Emotions, Self-interest and Self-worth in Minimal Bargaining Interactions

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Abstract

Studies on the ultimatum game explain the rejection of low offers as costly punishment imposed by responders on unfair proposers. It is also argued that negative emotions serve as the proximate mechanism for such behavior. This article reports two experimental studies demonstrating that the rejection of low offers is also driven by a desire to maintain a sense of self-worth and that negative emotions alone are poor predictors of responders' rejections. For this purpose we used a novel variant of the ultimatum game, in which rejecting an offer results in the proposer keeping the entire amount, thus eliminating the possibility of punishment and replacing it with a possible positive reinforcement. Although rejections entail rewarding the proposers instead of punishing them, a sizable percentage of the responders rejected low offers. Accepting low offers was found to be associated with the desire for profit maximization, while rejecting similarly low offers was associated with the desire to maintain self-worth.

The evolutionary puzzle of rejecting low offers, even at a cost of rewarding unfair proposers, is resolved by adopting a wider framework of human interactions; one which accounts not only for the bearing of an interaction on the players' material capital, but also on their *symbolic capital*. Within such a framework, the rejection of low offers in the investigated game, as in many significant real-life situations, is explained as *costly signals* aimed at protecting attributes of symbolic capital, such as self-worth, status and prestige.

Keywords: Ultimatum Game; Dictator Game; Impunity Game; Costly signaling; Emotion expression, Self-worth

Introduction

Many experimental studies have demonstrated that humans exhibit a willingness to sacrifice material resources in order to inflict costs on unfair others (Fehr & Gächter, 2002; Boyd, Gintis, Bowles, & Richerson, 2003; Rockenbach & Milinski, 2006; Dreber, Rand, Fudenberg, & Nowak, 2008, Herrmann, Thöni, & Gächter, 2008; O'Gorman, Henrich, & Van Vugt, 2009; Sutter, Haigner, & Kocher, 2010). Of particular relevance for the study reported here is the costly rejection of low offers in the ultimatum game (Pillutla & Murnighan, 1996; Camerer, 2003; Xiao & Houser, 2005; Sanfey et al., 2003). In a typical ultimatum game, a sum of money is to be divided between a proposer and a responder. The proposer can offer any split of the total amount between him/herself and the responder, who can either accept the offer, in which case it is implemented, or reject it, in which case both players receive nothing. Numerous ultimatum experiments have repeatedly shown that in large-scale, industrialized societies, players systematically deviate from standard game theory predictions. Instead of offering the smallest positive amount, proposers, on average, offer 40%-50% of the entire amount and instead of accepting any positive amount, responders frequently reject offers of 20% or less of the entire amount (e.g., Pillutla & Murnighan, 1996; Camerer, 2003). Offers and rejection rates in small-scale, pre-industrialized societies, were also far from those predicted by standard game theory, but were characterized by higher variability (Henrich, 2005).

It is widely accepted that in the ultimatum game responders reject low offers in order to punish proposers who offer unfair allocations of material resource (e.g., Pillutla & Murnighan, 1996; Camerer, 2003) and that an arousal of negative emotions, like anger, insult and disgust, serve as a proximate mechanism behind such behavior (Xiao & Houser, 2005; Sanfey et al., 2003; Chapman, Kim, Susskind, & Anderson, 2009; Grimm & Mengel, 2011). Furthermore, it was shown that rejection of unfair offers is significantly less frequent, when concurrent with their decisions, responders are able to send written messages to their proposers (Xiao & Houser, 2005). This intriguing result was explained by arguing that providing a direct channel, through which responders could express their negative emotions, decreases the need to resort to costly punishment.

Recently, it was also shown that a substantial proportion of low offers are rejected in 'impunity' and 'private impunity' games, in which punishment of unfair proposers is not possible (Yamagishi et al., 2009). It was argued that such behavior is mediated by emotions that restrain people from

responding to the immediate incentives and protect their reputation, which may be more valuable in the long run (Frank, 1988).

Worth noting that the "emotions expression" explanation in the Xiao & Houser study and the "emotions mediation" explanation in the Yamagishi et al. study were not tested empirically. In fact, an analysis which we have conducted on the responders' emotion expressions provided by Xiao & Houser (see: www.pnas.org/cgi/content/full/0502399102/DC1), reveals that for offers of 20% or less, the modality of emotion (positive, negative, neutral) is not correlated with the responders' replies. Almost all responders (10 out of 11) who accepted low offers expressed negative emotion, but so did most responders (5 out of 6) who rejected such offers (the difference is not significant, χ^2 (1, 17) = 0.215).

In the present study we tested whether responders might reject positive, but small offers, even if rejection of such offers entails rewarding the unfair proposers instead of punishing them. We also elicited the responders' emotional reactions to receiving low offers and tested the mediating role of emotion in the decision to accept or reject a low offer. In the two reported experiments we used a novel variant of the ultimatum and dictator games. In the new game, which we call the "take-it-or-leave-it" game, a proposer can offer any split of an amount of money, between him/herself and a responder who, in turn, can either accept the offer, in which case it is implemented, or reject it, in which case the proposer keeps the entire amount. Evidently, in the Take or Leave game rejecting unfair offers, not only does not inflict costs on greedy proposers, but also grants them positive, albeit small, rewards. Thus, unlike the ultimatum game, the possibility of punishing unfair proposers is completely eliminated. Moreover, in terms of the allocated material resource, rejecting an offer not only eliminates unfairness, but also increases it.

We tested the hypothesis positing that responders in the Take or Leave game will reject low offers and return the money to the proposers. We conjectured that while in the ultimatum game responders reject low offers mainly in order to punish unfair proposers, responders' rejections in the Take or Leave game serve as *costly signals* (Bliege Bird, & Smith, 2005; Gintis, Smith, & Bowles, 2001) intended to honestly advertise that responders care about their prestige and refuse to be placed in an inferior position (Xiao & Houser, 2005; Gintis, Smith, & Bowles, 2001). In addition, we tested the "emotion expression" hypothesis advanced by Xiao & Houser (2005), positing that allowing a verbal channel for direct emotion expression reduces their inclination to express negative emotions through costly rejections.

Study 1

Method

Participants and procedure

One hundred and thirty eight undergraduate students at the University of Haifa took part in the study (56.52% females, 38.41% males, 5.07% did not indicate their gender). Half of the participants played the role of proposer in a one-period Take or Leave game and the other half played the role of responder. Seventy six participants (38 pairs) played a in a “no-message” treatment and the remaining 62 participants (31 pairs) played in a "message" treatment, which differed from the first treatment in that in addition to the accept/reject decisions, responders received blank “message cards”, and were informed that they could write messages to the proposers, if they wished. The amount to be split in all games was 40 NIS (about $11).

The experimental design was similar to a previous design (Xiao & Houser, 2005), except that the game played was a Take or Leave, instead of the Ultimatum game. The experiment was run in 9 separate sessions. Fourteen to 16 students participated in each session. They were randomly assigned to two rooms, one for “proposers” and the other for “responders”. In each room, each participant was randomly assigned a letter as his or her ID in the experiment. The proposer and responder who received the same letter became a pair. In each room, the participants received an instruction sheet that explained the rules of the game. The game started only after all participants understood the rules. First, the proposer indicated, on a decision card, his/her proposed split of a total amount of 40 NIS (about $11). After all proposers had finished, the experimenter took all of the decision cards to the responders’ room and gave each responder his or her proposer’s decision card. Each responder decided whether to accept the offer or to reject the offer and return the amounts allocated to him/her to his/her proposer.

