. Participants left the discussion rooms and moved into a large lecture hall to ensure privacy and confidentiality when filling out the final forms.

*Final dependent measures.* The final instructions reminded the spokespersons of the interests and goals of their associations. Participants once again indicated what they believed to be fair harvesting levels on a form similar to the one they completed before discussion. Participants in both groups then recorded their actual harvesting level for the next year. Participants handed in their forms and were told that the researchers would perform the relevant calculations and would share aggregate results with the class during the next lecture (which they did as promised).

## Results

### Fairness Estimates Before Discussion

Participants in both conditions estimated the percentage of the available harvest that they thought was fair for their group to take. The fairness estimates for each of the four roles were summed within each group to create a measure of fairness for the group as a whole. As can be seen in Table 1, groups in the self-focused condition claimed it was fair for them to harvest significantly more (133%) than groups in the other-focused condition (113%),  $t(38) = 3.04, p < .005$ . Getting participants to think about their fellow group members by considering their perceptions of fairness caused a significant reduction in egocentric assessments of fairness. This manipulation did not eliminate egocentric assessments of fairness, however. The 113% claimed fair in the other-focused condition was still significantly higher than the normative baseline of 100%,  $t(19) = 3.48, p < .005$ .

### Fairness Estimates After Discussion

After the group discussion, all participants again estimated the percentage of the available harvest that they thought was fair for their group to take. This discussion session allows representatives from the different associations to talk with one another and share their thoughts on the harvesting situation. The original demonstration of this simulation (with conditions similar to the self-focused

Table 1  
*Perceptions of Fair Allocations and Actual Behavior Among Groups in the Self-Focused and Other-Focused Conditions (Experiment 1)*

Focus condition	Fair to harvest (%)		Actual harvest	
	Before discussion	After discussion	Tons	% of total
Self	133	111	2,846	56.9
Other	113	116	3,620	72.4

*Note.* Percentages listed in the first two columns are the summed percentage of the total harvest participants believed was fair for their association to take. Figures reported in the third column are the metric tons of the fishing stock that groups, on average, would actually harvest. The percentages of total reported in the far right column are out of the total metric tons available for harvest (5,000) rather than out of the total metric tons available for a sustainable harvest (2,500).

condition) found that egocentric assessments of fairness were stronger before discussion than after discussion (Wade-Benzoni et al., 1996). We replicated that result here. Groups in the self-focused condition claimed it was fair for them to take 133% of the harvest before discussion but only 111% after discussion,  $t(19) = 5.54, p < .001$ . Groups in the other-focused condition claimed it was fair for them to take 113% before discussion and 116% after discussion,  $t(19) < 1, ns$ . These fairness estimates after discussion did not differ between conditions,  $t(38) < 1, ns$ , suggesting that just thinking about others produces similar effects on fairness judgments as does actually talking to them in this situation. The repeated measures interaction for fairness estimates before and after discussion across conditions was significant,  $F(1, 38) = 21.26, p < .001$ .

### Actual Behavior

We predicted that considering others' perspectives would decrease egocentric judgments of fairness but would actually increase egoistic behavior. Results confirmed this prediction. Despite claiming that they deserved to take less before discussion, groups in the other-focused condition actually ended up taking more of the available harvest than did groups in the self-focused condition,  $t(38) = 5.57, p < .001$ . Other-focused groups took 72.4% of the available harvest compared with the 56.9% taken by the self-focused groups. This translated into lower profits for groups in the other-focused condition ( $M = \$62.4$  million) than for groups in the self-focused condition ( $M = \$68.6$  million). Although self-focused groups consumed less than did other-focused groups, it is worth noting that both of these figures are significantly larger than the 50% figure required for a sustainable harvest,  $t_s(19) = 12.35$  and  $3.29$ , respectively (both  $ps < .01$ ).

This pattern of behavior, coupled with the fairness judgments, is consistent with our predictions. Considering others' perspectives led groups to report that it was fair for them to take less of the overall harvest than groups in the self-focused condition before the group discussion, but groups in the other-focused condition actually took more of the overall harvest than groups in the self-focused condition. To test for the statistical significance of this interaction, we standardized both fairness judgments and harvest

amounts and submitted them to a 2 (condition: self-focused vs. other-focused)  $\times$  2 (measure: fairness judgments vs. harvest behavior) analysis of variance (ANOVA) with repeated measures on the second variable. The predicted interaction was indeed significant,  $F(1, 38) = 43.48, p < .001$ .

### Discussion

These results confirmed all of our major predictions. Egocentric biases in judgments of fairness were reduced by leading participants to consider the perspectives of their other group members, but this reduction did not lead to an analogous change in behavior. Although these participants reported that it was fair for them to take less of the shared resource, they actually ended up taking more of that resource compared with participants whose egocentric biases in judgment remained intact.

It is worth noting that the self-focused and the other-focused groups did not differ in their stated judgments of fairness after discussion; hence, the consideration of others' concerns and interests before discussion seems to be responsible for the observed differences in subsequent egoistic behavior rather than being simply a drop in egocentric allocations of fairness. This suggests that people's actions in this context are guided more strongly by their beliefs about how others are likely to behave rather than by what they believe is objectively fair for themselves to take. This result is consistent with our hypothesis that considering others' concerns and interests activates beliefs about others' behavior, which, in turn, lead people to behave more selfishly themselves. This result also suggests that simply being made aware of the reality constraints involved in the situation by attending to everyone's needs and thinking about it more carefully is insufficient to account for the complete pattern of results we observed in the other-focused conditions. Looking into the minds of others and intuiting their thoughts and likely behavior increased egoistic behavior, but simply talking with others did not.

We interpret these behavioral results as a form of reactive egoism. Considering others' perspectives highlighted, we believe, self-interested motives and likely actions on the part of other group members. Believing that others would behave selfishly led participants to behave more selfishly as well, even though they indicated indirectly that such behavior was unfair. Such cynical thoughts were unlikely to be considered, or processed as fully, when participants were not explicitly led to consider others' perspectives.

Experiment 1, however, was intended as a demonstration of our main phenomena rather than as a test of its underlying mechanism. To test this mechanism more directly, we conducted a follow-up simulation with a new group of 50 participants, each of whom imagined being a representative of the "Recreational Competition Fishers Association." These participants did not engage in the actual exercise with other participants but instead simply read all of the role-relevant materials from the SHARC exercise and reported what they believed was fair for their association to harvest and then to indicate what they would actually harvest. When finished, all participants also indicated the amount they believed each of the other fishing associations would actually harvest. Via the same procedures as were used in Experiment 1, half of the participants considered others' perspectives before completing these measures, whereas the other half did not.

As in Experiment 1, participants who considered others' perspectives claimed it was fair for them to take less of the harvest ( $M = 13.52\%$ ) than participants who did not ( $M = 25.00\%$ ),  $t(48) = 6.60, p < .001$ , but these participants actually decided to take more of the harvest ( $M = 732.70$  metric tons) than did participants who did not consider others' perspectives ( $M = 629.2$  metric tons),  $t(48) = -2.18, p < .05$ . This again produced a significant Condition  $\times$  Measure interaction,  $F(1, 48) = 49.23, p < .001$ . More important, participants who considered others' perspectives also reported that others would take significantly more of the overall harvest ( $M = 3303.90$  total metric tons) than participants who did not consider others' perspectives ( $M = 2656.30$  total metric tons),  $t(48) = -3.53, p < .001$ . Beliefs about what others would take, however, were only marginally correlated with what participants indicated they would take ( $r = .25, p < .08$ ). These results are therefore suggestive only of the mechanism underlying Experiment 1. We designed Experiment 2, in part, to investigate that mechanism more fully.

### Experiment 2: Grants

Experiment 2 was patterned after a generic resource allocation conflict in which members of different groups compete for a fixed pool of resources. In this experiment, undergraduates were asked to imagine that the dean of their university had received an anonymous donation to improve student life and that this gift was to be distributed among the student residence houses (dorms). Participants imagined that they were elected as a representative of their house and indicated the amount of money they believed was fair for their own group to receive as well as the amount they would actually request from the dean. Half of the participants did so after considering the perspectives of other house representatives, whereas the other half did not consider others' perspectives. We predicted that those who considered others' perspectives would claim that they deserved less money from the dean but would actually request more money compared with participants who did not consider others' perspectives.

