SELF-REGULATION IN ULTIMATUM BARGAINING: GOALS AND PLANS HELP ACCEPTING UNFAIR BUT PROFITABLE OFFERS

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Impulsive responses to ultimatums may cause rejection of unfair offers at a cost to oneself. A possible ameliorating strategy is self-regulation by setting goals and making plans geared toward controlling impulsive responses that may lead to rejection. Two studies test the hypothesis that entering an ultimatum with specific goals and plans (i.e., implementation intentions) will lead to increased acceptances of ultimatums that are unfair but more profitable than rejection. In Experiment 1 participants with a goal intention to stay calm accepted unfair ultimatums more than participants who were not given such a goal. In Experiment 2, we studied participants' reactions to ultimatums that were harder to accept, and found that goal intentions supported with implementation intentions (if–then plans) significantly increased the chance of acceptance, compared with having only goal intentions. Implications of these findings for self-regulation in ultimatum bargaining are discussed.

Imagine a graduate student who rents an apartment throughout graduate school. Because of the long period of time, she makes some improvements to the rental to make it more comfortable, not the least of which is installing an air conditioner in the wall, for several hundred dollars. Upon graduation, she will move and will not need the air conditioner, so she asks the landlord to make an offer on it. The landlord offers $100, and refuses to go any higher. Frustrated and angry, our graduate student rejects the offer—and instead sells it on-line for $50. While she may have felt good, even righteous, at the time, the fact is that she lost $50 to penalize her landlord, who she likely will never see again.

As negotiations unfold, one party often makes a "take-it-or-leave-it" offer like the one to our graduate student, thus pinning agreement, individual, and joint gain on the acceptance of this offer (Pillutla & Murnighan, 1996). This take-it-or-leave-it tactic has been defined and examined in social science research as *ultimatum bargaining*. In the present research, we examine the role of self-regulation of motives in an ultimatum bargaining scenario.

THE ULTIMATUM GAME

The ultimatum bargaining paradigm, first described by Güth, Schmittberger, and Schwarze (1982), is an anonymous, non-repeated negotiation between two participants, and it has become a popular tool in the study of costly punishment. In this game, two people must decide how to divide a resource—for example, $20. One person (the proposer) suggests a division of the $20 between them, and the other person (the responder) must decide to accept or reject the proposed split. If accepted, the money is divided as proposed; if rejected, then each person gets nothing. According to standard economic models of rational decision-making, an income-maximizing responder should accept any positive offer, and an income-maximizing proposer—understanding this—should offer the smallest profitable amount possible (Guth et al., 1982). This prescriptive conclusion to an ultimatum, however, is often not reached. Over two decades of research have shown that, independent of the amount being divided, modal proposed offers are often 50% of the amount, and low offers (approximately 20% of the total) are rejected 50% of the time (Bolton & Zwick, 1995; Henrich et al., 2005).

Much research has been designed to answer the simple question, "Why do people violate basic economic assumptions in ultimatums?" and several disciplines—behavioral economics, psychology, and neuroscience in particular—have combined efforts to answer it. The game is simple enough that rejections are not due to an inability to understand the game, or an inability to conceptualize a single-shot interaction with a partner (Camerer & Thaler, 1995). Economists tend to cite the enforcement of *fairness* norms when explaining the tendency to offer relatively equitable amounts and to reject inequitable amounts (Pullutla & Murnighan, 1996). Psychologists have found fairness judgments to be quite nuanced, dependent upon a range of contextual and individual factors (Bazerman, White, & Lowenstein, 1995), and in many cases they appear goal-driven (Deutsch, 1975). For example in resource allocation scenarios, like the ultimatum, self-interest often biases our perceptions of fairness: when participants routinely rate a $1:$1 split as preferable to a $2:$18 split—because it is more equitable—"interpersonal comparisons overwhelm concern for personal outcomes," even when the less equi-

table split still benefits both oneself and one's partner more (Bazerman et al., 1995). Therefore when evaluating a decision in a game with a payoff structure like the ultimatum, fairness judgments are highly contextual and often self-serving, so it seems the most straightforward to evaluate decisions based upon their capacity to maximize total profit (Bazerman et al., 1995). Therefore, the studies in this article are in concert with other research that considers profit maximization within an ultimatum to be the task's goal, while other competing goals and/or impulses are intrusions.

In addition to fairness motives, economists also offered the anonymity hypothesis to explain the rejection of unfair ultimatums, based more upon the laboratory's impact on decision-making. The general hypothesis was that subjects know they are being judged and don't want to appear greedy to the experimenter. Bolton and Zwick (1995) tested this hypothesis along with the idea that punishment is the main driver behind ultimatum rejection: they found that while participants were anonymous they accepted more unfair offers (46% vs. 30%), but participants who could not punish their partner (i.e., the proposer would not lose his or her share of the pie) accepted unfair offers nearly 100% of the time. They also found that rejection from the responder—versus the offer tendencies of proposers—was the main driver of lower joint-profit outcomes.

EMOTION AND IMPULSE IN ULTIMATUMS

In Pilutla & Murnighan's (1996) seminal paper on the determinants of ultimatum punishment, they found that rejections were often preceded by an angry reaction to an offer perceived as unfair. More recently, Xiao and Houser (2005) supported the notion that punishment in ultimatums has an emotional basis, and connected punishment to emotional expression. They found that rejection of unfair offers was significantly less frequent when responders could communicate their feelings to the proposer along with their acceptance or rejection. On the other hand, partners who could communicate only through their decision rejected unfair offers at a significantly higher rate. It therefore appears that two goals are activated when faced with unfair ultimatums: the goal to profit, and the goal to be treated fairly. In situations where both can be pursued, such as the Xiao and Houser study above, both goals may be sufficiently reached. In situations where one goal cannot be met, frustration leads to an impulse to act, which may in turn lead to suboptimal decision-making (i.e., foregoing profit to punish another).