In the “message” treatment, the responder also received a blank 'message card', and was instructed to write a message to the proposer, if he/she opted to do so. After responders had finished, the experimenter collected the decision cards (and any message cards in the “message” treatment) and returned them to the proposers. Each pair of participants played the game once. When the experiment ended, participants were paid privately. Each participant received a show-up bonus of 10 NIS (about $2.75), in addition to the money earned in the game (see detailed instructions in Appendix A).

Message Evaluation

Messages were independently evaluated by five students who had not participated previously in any similar experiment. They performed the evaluation task as part of the requirements of a research seminar on social dilemmas. Each evaluator received a randomly ordered listing of all the messages. They were also provided with the instructions, because some messages were not comprehensible without this context. No information regarding the proposed splits or the responders' decisions was given. The evaluators were asked to classify the messages as showing positive or negative emotion or as being ‘‘neutral’’ (not positive and not negative).

We concluded that a certain emotion is expressed by a message if at least four out of the five evaluators agreed that it is expressed by that message. The between-judges inter-rater reliability (ICC1) was 0.96.

Results

Offers

The distributions of proposers' offers and responders' rejections in each experimental treatment are depicted in Table 1. On average, proposers offered significantly *less* when they knew that along with their accept/reject decisions, responders could send them messages. As shown in the table, 21 out of 31 proposers (64.52%) in the “message” treatment offered 20% or less of the entire amount to responders, compared to 15 out of 38 proposers (39.47%) who offered 20% or less in the “no-message” treatment (the difference is significant, $z = 2.05$, $p = 0.04$, two-tailed Wilcoxon test).

Table 1

Distribution of offers

% offered to responder	Treatment			
	No-Message		Message	
	n of offers	n of rejections	n of offers	n of rejections
10%	8	0	10	5
20%	7	2	10	4
Low offers (≤20%)	**15 (39.47%)**	**2 (13.33%)**	**20 (64.52%)**	**9 (45%)**
40%	8	0	2	1
50%	15	0	9	0
High offers (≥ 40%)	**23 (60.53%)**	**0 (0%)**	**11 (34.48%)**	**1 (9.09%)**
Total	38 (100%)	2 (5.26%)	31 (100%)	10 (32.26%)

While waiting for the responders' decisions, the proposers were requested to answer the following questions: 1) Do you expect the responder to accept your offer? (Answer: Yes/No), 2) had you been designated the role of responder, what would be the highest offer, out of 40 NIS, that you would still reject? (Answer: 20, 16, 8, 4, I would not reject any offer). The responses to these questions revealed that 14 out of the 35 proposers, who gave offers of 20% or less, expected the responders to reject their offers. Also, of these fourteen, nine proposers (64%) indicated that they themselves would reject similar or even higher offers. These results indicate that a sizable minority of 40% of the proposers who gave low offers might have played strategically, by intentionally offering amounts that responders would eventually reject.

Rejection Rates

Of the 31 responders in the message treatment, 29 responders (93.36%) wrote messages (One of the two responders who sent blank message cards accepted a 20% offer and the other rejected a 20% offer). Because we were interested in the effect of writing messages on responders' decisions, the results of those two participants were excluded from statistical analysis of the responders' decisions.

Table 1 shows that almost all (33 out of 34) offers of 40% or more were accepted. On the other hand, confirming the prediction that responders would reject low offers, we found that 11 out of 35 (31.43%) responders rejected offers of 20% or less. Notably, the expression of negative emotions was not correlated with a decrease in rejection rate. In fact, we found a marginally significant effect in the opposite direction. Eight out of 18 responders (44.44%) who actually sent messages, rejected low offers of 20% or less, compared to only 2 out of 15 responders (13.33%) in the ”no-message” treatment ($p = 0.07$, two-tailed Wilcoxon Exact Test). A closer look reveals that for offers of 10%, 50% of the offers (5 out of 10) in the message treatment were rejected, compared to none in the no-message treatment (the difference is significant, $p = 0.036$, two-tailed Wilcoxon Exact Test). For offers of 20%, the rates of rejection were 37.75% (3 out of 8) and 28.57% (2 out of 7) in the message and no-message treatments, respectively (difference not significant, $p = 1.0$, two-tailed Wilcoxon Exact Test).

Responders' Messages

Ninety percent of the responders who received offers of 20% or less wrote messages. This high percentage is almost identical to the comparable percentage reported for American participants playing as responders in the ultimatum game (Xiao & Houser, 2005). Table 2 depicts a sample of messages sent by responders (The complete message list appears in Table B1 in Appendix B).

Table 2

A sample of messages written by responders

Offer (in %)	Reply	Message
50%	Yes	Wow… good for you!!! Thanks for the cooperativeness!!!
50%	Yes	You are a person who thinks that there are people on the other side.
40%	Yes	Your decision is a bit greedy. Good luck (:
40%	No	May you stay healthy.
20%	Yes	Hello greedy!!! I accepted your offer because I prefer to gain something than nothing.
20%	No	I decided to reject the offer. It is inappropriate!
10%	Yes	I dig your character.
10%	No	For 4 NIS I prefer not to accept the offer.

Table 3 summarizes the evaluators' classification of emotions in the "message" treatment. As expected, 9 out of 11 responders who received high offers of 40% or more accepted the offers and expressed positive emotions. On the other hand, irrespective of whether responders rejected or accepted low offers of 20% or less, most responders (14 out of 18) reacted to low offers by expressing negative emotion. The difference between the distributions of emotions associated with acceptance and rejection of low offers is not significant ($p = 0.28$, two-tailed Wilcoxon Exact Test).

Table 3

Frequency distributions of emotions expressed by respondents who accepted or rejected high and low offers in study1

% offered to responder	Reply	Emotion			Grand total
		Negative	Neutral	Positive	
Low (≤20%)	Accept	9	0	1	10
	Reject	5	2	1	8
	Total	14	2	2	18
High (≥ 40%)	Accept	1	0	9	10
	Reject	1	0	0	1
	Total	2	0	9	11
Grand total		16	2	11	29

Discussion

Two related attributes of proposer's behavior are worth mentioning: First, many proposers played strategically by giving offers that the responders could not accept. Second, proposers offered significantly *less* when they knew that along with the accept/reject decisions, responders could send them messages. The latter result contradicts results recently obtained in dictator games (Ellingsen & Johannesson, 2008; Xiao & Houser, 2009), showing that players in the position of dictator gave significantly *more* when they anticipated receiving written messages from their recipients. We ascribe this inconsistency to cultural differences indicating that the utility functions of Israeli participants are comprised mainly of a self-regarding component (Roth, Prasnikar, Okuno-Fujiware, & Zamir, 1991; Costa-Gomes & Zauner, 2001). Proposers might have anticipated higher acceptance probabilities in the message treatment and increased their relative portions accordingly. Alternatively, they might have increased their portions as compensation for an expected "sharp tongue" (Xiao & Houser, 2009) on the part of the responders.

Our main interest in the present study is in the responders' behavior and its relation with emotion expression. Overall, the results show that although rejection entailed rewarding the proposers rather than punishing them, more than one third of the low offers were rejected. Interestingly, contrary to previous findings regarding responders' behavior in the ultimatum game (Xiao & Houser, 2005), sending messages in the Take or Leave game *increased* the rate of rejecting low

offers rather than decreasing it. It is possible that sending verbal messages in our game enabled responders who received low offers to communicate a non-costly, face-saving signal, and that this, in turn, reduced the tendency to resort to costly signaling through rejection. This conjecture is supported by some of the messages content reported in Table B1 in the Appendix.

