

*Emotions, social orientations and self-worth,  
as predictors of responders' behavior  
in simple bargaining games*

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*Workshop on Regret, Emotions and Decision-Making  
March 23 -24, 2009*

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*I wish to thank .... for their help in collecting the data for this study.*

*Special thanks*

# Emotions, social orientations, and self-worth as predictors of responders' behavior in simple bargaining games

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In ultimatum bargaining rejection of low offers is frequently interpreted as costly punishment imposed by responders on unfair proposers. Such behavior, while constituting an anomaly to economic rationality, is regarded as an evolutionary adaptive behavior, triggered by negative emotions. Recent results also suggest that allowing responders to express negative emotions, by writing post-decisional messages to proposers, was effective in reducing the rate of rejection of low offers.

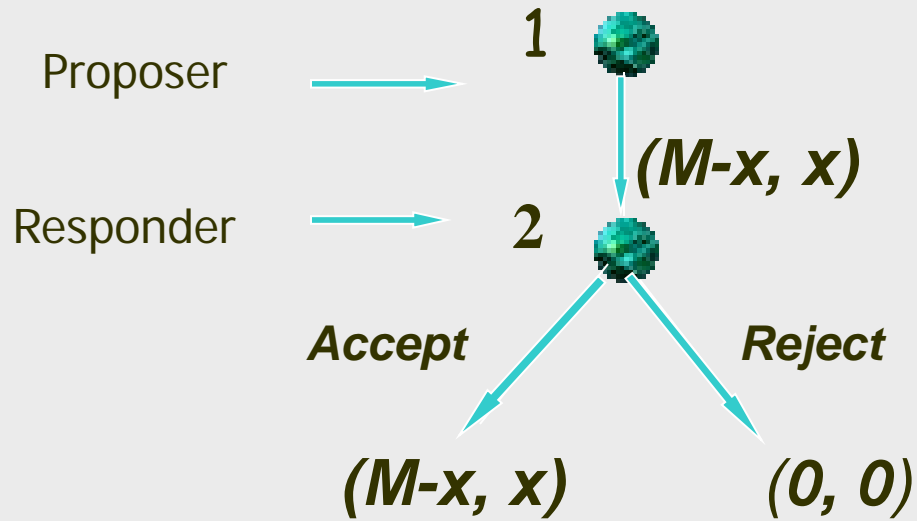
We discuss results obtained from a series of experiments using ultimatum and other bargaining games, which indicate: a) that negative emotions alone are poor predictors of responder's rejection behavior and that such behavior is better understood by looking at the affective *and* the rational (calculative) components of the responder's reaction. b) That the effect of emotion and attitude expression on the propensity to reject low offers is strongly moderated by the responders' gender and social value orientations. c) That significant rates of rejection for low offers are observed, even when the option of punishing an unfair proposer is eliminated, and c) That the rejection of a low offer in such cases is driven by a desire to safeguard one's social status and self worth.

The discussion of our results leads to a general critique of the excessive focus put by game theory on outcomes, while neglecting social and psychological variables characterizing a social interaction, such as power, status and self worth.

## *The Standard Ultimatum Game*

- A Proposer can offer any split of  $M$ , say  $M-x$  for himself, and  $x$  for the Responder.
- The Responder can either accept the offer, in which case the proposed split is implemented, or reject it, in which case both players get nothing.

# Game Tree



## *Game theoretic Prediction*

- *Proposer offers the smallest amount possible.*
- *Responder accepts any positive offer.*

## *Empirical Evidence*

Proposers (who seem ignorant of the subgame perfect equilibrium), usually propose about equal splits.

- **Modal Offer = 50%, Mean Offer  $\approx$  40%**

*Why do Proposers divide equitably?*

*Genuine fairness? or to appear fair?*

*Answer: Partly due to these motives, but mainly because Proposers respond rationally to the Responders' "veto power"*

*An expectations-based rationality*

*But why would Responders use the veto option, when receiving positive offers?*

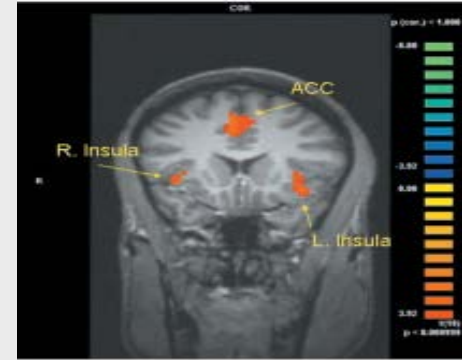
*Narrow Rationality cannot account for such behavior.*



➤ *Rejection of low offers as a costly punishment imposed by responders on unfair proposers.*