Recent neuroimaging research has supported the case that impulse—and impulse control—drives ultimatum decision-making. Sanfey and colleagues (2003) used functional magnetic resonance imaging (fMRI) to investigate the neural substrates involved in ultimatum games, and found that the reception of unfair offers elicited activity in brain regions associated with both emotional (anterior insula) and cognitive processing (dorsolateral prefrontal cortex, or DLPFC). Rejection of unfair offers was associated with heightened activity in the bilateral anterior insula—a region frequently associated with negative emotional states (Sanfey, Riling, Aronson, Nystrom, & Cohen, 2003). On the other hand, accepted offers were correlated with greater DLPFC activation, relative to the bilateral anterior insula. The DLPFC has been linked to cognitive processes like goal maintenance (Miller & Cohen, 2001), and it is suggested that the activation of the DLPFC is due "to

the representation and active maintenance of the cognitive demands of the task, namely the goal of accumulating as much money as possible," and this maintenance is necessary to overcome the emotional tendency to reject the offer (Sanfey et al., 2003, p. 1757).

If responders to unfair ultimatums wish to punish, and punishment is rooted in emotional impulses, then goal maintenance appears an important determinant of ultimatum decision-making. However, in another context, it is also possible that self-interest may be the more emotionally charged impulse, which must be controlled in order to pursue fairness goals (Henrich et al., 2005). Knoch and colleagues (Knoch, Pascual-Leone, Meyer, Treyer, & Fehr, 2005) tested this hypothesis, and linked the right—but not the left—DLPFC with the implementation of fairness goals. Disrupting the right DLPFC led to much more acceptances of unfair offers than disrupting the left DLPFC. Taken together, the Sanfey and Knoch neuroimagining studies show that different brain resources are used in ultimatums, but the main reason for their recruitment is impulse control—whether that goal is to earn money, or enact fairness. In both studies, fairness judgments were not affected, implying that the subsequent reaction—the impulse, and the amount of control that is (or is not) exhibited—is the main determinant of ultimatum choice.

REACHING AGREEMENT THROUGH GOALS AND PLANS

Decision-making in ultimatums has been suggested to be an issue of emotion and impulse control, and our ultimate decisions rest on our self-regulatory systems; therefore, the purpose of the two studies in this article is to determine the ability of self-regulatory strategies to maintain goals in ultimatums. Our general hypothesis is that, in ultimatums where agreement leads to economic—yet inequitable—gain, a failure to agree is due to a failure of self-regulation. In the first study, we present participants with a goal aimed at impulse control (i.e., "remain calm"), independent of a goal to either make money or enact fairness. In our second study we measure the added ability of specific plans to facilitate goal achievement in a more difficult ultimatum decision-making context. The theoretical bases of the nature of the goals and plans we use are presented below.

EXPERIMENT 1: SELF-REGULATION BY GOAL INTENTIONS

Contemporary ultimatum research supports the idea that goal maintenance and the ability to overcome impulses are key determinants to ultimatum decision-making. Consequently, managing our thoughts and emotions effectively can mean the difference between an ultimatum's success and failure. As a first step in testing this assertion, we focus on the effects of goal intentions to increase the chance of agreement in an ultimatum. Locke and Latham's (1990) theory of goal setting considers forming an intention to enact specific behaviors as an act of willing that promotes goal achievement. In general, most theories of goals and behavior change claim that intention is the key determinant of behavior (Gollwitzer & Moskowitz, 1996; Maddux, 1999), and research has shown that strong goal intentions (I will do X!) lead to successful outcomes more often than weak goal intentions, or no goal intentions at all (Ajzen, 1991; Godin & Kok, 1996). A recent meta-analysis by Webb

and Sheeran (2006) provided an overall estimate of the impact of behavioral intentions on subsequent behavior change. They found that a medium-to-large change in intention leads to a small-to-medium change in behavior; therefore, strong goal intentions can lead to behavior change in many cases.

In Study 1, we placed undergraduates in an ultimatum game over the division of lottery tickets, to be entered in a study-wide lottery at the end of the semester. Every participant received an offer that was inequitable, but was still more profitable than the alternative to agreement. Furthermore, there was no way for subjects to communicate with their partner, which has been shown to exacerbate the impulse to reject unfair offers (Xiao & Houser, 2005). In similar ultimatums, anger, impulse control, and the desire to punish have all been implicated in rejection; therefore, we hypothesize that participants given a strong goal intention to stay calm should accept an unfair offer more than participants without a strong goal intention. To minimize demand issues, we chose a goal of self-control, namely to "remain calm," as opposed to providing participants with explicit goals to either earn money or enact fairness norms. While a goal to suppress emotion may not actually impact emotional experience, it has been shown to be an effective short-term strategy of behavior regulation (Gross, 1998, 2001).

METHOD

Pilot Study. Our study used lottery tickets as the resource to be divided, so to ensure that our offer of 2 tickets would indeed elicit an emotional increase in negative affect, 38 undergraduate students were told that we were planning on running some social decision experiments, and "we would like to know how you perceive different negotiation situations." They then were asked to read a task description of the ultimatum game, identical to the one used in our Study 1 (see below). Participants were then presented with one of two hypothetical scenarios, over the division of 20 lottery tickets—one in which they are offered two tickets, or one in which they are offered ten tickets. We then asked them to rate how irritated, angry, or happy they would feel, on a scale ranging from 1 ("very slightly or not at all") to 5 ("Extremely"). Results for all three items comparing the 2- and 10-ticket offers indicated that participants receiving a hypothetical 2-ticket offer would feel comparatively more irritated, ($M = 3.72$ vs. $M = 1.75$), $t(36) = 5.29$, $p < .01$, angrier, ($M = 4.11$ vs. $M = 1.10$), $t(36) = 13.26$, $p < .01$, and less happy ($M = 1.56$ vs. $M = 3.80$), $t(36) = 6.94$, $p < .01$. Our results, coupled with previous research (Pillutla & Murnighan, 1996; Sanfey et al., 2003), allowed us to proceed with confidence that our ultimatum would elicit the desired emotional response.