When finished with these measures, participants also indicated the amount they expected other representatives would request from the dean. We predicted that those who considered others' perspectives would indicate that other representatives would request more money than participants who did not consider others' perspectives and that this difference would mediate the difference in participants' own requests.

### Method

#### Participants

Two hundred ninety-three Harvard University undergraduates completed an online questionnaire. As compensation, 2 participants were randomly chosen to win \$250 each.

#### Procedure

Participants were sent an e-mail with a link to an online survey. The first question randomly assigned them to either the self-focused ( $n = 141$ ) or the other-focused ( $n = 152$ ) conditions.

The next screen asked participants to consider their current living situation in college. At the end of the 1st year at Harvard University, all

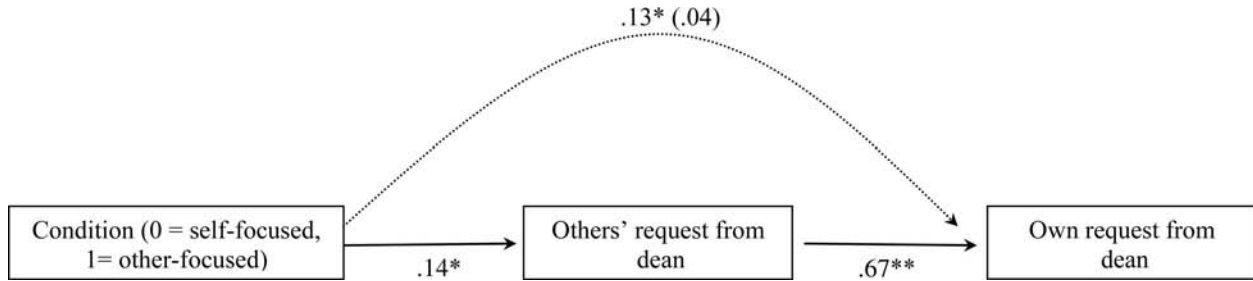


Figure 1. Mediation analysis for Experiment 2. Coefficients are standardized betas. The coefficient in parentheses is the direct relationship between the independent variable (condition) and the dependent variable (own request from the dean), controlling for the proposed mediator (others' request from the dean). \* $p < .05$ . \*\* $p < .01$ .

students are randomly assigned to live in one of 12 "houses" (clusters of dormitories) on campus. They were asked to think about their house and imagine that the dean of the university had received an anonymous donation of \$100,000 to be used "to support and improve student life in the undergraduate houses." The dean would allocate the funds on the basis of both the need of the houses (to support infrastructure, social activities, etc.) as well as the strength of the proposal submitted by the students in each house.

Consistent with Experiment 1, the self-focused group next reported what they thought was a fair percentage of the grant for their house to receive. The other-focused group, in contrast, first took a moment to think carefully about the needs of each house, after which they reported what they thought was a fair percentage for each house to receive (including their own).

Following the fairness estimates, participants in both groups were told to imagine that they had volunteered to act as a representative for their house to put together the proposal for the dean. Everything about the proposal was said to be complete except for the amount of money they were going to request from the dean. Following these instructions, participants indicated what amount of the available \$100,000 they would request from the dean in their proposal. Just prior to making this estimate, those in the other-focused group were once again asked to consider the perspectives and the likely behavior of the student representatives from the other houses.

Finally, participants were asked a series of questions to measure their beliefs about the other representatives' likely behavior. Specifically, they were asked to indicate (a) how much money (on average) they thought the other house representatives would request in their proposals, (b) how fair they thought the requests from the other houses would be (0 = *not at all fair*, 10 = *very fair*), and (c) to what extent they thought the other houses would attempt to gain more funding by exaggerating their own need (0 = *not at all*, 10 = *very much*).

## Results

### Fairness Versus Requests

As in Experiment 1, considering others' interests and concerns reduced egocentric assessments of fairness. Participants in the other-focused condition claimed it was fair for them to receive less ( $M = 10.4\%$ ) than participants in the self-focused condition ( $M = 11.9\%$ ),  $t(291) = 2.18$ ,  $p < .03$ . However, when asked how much they would actually request from the dean, those in the other-focused condition actually requested more ( $M = \$14,368$ ) than those in the self-focused condition ( $M = \$12,236$ ),  $t(291) = -2.21$ ,  $p < .03$ . After standardizing these two dependent variables so they could be directly compared, a 2 (condition: self-focused vs. other-focused)  $\times$  2 (measure: fairness versus request) ANOVA

with repeated measures on the second variable revealed that this interaction pattern was significant,  $F(1, 291) = 14.41$ ,  $p < .001$ .

### Predictions About Others

We propose that considering others' perspectives in these competitive contexts activated cynical thoughts about others' likely behavior, leading people to react more egoistically in return. Participants' predictions about the likely behavior of others support this assertion. As expected, those in the other-focused condition thought that representatives of the other houses would request more from the dean ( $M = \$14,790$ ) than those in the self-focused condition ( $M = \$12,130$ ),  $t(284) = -2.32$ ,  $p < .025$ .<sup>1</sup>

Similarly, other-focused participants suspected that representatives from the other houses would be more likely to exaggerate their need ( $M = 6.80$ ) than self-focused participants ( $M = 6.18$ ),  $t(291) = -2.78$ ,  $p < .01$ . The focusing manipulation did not, however, have a significant effect on how fair participants thought the proposals of the other houses would be ( $M_{\text{self-focused}} = 5.40$ ,  $M_{\text{other-focused}} = 5.18$ ),  $t(291) = 0.97$ , *ns*.

To examine whether beliefs about others' likely selfish behavior mediated the impact of condition on participants' own behavior, we followed the mediational procedure outlined by Baron and Kenny (1986). Condition (self-focused or other-focused) served as the independent variable in this analysis, amount participants requested from the dean served as the dependent variable, and estimates of what other house representatives would request served as the mediator. As can be seen in Figure 1, condition had a significant effect on estimates of how much participants would request as well as on how much others would request. When both the independent variable (condition) and the mediator (estimates of others' requests) were entered simultaneously into a regression predicting participants' own request, the effect of condition was no longer significant, but estimates of others' requests were a significant predictor of actual requests. The effect of condition decreased significantly with the addition of estimates about others to the model (Sobel  $z = 2.29$ ,  $p < .025$ ).

<sup>1</sup> Degrees of freedom vary for this analysis because 7 people failed to complete this question.

### Discussion

These results again confirm our key predictions and expand on the demonstration in Experiment 1 in two ways. First, Experiment 2 provided a novel demonstration and expanded on the generalizability of Experiment 1 by using a resource allocation task rather than a commons dilemma. Second, Experiment 2 provided evidence consistent with our proposed mechanism such that participants who considered others' perspectives expected others to be more self-serving and egoistic than participants who did not consider others' perspectives. This perceived egoism from others led people to react by behaving more egoistically themselves and to request more of the pool of fixed resources, even though they reported that they deserved considerably less than they were requesting. Looking into the minds of others can lead people to reduce self-serving assessments, but it can also ironically lead people to behave more self-servingly than they would have otherwise. Instead of removing the barriers to conflict resolution that egocentric biases appear to have put in place, considering others' perspectives may actually make matters worse by activating thoughts about others' self-interested motivations and likely behavior (Miller, 1999). In situations with diverging perspectives, reducing an egocentric focus on one's own interests may not be the most prudent course of action.

There is, however, one notable weakness of Experiment 2. Although mediational analyses support our proposed mechanism of reactive egoism, such results are simply correlational and cannot rule out the opposite causal model—that considering others' perspectives somehow alters people's own behavior and in turn influences people's predictions about others' behavior via egocentric projection. Indeed, reversing the mediator and the dependent variable in the mediational analysis also provides evidence for significant mediation ( $z = 2.18, p < .05$ ). This is not very surprising as the amount participants requested themselves was highly correlated with what they believed others would request ( $r = .67, p < .001$ ).