Our findings are contradictory to a 'ventilation' hypothesis, suggesting that the expression of negative emotions reduces the tendency to engage in costly rejection of low offers (Xiao & Houser, 2005; Sanfey et al., 2003). This is not to say that the expression of negative emotions cannot have a '*ventilating*' effect which could moderate the tendency to reject low offers (Xiao & Houser, 2005; Sanfey et al., 2003). What we argue is that verbal expression of negative emotions to an unfair other, might also have a *bolstering effect*, due to its instrumental value in reinforcing the commitment to costly actions (e.g., rejecting an insulting offer) which a person decides to take in order to protect his or her reputation, prestige and respect.

Study 2

One objective of Study 2 was to replicate the findings of Study 1 concerning the responders' response to low offers and their relationship to emotions expression. Another objective was to further explore the motivation behind the decisions to reject low offers. For this purpose we included a post-decisional questionnaire designed to elicit the responders' self-ratings (on a 1-7 scale) of their emotional reactions to receiving low offers and their motivations behind accepting and rejecting them low offers.

Because we were mainly interested in the responders' responses to low offers, all participants in this study were assigned the role of responders.

Participants and procedure

We obtained observations from 110 undergraduate students (59% females, 41% males) in the University of Haifa. The experimental design was similar to the one implemented in Study 1, except that all participants in this study played the role of responders. The experiment was run in 11 separate sessions. Eight to 12 students participated in each session. They were randomly assigned to two rooms. In each room, each participant was randomly assigned a letter as his/her

ID in the experiment, and was informed that he/she and the (fictitious) proposer in the other room, who received the same letter, would be a pair.

To test the responders' behavioral and emotional reactions to receiving low offers, half of the participants received a 20% offer, and the other half received a 10% offer ostensibly sent by the (fictitious) proposers. The responders were asked to decide whether to accept the offer, or reject it and return the proposed amount to the proposer.

In the "message" treatment, in addition to the decision card, each responder received blank 'message cards', and was instructed to write a message for the proposer, if he/she opted to do so.

When the experiment ended, all participants were asked to fill a short post-decisional questionnaire (see Appendix C). As in Study 1, each participant received a show-up bonus of 10 NIS (about $2.75), in addition to the money earned in the game. The messages' evaluation procedure was similar to the one detailed in Study 1, but instead of being asked to decide if each message contained a positive, negative or neutral emotion, they were requested to appraise if the message included an expression of anger, frustration, insult and satisfaction. Four students participated in the evaluation task. We concluded that a certain emotion is expressed by a message if at least three out of the four evaluators agreed that it is expressed by that message The Inter-rater reliability (ICC) for anger, frustration and insult ranged from 0.66 to 0.70.

Results

Rejection Rates

Of the 110 participants, 22.73% rejected low offers of 20% or less. To compare the "message" and "no-message" treatments, 13 responders in the "message" treatment who did not write messages were omitted from the analysis. For the remaining 97 participants (42 in the "message" treatment and 55 in the "no-message" treatment), the analysis revealed that, like in Study 1, responders who sent messages rejected low offers significantly *more* than responders who could not send messages (rejection rates of 33.33% and 18.18% for the "message" and "no-message" treatment, respectively; $z = 13.70$, $p = 0.045$, one-tailed Wilcoxon test).

For studies 1 & 2, Figure 1 depicts the aggregate rejection rates obtained for offers of 20% and 10% in the "no-message" and "message" treatments. The overall rejection rate of low offers in the two experiments was 26.15% (34 out of 130). This rate is about half the rates reported in ultimatum experiments conducted in Western industrialized countries (Camerer, 2003; Xiao &

Houser, 2005) and about 65% of the rates reported for Japanese undergraduates in experiments using the impunity game (Yamagishi et al., 2009). Contrary to previous findings in ultimatum bargaining (Xiao & Houser, 2005), sending messages by responders who received offers of 10% increased, rather than decreased, the rejection rate. As shown in Figure 1, 47.22% of the 10% offers in the "message" treatment were rejected, compared to only 13.51% in the "no-message" treatment (the difference is significant, $z = 3.11$, $p = 0.0001$, one-tailed Wilcoxon test). For offers of 20%, the rejection rates obtained in the two treatments were almost identical (equaling about 21%).

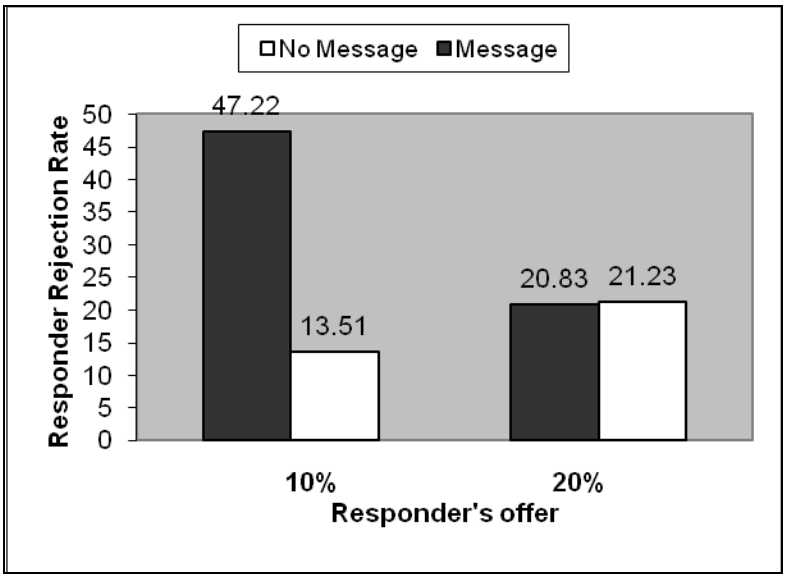

Figure 1: Aggregate Rejection rates obtained in studies 1 & 2 for offers of 20% and 10% in the "no-message" and "message" treatments. Overall, 26.15% of the responders rejected low offers of 20% or less.

Responders' Messages and Self-Ratings

76.36% participants in the "message" treatment sent messages (The complete list of messages appear in Table B2 in Appendix B). Recall that instead of asking evaluators to classify emotions as being positive, negative or "neutral", in Study 2 we asked them to indicate, for each message, whether it included an expression of anger, frustration, insult or satisfaction. Like in Study 1, the analysis of the messages data revealed that the expression of negative emotions was not connected to the decisions to accept or reject low offers. As shown in Table 4 responders

expressed similar rates of anger, insult and frustration, regardless of whether they decided to accept or reject the low offers.

Table 4

Frequency of emotion as a function of the responder's decision

Emotion	Responder's Decision	
	Accept (n =28)	**Reject** (n = 14)
Anger	**16** 57.14%	**8** 57.14%
Frustration	**22** 78.57%	**11** 78.57%
Insult	**16** 57.14%	**7** 50%

Similar results emerged from the responders' self-ratings of their emotional reactions to receiving low offers (see Table 5).

Table 5

Means (and sd's) of responders' self-ratings of their emotional responses to low offers

Emotion	Responder's Decision	Condition		Across Conditions (n = 97)
		No-message (n =55)	**Message** (n = 42)	
Anger	Yes (n = 73)	3.40 (1.84)	4.00 (2.07)	3.63
	No (n = 24)	3.40 (2.22)	3.57 (1.91)	3.50
	Across Decisions	3.40	3.86	3.60
Frustration	Yes	3.31 (2.20)	3.86 (2.09)	3.52
	No	3.40 (1.96)	3.64 (1.60)	3.54
	Across Decisions	3.33	3.79	3.53
Insult	Yes	2.93 (2.06)	3.39 (2.17)	3.11
	No	3.80 (2.49)	3.57 (1.95)	3.67
	Across Decisions	3.09	3.45	3.25
Satisfaction	Yes	2.55 (1.66)	2.25 (1.71)	2.44
	No	1.60 (1.08)	1.71 (1.33)	1.67
	Across Decisions	2.38	2.07	2.25

(All rankings are on a 1-7 scale, 1 = lowest, 7 = highest)

A multivariate analysis of variance (MANOVA), with "message" and responder's decision as independent variables, and self-ratings for anger, insult, frustration and satisfaction as dependent variables, revealed that all effects were non-significant ($F(4, 90) = 0.25$, $p = 0.911$; $F(4, 90) = 1.63$; $p = 0.172$; $F(4, 90) = 0.17$, $p = 0.955$, for the "message" treatment, responder decision and their interaction, respectively).