Participants and Procedure. Participants were 68 undergraduates (38 females; 34 participants per condition) who decided whether to accept or reject an ultimatum offer. They read instructions entitled "Social Decision Making," in which they were asked to make a decision about a negotiation with a person from a previous session of the experiment. It was explicit that neither participant would ever know the identity of the other. They were told that they would receive an offer over the division of lottery tickets from the other person, delivered on a sheet of paper, in an envelope. Participants took a short quiz to assess their understanding of the game, and before receiving the offer they read instructions that contained our manipulation: some participants received a goal intention to stay calm, and others

received no goal intention. Afterward, they receive an offer of 2 tickets, and decide whether to accept or reject it by checking the appropriate box, and sealing their answer back in the envelope, to be delivered to their partner at a later date.

While participants were told that the Proposer was free to make any offer he or she wanted, there was in fact no actual Proposer. Following a standard ultimatum paradigm, if they rejected the offer, both Proposer and Responder would get 1 ticket (Pillutla & Murnighan, 1996). All participants received an offer of 2 tickets out of 20: it is the minimum offer above the Responder's alternative to agreement (1 ticket). Furthermore, they were told what the consequences of their decision would be for both themselves and their partner: if they accepted the offer, they would receive 2 tickets and the Proposer would receive 18, and if they rejected it, they and their partner would receive 1 ticket each. The tickets were worth chances in a lottery for 10 cash prizes, worth $20 each. Given this payoff structure, each participant could maximize her chances for winning money, by accepting the offer (2 tickets, and 18 tickets for the proposer) rather than rejecting it (1 ticket, and 1 ticket for the proposer). One might argue that, in a scenario such as this where the exact probability of winning cannot be calculated (because the total number of tickets in the lottery is unknown), the rational strategy is rejection, because it minimizes the number of tickets added to the pool. In other words, limiting the proposer's tickets to 1 (instead of 18) has a greater impact on the responder's overall odds of winning than earning an extra ticket by accepting. However, in a lottery with many participants the rational decision is still to accept the 2-ticket offer, as it is most likely to maximize the responder's chance of winning. As an example, say there are already 1000 tickets in the lottery, or approximately 50 pairs tasked with splitting 20 tickets each. A rejection raises the number of tickets to 1002 (1 ticket for the responder, plus 1 for the proposer), and the responder's odds of winning become 1 in 1002, or .00099. On the other hand, an acceptance raises the number of tickets to 1020 (2 tickets for the responder, 18 for the proposer), but the responder's additional ticket has a greater impact on her odds: her odds of winning become 2 in 1020, or .00196. Therefore we can assume that in an average study-wide lottery, the number of one's partner's tickets does not significantly affect overall lottery odds, and so the rational choice is to maximize tickets earned. In our study, this means accepting an offer of 2 tickets.

After their decision, they answered a few questions about their understanding of the task, and about their partner. Finally, they were debriefed about the purposes of the experiment, told that in fact there was no other person but that others often make offers of 2 tickets in these situations, and that they would have an equal chance to win the cash prizes as others in the study. The lottery was conducted and 10 cash prizes of $20 were awarded.

GOAL INTENTION AND DEPENDENT VARIABLE

After reading the instructions, and before receiving the offer, the participants in the experimental condition were given the goal intention to stay calm. They read the following, labeled an "Important PreOffer Instruction":

"Past research has shown that people approach tasks with different goals, which are important in determining their outcomes . . . we ask you to adopt and stick to

the following instructions." They then read the sentence: "I will stay calm about the offer!" Participants were then requested to rewrite their goal, by filling in the blank: "I will _____!"

The control condition was given a similar story, except they were instructed that they would receive a series of offers, and decide whether to accept or reject them. There was no explicit goal intention given. Immediately after the task was pre-scribed, participants received the ultimatum offer and then decided whether to accept or reject it. Our primary dependent variable was the decision to accept or reject the offer of 2 tickets.

RESULTS AND DISCUSSION

In order to test whether a strong goal intention to "stay calm!" had an impact on ultimatum acceptance, we conducted a logistic regression in which the decision to accept or reject the offer was the dependent variable. Results indicated that having a goal intention did lead to a significantly higher acceptance rate, $Exp(B) = 0.36$, $LR = 86.43$, $W(1) = 3.88$, $p = .05$. The relationship remained significant when adjusting for gender, $Exp(B) = 0.36$, $LR = 86.43$, $W(1) = 3.88$, $p = .05$. Of those who received no goal, 26% (9 of 34) accepted the low offer of 2 tickets. On the other hand, of those given a goal to stay calm, 50% (17 of 34) accepted the offer of two tickets.

The results of Experiment 1 indicated that participants who were given goals to stay calm were significantly more likely to accept a low offer that would neverthe-less maximize their chance of winning, compared to participants who were given no such goal. Providing participants with a goal intention to stay calm essentially doubled the likelihood of acceptance of an unfair ultimatum, increasing the accep-tance rate from 26% to 50%.