To be sure, a large amount of existing data has suggested that people do indeed use their own thoughts and behaviors as a guide to others' thoughts and behaviors (e.g., Ames, 2004; Epley, Keysar, Van Boven, & Gilovich, 2004; Krueger & Clement, 1994; L. Ross et al., 1977), but we believe that there are two reasons to doubt that this reverse causal path explains the pattern of data we observed. The first reason is theoretical. The account we have offered in which perspective taking highlights cynical thoughts about others provides a parsimonious and a priori explanation of both the decrease in egocentric biases in fairness estimates as well as the increase in egoistic behavior. It is harder to see how the reverse causal path could as parsimoniously account for this interaction between judgments of fairness and behavior. Our inability to identify a compelling alternative does not, of course, mean that such an alternative does not exist.

The second reason is empirical. Although the correlation in Experiment 2 between the amount that participants requested and the amount they believed others would request was generally very strong, it was significantly stronger in the other-focused condition ( $r = .70$ ) than in the self-focused condition ( $r = .52, z = 2.49, p < .05$ ). This difference in correlations is consistent (albeit not exclusively so) with our hypothesis that participants' own egoistic behavior in the other-focused condition was a reaction to the

presumed behavior of others rather than simply a projection of their own behavior onto others. The reverse causal story in which participants' own behavior is projected onto others would not predict a difference between these correlations. Notice also that the results of Experiment 1 are inconsistent with this reverse causal path. Egocentric biases in fairness were identical after discussion for both participants who considered others' perspectives and those who did not, but their behavior differed. This divergence between judgment and behavior is consistent with our predictions, but it is inconsistent with an account based solely on egocentric projection from one's own presumed or intended behavior to others' presumed or intended behavior.

These reasons are consistent with our theoretical account, but they are only suggestive and may also be consistent with other alternative interpretations of Experiments 1 and 2. Stronger support for our proposed mechanism rather than this alternative account would therefore come from an experiment that directly manipulates the proposed mediator rather than one that simply measures it, which pits these two accounts directly against one another. Experiment 3 does exactly that.

### Experiment 3: Grants, Take Two

We propose that the reactive egoism observed in Experiments 1 and 2 stemmed from participants' beliefs about others' selfish behavior (activated by adopting others' perspectives), rather than from participants' own selfish behavior influencing their beliefs about others' behavior. To test between these two accounts, we designed an experiment in which either we manipulated participants' predictions about their own behavior and then measured their predictions about others' behavior, or we manipulated participants' predictions about others' behavior and measured participants' predictions about their own behavior. In particular, participants in Experiment 3 considered the same resource allocation dilemma used in Experiment 2. One group of participants (those in the manipulate-others condition) first indicated either the highest or lowest plausible amount of money that they believed the other house representatives would request, on average, and then indicated the amount they would actually request. The other group of participants (those in the manipulate-self condition) did precisely the opposite—they first indicated either the highest or lowest plausible amount they would request from the dean and then indicated the amount they believed the other house representatives would request, on average. The account we have offered predicts that manipulating predictions about others' behavior will have a stronger effect on participants' predictions about their own behavior than vice versa. The alternative account based on egocentric projection, in contrast, would predict that manipulating predictions about one's own behavior would have a stronger effect on predictions of others' behavior than vice versa.

### Method

#### Participants

One hundred thirty-six Harvard University undergraduates completed an online questionnaire. As compensation, 1 participant was chosen at random to win \$250. This participant pool was the same as that used in Experiment 2, so 5 participants who also participated in Experiment 2 were excluded from the following analyses.



### Procedure

The materials were identical to those used in Experiment 2, but the procedure varied in several important ways. After reading the experimental materials, participants in the manipulate-others condition were reminded that the dean had a limited amount of funds to distribute and that everyone was therefore recommended to request either the highest (in the high-request condition) or the lowest (in the low-request condition) amount they believed it was plausible to request. Participants then indicated how much, on average, they thought the other representatives would request from the dean and finally indicated how much they would actually request. Participants in the manipulate-self condition were given the same information but first indicated how much they would actually request and then indicated the amount they believed other representatives, on average, would request.

### Results and Discussion

To test our key hypothesis, participants' responses were submitted to a 2 (condition: manipulate-self vs. manipulate-others)  $\times$  2 (request: high vs. low)  $\times$  2 (target predicted: self vs. other) ANOVA with repeated measures on the last factor. This produced a main effect of request,  $F(1, 132) = 16.56, p < .001$ , qualified by the predicted three-way interaction,  $F(1, 132) = 6.39, p = .01$ . As can be seen in Table 2, participants in the manipulate-others condition matched others' presumed requests quite closely, with no significant difference between predictions of others and requests for self between the high- and low-request conditions; interaction:  $F(1, 68) = .61, p = .44$ . Participants who indicated the highest amount others would request asked for significantly more from the dean themselves ( $M = \$18,291$ ) than those who indicated the lowest amount others would request ( $M = \$9,267$ ),  $t(68) = 2.69, p < .01$ . In the manipulate-self condition, in contrast, a clear discrepancy in what people themselves would request versus what they thought others would request emerged; interaction:  $F(1, 64) = 5.86, p < .05$ . Although participants themselves requested more in the high-request condition ( $M = \$20,364$ ) than in the low-request condition ( $M = \$9,656$ ),  $t(64) = -2.95, p < .01$ , there was no significant difference between these two conditions in the amount participants believed that others would request ( $M_s = \$16,016$  and  $\$13,828$ , respectively),  $t(64) = .85, p = .40$ . Finally, the predicted requests of self and others were strongly correlated in this experiment. But as with Experiment 2, this correlation was significantly stronger in the manipulate-others condition ( $r = .76, p < .001$ ) than in the manipulate-self condition ( $r = .41, p = .001, z = 3.20, p = .001$ ).

Table 2  
Predicted Amount Requested in the High- and Low-Request Conditions for Self and Others Among Participants in the Manipulate-Self Versus Manipulate-Others Conditions (Experiment 3)

Request condition	Manipulate-self		Manipulate-others	
	Self amount	Others' amount	Self amount	Others' amount
High	\$20,364	\$16,016	\$18,291	\$19,000
Low	\$ 9,656	\$13,828	\$ 9,267	\$11,528
Difference	\$10,708	\$ 2,178	\$ 9,025	\$ 7,476

These results are consistent with our theoretical account and are inconsistent with the reverse causal path, but they are not as tightly linked to the empirical findings of Experiment 2 as we would have liked to eliminate all concerns about this alternative interpretation in that experiment. To provide such tightly linked support, we conducted one additional follow-up experiment by using 141 Harvard university undergraduates who again completed an online questionnaire for a chance to win a \$250 lottery. These participants completed a procedure similar to that in Experiment 3; but instead of indicating the highest or lowest plausible values they or others would request, these participants were given the average amount participants thought others would request in the other-focused and self-focused conditions in Experiment 2. In particular, participants in the manipulate-others condition were told that after considering the relevant facts, the other representatives, on average, had decided to request either \$14,367 (in the high-request condition) or \$12,236 (in the low-request condition) from the dean. Participants then indicated how much they would actually request. Participants in the manipulate-self condition, in contrast, were told to imagine that after carefully considering the relevant facts that they had decided to request either \$14,367 (in the high-request condition) or \$12,236 (in the low-request condition). Participants in the manipulate-self condition then indicated how much they believed others, on average, would request from the dean.

As in Experiment 3, manipulating how much participants believed others would request significantly affected how much participants themselves requested from the dean, with those in the high-request condition asking for significantly more ( $M = \$17,338$ ) than those in the low-request condition ( $M = \$13,703$ ),  $t(75) = 2.76, p < .01$ . Manipulating what participants themselves requested, in contrast, had no significant influence on how much they believed that others, on average, would request in the high- ( $M = \$13,957$ ) versus in the low-request conditions ( $M = \$13,716$ ),  $t(62) = 0.16, p = .86$ . The interaction between these two effects approached significance,  $F(1, 137) = 3.02, p = .08$ .