Recall that we also elicited the responders' self-ratings for the following motivations: 'gain as much as possible', 'feel good with myself', 'punish the proposer', 'insult the proposer', 'retaliate to proposer's behavior' and 'let the proposer gain as much as possible' (see Table 6).

Table 6

Concerns behind the responder's decision to accept or reject an offer

Responder's Concern	**Decision**	**Condition**		**Across Conditions** (n = 97)
		No-message (n =55)	**Message** (n = 42)	
Gain as much as possible	Yes (n = 73)	5.69 (1.84)	5.89 (1.42)	5.77 (1.69) **(1)**
	No (n = 24)	3.70 (2.50)	4.50 (2.65)	4.17 (2.57) **(2)**
	Across Decisions	5.33	5.43	5.37
Feel good with myself	Yes	4.31 (2.11)	4.11 (1.91)	4.23 (2.02) **(3)**
	No	5.80 (1.75)	5.79 (1.63)	5.79 (1.64) **(4)**
	Across Decisions	4.58	4.67	4.62
Punish the proposer	Yes	2.47 (2.07)	3.57 (2.41)	2.89 (2.26)
	No	2.10 (1.73)	2.64 (2.10)	2.42 (1.93)
	Across Decisions	2.40	3.26	2.77
Insult the proposer	Yes	1.87 (1.58)	3.71 (2.40)	2.34 (1.99)
	No	2.92 (2.20)	3.86 (2.41)	3.25 (2.72)
	Across Decisions	2.15	3.12	2.57
Retaliate to proposer's behavior	Yes	2.82 (2.25)	3.71 (2.40)	3.16 (2.33)
	No	2.20 (1.81)	3.86 (2.41)	3.17 (2.30)
	Across Decisions	2.71	3.76	3.17
Let the proposer gain as much as possible	Yes	1.47 (0.82)	1.61 (0.96)	1.52 (0.87)
	No	1.80 (1.23)	1.79 (1.63)	1.79 (1.44)
	Across Decisions	1.53	1.67	1.59

Difference between (1) & (2) is significant at $p = 0.0005$; Difference between (3) & (4) is significant at $p = 0.001$.

A MANOVA revealed a significant main effect for responder decision ($F(6, 88) = 4.51$, $p = 0.0005$), but not for the "message" treatment, nor for the interaction of "message" treatment and responder decision ($F(6, 88) = 1.03$; $p = 0.410$ and $F(6, 88) = 0.99$, $p = 0.437$ for the "message" treatment, and its interaction with the responder's decision, respectively). Univariate ANOVAs for the separate statements revealed two significant effects for responder decision. On average, responders who *accepted* low offers rated "I wanted to gain as much as possible" significantly higher than did responders who rejected similar offers (means of 5.77 and 4.17 for responders who accepted and responders who rejected low offers, respectively; difference significant: $F(1, 93) = 13.18$, $p = 0.0005$). In contrast, responders who *rejected* low offers rated "I wanted to feel good with myself" significantly higher than did responders who accepted similar offers (means of 4.23 and 5.79 for responders who accepted and responders who rejected low offers, respectively; difference significant, $F(1, 93) = 11.42$, $p = 0.0011$). All other effects were not significant.

Although we did not conduct a content analysis of the responders' messages, an inspection of their content (see Table B2 in the Appendix) reveals that in addition to emotions, participants expressed attitudes pertaining mainly to social norms and values, particularly to the norms of equality and social justice. As example, a participant who rejected a low wrote: "You faced a simple question. Would you use the power given to you and make a profit on the expense of an anonymous other. You failed miserably. I hope that in life you get a chance to behave in accordance with justice and not greed and that you choose differently. Good luck". Another participant who also rejected a low offer wrote: "I understand that the power is in your hands dear proposer. Nonetheless, it would have been nice on your side to help a poor student. You give me no choice but to reject and loose 4 NIS. Not a big loss. ...". Reference to norms of justice and equality, were not infrequent among the messages written by responders who accepted low offers. One participant wrote: "I'll stay with 4 NIS and you'll stay with the feeling that you did someone something bad", and a second responder wrote: "If I were in your place, I would have allocated equally. You remind me of the animals' behavior in the jungle. They do not care if others die; only that they get all the food. Because of this way of thinking the world will very soon approach destruction. Thanks". In general, reference to norms of equality and social justice was frequently pronounced so as to rationalize the responders' decisions and to grant them a face-saving, even superior moral stand.

General Discussion

Previous studies have demonstrated that people reject low offers, although rejection results in losing some money (e.g., Xiao & Houser, 2005; Armantier, 2006; Yamagishi et al., 2009; for reviews see Roth, 1995 and Camerer, 2003). In the ultimatum game, rejecting low offers is mainly motivated by the desire to punish proposers who are perceived to be unfair (Xiao & Houser, 2005; Grimm & Mengel, 2011). In the impunity game (Yamagishi et al., 2009) and the Take or Leave game, the possibility for punishment is eliminated. Nonetheless, in both games offers as low as 20% are rejected by 25%-40% of the responders. The rate of rejection in the Take or Leave game, as reported in the present study, is particularly notable, since it results in a monetary reward to an unfair proposer.

While punishment in the Impunity and Take or Leave games is not an option, other motivations may account for the reported rejection rates. Defending oneself against insult in order to protect prestige, status and self-worth, are presumably among the main motivations. The finding that responders who rejected low offers preferred to "feel good with myself" than to gain small money, supports the hypothesis that defending symbolic assets, like self-worth, plays an important role in the reaction to low offers. People who reject low offers might be using *costly signals* (Bliege Bird, & Smith, 2005; Gintis, Smith, & Bowles, 2001), by which they could assert to themselves and to others, that they are not the sort of people who could be treated unfairly and contemptuously (Lind, 2001; Miller, 2001). From an evolutionary perspective, defending prestige and status (Boone & Kessler, 1999), by protecting one's worth in the eyes of self and others, is of significant importance, since it determines the individuals' positions in the social hierarchy, and hence the determinants of their significant interaction with the environment, be it social or other.

Worth noting that returning money by responders in the Take or Leave game could be viewed as counterpart to giving money in the Dictator game. In the latter game, "dictators", who have the entire amount, behave somewhat benevolently (altruistically) by incurring cost in order to benefit anonymous others. In the Take or Leave game, recipients, who have nothing prior to being offered a small amount, incur some cost (by returning money), in order to reverse the insult and restore their prestige and status.

Although we obtained direct evidence for the connection between rejecting low offers and the concern for self-worth, our results cannot refute the existence of a similar relationship between rejecting low offers and interpersonal concerns such as protecting reputation, prestige, and status (Xiao & Houser, 2005; Yamagishi et al., 2009). Within the framework of a costly signaling model, protecting self-worth requires the costly signal be directed mainly toward oneself, whereas the protection of reputation, prestige, and status requires the costly signal be mainly conveyed to others. Our rejection data do not permit a competitive testing of these interrelated explanations. On the other hand, the fact that in three methodologically different experiments (Yamagishi et al., 2009), the rejection rates in the private and the standard impunity games were almost equal, supports the hypothesis that the responders' costly signals were mostly directed 'inwards' (i.e., for protecting and bolstering their own self-worth), and were less motivated by interpersonal concerns as reputation and prestige.