We know from our pilot study that our 2-ticket offer elicits negative affect, how-ever as we have not assessed anger during the participants' decision-making, we do not know whether affect was indeed reduced in the goal intention condition. Indeed, research on emotion control suggests that goals to suppress emotion can impact behavior, but they do not necessarily impact emotional experience (Gross, 1998). While we observed the predicted behavioral effect, we decided not to assess negative affect after the reception of the offers, as we did not want to influence the decision-making process. This limits our ability to explore the mediators of our behavioral effect; still, we assume that participants with a goal intention were able to overcome impulses to reject and thus make the profitable choice. Neverthe-less, subsequent research that measures affect unobtrusively—discussed later in the article as a future direction—may illuminate the internal effects of strong goal intentions in ultimatums.

STUDY 2: SELF-REGULATION BY GOALS AND PLANS

In Study 1, we found that a goal intention of self-control—to stay calm—increased the chance of acceptance of an unfair but profit-maximizing ultimatum. In Study 2, we increase the difficulty of ultimatum acceptance, to measure the limits of goal intentions in ultimatums, and to test the added benefit of implementation inten-

tions, or if–then planning (Gollwitzer, 1993), as an additional self-regulation strategy to promote acceptance.

SUPPORTING GOAL INTENTIONS WITH IMPLEMENTATION INTENTIONS

Research on goal striving has demonstrated that the connection between goal intentions and goal attainment is often moderate at best (Webb & Sheeran, 2006), but this connection can be strengthened with effective planning, in the form of implementation intentions (Gollwitzer, 1999; Gollwitzer & Sheeran, 2006). An implementation intention is a plan of action, which takes the form, "If I encounter situation X, then I will perform behavior Y!" For example, if someone wants to develop better eating habits, she may form the if–then plan: "If I open my refrigerator, then I will grab a piece of fruit." This if–then plan develops a mental link between a situation and a goal-directed action: when the situation is encountered, the appropriate behavior becomes initiated in an automatic fashion (i.e., immediately, efficiently, and without a further conscious intent; Bayer, Achtziger, Gollwitzer, & Moskowitz, 2009; Brandstätter, Lengfelder, & Gollwitzer, 2001; Gollwitzer & Brandstätter, 1997). Of present interest, implementation intentions have also been shown to be particularly effective when goal striving is difficult (e.g., Gollwitzer & Brandstätter, 1997). A meta-analysis by Gollwtizer and Sheeran (2006) reported a medium-to-large effect size ($d = .65$) of implementation intentions' additional facilitation of goal achievement, compared to goal intentions alone. For example, when goal intentions are not enough, if–then plans can be swiftly created and enacted to: shield participants from distractive stimuli (Achtziger, Gollwitzer, & Sheeran, 2008), remember proactive behavior (McDaniel, Howard, & Butler, 2008), conserve self-regulatory capacity (Webb & Sheeran, 2003), or even switch to more effective goal striving behavior (Henderson et al., 2007).

While early work on implementation intentions focused primarily on overcoming the inertia to begin goal striving, the strategic automatization of goal-directed action by implementation intentions has been shown to *shield* goal striving from disruptive outside and inside influences as well (see Achtziger, Gollwitzer, & Sheeran, 2008; Bayer, Gollwitzer, & Achtziger, 2010; Gollwitzer & Schaal, 1998). In particular, Schweiger-Gallo, Keil, McCulloch, Rockstroh, and Gollwitzer (2009) found that implementation intentions could be used to regulate emotional reactions. Across three studies, they found that goals and plans could be used to reduce fear and disgust responses in participants; and in situations where it was more difficult to regulate emotion, goals needed to be strengthened with if–then plans to successfully shield participants from fear and disgust reactions.

There is also precedent for the benefits of implementation intentions in interdependent situations. Trötschel and Gollwitzer (2007) observed that implementation intentions can shield people's negotiation behavior from the negative effects of loss-framing in negotiation. While framing a negotiation in terms of losses generally leads to loss-aversion and suboptimal agreement (Bazerman, Magliozzi, & Neale, 1985; Neale & Bazerman, 1985), participants who were given prosocial goals furnished with if–then plans were able to reach agreements with higher joint outcomes than participants with only prosocial goals, or no goals at all (Trötschel & Gollwitzer, 2007).

We wish to integrate and extend the findings of the above studies by combining emotion and interdependent decision-making in a situation where emotion control impacts goal striving. Our study builds upon Trötschel and Gollwitzer (2007), as we focus on an emotional (anger) versus a cognitive (i.e., loss-framing effect) barrier to effective negotiation, and we wish to examine behavioral differences that may result from different if–then plans. In general, there are two forms of if–then plans when shielding goal striving: (1) anticipating and down-regulating the disruptive emotion, and (2) stabilizing ongoing goal pursuit by spelling out goal-striving behavior (Bayer, Gollwitzer, & Achtziger, 2010). Take the ultimatum game as an example: using the first form of if–then plan, one would first anticipate getting emotional, and form a plan to suppress any emotional responses. In the second form of if–then plan, one would specify an opportunity to act (i.e., it is not necessary to anticipate some form of derailing response), and then spell out a proactive behavior to goal pursuit. Bayer and colleagues (2010) recently found that this second type of if–then plan was just as effective in shielding participants from disruptive internal states. The effective if–then plans in the Trötschel and Gollwitzer (2007) study take this second form: those in the implementation intention condition were asked to adopt a plan on how to follow a goal to play fairly: "And if I receive a proposal on how to share the island, then I will make a fair counter-proposal!" Participants were able to shield themselves from loss aversion by using an if–then plan that didn't require the anticipation and subsequent suppression of loss aversion; instead, it required the identification of an opportunity to act (the offer), and linked it to an effective goal-striving behavior (a fair counterproposal).