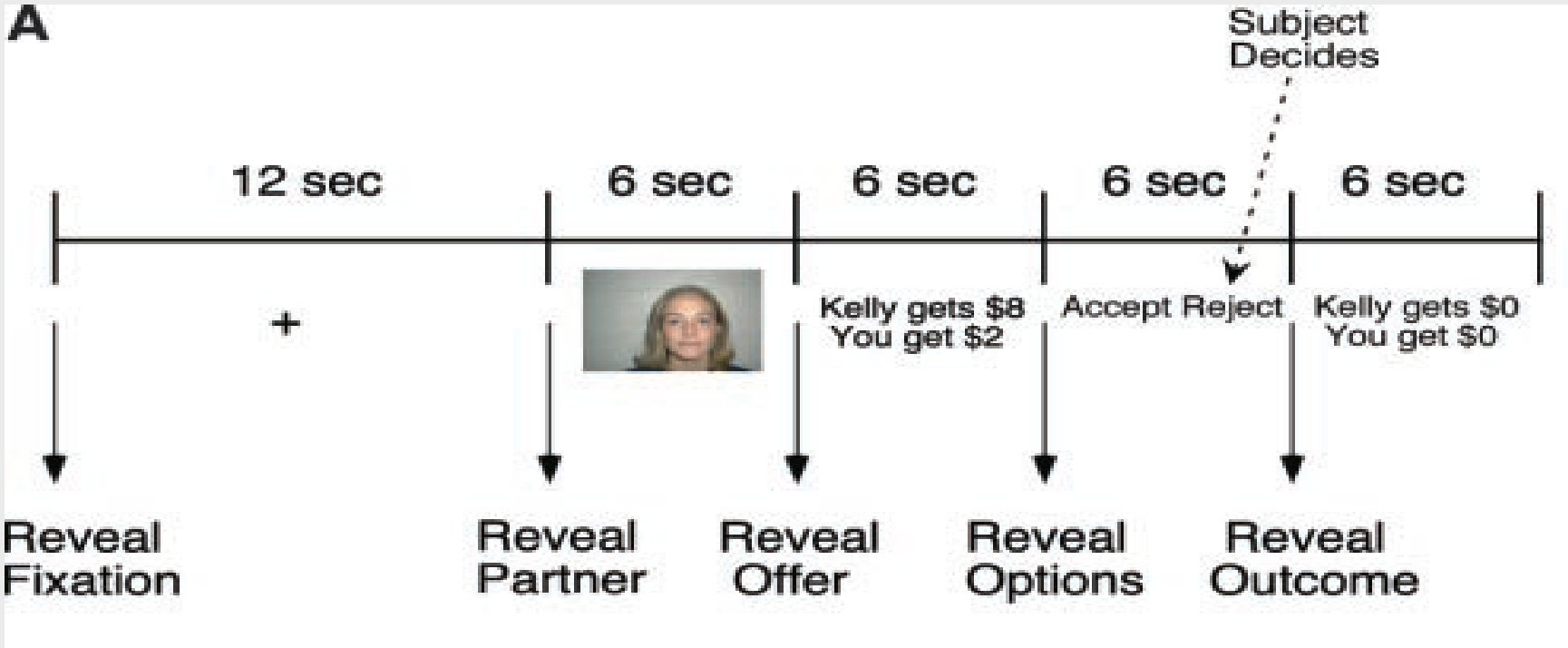
➤ *While constituting an anomaly to narrow economic rationality, such behavior is an evolutionary adaptive behavior.*

➤ *It is triggered by negative emotions.*

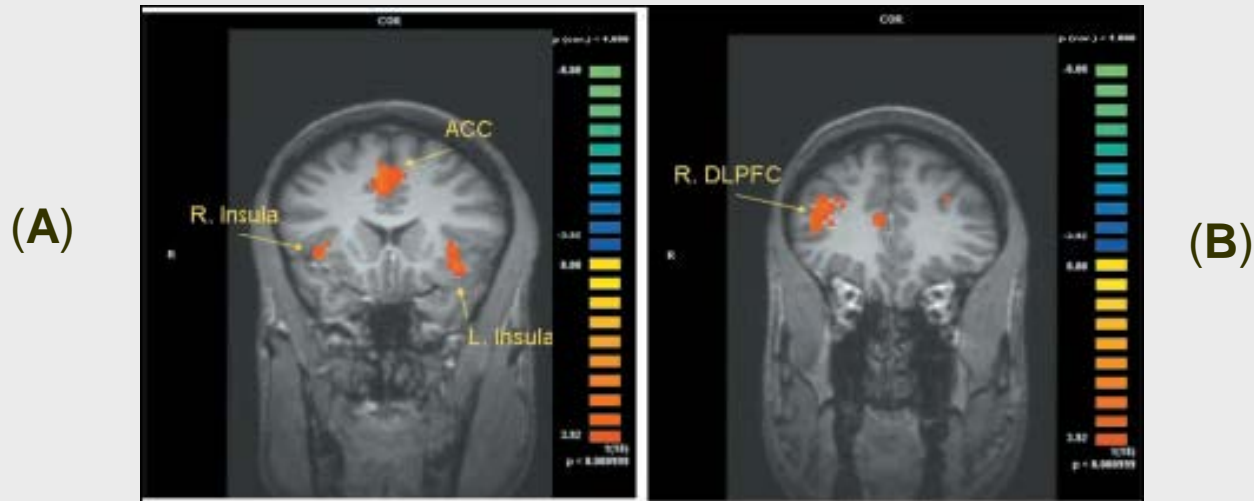


*Strong evidence that rejections are tightly connected to emotions comes from brain imaging data, which was collected while responders made their decisions.*

Sanfey, et al. (2003). The neural basis of economic decision-making in the ultimatum game. *Science*, 300, 1753-1758.