From a wider perspective, real life interactions which involve returning what is perceived as an insulting offer or gift is counterpart of the potlatch situation (Kan, 1989; Jonaitis & Cole. 1991; Bourdieu, 2001). Whereas the latter involves conspicuous spending and generous gifts as costly signals intended communicate wealth, power and high prestige (Bliege Bird, & Smith, 2005; Bourdieu, 2001; Veblen, 1994/ 1899; Trigg, 2001), returning an insulting gift or amount of money communicates pride, self-worth and contempt, towards a person who is seen as an insulting counterpart. Benevolent giving is often used by the advantageous, while contemptuous refusal is often adhered to by the disadvantageous. Although returning insulting offers and similar behaviors are less investigated than potlatch, real life situations in which individuals and groups turn down positive offers in order to preserve their pride and prestige are not uncommon. As examples, service employees often refuse to take small money, in return to voluntary services; waiters in some countries return tips that tourists try to offer them. Refusal to accept money and gifts in order to protect self-worth and prestige occur not only when small amounts are involved. In many cultures people may decline big compensation money in return for settling conflicts which involves an injured pride. In general, the insult experienced by individuals who receive unfair salaries, and the indignation with which they respond to such outcomes, often reflect the fact that their prestige, status, and self-worth have been threatened, more than the fact that their purchasing power has been diminished (Miller, 2001; Homans, 1976).

The role of emotions

With regard to the role of emotions expression, our findings pose a challenge to the widely accepted view of the role of emotions in responder rejection of unfair offers (Pillutla & Murnighan, 1996; Xiao & Houser, 2005; Sanfey et al., 2003; Yamagishi et al., 2009). In the reported studies the evaluations of independent judges (studies 1 & 2)and the responders' self-ratings (study 2), reveal that responders show similar levels of negative emotions, regardless of whether they accepted or rejected unfair offers. Supporting evidence comes from our reanalysis of previous findings on emotions expression in the ultimatum game (Xiao & Houser, 2005). The similar manifestations of negative emotions by responders, irrespective of their decision, coupled with the importance ascribed to self-interest by responders who accepted low offers (Study 2), are consistent with recent interpretations of the competing roles played by emotional and cognitive, incentive-related, components of responder reaction to unfairness (Knoch et al., 2006; Egas & Riedl, 2008).

The role of verbal messages

Sending verbal messages may serve various purposes. It provides the mistreated party with a non-costly avenue for catharses of negative emotion (Xiao & Houser, 2005). It also primes the social context and the presence of the counterpart, and thus facilitates social comparisons (Suleiman, 2011). Inspection of responders' messages in the investigated game reveal that in addition to emotion expression, verbal messages were utilized to emphasize norms of justice and equality in a manner that enabled mistreated responders to protect their dignity and self-worth and even gain a superior moral stand with respect to unfair proposers.

Perhaps more interesting is the interaction effect of the verbal message and size of the low offer on the responders' decisions. Our findings show that in the 10%-offer condition sending verbal messages resulted in a significant increase in the rejection rate; this in contrast to no change in the rejection rate in the 20%-offer condition (see Figure 1). Apparently, adding a verbal message to the costly signal of rejecting an offer was particularly instrumental when the cost of rejection was relatively low than when it was high. In addition, it is interesting to note that comparison with the effect of verbal message in the ultimatum game (Xiao & Houser, 2005) reveals that while sending post-decisional messages in the ultimatum game was associated with decrease in rejection rate, an opposite effect was detected in the Take or Leave game. We propose that while

sending a verbal message in the ultimatum game serves to vent negative emotions and, consequently, to lower the motivation to reject a low offer, in the Take or Leave game sending a verbal message may bolster the effectiveness of rejection as a costly signal, particularly when the cost of rejection is insufficient to render the signal a reliable one.

We conclude by briefly noting that several deviations from standard economic reasoning become plausible if in addition to utilities connected with outcomes, other utilities, connected to symbolic capital, are incorporated into equilibrium considerations. Many seemingly irrational behaviors in what is known as cultures of honor (Sommers, 2009), market phenomena like "auction fever" (Ku, Malhotra, & Murnighan, 2005) and the unwillingness to receive help in interpersonal (Nadler, 1987), intergroup (Nadler & Halabi, 2006) and international (Richard, 2006) contexts, are a few examples of the importance given to symbolic capital.

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Appendix A

Instructions for Study 1

A1. Instructions for the Proposers in the No-Message Treatment

Thank you for coming! You've earned 10 NIS for showing up on time. Whatever you earn in the rest of the session will be in addition to this $5. The instructions explain how you can make decisions. Please read these instructions carefully! There is no talking at any time during this experiment. If you have a question please raise your hand, and an experimenter will assist you .

You are in Room A. You will be randomly and anonymously paired with someone in Room B. You will never be informed of the identity of this person, either during or after the experiment. Similarly, your matched participant will never be informed about your identity. You are in the role of Proposer and your matched participant is in the role of Responder. You and the Responder will participate only once in this decision problem .

This is how the experiment works .

The task of each pair is to divide up 40 NIS between the two individuals in the pair. How much money each one ends up with at the end of the experiment depends on the decisions both individuals in the pair make .

Proposer (you)

The Proposer will first choose a Division Rule (described in detail below). A division rule determines how many NIS, out of 40, will go to the Proposer (you) and how much will go to the Responder (your counterpart).

Division rule
The Proposer must choose one of the Division Rules which appear in the table below:

Possible Division rules	How many, out of 40 NIS will go to each participant
A	The proposer gets 36 NIS and the responder gets 4 NIS
B	The proposer gets 32 NIS and the responder gets 8 NIS
C	The proposer gets 24 NIS and the responder gets 16 NIS
D	The proposer gets 20 NIS and the responder gets 20 NIS
E	The proposer gets 16 NIS and the responder gets 24 NIS
F	The proposer gets 8 NIS and the responder gets 32 NIS
G	The proposer gets 4 NIS and the responder gets 36NIS

Responder (your counterpart)

After being informed about the division rule that the Proposer chose, the Responder must chose one of the two following decisions:

1) Accept the Proposer's division. In this case you will receive the amount that you allocated to yourself according to Division Rule that you chose, and the Responder will receive the amount that you allocated to him/her.
2) Reject the Proposer's division and return the amount allocated to him/her back to the Proposer. In this case he/she will get nothing and the Proposer (you) will get all the 40 NIS.

Experiment Procedures

Step 1: Randomly and anonymously assign counterparts

There are several envelopes in Room A and Room B. In each envelope in Room A and Room B there is a tag marked with a unique letter. Each envelope looks the same. Everyone in Room A and Room B will randomly pick an envelope. Persons in Room A and Room B who choose the tag with the same letter will be paired. Each participant is required to his or her tag until the end of the experiment.

Step 2: Proposer chooses the rule

The Proposer will be given a card like the one which appears below, where he/she can write down his/her decision.

Proposer

I choose Division Rule ____,

That is, out of the 40 NIS I get ___ NIS and the responder gets ___ NIS.

Responder:

I choose (circle your choice):

1. To accept the offer (that is, the proposer gets___ NIS and I get ___ NIS).

2. To reject the offer and return to the proposer the amount that he/she offered me (that is, the proposer gets: ___ NIS and I get ___ NIS).