In our study, we wish to test both forms of if–then plans in an ultimatum scenario, to see whether such strategies can be used to promote ultimatum acceptances. As for the first form of if–then plan, our goal to remain calm lends itself to a plan designed to down-regulate any disruptive emotions like anger. Therefore, a goal to remain calm can be supplemented with an if–then plan to down-regulate: "If I feel emotional, then I can tell myself to stay calm!"

For the second form of if–then plan, it is designed so that a participant does not have to "anticipate" an emotional reaction, and can instead find an opportunity to engage in a clear goal-striving behavior. Gross (1998, 2001) spells out a form of emotion regulation— cognitive reappraisal—that does not require the anticipation of an emotional response. This is in contrast to suppression, defined as the willful suppression of emotional reactions, which is what our goal intention in Study 1 was designed to promote. Cognitive reappraisal is a reconstrual of a situation that significantly lessens its emotional impact: by reconstruing a situation before the onset of emotion, the unwanted emotional reaction is avoided all together (Gross, 2001). Thus, an if–then plan designed to promote emotion control in ultimatums through the elaboration of goal-pursuit behavior should contain: (1) a situational cue which occurs before an emotional stimulus, and (2) a plan that spells out goal striving; namely, to keep in mind that it is a game of profit.

For Study 2, we hypothesized that impulsive responses may be avoided by re-appraising the ultimatum in terms of the task goal—profit—and that reminding oneself of the task goal at the right time might shield participants from unwanted emotional responses in ultimatums, just as effectively as a plan to down-regulate emotion. More specifically, we expected that, given a series of ultimatums, the task of accepting unfair offers may have become too difficult to be supported by mere goal intentions, and thus no significant differences emerge between goal intention

groups to down-regulate emotion or promote the task goal to make money, and the control goal intention group. However, adding implementation intentions to goal intentions will lead to more ultimatum acceptances than having goal intentions alone. We also wish to replicate earlier findings that if–then plans that spell out effective goal-striving are just as effective to shield us from unwanted internal states as plans that spell out active suppression of those internal states.

METHOD

Pilot Study 1. Included in the Pilot Study mentioned in Study 1 was a third condition, presented with a hypothetical scenario mirroring Study 2. We wanted to test whether framing a 2-ticket offer against higher offers would lead to an increase in negative affect, compared to merely receiving a 2-ticket offer. In this additional condition in the pilot, participants read an identical description of Study 2 (see below for a more detailed description), and were shown three offers simultaneously, each of which they would hypothetically accept or reject, and told that one of the decisions would be randomly chosen to determine their payout. The first offer is 10 tickets (out of 20), the second offer is 9 tickets, and the third offer is 2 tickets. By showing these offers at the same time, the 2-ticket offer is framed in context with the more equitable offers. They are then asked to rate their feelings of irritation, anger, and happiness, identical to the other two conditions, regarding the 2-ticket offer. A Univariate Analysis of Variance with all three conditions (10-ticket offer, 2-ticket offer, and the framed 2-ticket offer) revealed main effects of condition on irritation, anger, and happiness, and a planned contrast confirmed our hypothesis: participants who received the framed 2-ticked offer reported more anger than those who received only a 2-ticket offer, $M = 4.55$ vs. $M = 4.11$, $t(55) = 2.11$, $p = .04$. They also reported a marginally significantly lower level of happiness, $M = 1.10$ vs. $M = 1.56$, $t(55) = 1.70$, $p = .09$. The difference in irritation was non-significant, $M = 3.70$ vs. $M = 3.72$, $t(55) = .06$, $p = .95$. Nonetheless, we feel confident that framing low offers with more equitable ones increases the difficulty of emotion control in the decision-making process.

Pilot Study 2. A second pilot study was run with 58 undergraduate participants in order to rule out the potential influence of experimenter demand on our results. Participants first read a description of the ultimatum task identical to what participants in Study 2 read. Then they were presented with 1 of the 5 different goal or implementation intention conditions used in Study 2, and were asked to respond to the following statement, by checking a scale ranging from 1 (does not apply) to 9 (applies): "The experimenter wants me to accept low offers."

The key issue is whether our participants had an insight that we wanted them accept low offers. Using a Univariate Analysis of Variance, the main effect of condition was nonsignificant, $F(4, 53) = 1.09$, $p = .37$, a contrast between control and the manipulation conditions was nonsignificant, $t(53) = .35$, $p = .73$, and the contrast between goals and implementation intention conditions was nonsignificant, $t(53) = .76$, $p = .45$, as well. Overall, the lack of differences between control and manipulation conditions suggest that any self-regulatory effects rely on processes triggered by goal intentions and implementation intentions, rather than on experimenter demand caused by the specific nature of our manipulations.

PARTICIPANTS AND PROCEDURE

Participants were 227 (169 females) undergraduates, all of whom read instructions entitled "Social Decision Making," and were asked to make a decision about several negotiations with people from previous sessions of the experiment. To increase the difficulty of the ultimatum task, and to assess a range of participants' decision-making, we presented a series of independent ultimatum offers, with very low offers and relatively fair offers. There is precedent for the use of a preset algorithm of consecutive one-shot ultimatums, as participants understand to treat each individually, and it eliminates unwanted variance in offers, since the response is our dependent variable of interest (for examples see Bolton & Zwick, 1996, and Sanfey et al., 2003).