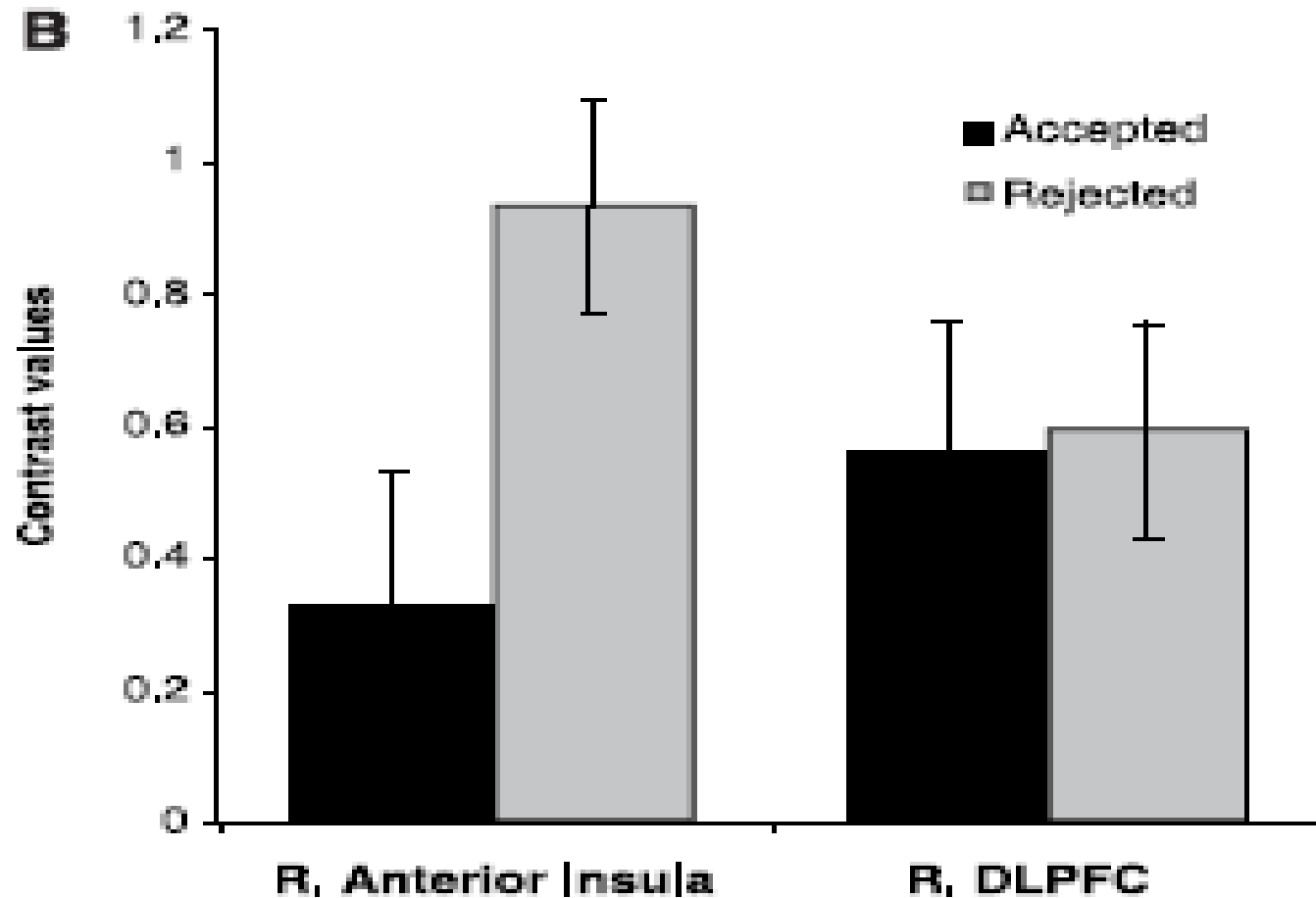


# Activation related to the presentation of an unfair offer (From Sanfey et al.)



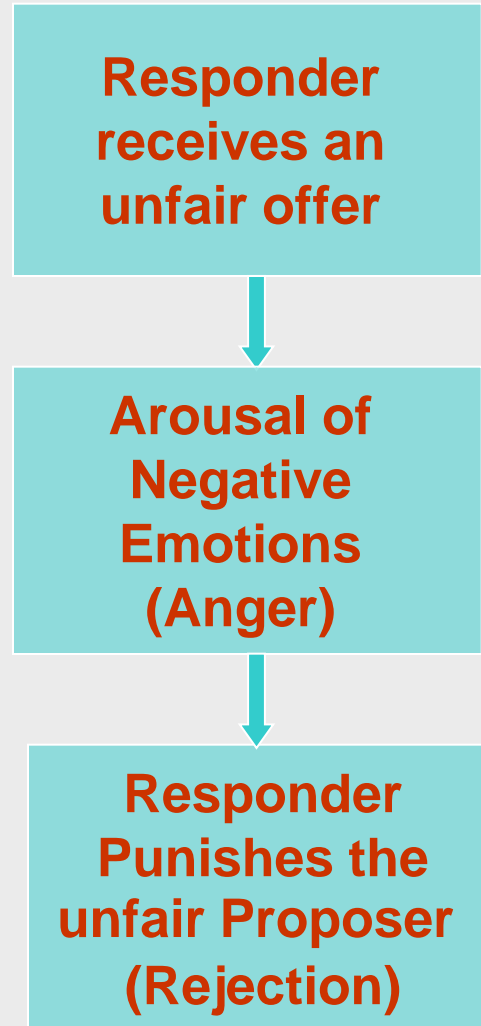
(A) Map of the  $t$  statistic for the contrast [unfair offer – fair offer] showing activation of bilateral anterior insula and anterior cingulate cortex. Areas in orange showed greater activation following unfair as compared with fair offers ( $P < 0.001$ ).

(B) Map of the  $t$  statistic for the contrast [unfair offer – fair offer] showing activation of right dorsolateral prefrontal cortex.



**Right anterior insula and right DLPFC activation for all unfair offer trials, categorized by subsequent acceptance or rejection.**

# The Costly Punishment Explanation



*Xiao & Houser (2005) hypothesized, that if prior to their response, Responders are given a possibility for emotion expression, then they would be less inclined to reject unfair offers.*

*Two Experimental Treatments:*

*An "Emotion Expression" (EE) Condition.  
A Standard Ultimatum (NEE) Condition.*

The amount to be split was \$20.

## *Procedure*

Subjects were invited to the lab in groups (of even numbers). They were randomly and separately assigned to two rooms, one for Proposers and the other for Responders.

Each subject was randomly assigned a letter as his or her ID in the experiment. A Proposer and a Responder who received the same letter became a pair.



First, the Proposer indicated her proposed split on a “decision card” (she wrote how many cents of each dollar would go to her and how many would go to the Responder).

After all Proposers had finished, the experimenter took all the decision cards to the Responders’ room and gave each Responder his or her decision card.

The Responder decided whether to divide \$20 (accept the offer) or \$0 (reject the offer).

In the EE treatment, the Responder also received a card for writing a message to her Proposer.

After the Responders had finished, the experimenter collected the decision cards (and any message cards in the EE treatment) and returned them to the Proposers.