After choosing the Division Rule and writing it in the designated place on the decision card, the Proposer will also copy the letter written on his/her tag on the back of the decision cards and put the card into the envelope. After every Proposer has finished, the experimenter will take the envelopes to Room B .

Step 3: Responder makes a decision

The experimenter will give each Proposer’s envelope to his/her Responder according to the tag letter on the card. Then the Responder will decide whether to accept the Proposer's offer, or reject it (and return the amount proposed to him/her back to the proposer), will write that

decision in the specified place on the decision card, and put the decision card back into the envelope .

Step 4: Return cards to the Proposers

While waiting for the Responder's decision, each Proposer with be asked to fill a short questionnaire. After all of the Responders have finished, the experimenter will take all of the envelopes to Room A and return the envelopes to their Proposers, according to their tag letters. When the Proposer gets his/her envelope, he/she will see his/her Responder's decision.

Step 5: Receive cash payment privately

Each Proposer will be called one by one to the experimenter. When called, the Proposer will take his/her decision card and his/her completed questionnaire, and the experimenter will calculate his/her final earnings and pay him/her privately. Then the Proposer will exit the lab and drop all the other supplies into the box near the monitor room. The Responders will be paid after all of the Proposers have been paid and have left the lab. When called, the Responder will show the experimenter the tag letter and will be paid according to the corresponding decision card .

Throughout this experiment, you won't meet any Responder in Room B .

Please raise your hand to indicate that you are finished reading these instructions.

A2. Instructions for the Responders in the No-Message Treatment

Thank you for coming! You've earned 10 NIS for showing up on time. Whatever you earn in the rest of the session will be in addition to this $5. The instructions explain how you can make decisions. Please read these instructions carefully! There is no talking at any time during this experiment. If you have a question please raise your hand, and an experimenter will assist you .

You are in Room B. You will be randomly and anonymously paired with someone in Room A. You will never be informed of the identity of this person, either during or after the experiment. Similarly, your matched participant will never be informed about your identity. You are in the role of Responder and your matched participant is in the role of Proposer. You and the Proposer will participate only once in this decision problem .

This is how the experiment works .

The task of each pair is to divide up 40 NIS between the two individuals in the pair. How much money each one ends up with at the end of the experiment depends on the decisions both individuals in the pair make .

Proposer (your counterpart)

The Proposer will first choose a Division Rule (described in detail below). A division rule determines how many NIS, out of 40, will go to the Proposer (your counterpart) and how much will go to the Responder (you).

Division rule

The Proposer must choose one of the Division Rules which appear in the table below:

Possible Division rules	How many, out of 40 NIS will go to each participant
A	The proposer gets 36 NIS and the responder gets 4 NIS
B	The proposer gets 32 NIS and the responder gets 8 NIS
C	The proposer gets 24 NIS and the responder gets 16 NIS
D	The proposer gets 20 NIS and the responder gets 20 NIS
E	The proposer gets 16 NIS and the responder gets 24 NIS
F	The proposer gets 8 NIS and the responder gets 32 NIS
G	The proposer gets 4 NIS and the responder gets 36NIS

Responder (You)

After being informed about the division rule that the Proposer chose, you must chose one of the two following decisions:

1) Accept the Proposer's division. In this case you will receive the amount allocated to you according to Division rule chosen by the Proposer, and the Proposer will receive the amount that he/she allocated to himself/herself.
2) Reject the Proposer's division and return the amount allocated to you back to the Proposer. In this case will get nothing and the Proposer will get all the 40 NIS.

Experiment Procedures

Step 1: Randomly and anonymously assign counterparts

There are several envelopes in Room A and Room B. In each envelope in Room A and Room B there is a tag marked with a unique letter. Each envelope looks the same. Everyone in Room A and Room B will randomly pick an envelope. Persons in Room A and Room B who choose the tag with the same letter will be paired. Each participant is required to his or her tag until the end of the experiment.

Step 2: Proposer chooses the rule

The Proposer will be given a card like the one which appears below, where he/she can write down his/her decision.

Proposer

I choose Division Rule ____,

That is, out of the 40 NIS I get ___ NIS and the responder gets ___ NIS.

Responder:

I choose (circle your choice):

1. To accept the offer (that is, the proposer gets___ NIS and I get ___ NIS).

2. To reject the offer and return to the proposer the amount that he/she offered me (that is, the proposer gets: ___ NIS and I get ___ NIS).

After choosing the Division Rule and writing it in the designated place on the decision card, the Proposer will also copy the letter written on his/her tag on the back of the decision cards and put the card into the envelope. After every Proposer has finished, the experimenter will take the envelopes to Room B .

Step 3: Responder makes a decision

The experimenter will give each Proposer's envelope to his/her Responder according to the tag letter on the card. Then the Responder will decide whether to accept the Proposer's offer, or reject it (and return the amount proposed to him/her back to the proposer), will write that decision in the specified place on the decision card, and put the decision card back into the envelope .

Step 4: Return cards to the Proposers

After all of the Responders have finished, the experimenter will take all of the envelopes to Room A and return the envelopes to their Proposers, according to their tag letters. When the Proposer gets his/her envelope, he/she will see his/her Responder's decision.

Step 5: Receive cash payment privately

Each Proposer will be called one by one to the experimenter. When called, the Proposer will take his/her decision card, and the experimenter will calculate his/her final earnings and pay him/her privately. Then the Proposer will exit the lab and drop all the other supplies into the box near the monitor room. The Responders will be paid after all of the Proposers have been paid and have left the lab. When called, the Responder will show the experimenter the tag letter and will be paid according to the corresponding decision card .

Throughout this experiment, you won't meet any Proposer in Room A .

Please raise your hand to indicate that you are finished reading these instructions.

A3. Instructions for the Proposers in the Message Treatment

Thank you for coming! You've earned 10 NIS for showing up on time. Whatever you earn in the rest of the session will be in addition to this $5. The instructions explain how you can make decisions. Please read these instructions carefully! There is no talking at any time during this experiment. If you have a question please raise your hand, and an experimenter will assist you .

You are in Room A. You will be randomly and anonymously paired with someone in Room B. You will never be informed of the identity of this person, either during or after the experiment. Similarly, the matched participant will never be informed about your identity. You are in the role of Proposer and your matched participant is in the role of Responder. You and the Responder will participate only once in this decision problem .

This is how the experiment works .

The task of each pair is to divide up 40 NIS between the two individuals in the pair. How much money each one ends up with at the end of the experiment depends on the decisions both individuals in the pair make .

Proposer (you)

The Proposer will first choose a Division rule (described in detail below). A division rule determines how many NIS, out of 40, will go to the Proposer (you) and how much will go to the Responder (your counterpart).

Division rule

The Proposer must choose one of the Division rules which appear in the table below:

Possible Division rules	How many, out of 40 NIS will go to each participant
A	The proposer gets 36 NIS and the responder gets 4 NIS
B	The proposer gets 32 NIS and the responder gets 8 NIS
C	The proposer gets 24 NIS and the responder gets 16 NIS
D	The proposer gets 20 NIS and the responder gets 20 NIS
E	The proposer gets 16 NIS and the responder gets 24 NIS
F	The proposer gets 8 NIS and the responder gets 32 NIS
G	The proposer gets 4 NIS and the responder gets 36NIS

Responder (your counterpart)

After being informed about the division rule that the Proposer chose, the Responder must chose one of the two following decisions:

1) Accept the Proposer's division. In this case you will receive the amount allocated to you according to the Division rule chosen by the Proposer, and the Proposer will receive the amount that he/she allocated to himself/herself.
2) Reject the Proposer's division and return the amount allocated to you back to the Proposer. In this case will get nothing and the Proposer will get all the 40 NIS.