Each offer was supposedly from a different person, and it was explicit that neither participant would know the identity of the other; communication would be limited to offers and responses. We presented 11 offers of varying sizes, all over the division of 20 lottery tickets, in a fixed random order: four offers of 10, two offers of 9, one offer of 7, two offers of 3, and two offers of 2. The offer sizes were selected so that there would be several low offers, anchored by a greater number of offers that varied realistically around an even split. Participants did not know how many offers they would receive. They were told that, at the end of the task, one of their offers would be randomly selected to determine their payout. In addition, participants completed the task on a computer, as opposed to paper, to make the delivery of a series of ultimatums more efficient. The task description, examples, and structure of the task were otherwise identical to Experiment 1.

Goal and Implementation Intention Manipulations. As in the first experiment, our manipulation was presented after participants read the instructions but before they received their offers. Participants were randomly assigned to one of five conditions: control goal intention, emotion down-regulation goal intention, task promotion goal intention, emotion down-regulation goal and implementation intention, and task promotion goal and implementation intention. In each condition, participants read the same "Important PreOffer Instruction" presented in Experiment 1, with one exception: they were told that before each offer, they would receive a picture of an envelope on the computer screen. We chose to present the image of an envelope for several reasons. The envelope added another level of similarity between studies, it symbolized the delivery of an offer from another participant, and we could use it to anchor our task goal promotion implementation intention to a preoffer stimulus (see instructions below).

As in Experiment 1, participants read that, "Past research has shown that people approach tasks with different plans, which are important in determining their outcomes." They then read and were asked to take on one of five plans. Three conditions were presented with one of three goal intentions: (1) the Control Goal: "I will read each offer and decide to accept or reject it!"; (2) the Emotion Down-Regulation Goal: "I will suppress any negative emotions that arise during the task!"; (3) or a Task Promotion Goal: "I will think of the task as an opportunity to make money!" Two other conditions were asked to adopt one of the two target goal intentions, along with a supporting implementation intention: (4) an Emotion Down-Regulation Implementation Intention: "And if I feel any negative emotions, then I will tell myself: Stay calm!"; or (5) the Task Goal Promotion Implementation
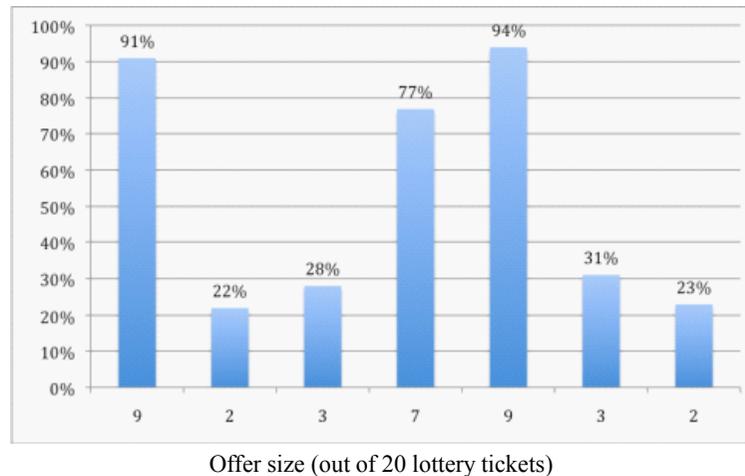
Offer size (out of 20 lottery tickets)

FIGURE 1. Overall acceptane rate of each Ultimate offer, in order of presentation (Study 2).

Intention: "And if I see an envelope, then I will tell myself: This is an opportunity to make money!"

All participants were asked to repeat the goals/plans they were instructed to use, and to report the average size of the offer expected. Each offer was then presented on the computer screen in the following manner: "PLAYER XXX has offered you: X tickets out of 20. You should make a decision on the offer from the player above. This will be sent back to that player via e-mail. They will see your decision. Please respond." Participants then chose to click a box next to the word "Accept" or "Reject."

Participants repeated the process of seeing an envelope and then accepting or rejecting an offer 11 times. Our primary dependent variable was the decision to accept or reject the 7 ultimatum offers that were less than an even split of tickets (i.e., less than 10 tickets), which was treated as a repeated measure. We also asked participants to rate their level of task comprehension, motivation, and commitment. After the experiment was completed, participants were fully debriefed, and entered in a lottery for 10 prizes of $20, which were awarded at the end of the semester.

RESULTS

Acceptance Rate. The mean acceptance rate of each inequitable offer is presented below in Figure 1 (note: all 4 equitable, i.e., 10-ticket, offers were accepted, and were not used in subsequent analyses, so they are not included). Comparing the overall acceptance rate of 2-ticket offers in Study 2 with the acceptance rate of the 2-ticket offer in Study 1 appears to confirm our pilot study, which indicated that it was more difficult to accept a 2-ticket offer framed by more equitable offers. In Study 2, 23% of the 2-ticket offers were accepted, compared with a 38% overall acceptance rate in Study 1. A comparison of the control groups indicated that 16% of the 2-ticket offers were accepted in Study 2, compared to 26% in Study 1.

Our hypotheses were tested using a series of Repeated Measures logistic regressions to predict the acceptance rate of the ultimatum offers. *In our first model, we*

TABLE 1. Study 2: Summary of Repeated Measures Logistic Regression Analysis Predicting Offer Acceptance (1 = Accept; 0 = Reject) (N = 227)

Variables	Exp(B)	Std Error	Wald	p
Intercept	-.201	.154	1.70	.19
Control	—	—	—	—
Down-Regulation Goal	.049	.223	.048	.826
Task Promotion Goal	.365	.242	2.275	.132
D-R Goal + Imp	.464	.230	4.04	.044*
T-P Goal + Imp	.607	.234	6.71	.010**

*$p < .05$; **$p = .01$

used condition to predict acceptance rate, and found the model to be significant, $^2(4) =$ 10.15, $p < .04$. A presentation of the statistics for each condition is presented in Table 1. The beta-weight for the intercept, *Exp(B)* = -.201, represents the log odds of accepting 1 of the 7 unfair ultimatum offers (i.e., offers under 10 tickets) that we presented. This translates to a 45% chance of accepting one of the unfair ultimatum offers. As one can see in Table 1, having a goal to down-regulate emotion or a task-promotion goal to think in terms of money, the ultimatum did not lead to significant increases in predicted acceptance rate.