Each pair of subjects played the game once.

# *Decision Rules*

<b>Of each Dollar to divide, the rule chosen by the Divider is</b>	<b>If Designator (You) chose to divide \$20</b>
<b>A</b> Divider gets 90¢ and Designator gets 10¢	Divider gets \$18 and Designator gets \$2
<b>B</b> Divider gets 80¢ and Designator gets 20¢	Divider gets \$16 and Designator gets \$4
<b>C</b> Divider gets 60¢ and Designator gets 40¢	Divider gets \$12 and Designator gets \$8
<b>D</b> Divider gets 50¢ and Designator gets 50¢	Divider gets \$10 and Designator gets \$10
<b>E</b> Divider gets 40¢ and Designator gets 60¢	Divider gets \$8 and Designator gets \$12
<b>F</b> Divider gets 20¢ and Designator gets 80¢	Divider gets \$4 and Designator gets \$16
<b>G</b> Divider gets 10¢ and Designator gets 90¢	Divider gets \$2 and Designator gets \$18

# Decisions Card

**Divider: (Dividing rule)**

I choose dividing rule \_\_\_\_\_. That is, for each dollar to divide:

Divider gets \_\_\_\_\_¢ Designator gets \_\_\_\_\_¢

**Designator: (How many dollars to divide? \$0 or \$20)**

I choose to divide \$\_\_\_\_\_. Therefore,

Divider gets \$\_\_\_\_\_ Designator gets \$\_\_\_\_\_

# Message Card

**Table 1. Distribution of proposers' offers and responders' messages**

Offer	NEE		EE					
	<i>n</i>	%	<i>n</i>	%	Responders who sent message, %			Total
					Positive emotion	Negative emotion	Neutral	
Responder offered $\geq 50\%$					80.56	0	11.11	91.67
20/80	1	1.61	0	0.00				
40/60	1	1.61	4	4.65				
50/50	21	33.87	32	37.21				
Responder offered 40%					22.58	32.26	25.81	80.65
60/40	19	30.65	31	36.05				
Responder offered $< 40\%$					0	78.95	10.53	89.48
80/20	14	22.58	15	17.44				
90/10	6	9.68	4	4.65				
Total	62		86					87.21

Proposers' offers are denoted  $X/Y$ , where  $X$  is proposer's percentage share and  $Y$  is responder's percentage share. Messages are classified according to the evaluations of 10 objective and hypothesis-blind evaluators.