Although the mediational analysis in Experiment 2 is ambiguous with respect to the causal impact of considering others' behavior on influencing one's own behavior (i.e., the causal connection in Experiment 3), in this additional follow-up experiment it is crystal clear. Both experiments demonstrate that considering others' likely behavior had a significant effect on one's own predicted behavior, whereas considering one's own behavior had no significant effect on predictions of others' behavior. This experiment is clearly consistent with our proposed mechanism underlying reactive egoism and is inconsistent with the alternative model based on the reverse causal path in which participants' own behavior influences their predictions of others' behavior.

### Experiment 4: Chocolate Chips

One implication of our account of reactive egoism in social interaction is that such reactive behavior should occur only when the consideration of another's perspective highlights divergent self-interests. Such divergences are the sine qua non of competitive group contexts, but not all group contexts are competitive. Groups often work together in a cooperative fashion to achieve a mutually shared goal. Self-interests in such cooperative contexts converge, rather than diverge, and looking into the minds of others in these contexts should not uncover the diverging self-interests that

emerge in the competitive contexts we have studied thus far. If behavior toward other group members is mediated by what people see when they look into the minds of those group members, then the reactive egoism we observed in Experiments 1, 2, and 3 should be moderated by the competitive versus the cooperative nature of the group. In competitive contexts, considering others' perspectives should increase egoistic behavior. In cooperative contexts, considering others' perspectives should highlight shared interests and therefore should not increase egoistic behavior.

We tested these hypotheses in Experiment 4 by designing an actual commons dilemma in the laboratory. Instead of using simulated behavior as in Experiment 1, Experiment 4 measured actual behavior by having participants take from a fixed pool of resources we supplied to them. In particular, participants in Experiment 4 were asked to bake chocolate chip cookies in the laboratory. The key feature of this experiment was that participants were given only a small amount of premium chocolate chips for the entire group to use in their cookies. The amount of chips (by weight) taken by each participant—analogueous to the amount of fish taken in Experiment 1—served as our key measure of behavior. As in the earlier experiments, half of the participants considered the perspectives of their other group members before indicating the amount of the fixed resource it was fair for them to take, whereas the other half did not.

In addition, half of the groups competed against each other, whereas the other half cooperated with one another. This was accomplished by manipulating the payoff structure of the experiment. Competitive groups were told that the person who made the best cookies in the group would be eligible for a monetary award, whereas cooperative groups were told that the group who made the best cookies would be eligible for a monetary award as a group.

We predicted that considering others' perspectives would decrease egocentric perceptions of fairness regardless of the cooperative or competitive nature of the group but that it would increase egoistic behavior only in the competitive contexts. We therefore predicted a significant interaction between judgment and behavior among those in the competitive groups. Because cooperative contexts should highlight shared rather than divergent interests, we did not predict the same interaction between judgment and behavior among those in the cooperative condition.

## Method

### Participants

Ninety-four Harvard University undergraduates participated in this study in exchange for \$15 or partial course credit.

### Procedure

Participants were greeted by an experimenter in a waiting area immediately upon arrival to the laboratory and were then led to an individual testing room. They were told that they would be baking chocolate chip cookies in this experiment and that they would have to share a limited amount of ingredients with 5 other group members. They were informed that there were just enough ingredients for everyone to bake with their given recipes. All were told that their cookies would be tasted and rated by an independent judge.

Participants in the cooperative conditions were told that they would receive a team score based on the average ratings of the cookies that each team member baked such that their team score depended on everyone's

performance. They were further notified that their group of 6 was competing against other groups of 6 and that the team with the highest team score would win \$100. Participants in the competitive conditions, on the other hand, were told that they were competing against the other members of their own group for the best individual score such that the person in the group of 6 with the highest score would be entered into a lottery for \$100.

All participants were told that they had been randomly selected to be the first member of their group to choose ingredients. Because many experimental sessions occurred back-to-back, all participants were told that "the group before you is just finishing up" to reduce any suspicion associated with seeing another participant who was already in the midst of baking. They were also told that they might see the next person in their group and were instructed not to talk to any other participant they might see in the kitchen or the common area.

After hearing the procedure, participants completed a set of measures that reminded them that there were two types of chocolate chips available for them to use in their cookies: premium Godiva chocolate chips and generic CVS-brand diet chips.<sup>2</sup> Those in the self-focused conditions were asked to report what percentage of each type of chips they thought was fair for them to take. As in the previous experiments, those in the other-focused groups were first asked to think about the situation from the perspective of their other group members. They then reported what they believed was fair for each of their other group members to take, as well as what they thought was fair for themselves to take.

Once this form was completed and returned, the experimenter entered the room to provide participants with a recipe for Nestlé Toll House chocolate chip cookies as well as two bowls containing the relevant ingredients for the participants to mix. Participants were told that they needed to go to the kitchen to see how the oven worked and to collect the remaining ingredients necessary for baking. There were two bowls of chocolate chips in the kitchen; one was clearly labeled *Godiva* and the other was labeled *CVS*. There were half as many chips in the bowl of Godiva compared with the bowl of CVS to highlight the relative scarcity of the premium ingredient. There were, in fact, just enough total chips for six batches of cookies.

After a brief description of how to set the oven temperature, the experimenter reminded the participant that he or she was randomly chosen to select ingredients first. Participants were left alone in the kitchen to choose their chips and then returned to their individual lab room to finish preparing their cookies. While participants were alone preparing their cookies, the experimenter entered the kitchen to weigh the two bowls of chips to obtain a measure of how much of each variety was taken by each participant. When they finished preparing their dough, participants reported back to the kitchen with four cookies on a baking sheet and placed them in the oven. While waiting for their cookies to bake, participants completed another set of dependent measures. Specifically, participants were asked to indicate the percentage of chips that their fellow group members would have taken had they been first to select ingredients. They were then asked to rate the Godiva chips compared with the CVS chips "in terms of how valuable they were to the quality of your cookies" on an 11-point scale (0 = *CVS much more valuable*, 10 = *Godiva much more valuable*), followed by one final measure of others' likely behavior that asked participants to rate how "cooperative" (working together) compared with how "competitive" (competing against each other) they felt their group members were likely to be (0 = *very competitive*, 10 = *very cooperative*). When the baking was finished, one of the four cookies was saved and later rated for quality by a "judge" (blind to experimental condition and hypothesis) on a 7-point scale.

<sup>2</sup> CVS is a large pharmacy retailer that carries a number of generic, low-cost brands of common food items, whereas Godiva is a well-known manufacturer of premium quality chocolate. The difference between these two brands, and their obvious desirability, was well-known to participants.

After 38 participants completed this procedure successfully, the 39th participant inadvertently burned his cookies, setting off the fire alarm and forcing the evacuation of the 15-floor building and all of the residents therein. Due to public safety concerns and additional ire from colleagues, we were unable to continue baking cookies following this incident. As a result, actual ratings of the cookies were not included in the following analyses. All subsequent participants completed the same procedure up to the point of baking, at which point they completed the final set of dependent variables and were then given the option of taking their dough home to bake for themselves. Because this procedural change came at the very end of the experiment and did not alter participants' preceding experience in any way, it is not surprising that there were no significant differences in the results obtained before and after this procedural change in the following analyses.

At the end of the experiment, participants were debriefed and probed for suspicion about the nature of the study. They were informed about the cooperative–competitive manipulation and were told that, in fact, the names of 2 participants would be drawn at random for the \$100 prizes.