To test whether implementation intentions had a significant impact on acceptance rate compared to goal intentions, we ran a second repeated measure logistic regression, comparing the goal group (participants in both goal intention conditions) with the implementation intention group (participants in both implementation intention conditions). We found a significant impact of implementation intentions on predicted acceptance, *Exp(B)* = .336, *SE* = .17, *Wald*(1) = 3.75, $p = .05$. Converting this to chance of acceptance, participants in the goal condition had a 50% chance of accepting an offer with less than an even split, while those in the implementation intention had a 58% predicted chance of acceptance. Whether the implementation intention was to down-regulate or promote goal-striving did not lead to a significant difference in acceptance rate, *Exp(B)* = .143, *SE* = .25, *Wald*(1) = .34, $p = .56$.

Comprehension, Motivation, and Commitment. On the basis of a series of univariate ANOVAs, we found that participants did not differ by condition when asked to report how well they understood the task, *M* = 6.96, *SD* = 1.91, *F*(4, 223) = 1.59, $p = .13$, how strongly they wanted to earn lottery tickets, *M* = 6.00, *SD* = 2.55, *F*(4, 223) = .73, $p = .57$, or how committed to the task they were, *M* = 6.56, *SD* = 1.99, *F*(4, 223) = 1.34, $p = .26$. Since there were no systematic differences between conditions in terms of task comprehension, focus on earning lottery tickets, task commitment, or experimenter demand (see Pilot Study 2), we can safely attribute the enhanced acceptance of unfair offers in the implementation intention conditions to the self-regulatory benefits provided by making if–then plans (i.e., forming implementation intentions). This is of particular importance due to past questions raised over whether the increased elaboration of goal striving in implementation intentions might lead to increased goal commitment, which might in turn lead to more effective goal pursuit. The lack of increase in commitment through implementation intentions which we find is consistent with past research (see Schwieger-Gallo et

al., 2009; Webb & Sheeran, in press), and increases confidence that our findings are due to the effective nature of implementation intentions.

DISCUSSION

In Study 2, we wanted to test the limits of goal intentions in ultimatum bargaining, and measure the added benefit that implementation intentions would provide. In a series of ultimatum offers, we hoped to make the acceptance of inequitable offers harder by anchoring them to several offers of equal splits. Given the results of our pilot study, along with the lower acceptance rate of 2-ticket offers in Study 2 compared to Study 1, it appears that we achieved the desired effect. As a result, goal intentions in Study 2 were not sufficient to significantly increase acceptance rates. Adding implementation intentions to our goal intentions, however, provided our participants with enough self-regulatory tools to accept profitable offers, even if they were inequitable.

The results of Study 2 provide clear evidence that (a) strong goal intentions may not always be enough to promote the acceptance of profitable but low ultimatum offers, but (b) adding implementation intentions to goal intentions can significantly increase the chance of acceptance. From our first model, we found that having either an emotion down-regulation goal or a task promotion goal did not significantly increase the predicted chance of acceptance of an ultimatum offer. However, both implementation intention conditions showed significantly higher predicted acceptance rates compared to control, and significantly higher rates compared to those with goal intentions. Futhermore, we found both types of if–then plans to be equally effective at shielding goal striving, in line with prior implementation intention research. Across three studies, Bayer and colleagues (2010) found that participants with if–then plans to promote goal-striving were able to overcome disruptive internal states such as mood, ego-depletion, and threatened self-definition.

GENERAL DISCUSSION AND FUTURE DIRECTIONS

Past research has made the case that ultimatum acceptance and rejection is often driven by competing motives, one cognitive, one emotional (Pilutla & Murnighan, 1996; Sanfey et al., 2003). Moreover, our self-regulatory system—and its ability to shield goal pursuit from unwanted impulses—appears involved in our final decision to accept or reject an unfair offer, even at cost to oneself (Knoch et al., 2006; Sanfey et al., 2003).

The present research attempted to examine ways in which goals and plans can help people exercise more control over their decision-making, and we found evidence that self-regulatory strategies to control impulses using goal intentions—and goals supplemented with implementation intentions—led to more acceptances of unfair ultimatums that are nevertheless more profitable than rejection. In Study 1, we found that a goal intention to stay calm led to more ultimatum acceptances than a goal intention, in a single ultimatum game. In Study 2, in which the responders were faced with a harder series of decisions, and the anchoring of unfair offers to more equitable ones, we found that goal intentions were not enough to significant-

ly alter acceptance rates, but goal intentions supplemented with if–then plans did lead to significantly more acceptances of unfair offers. Furthermore, we found that there was no difference between if–then plans designed to shield participants from unwanted impulses, whether through emotion down-regulation, or an orientation toward the task goal of making money—they worked equally well.

We feel these two studies enrich the on-going discussion of the driving motives behind ultimatum decisions, and begin a new discussion of the ways in which goals and plans can be used to control impulses and affect-laden decision-making in ultimatums. There were of course, several limitations to our study, which we also wish to address. Specifically, we wish to discuss: demand issues, the real-world relevance of anonymous, non-repeated ultimatums, our focus on respond-ers only, and our lack of affect measures.