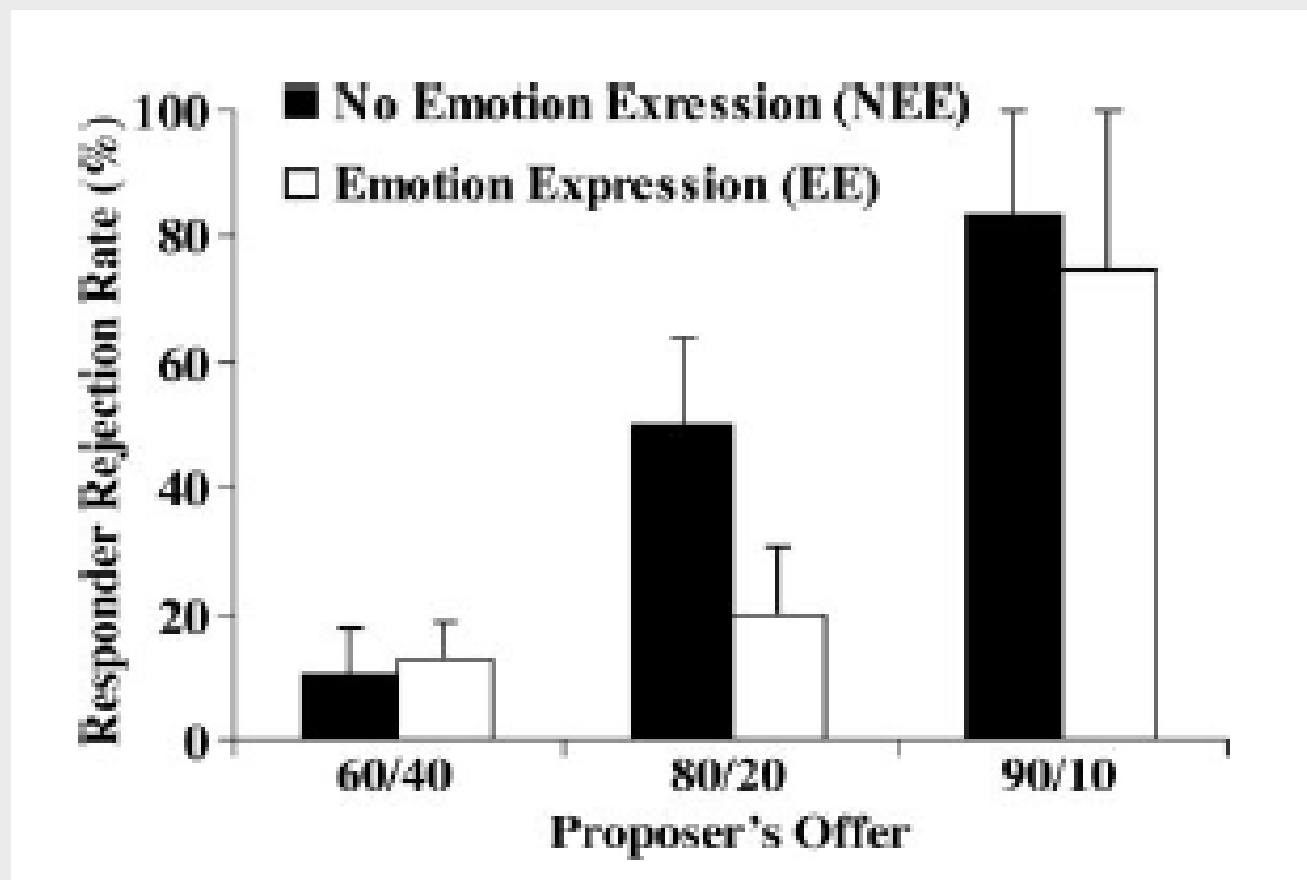
**Source: Xiao, E., & Houser, D. (2005). Emotion expression in human punishment behavior, *PNAS*, 102 (20), 7398-7401.**

## Results

The distributions of offers, under the NEE and the EE conditions, were not statistically different.

**The main finding:** Rejections of unfair offers were less frequent under the EE condition, than under the NEE condition.