## Results

### Judgment Versus Behavior

All participants were asked to estimate the percentage of the available Godiva chips that they thought was fair for them to take and then were allowed to actually take some amount of Godiva chips to use in their baking. As in the preceding experiments, we predicted a significant interaction between judgment and behavior among participants in the competitive condition. Among participants in the competitive condition, those in the other-focused condition claimed it was fair for them to take fewer Godiva chips ( $M = 26.01\%$ ) than did those in the self-focused condition ( $M = 31.01\%$ ), but those in the other-focused condition actually took more chips ( $M = 3.01$  oz.) than did those in the self-focused condition ( $M = 2.55$  oz.). A 2 (condition: self-focused vs. other-focused)  $\times$  2 (measure: fairness vs. behavior) ANOVA with repeated measures on the standardized scores for the second factor indicated that this interaction was significant,  $F(1, 45) = 4.73, p < .05$ , although neither of these simple effects was significant,  $t(45) = 1.49$  and  $-1.57$ , respectively ( $ps > .20$ ).

Among participants in the cooperative condition, however, only a main effect of perspective taking on judgment and behavior emerged,  $F(1, 45) = 5.47, p < .05$ , with no significant interaction ( $F < 1, ns$ ). As in the competitive condition, those in the other-focused condition reported it was fair for them to take fewer Godiva chips ( $M = 20.33\%$ ) than those in the self-focused condition ( $M = 29.49\%$ ), but these other-focused participants also took fewer chips ( $M = 1.62$ ) than did self-focused participants ( $M = 2.26$ ). Follow-up contrasts revealed that both of these simple effects were significant,  $t(45) = 3.10$  and  $2.47$ , respectively (both  $ps < .05$ ).

Overall, these results indicate predictably divergent effects of perspective taking on judgment versus behavior (see Table 3). For participants' judgments of fairness, only a significant main effect of perspective-taking condition emerged,  $F(1, 90) = 4.47, p < .05$ , with no main effect of cooperative versus competitive condition nor any significant interaction ( $F_s < 1.3$ ). Those in the other-focused condition reported that it was fair for them to take fewer Godiva chips ( $M = 23.34\%$ ) than did participants in the self-focused condition ( $M = 30.20\%$ ),  $t(92) = 2.12, p < .05$ . For participants' actual behavior, however, there was a significant

Table 3

*Percentage of Resource Participants Perceived Was Fair for Them to Take and the Amount Actually Taken by Participants in the Self-Focused Versus Other-Focused Conditions in the Competitive Versus Cooperative Group Contexts (Experiment 4)*

Focus condition	Competitive		Cooperative	
	Fair to take (%)	Amount taken	Fair to take (%)	Amount taken
Self	31.01	2.55	29.49	2.26
Other	26.01	3.01	20.33	1.62

*Note.* The percentage of Godiva chips participants perceived was fair for them to take across conditions is reported in percentages, whereas the amount of Godiva chips actually taken is reported in ounces.

interaction between our two experimental conditions,  $F(1, 90) = 4.02, p < .05$ . The decrease in the amount that participants in the other-focused condition claimed was fair for them to take was matched by a drop in the amount actually taken among those in the cooperative condition but not among those in the competitive condition.

### Ratings About Others

We again predicted that participants' behavior—in this case, the amount of Godiva chips they actually took—would be mediated by their beliefs about others' likely behavior. We obtained two such measures: (a) the amount of Godiva chips participants believed each of the others would take if they had gone first and (b) participants' subjective ratings of how cooperative versus competitive they expected their other group members to be. The average of the first measure was significantly correlated with the second ( $r = -.36, p < .001$ ) and showed the same pattern of responses, so we reverse scored the subjective rating of how cooperative participants expected others to be such that higher numbers indicated more competitive behavior, standardized responses for both measures, and then collapsed them into a single composite to ease presentation.

A 2 (condition: self-focused vs. other-focused)  $\times$  2 (context: cooperative vs. competitive) ANOVA on this standardized composite revealed a significant main effect of context,  $F(1, 90) = 16.18, p < .001$ , qualified by the predicted interaction,  $F(1, 90) = 5.47, p < .01$ . Other-focused participants expected others to be significantly more competitive in the competitive condition ( $M = .57$ ) than in the cooperative condition ( $M = -.54$ ),  $t(47) = 5.17, p < .001$ , but self-focused participants showed no difference in how they expected others to behave in the competitive ( $M = .05$ ) versus the cooperative conditions ( $M = -.09; t < 1$ ). These results are consistent with our prediction that considering others' perspectives will highlight motives and likely behaviors that people would have otherwise overlooked.

### Mediational Analysis

We predicted that these beliefs about others' likely behavior would mediate the effect of perspective taking in cooperative and competitive groups on one's own behavior. Because we expected (and found) that perspective taking had different effects in coop-

erative and competitive groups, we were essentially predicting that thoughts about others' likely behavior would mediate the interaction (or moderating effect) of our perspective taking and cooperativeness manipulations on actual behavior. As such, we followed the procedure for mediated moderation outlined in Baron and Kenny (1986). We treated perspective taking, cooperative-competitive context, and their interaction as the independent variables, predictions about others' competitive behavior as the mediator, and the actual amount of Godiva taken as the dependent variable.

As can be seen in Figure 2, the interaction of perspective taking and cooperativeness had a significant effect on the dependent measure (amount of Godiva taken) as well as on the proposed mediator (predictions of others' competitive behavior), and the proposed mediator significantly predicted the dependent measure. Finally, when the mediator was added to the overall model, the interaction term was significantly reduced ( $z = 2.02, p < .05$ ), and it became nonsignificant ( $t = -.17, ns$ ). The proposed mediator, however, remained significant in this complete model ( $t = 9.68, p < .001$ ). This pattern of results suggests that predictions about others' cooperative versus competitive behavior mediated the interaction of perspective taking and cooperative-competitive context on the amount of Godiva actually taken by participants.

As in Experiment 2, however, the reverse causal path also yielded a significant mediational path ( $z = 2.11, p < .05$ ), but the interaction term in this analysis also remained significant, ( $t = 2.73, p < .01$ ), suggesting only partial mediation for this reverse causal path. These mediational analyses are again only suggestive for the causal direction of the underlying mechanism because the mediator and key dependent measures were so highly correlated ( $r = .70, p < .001$ ), and we again defer to the results of Experiment 3 for a more definitive demonstration of our proposed model.

*Discussion*

These results are consistent with our predictions that the competitive versus cooperative nature of a group is an important moderator of the impact of considering others' perspectives on social interaction. In particular, these results suggest that the competitive versus cooperative nature of a group can moderate the impact of perspective taking on behavior.

Competitive contexts are generally defined by competing interests among group members, and the consideration of others' perspectives in the competitive condition of this experiment decreased egocentric biases but directionally increased egoistic behavior. Cooperative contexts, in contrast, are generally defined by shared interests among group members. Considering others' perspectives in the cooperative condition of this experiment reduced egocentric biases just as in the competitive condition, but it also decreased egoistic behavior, unlike in the competitive condition. In fact, participants in cooperative groups who considered others' perspectives tended to behave less egoistically than did participants who did not consider others' perspectives, behavior that was in line with their judgments of fairness. Additional analyses again suggested that these behavioral effects were mediated by participants' beliefs about others' likely behavior. Considering others' perspectives led participants in competitive contexts to believe that other group members would have been more selfish and competitive, leading participants to react by behaving more selfishly in return. This reactive egoism did not occur in the cooperative conditions, it appears, because such cynical thoughts simply were not activated in this context.

Experiment 5: Coalitions

Although consistent with our hypotheses, all of the experiments presented thus far are open to an alternative interpretation. In particular, instead of influencing people's beliefs about others' behavior, it is possible that considering others' perspectives simply led people to think harder about their behavior and the reality constraints of the situation, thereby increasing the likelihood of making a rational response. In Experiment 4, for instance, it is in one's own best interests (at least in the short term) to compete in the competitive context and to cooperate in the cooperative context, and it is possible that adopting others' perspectives simply made this rational response more transparent and therefore more likely.