In addition to deciding between the two options above detailed, you can also write a short message to your Proposer. The message can be anything you want to say to the Proposer. Please note: Foul language and threatening messages are not allowed .

Experiment Procedures

Step 1: Randomly and anonymously assign counterparts

There are several envelopes in Room A and Room B. In each envelope in Room A and Room B there is a tag marked with a unique letter. Each envelope looks the same. Everyone in Room A and Room B will randomly pick an envelope. Persons in Room A and Room B who choose the tag with the same letter will be paired. Each participant is required to his or her tag until the end of the experiment.

Step 2: Proposer chooses the rule

The Proposer will be given a card like the one which appears below, where he/she can write down his/her decision.

Proposer

I choose Division Rule ____,

That is, out of the 40 NIS I get ___ NIS and the responder gets ___ NIS.

Responder:

I choose (circle your choice):

1. To accept the offer (that is, the proposer gets___ NIS and I get ___ NIS).

2. To reject the offer and return to the proposer the amount that he/she offered me (that is, the proposer gets: ___ NIS and I get ___ NIS).

After choosing the Division Rule and writing it in the designated place on the decision card, the Proposer will also copy the letter written on his/her tag on the back of the decision cards and put the card into the envelope. After every Proposer has finished, the experimenter will take the envelopes to Room B.

Step 3: Responder makes a decision

The experimenter will give each Proposer’s envelope to his/her Responder according to the tag letter on the card. Then the Responder will decide whether to accept the Proposer's offer, or

reject it (and return the amount proposed to him/her back to the proposer), will write that decision in the specified place on the decision card, and put the decision card back into the envelope .

The Responder will also be given a blank card where, if he/she wants, he/she can write a short message to the Proposer and put both the decision card and the message card into the envelope .

Step 4: Return cards to the Proposers

While waiting for the Responder's decision, each Proposer with be asked to fill a short questionnaire. After all of the Responders have finished, the experimenter will take all of the envelopes to Room A and return the envelopes to their Proposers, according to their tag letters. When the Proposer gets his/her envelope, he/she will see his/her Responder's decision and the message the Responder wrote.

Step 5: Receive cash payment privately

Each Proposer will be called one by one to the experimenter. When called, the Proposer will take his/her decision card and his/her completed questionnaire, and the experimenter will calculate his/her final earnings and pay him/her privately. Then the Proposer will exit the lab and drop all the other supplies into the box near the monitor room. The Responders will be paid after all of the Proposers have been paid and have left the lab. When called, the Responder will show the experimenter the tag letter and will be paid according to the corresponding decision card .

Throughout this experiment, you won't meet any Responder in Room B .

Please raise your hand to indicate that you are finished reading these instructions.

A4. Instruction for the Responder in the Message Treatment

Thank you for coming! You've earned 10 NIS for showing up on time. Whatever you earn in the rest of the session will be in addition to this $5. The instructions explain how you can make decisions. Please read these instructions carefully! There is no talking at any time during this experiment. If you have a question please raise your hand, and an experimenter will assist you .

You are in Room B. You will be randomly and anonymously paired with someone in Room A. You will never be informed of the identity of this person, either during or after the experiment. Similarly, the matched participant will never be informed about your identity. You are in the role of Responder and your matched participant is in the role of Proposer. You and the Proposer will participate only once in this decision problem .

This is how the experiment works .

The task of each pair is to divide up 40 NIS between the two individuals in the pair. How much money each one ends up with at the end of the experiment depends on the decisions both individuals in the pair make .

Proposer (your counterpart)

The Proposer will first choose a Division rule (described in detail below). A division rule determines how many NIS, out of 40, will go to the Proposer (your counterpart) and how much will go to the Responder (you).

Division rule

The Proposer must choose one of the Division rules which appear in the table below:

Possible Division rules	How many, out of 40 NIS will go to each participant
A	The proposer gets 36 NIS and the responder gets 4 NIS
B	The proposer gets 32 NIS and the responder gets 8 NIS
C	The proposer gets 24 NIS and the responder gets 16 NIS
D	The proposer gets 20 NIS and the responder gets 20 NIS
E	The proposer gets 16 NIS and the responder gets 24 NIS
F	The proposer gets 8 NIS and the responder gets 32 NIS
G	The proposer gets 4 NIS and the responder gets 36NIS

Responder (You)

After being informed about the division rule that the Responder chose, you must chose one of the two following decisions:

1) Accept the Proposer's division. In this case you will receive the amount allocated to you according to the Division rule chosen by the Proposer, and the Proposer will receive the amount that he/she allocated to himself/herself.
2) Reject the Proposer's division and return the amount allocated to you back to the Proposer. In this case will get nothing and the Proposer will get all the 40 NIS.

In addition to deciding between the two options above detailed, you can also write a short message to your Proposer. The message can be anything you want to say to the Proposer. Please note: Foul language and threatening messages are not allowed.

Experiment Procedures

Step 1: Randomly and anonymously assign counterparts

There are several envelopes in Room A and Room B. In each envelope in Room A and Room B there is a tag marked with a unique letter. Each envelope looks the same. Everyone in Room A and Room B will randomly pick an envelope. Persons in Room A and Room B who choose the tag with the same letter will be paired. Each participant is required to his or her tag until the end of the experiment.

Step 2: Proposer chooses the rule

The Proposer will be given a card like the one which appears below, where he/she can write down his/her decision.

Proposer

I choose Division Rule ____,

That is, out of the 40 NIS I get ___ NIS and the responder gets ___ NIS.

Responder:

I choose (circle your choice):

1. To accept the offer (that is, the proposer gets___ NIS and I get ___ NIS).

2. To reject the offer and return to the proposer the amount that he/she offered me (that is, the proposer gets: ___ NIS and I get ___ NIS).

After choosing the Division Rule and writing it in the designated place on the decision card, the Proposer will also copy the letter written on his/her tag on the back of the decision cards and put the card into the envelope. After every Proposer has finished, the experimenter will take the envelopes to Room B .

Step 3: Responder makes a decision

The experimenter will give each Proposer's envelope to his/her Responder according to the tag letter on the card. Then the Responder will decide whether to accept the Proposer's offer, or reject it (and return the amount proposed to him/her back to the proposer), will write that decision in the specified place on the decision card, and put the decision card back into the envelope .

The Responder will also be given a blank card where, if he/she wants, he/she can write a short message to the Proposer and put both the decision card and the message card into the envelope .

Step 4: Return cards to the Proposers

After all of the Responders have finished, the experimenter will take all of the envelopes to Room A and return the envelopes to their Proposers, according to their tag letters. When the Proposer gets his/her envelope, he/she will see his/her Responder's decision and the message the Responder wrote.

Step 5: Receive cash payment privately

Each Proposer will be called one by one to the experimenter. When called, the Proposer will take his/her decision card, and the experimenter will calculate his/her final earnings and pay him/her privately. Then the Proposer will exit the lab and drop all the other supplies into the box near the monitor room. The Responders will be paid after all of the Proposers have been paid and have left the lab. When called, the Responder will show the experimenter the tag letter and will be paid according to the corresponding decision card .

Throughout this experiment, you won't meet any Proposer in Room A .

Please raise your hand to indicate that you are finished reading these instructions.