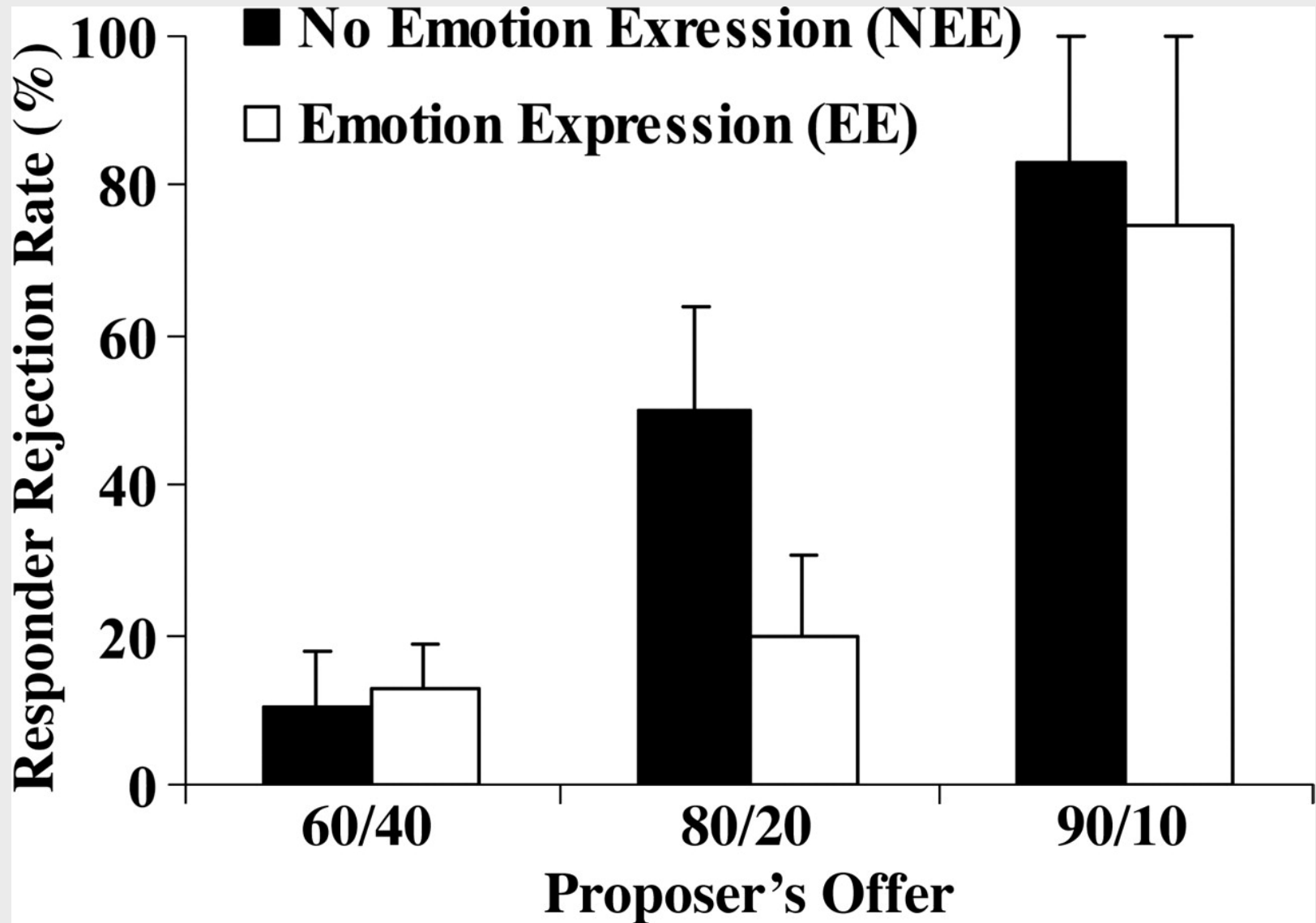
## Rejection rates when responders are offered less than 50%



**In the NEE: 12/20 low offers were rejected**  
**In the EE: Only 6/19 low offers were rejected.**

Source: Xiao & Houser (2005).

Rejection rates when responders are offered <50%





## *Three Critical Remarks*

1. A Closer inspection of the Xiao & Houser results, reveals that in the EE condition Proposers proposed 19 low offers, out of 86, while in the NEE condition 20 low offers were proposed, out of 62.

The Difference between the rates of low offers is significant ( $p = 0.01$ ).

This means that, contrary to Xiao & Houser's conclusion, the option for a post-decisional message influenced the Proposers' offers.

2. The hypothesized relationship between responders' emotions and their accept/reject decisions was not convincingly supported.

## Distribution of emotions expressed by responders who gave below 50% offers

(based on data from Xiao & Houser, 2005)

Offer	Reply.	Emotion			<i>Overall</i>
		<i>Negative</i>	<i>Neutral</i>	<i>Positive</i>	
<b>20% or less</b>	<i>Accept</i>	10	1	0	11
	<i>Reject</i>	5	1	0	6
<b>40%</b>	<i>Accept</i>	7	6	8	21
	<i>Reject</i>	3	1	0	4
	<i>Overall</i>	25	9	8	42

The difference between the distributions of responders who accepted and responders who rejected low offers (of 20% or less) is not significant.

### **3. Inspection of the verbal messages sent by responders reveals that they convey various attitudes and beliefs, in addition to emotion expressions.**

most messages included a reference to social norms such as fairness and equality, as well as to motivations like selfishness and greed.

Respondents who accepted low offers typically stated that "something is better than nothing", or rationalized their acceptance by the fact that they are "broke" and need the money.