A clear test between this alternative interpretation and the one we have offered would require manipulating the competitive versus cooperative group context while holding the actual reward structure and reality constraints of these groups constant. Experiment 5 did exactly this by simply manipulating the framing (or

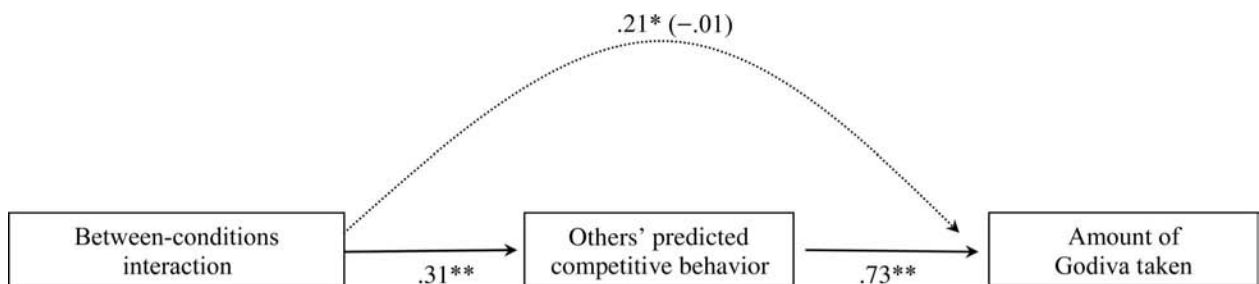


Figure 2. Mediation analysis for Experiment 4. Coefficients are standardized betas. The independent variable in this analysis (between-conditions interaction) is the interaction between self-focused versus other-focused conditions and the competitive versus cooperative nature of the experimental incentives. The coefficient in parentheses is the direct relationship between the independent variable (between-conditions interaction) and the dependent variable (amount of Godiva taken), controlling for the proposed mediator (others' predicted competitive behavior). \* $p < .05$ . \*\* $p < .01$ .

description) of a novel negotiation exercise. All participants experienced the same exercise, but half were told they were playing the “cooperative alliance game,” whereas the other half were told they were playing the “strategic competition game.” This experiment was inspired by earlier findings that people play more competitively in a prisoner’s dilemma game when it is described as the “Wall Street game” than when the game is described as the “community game” (Lieberman, Samuels, & Ross, 2004). The particular negotiation exercise in Experiment 5, however, is novel.

Although objectively identical in terms of their structural payoff and therefore in their rational response, changing the way the game is described is likely to change participants’ beliefs about the normative responses of other participants and to alter participants’ own behavior in turn. A significant framing effect in this experiment would not rule out the possibility that considering others’ perspectives increases the likelihood of identifying the most rational response in a social interaction (as it would require affirming the null hypothesis), but it would rule in the importance of others’ presumed behavior as a determinant of reactive egoism.

### *Method*

Participants engaged in a 4-person negotiation in which they represented companies involved in either the development or the distribution of fuel cells. The goal was for participants to maximize their profits, and to do so they needed to form strategic alliances with other members of the group (ideally with all members of the group). Creating an alliance generated financial value but came at a cost of effort to each of the participants that reduced their profits. Effort was not explicitly monitored, however, and individuals could profit by entering into an alliance and then expending less effort than they promised. This procedure was designed to mimic real-world strategic alliances, which often fail in part because individual parties do not contribute sufficient resources to support the endeavor. Participants who formed alliances indicated what percentage of the total profit they believed was fair for them to receive, which served as our measure of perceived fairness. The effort participants actually chose to expend in the exercise (at a cost to their profits) served as our behavioral measure of selfishness.

Approximately half of the participants were told they were participating in the strategic competition game, whereas the other participants were told that they were participating in the cooperative alliance game. We expected to observe reactive egoism in the competition game but not in the alliance game. That is, we expected that participants who considered others’ perspectives in the strategic competition game would say it was fair for them to receive less of the overall profits (indicating that they would expend more effort) but would actually expend less effort than participants who did not consider others’ perspectives. We did not expect this reactive pattern among participants in the cooperative alliance game, but, we instead expected, as in Experiment 4, that those who considered others’ perspectives would claim they deserved less of the overall profit and would demonstrate behavior consistent with that assessment (i.e., they would expend more effort to the alliance).

### *Participants*

One hundred twenty-four participants from an existing participant pool of Boston-area residents participated in exchange for \$15 and the chance to win an additional \$25 on the basis of their performance.

### *Procedure*

Participants reported to a computer laboratory in groups of up to 36 and drew a number from a bowl that randomly assigned them to their experi-

mental conditions (described in the following paragraphs). The numbers on the cards also corresponded to the hypothetical company that the individual would be representing in the experiment: Alpha, Beta, Cappa, or Delta.

Participants were seated in front of individual computers, provided with written instructions about the experiment, and listened to a presentation from the experimenter clarifying the rules of the game. The instructions explained that participants would be involved in a simulated negotiation exercise, with each individual representing one of four firms in the emerging fuel cell market. Two firms, Alpha and Cappa, were fuel cell developers; they were working to develop and refine the basic fuel cell design. Firms Beta and Delta were cell distributors; they were responsible for connecting fuel cells to the residential market. All four firms were described as having important patents or offering unique benefits in the industry.

Ostensibly, as the result of the interconnected nature of this industry, each firm in this exercise was worthless alone but potentially valuable in an alliance with other firms. The goal of the simulation therefore was to have fuel developers form strategic alliances with cell distributors. No firm was allowed to participate in more than one alliance, and three-way alliances were not allowed. If the firms managed to form an alliance, the alliance would create financial value that would need to be divided among the members of the alliance. Such value, however, came at a cost. Being in an alliance required a firm to contribute resources to support the alliance, meaning that each of the firms would also incur some costs. The precise value and cost for all possible alliance types were each made explicit in the instructions, the exact details of which are available from the authors.

The general structure of these values and costs was specified such that firms that did not form an alliance created no value but also incurred no costs. Two-way alliances between one cell developer and one cell distributor created some value and incurred some costs, and four-way alliances had the potential to create more value than any of the two-way alliances. If the four parties agreed to a four-way alliance, the value of that alliance would depend on the combined effort that the four firms contributed independently to support the alliance. That is, each firm chose which of three levels of effort, or cost, they would forgo in order to make the alliance as a whole more profitable. Participants knew they would be making this decision privately and anonymously. In this sense, the game was similar in structure to the social dilemmas faced by participants in Experiments 1 and 4. As an incentive, each participant received one “lottery ticket” for every \$1 million earned in this simulation, and a computer selected one winning ticket from each of the four firms to receive an additional \$25 in the experiment. All participants thus had the same financial incentive to maximize their individual profits.

After hearing the instructions, participants filled out a form on the computer asking them to indicate what percentage of the total alliance value they thought would be fair for them to receive, should they enter into a four-way alliance. Consistent with our previous studies, those in the self-focused condition simply reported the amount they thought was fair for their own firm to receive, whereas those in the other-focused condition were first asked to think about the situation from the perspective of the other firms and then to report what they thought was fair for each firm to receive (including their own).

As mentioned earlier, we manipulated the cooperative versus competitive nature of the experiment simply by changing the name of the game, while keeping the structure identical across all participants. Those in the cooperative condition were told they would be working with each other in the cooperative alliance game, whereas those in the competitive condition were told they would be competing with each other in the strategic competition game. The name of the game was displayed on the top of the instruction sheets and on the top of each form presented on the computer.

When finished with their fairness estimates, participants gathered in groups of 4 in small conference rooms to discuss, negotiate, and decide on any alliances. Participants had 20 min for discussion, after which they had to be prepared to state which alliance, if any, they had agreed upon. Firms

entering an alliance needed to submit an alliance agreement form that specified which type of alliance was reached and how the ultimate value of the alliance would be distributed among the four firms. After each firm signed the form, the experimenter entered the values into a computer that performed the relevant profit calculations.

Participants then returned to their computers to complete the final dependent measures privately. The first of these was the level of effort they chose to contribute to support their alliance. Any firm entering a four-way alliance specified a high, medium, or low level of effort. Finally, participants indicated how cooperative they thought their group interaction was on an 11-point scale ranging from 0 (*very competitive*) to 10 (*very cooperative*). When finished, a computer program calculated the individual profits for each firm and chose the \$25 prize winners on the basis of the results. Participants were then debriefed, paid, and dismissed.