DEMAND

There are always issues of experimenter demand when providing participants with explicit goals and plans. Goals in general are provided to participants across a wide variety of experiments concerned with self-regulation, with much success (see Bayer et al., 2010; Schweiger-Gallo et al., 2009). In our case, we felt that the actual economic nature of the games, and thus the real impact of the results, would insulate participants from taking on any goals they did not wish to. Past studies have shown that experimenter demand may actually lead to *more* rejections, in order to not appear greedy to the experimenter, even though punishment motives are more impactful (Bolton & Zwick, 1995). While goals and plans are directive, it is their specificity that makes them so easy to adopt and pursue (Webb & Sheeran, 2006). As a first step in a new line of research, we used simple goal and imple-mentation intention manipulations, and we feel we have sufficiently dealt with demand as best as we could. Future studies should take pains to use subtler goal and plan manipulations, to more definitively rule out demand as a cause of par-ticipant behavior. A new study could, for example, deliver our goal manipulations through subconscious primes, and see whether the primed constructs then impact ultimatum decision-making (Bargh, Gollwitzer, & Oettingen, 2010).

REAL-WORLD RELEVANCE

Another common complaint raised about the ultimatum game is its relevance to real-world scenarios. The paradigm is used so often in no small part because it is easy to implement and interpret in a laboratory setting, but do the results of these studies have any impact on real world behavior? While recent reviews of behav-ioral economic experiments say that they do have real-world relevance (see Levitt & List, 2007, and Bolton & Ockenfels, 2008), perhaps people take particular issue with ultimatum studies when they attempt to prescribe a "correct," or prescrip-tive, decision. We think most readers of this article have heard in their lifetimes, "take it or leave it," but the higher-order goal in those situations is strongly con-text-dependent. In situations where we will likely interact with the person again, it may be the most "rational" to sacrifice short-term profit and instead enforce long-term fairness norms. In our experimental scenario players are anonymous

and never interact again, so it is easier to justify profit maximization over a subjective enforcement of "fairness" (Bazerman et al., 1995). Nevertheless, in ultimatums there is often a *conflict* between a higher-order goal and an impulse, and we hope this is a first step in a line of research that outlines the ways in which that conflict can be managed. For example, a follow-up study may place participants in an ultimatum with a non-anonymous partner. Here, a higher-order goal may be to enforce fairness norms, since participants will deal with each other again. Furthermore, if the stakes are raised (let's say, $50) the impulse may be to take the money even if split unfairly. In this scenario, a goal intention to "stay calm" may lead to increased rejections, since many participants will likely quiet a profit impulse to enforce fairness.

FOCUS ON RESPONDERS

In these studies we told participants that they were interacting with one or a series of fellow participants, the proposers, when in reality we kept constant all ultimatum offers. We chose to do this because the responder is generally the main force behind less profitable acceptances (Bolton & Zwick, 1995), and we presented a predetermined algorithim of proposals in order to ensure a consistent picture of participant behavior (Bolton & Zwick, 1995; Sanfey et al., 2003). Now that we have found evidence for the impact of goals and plans on responder decision-making, it follows that we need to understand the impact of goals and plans on proposers. In this scenario, it is possible that the proposers' internal conflict is over the desire to claim as much of the pie as possible, versus the cognitive understanding that their partners may reject an overly one-sided offer. In this scenario, a goal to remain calm may lead to more equitable first offers, and a goal to focus on the monetary benefits may lead to more inequitable offers. In addition, we are currently conducting research in which a set of *both* proposers and responders are given goals and plans, and then interact in a series of anonymous repeated ultimatums.

GOALS, PLANS, AND AFFECT

Given that past research and our pilot studies suggest that unfair offers elicit anger from responders, we were confident that our unfair proposals would elicit emotional responses from our participants. Therefore, we elected not to ask for self-reported emotion either during decision-making, and risk impacting the decision, or after the decision, where the participant may now be in a different emotional state. Now that we have our first behavioral findings, we are encouraged to further investigate emotional responses during ultimatums, and hopefully begin to understand more of the relationship between active self-regulation and emotional experience in ultimatum bargaining. It is still an open question whether goals or implementation intentions can impact the emotional experiences of ultimatums: it may be that the emotions are merely suppressed so that higher-order goals can be pursued, but they are still experienced. In future research, on-line measures of emotion should be considered, such as EEG (Harmon-Jones & Allen, 1998), fMRI (Sanfey et al., 2003), video recordings of facial expressions (Littlewort, Bartlett, Fasel, Susskind, & Movellan, 2006), and blood pressure monitoring (Le Doux, 1995).

Of particular interest would be what effects goals and plans have on either activation of the DLPFC, or the suppression of anterior insula, the two regions of the brain implicated in impulse control and emotional reactivity, respectively.

CONCLUSION

The ultimatum game is ubiquitous in social science research. It became popular when economists could not explain the widespread tendency to offer even splits, or to punish oneself and reject offers when deemed unfair. The latest wave of neurological research paints a picture of internal conflict, between the higher order goal and the impulse, between fairness and profit, and any combination thereof. Whether one is to enforce fair play or to maximize profits seems highly context-dependent. We placed participants in ultimatum scenarios in which profit maximization was easiest to justify, presented them with goals and plans designed to shield them from impulses, and measured their reactions. We found that in a one-shot ultimatum, participants with a goal to stay calm accepted an unfair ultimatum nearly twice as much as participants with no strong goal intention. In a second study, we found that when participants were faced with harder ultimatum decisions, goal intentions alone did not significantly impact acceptance rates, but supplementing goals with implementation intentions led to more acceptances. This was true for if–then plans designed to either down-regulate emotion ("remain calm"), or to remind participants of the task's goal at hand ("this is an opportunity to make money"). We are excited by our initial findings, and we hope this is the first step in a new line of research that explores the abilities and limits of active impulse control in ultimatum decision-making.

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