Appendix B

Table B1
Complete list of the responders' messages in study 1

Table B2

Offer (in %)	Reply	Message	Emotion
10%	Yes	I don't know what are the rules used on the other side. According to game theory, I can say for sure that your offer is not optimal and even unfair. In my opinion since we are 2 people in the same experiment, it is fair that we both leave with the same amount	Negative
	Yes	I understand that it is difficult for you to be fair in this world	Negative
	Yes	I agree with you although the choice looks somewhat unfair	Negative
	Yes	I accept your decision with pleasure	Positive
	Yes	I dig your character	Negative
	No	Brother/sister, I see that you really need the money, so indulge	Neutral/ unidentified
	No	We are both students. With equal split the two of us would have been happy	Negative
	No	For 4 NIS I prefer not to accept the offer	Negative
	No	In my opinion this is unfair. If I was in your place I would have offered 20-20, why do you have to get more than me?	Negative
	No	We ought to split fifty-fifty	Neutral/ unidentified
20%	Yes	Your offer is not fair at all, it is very exploitative based on your position	Negative
	Yes	You could have offered 50:50 so that at least I can go out with a smile …	Negative
	Yes	Everyone in the world gets what he/she deserves, no one will get what he/she is not destined to have	Negative
	Yes	Equality!!! :)	Negative
	Yes	Hello greedy!!! I accepted your offer because I prefer to gain something than nothing	Negative
	No	20-20 we all be happy	Positive
	No	Choosing option D would have given each one 20 NIS!	Negative
	No	I decided to reject the offer. It is inappropriate!	Negative
40%	Yes	Your decision is a bit greedy. Good luck :)	Negative
	No	May you stay healthy	Negative
50%	Yes	There is not enough words to express how wise you are …!!! Exactly for this I waited :) Thanks	Positive
	Yes	You are a person who thinks that there are people on the other side.	Positive
	Yes	Very fair on your part	Positive
	Yes	The message: I accept your offer	Positive
	Yes	Wow… good for you!!! Thanks for the cooperativeness!!!	Positive
	Yes	Very dignified! You are a great guy!	Positive
	Yes	Have a fantastic day and good Karma :)	Positive
	Yes	Thanks - I liked the equal split. After all this is a net profit for doing nothing in half an hour :)	Positive
	Yes	Thanks a lot for the equal split! I give you my respect for the fairness!	Positive

Complete list of the responders' messages in study 2

Offer (in %)	Reply	Message
10%	No	Pity! .... 50%-50% would have been welcomed with a blessing. No big deal
	No	I would have chosen the equal split. Fifty-fifty. Greed is not something to be proud of
	No	I would have agreed more to a division in which the responder (me) gets 16 NIS and the proposer gets 24 NIS
	No	I will not compromise for 4 NIS. In this case better nothing
	No	Good luck :)
	Yes	If I were in your place, I would have allocated equally. You remind me of the animals' behavior in the jungle. They do not care if others die; only that they get all the food. Because of this way of thinking the world will very soon approach destruction. Thanks.
	Yes	I'll stay with 4 NIS and you'll stay with the feeling that you did someone something bad
	Yes	Brother/sister, thanks for the help. Another 1.60 NIS and I'll have enough money for a bus ride
	Yes	Thou shall love thy friend as yourself
	No	Since you are the proposer, I will not object that you get more, but in a more equal manner.
	Yes	It wouldn't have hurt you if you were more generous
	No	OK. Take the 4 NIS and enjoy them, but when you look in the mirror, all you will see is a shitty person.
	Yes	You just have to know that because of you I shall not eat dinner. You have no heart. Have it for medicine
	Yes	Knowing that you are participating in an experiment and knowing that it is a dyadic experiment that is with a partner don't think only of yourself!! Because the other party is also wasting his time in the experiment. Thus, be cool … and don't think only of yourself
	Yes	I think that it is appropriate that we split fifty-fifty. That is, decision rule D, or perhaps E.
	Yes	Of course personal profit is important, but think how you would respond to the offer if you were in my place. It is obvious that 4 NIS is better than nothing but an equal allocation would have been more decent
	Yes	You would have been great, if you had allocated 50-50.
	No	You faced a simple question. Would you use the power given to you and make a profit on the expense of an anonymous other. You failed miserably. I hope that in life you get a chance to behave in accordance with justice and not greed and that you choose differently. Good luck
	Yes	You are super-greedy!
	No	I understand that the power is in your hands dear proposer. Nonetheless, it would have been nice on your side to help a poor student. You give me no choice but to reject and loose 4 NIS. Not a big loss. ...
	No	I am sure that every one chose 36-4. As for me, I refused just to make things more interesting.
	No	It is important that every one gets the same amount of money
	No	.Let us do it fair and split the money 50-50. Please!
	Yes	I was sure that you'll choose this decision rule, and I am also sure that you hoped that I would reject the offer so that you can take all the money, but 4 NIS are better than nothing :)
	Yes	I chose to take the offer because it is better to get 4 than 0.
	Yes	It is just a game and I don't care, but it is not worth it to always gain everything and to use everything to the maximum
20%	Yes	Thanks. You are very generous :)
	Yes	You decision was unfair. I shall accept it only so that you do not get all 40 NIS
	Yes	I don't intend to quarrel with you. The main thing is that both sides do not come out hurt (money is not everything, it comes and goes). If this makes you happy, then I have no problem with it
	Yes	...Not optimal, but there is always a worse option
	Yes	I accept the offer although I feel hurt, since there are offers that are better for both sides
	Yes	To be honest, I would have done the same, but if you still want to be fair, you may give me some NIS. You cannot miss me. I am the fat guy with the red and black shirt
	Yes	It's not clear to me why you decided to offer option B and not A!

Table B2 (cont.)		
Offer (in %)	**Reply**	**Message**
	Yes	It was possible to propose more to the responder, but no big deal :)
	Yes	Hello. What is the matter with you? Be reasonable (20-20)
	Yes	Since this experiment does not measure any sort of performance, I think it would have been more appropriate for the two of us to have received 20 NIS. In any case, enjoy
	No	It is easier to make an offer than to respond to it. Your division is unfair. In my opinion it should be the opposite ratio. That is why I give up the 8 NIS
	Yes	Why not split the money between us
	Yes	You went for the 80/20 rule. You are a sucker because I would have accepted the 90/10 rule as well, since by rejection I get nothing
	No	I want more money
	Yes	There should have been more justice. At least to allocate close to 24-16. This is a matter of distributive justice
	Yes	You could have offered more. Why not share 50:50!!
	Yes	Hi...your offer is completely inappropriate and simply not fair. Imagine yourself in the position of responder. You would realize then that your offer is utterly inappropriate!!?

Appendix C

Post-decisional Questions for the Responders in Study 2

1. When you received the proposer's offer, to what extant you felt (circle the number that fits best the degree of your personal feeling):

a. Anger

1	2	3	4	5	6	7

Not at all To a great extent

b. Satisfaction

1	2	3	4	5	6	7

Not at all To a great extent

c. Frustration

1	2	3	4	5	6	7

Not at all To a great extent

d. Insult

1	2	3	4	5	6	7

Not at all To a great extent

2. To what extent your decision was influenced by each of the following considerations? (Circle the number that fits best your personal estimate)

a. To gain as much as possible

1	2	3	4	5	6	7

Not at all To a great extent

b. To feel good with myself

1	2	3	4	5	6	7

Not at all To a great extent

c. To punish the proposer

1	2	3	4	5	6	7

Not at all To a great extent

d. To insult the proposer

1	2	3	4	5	6	7

Not at all To a great extent

e. To retaliate to the proposer's behavior

1	2	3	4	5	6	7

Not at all To a great extent

f. To let the proposer gain as much as possible

1	2	3	4	5	6	7

Not at all To a great extent

Please supply the following information:

1.Your gender: _____

2.Your age: _____

3.Your major field of study: _____

Please write the letter designated to your room and the letter on your tag on top of this questionnaire and wait for the experimenter.