## Results and Discussion

### Judgment Versus Behavior

Before actually agreeing on any alliances, participants were asked to imagine they were successful in forming a four-way alliance and to estimate the percentage of the resulting profits they thought was fair for them to receive. Following the group interaction, participants had to decide what amount of effort to contribute to support their alliance (all groups agreed on a four-way alliance). As increased effort corresponded to less selfish behavior (sacrificing more individual profit for the good of the group), we expected lower levels of effort in the other-focused competitive groups. We coded a low level of effort as 1, a medium level as 2, and a high level as 3. Once again, asking participants in competitive groups to consider the situation from the perspective of the other firms diminished egocentric perceptions of fairness but actually increased egoistic behavior. Other-focused participants in competitive groups claimed that it was fair for them to receive marginally less of the profits ( $M = 27.0\%$ ) than their self-focused counterparts ( $M = 31.1\%$ ),  $t(66) = 1.74$ ,  $p < .09$ , but other-focused participants actually contributed less effort ( $M = 2.34$ ) than did self-focused participants ( $M = 2.78$ ),  $t(66) = 2.68$ ,  $p < .01$ . A 2 (condition: self-focused vs. other-focused)  $\times$  2 (measure: fairness vs. behavior) ANOVA with repeated measures on the standardized scores for the second factor indicated that this predicted interaction was significant,  $F(1, 66) = 8.67$ ,  $p < .01$ .

No such interaction, however, emerged for participants in the cooperative condition ( $F < 1$ , *ns*). Other-focused participants in the cooperative condition claimed they deserved nonsignificantly less of the profits ( $M = 28.9\%$ ) than did self-focused participants ( $M = 32.2\%$ ),  $t(53) = 1.37$ ,  $p > .20$ , and showed no significant difference in the amount of effort they actually contributed ( $M_s = 2.81$  and  $2.79$ , respectively).

Overall, the results reveal the consistent pattern found in the previous studies. For judgments of fairness, participants in the other-focused condition indicated that it was fair for them to take less of the overall profit ( $M = 28.0\%$ ) than participants in the self-focused condition ( $M = 31.5\%$ ),  $t(121) = 2.09$ ,  $p < .05$ .<sup>3</sup> The amount claimed fair to take did not differ between those in the cooperative ( $M = 30.3\%$ ) and the competitive ( $M = 29.2\%$ ) conditions,  $t(121) < 1$ , *ns*, and there was no interaction between the perspective-taking and cooperative-competitive groups,  $F(1, 119) < 1$ , *ns*. For actual behavior, an ANOVA revealed a significant Condition  $\times$  Framing interaction,  $F(1, 120) = 4.67$ ,  $p < .05$ .

As noted earlier, inspection of the means revealed that participants in the self-focused cooperative ( $M = 2.79$ ), self-focused competitive ( $M = 2.78$ ), and other-focused cooperative ( $M = 2.81$ ) groups all contributed more effort than those in the other-focused competitive group ( $M = 2.34$ ).

### Ratings of Competition-Cooperation

Participants also rated how cooperative versus competitive their group interaction was, and these ratings showed effects similar to those seen in Experiment 4. Participants in the other-focused condition rated their interaction as more competitive in the competitive frame condition ( $M = 6.17$ ) than in the cooperative frame condition ( $M = 7.88$ ),  $t(62) = 2.79$ ,  $p < .01$ . There was no significant difference, however, in the self-focused condition between those in the competitive frame condition ( $M = 7.29$ ) and those in the cooperative frame condition ( $M = 7.47$ ;  $t < 1$ ). This interaction was significant,  $F(1, 120) = 4.04$ ,  $p < .05$ . A mediational analysis with this measure of competition-cooperation as a mediator of the interaction between our two experimental conditions on participants' own behavior was nonsignificant ( $z = 1.57$ ,  $p = .12$ ), as was the analysis reversing the mediator and the dependent measure ( $z = 1.62$ ,  $p = .10$ ). Of course, the implication of this measure is more ambiguous than the result from Experiment 4 because participants completed this measure after a real interaction rather than simply imagining or predicting how others would behave as in the previous experiments. This measure is, however, at the very least consistent with those of the previous experiments and again suggests that looking into the minds of others may highlight motivations and interests that an egocentric focus on the self might otherwise overlook.

Overall, the results of Experiment 5 confirm our main predictions that altering the description of the participants' exercise would alter their behavior, despite holding constant the actual structure and incentive system of the game. Those who believed they were playing the strategic competition game displayed the patterns of reactive egoism observed in the preceding experiments. Those who considered others' interests and concerns demonstrated weaker egocentric biases in perceptions of fairness but actually behaved more selfishly compared with participants who did not consider others' perspectives. Those who believed they were playing the cooperative alliance game, in contrast, did not show this pattern of reactive egoism, again demonstrating how the competitive versus cooperative context can alter the impact of perspective taking in social interaction. These results are not open to the alternative interpretation that perspective taking simply increased the tendency to notice, and therefore to choose, the most rational response or to attend more carefully to the reality constraints of the situation. The rational response and reality constraints remained constant across all experimental conditions, and yet the predicted pattern of behavior emerged.

### General Discussion

It is unlikely that a blind person would ever argue with a sighted person about the color of a painting, the shape of a cloud, or the

<sup>3</sup> One participant who failed to fill in this question was excluded from analyses of fairness estimates.

extent to which one's shirt matches one's pants. People's eyes are universally recognized conduits for their visual experience, and the reasons for divergent visual perceptions are therefore relatively easy to identify and appreciate. Harder to identify and appreciate, however, are the ways in which psychological factors such as preexisting expectations, attitudes, or self-interest can also influence people's perceptions of the external world. Two equally sighted people with divergent interests and beliefs may look at the very same stimulus—from a court settlement to a labor contract to an aggressive play in a sporting event—and “see” very different things (Hastorf & Cantril, 1954; L. Ross & Ward, 1995, 1996). Unlike divergent perceptions between the sighted and the blind, however, a failure to identify and appreciate the reasons for divergences in psychological perspectives can lead to heated conflict between individuals, between groups, and between nations (Pronin, Puccio, & Ross, 2002).

One commonly offered strategy for alleviating these divergences in psychological perspectives is for people to actively consider the other side's thoughts, interests, and concerns in the hopes that doing so will overcome egocentric biases in judgment. In the present experiments, we investigated the consequence of such perspective taking on people's judgments and behaviors in a series of social interactions. We observed two consistent results. First, considering others' perspectives did indeed diminish egocentric assessments of fairness. Those who considered what other group members would think is a fair allocation reported that it was fair for them to take a smaller percentage of fixed resources than those who did not consider others' perspectives. This occurred in a wide variety of social interactions, with resources ranging from fish (Experiment 1) to grant money (Experiments 2 and 3) to chocolate chips (Experiment 4) to corporate profits (Experiment 5).<sup>4</sup>

Our second consistent finding was that these reductions in egocentric assessments of fairness were not consistently matched by reductions in egoistic or self-serving behaviors. Instead, each of the experiments demonstrated a reliable tendency for reactive egoism in competitive groups. Although those who considered others' perspectives claimed it was fair for them to take less of a fixed resource than those who did not consider others' perspectives, these participants actually took more of those very resources when given the opportunity to do so. This occurred, as Experiments 2 and 4 suggested and as Experiment 3 demonstrated directly, because considering others' perspectives led participants to believe that others would behave more selfishly. Egocentric assessments of fairness are obvious and well-documented sources of conflict between individuals and within groups, but reducing those egocentric biases does not necessarily reduce conflict in behavior. Sometimes, in fact, considering others' perspective could make matters worse.

In addition to demonstrating this interaction between judgment and behavior, and obtaining evidence to support our proposed mechanism of reactive egoism, Experiments 4 and 5 also demonstrated that the competitive versus cooperative nature of a group is an important moderator of the impact of perspective taking on behavior. In competitive groups defined by divergent interests and goals, the consideration of others' perspectives leads to reactive egoism. In cooperative groups defined by shared interests and goals, however, perspective taking reduces egoistic behavior. Looking into the mind of a competitor highlights self-interested

motives and leads people to behave more self-interestedly in return. Looking into the mind of a cooperative collaborator, however, highlights shared interests and leads to more cooperative behavior in return. The impact of perspective taking on behavior among individuals or within groups, then, depends critically on what people see when they look into the minds of others.

These results suggest that one of the keys to harnessing the benefits of perspective taking in groups without incurring the costs of reactive egoism is to highlight the shared interests between otherwise competitive group members. We did this explicitly in Experiment 5 simply by changing the description of the group task to make cooperation a salient goal, while keeping the competitive structure of the group interaction constant. The importance of highlighting superordinate goals is not, of course, a new revelation for social psychologists (Sherif, 1958), but it does provide greater insight into exactly how and why a focus on superordinate goals is likely to reduce conflict in social interactions. Research suggests that one of the main benefits of perspective taking is to coordinate social goals and thereby create social bonds (Galinsky, Ku, & Wang, 2005). Highlighting the potential for coordination between group members may be sometimes necessary to ensure that perspective taking produces these beneficial outcomes.

It is unlikely, however, that the competitive versus the cooperative nature of the group is the only important moderator of reactive egoism, and we believe there are at least two additional moderators that seem particularly promising for future research to pursue. The first promising moderator is the specific procedure involved in perspective taking. As we mentioned earlier, perspective taking does not refer to a specific set of mental operations but encompasses a broad range of procedures and instantiations (for a review see Galinsky et al., 2005). In our experiments, perspective taking was an entirely cognitive enterprise in which participants considered the likely thoughts and actions of other group members. Given that people tend to think they are more fair than others (Messick et al., 1985; Messick & Sentis, 1979) and tend to see others with divergent interests as being more extreme than they

<sup>4</sup> It is worth noting that these results are interesting in their own right, as manipulations that may appear conceptually similar to our perspective-taking manipulation have proven ineffective in reducing egocentric assessments of fairness in past research (Babcock et al., 1995; Lord et al., 1979). Most relevant is an experiment in which participants in a mock court trial were asked to generate the most convincing arguments they possibly could for their opponent's side (Babcock et al., 1995). Instead of diminishing egocentric assessments of fair settlements in this case between opposing sides, as we found here, this manipulation actually produced a marginally significant increase in egocentric assessments. We suspect the difference between Babcock et al. (1995) and our own studies is that participants in the former study were explicitly asked to generate compelling arguments for the opposing side's case, whereas participants in our experiments were simply asked to think about what others would think was a fair resolution. Generating arguments is a relatively effortful process, and any difficulty in generating these arguments would likely lead people to conclude that the opposing side's arguments are not especially compelling (Schwarz, 1998). Simply thinking about what others would think is fair, in contrast, requires relatively little mental effort and readily activated relevant information that people would have otherwise overlooked. The manipulation used in our research is more analogous to what has been called *unpacking* in past research (Tversky & Koehler, 1994) and is a manipulation that has proven successful in reducing egocentric biases (Savitsky et al., 2005).

actually are (Robinson, Keltner, Ward, & Ross, 1995), this kind of perspective taking may have been particularly likely to activate cynical thoughts about others' motives in competitive contexts. It is possible that alternate forms of perspective taking may be less likely to activate the cynical thoughts that produce reactive egoism.

For instance, Batson & Moran (1999; see also Batson & Ahmad, 2001) have reported that empathizing with the unpleasant circumstances of another person can lead to increased cooperation in a prisoner's dilemma game. In this experiment, some participants were asked to empathize with a woman who had just described the break up of a romantic relationship, whereas others remained objective while reading this description. Those who empathized with the negative emotions of this woman were more likely to cooperate with her in a subsequent prisoner's dilemma game than those who did not. This may have occurred because people were simply reluctant to inflict more negative affect by defecting on someone currently experiencing such pain, but it may also have occurred because the particular manner in which one adopts another's perspective moderates one's reactions toward them.

Indeed, we have reported elsewhere (Caruso, Epley, & Bazerman, 2006) the results of a hypothetical prisoner's dilemma game in which those who considered others' thoughts and likely behavior—akin to the perspective-taking manipulation used in the studies reported here—were significantly more likely to defect (60.0%) than participants who did not consider others' thoughts and likely behavior (27.5%). This occurred because participants who considered others' thoughts before deciding what to do believed that others were significantly more likely to defect than those who only considered others' likely behavior after making their own decision. We have found similar results in a simulated trust game (Berg, Dickhaut, & McCabe, 1995), in which participants imagined that they personally had \$10 in Round 1 and could give some amount of it to their partner. The amount given would be tripled, and the partner would then have the opportunity to return any amount of the tripled money to the participant. Those who first considered how the other player was likely to behave passed significantly less money to their partner in Round 1 ( $M = \$3.00$ ) than those who did not ( $M = \$4.77$ ).

To the extent that empathizing with another person's situation reduces cynical or self-interested thoughts about others, the negative consequences of perspective taking that we document here might be minimized or eliminated. Similarly, asking people to imagine what they would think if they were in another person's role—akin to Stotland's (1969) imagine-self condition—might also diminish the cynical thoughts that created reactive egoism in the present experiments (Batson, Early, & Salvarani, 1997). This would occur, however, only if people actually believed that they personally would not behave egoistically if they were placed in another person's situation. Although people consistently believe they are fairer than others (Messick et al., 1985), it remains an empirical question whether people would imagine being selfless if placed in another role.

The second promising moderator is the specific identity of the target of perspective taking. Recall that the key mechanism underlying the consequences of perspective taking is the thoughts that people are led to consider when they look into the mind of another person. Participants in the experiments reported here were asked to consider the perspective of relatively unknown targets. But targets

known to be selfish would likely produce even more reactive egoism, and targets known to be selfless would produce even less reactive egoism compared with these unknown targets. Even in the absence of direct knowledge about the selfishness of the target, people often have preexisting beliefs about certain classes of other people that might influence their intuitions about their motives. Because people tend to trust in-groups and distrust out-groups (e.g., Levine & Campbell, 1972; Tajfel, Billig, Bundy, & Flament, 1971), we could predict that people would expect their friends or other in-group members to behave less selfishly than their enemies or other out-group members such that reactive egoism would be more likely to occur when taking the perspective of the latter groups than the former.

Finally, we believe this research has interesting implications for the impact of self-interest (or egoism) on social interaction in general and for conflict resolution in particular. For social interaction, these results join a growing body of research investigating the actual versus assumed impact of self-interest on judgment and behavior (Epley & Dunning, 2000; Kruger & Gilovich, 1999; Miller, 1999; Miller & Ratner, 1998; Ratner & Miller, 2001) and suggest that the assumed impact of self-interest on others' behavior can influence the apparent impact of self-interest on people's own behavior. In our experiments, perspective taking increased selfish or egoistic behavior because it led participants to expect selfish or egoistic behavior from their other group members. Participants behaved more selfishly, it appears, because of their theories that others would behave selfishly rather than because they were explicitly acting as self-interested agents. These results are consistent with Miller's (1999) suggestion that self-interest may influence behavior by operating as a descriptive social norm rather than (or perhaps in addition to) operating as a core social motive. It is interesting that research suggests that people tend to overestimate the impact of self-interest on others' attitudes (Miller & Ratner, 1998) and judgments (Kruger & Gilovich, 1999), meaning that the reactive egoism we observed in our experiments may have been something of an overreaction. Egocentrically attending to one's own concerns, interests, and perspective in social interaction can create its own set of problems, but undoing that egocentric focus can create quite another.

For conflict resolution in particular, these results imply that the intuitive appeal of reducing an egocentric focus on one's own interests and concerns may produce some potentially negative consequences. It is virtually axiomatic that considering others' perspectives is desirable in negotiations and conflict situations (Neale & Bazerman, 1983; Paese & Yonker, 2001), but our results place an important caveat on this general sentiment. Sometimes considering others' perspectives can increase the very egoistic behavior that perspective taking was designed to reduce. Care should be taken when suggesting that people should look beyond their own perspective, as those who look into the minds of others may not like what they see.

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