*We proposed that writing post-decisional messages affects responders' behaviors in two opposite directions:*

*1. It facilitates the expression of negative emotions (a ventilation effect).*

*2. It amplifies the responders' negative emotions by calling their attention to social comparisons with "privileged" proposers (an aggravation effect).*

Thus, we hypothesized that the effect of emotion expression would be moderated by responders' social value orientations (SVO's).

While the "ventilation effect" could influence the decisions of all social types, the "aggravation effect" might be more pronounced among individualists, who, by virtue of their social type, are usually less influenced by social comparisons.

# Experiment 1

*1. We tested the hypothesis that writing post-decisional messages to unfair proposers might reduce the rejection rate among cooperative responders, and that no comparable effect, or even a reversed effect, could occur among individualistic responders.*

*2. We also examined the roles played by emotions and attitudes in the decisions to accept or reject low offers.*

**Participants:** *106 undergraduate students at the University of Haifa.*

*57 (53.8%) were classified as Cooperatives and 49 (46.2%) as Individualists, using the 9-items SVO questionnaire (Van Lange et al., 1997).*

*All participants played in the role of responders.*

**Design:** *2 (Message/No-Message) X 2 Offer Size (10%/20%) X 2 SVO (Coop/Ind) X factorial design*

*"Cake" size = 40 NIS (≈\$10), Show-up bonus = 10 NIS (≈\$2.5)*

**Procedure:** *Similar to the one implemented by Xiao & Houser (2005), except that the proposer was fictitious.*



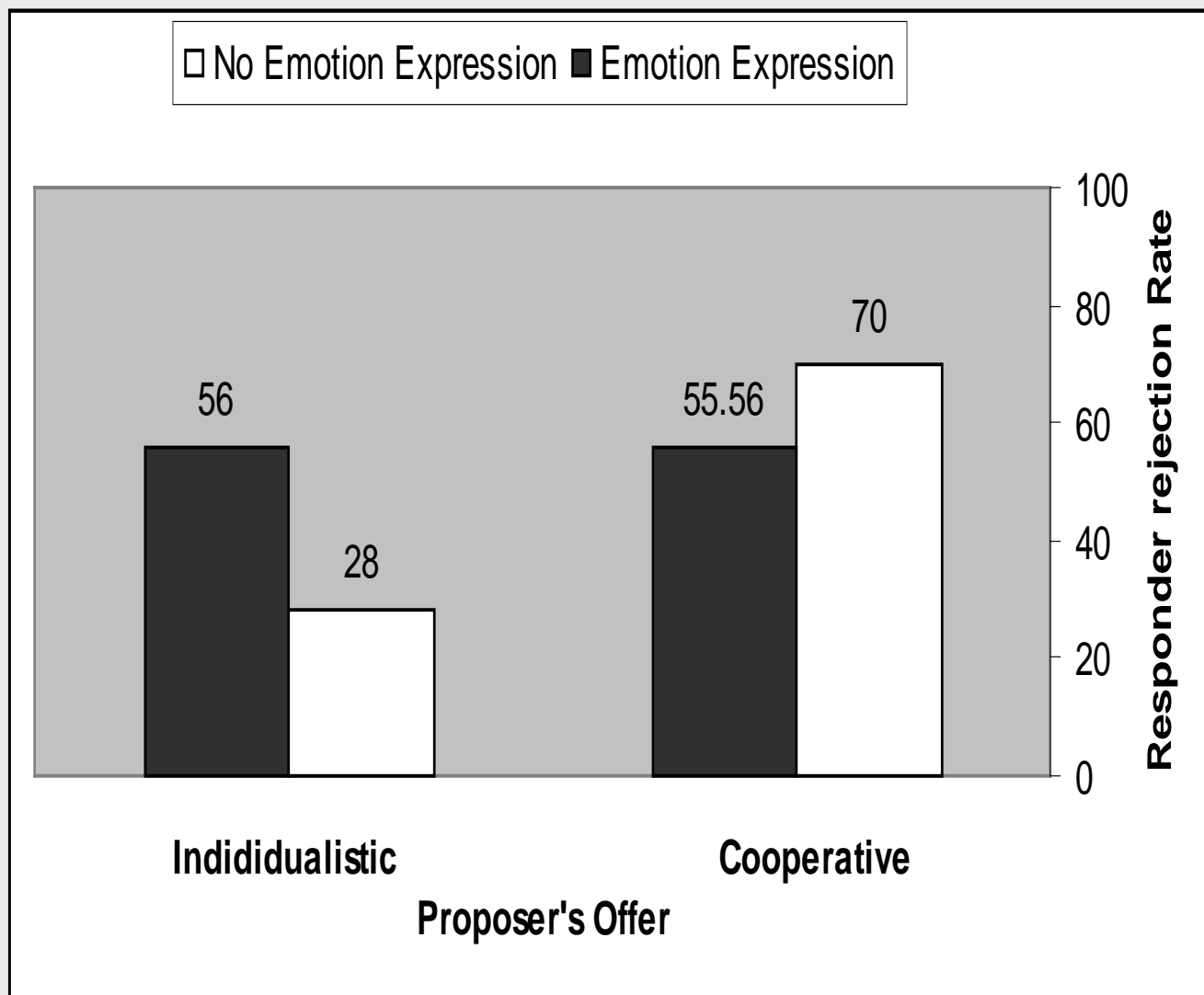
# *Main Results*

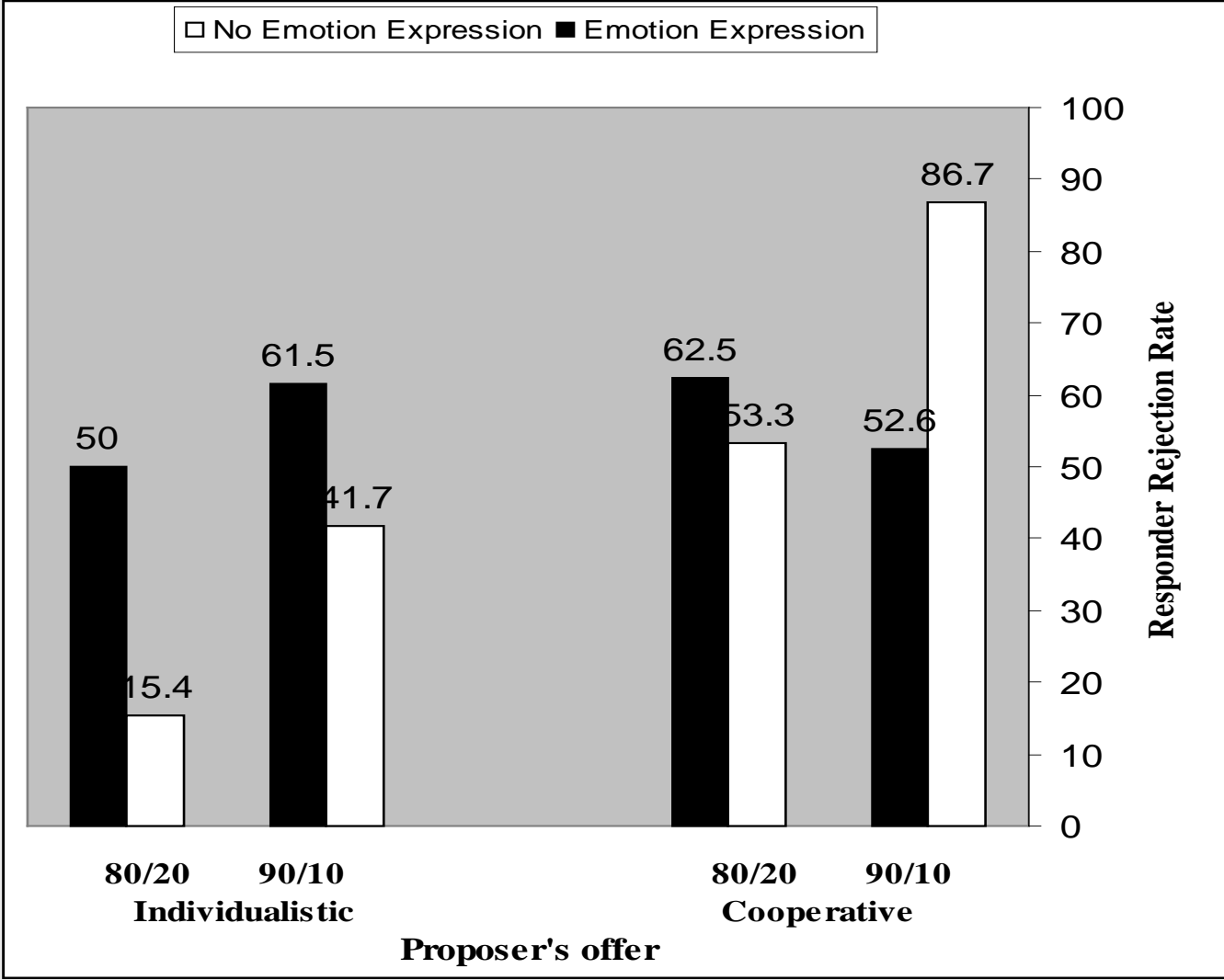
## **1. No Main effect for the Message treatment.**

Rejection rates of 50.91% and 55.77% for the No-Message and Message, respectively.

**2. Sending messages *reduced* the rejection rate of low offers by cooperative responders, but *increased* the rejection rate by individualistic responders.**

# Rejection rates as a function of "Message" treatment and SVO





# Analysis of Responders' Messages

1. *89.66% (52 responders) wrote messages, compared to 89.48% (of responders receiving 20% or less), who wrote messages in the Xiao & Houser (2005) study.*

## *2. Examples for messages*

<b>Offer</b>	<b>Reply</b>	<b>Message</b>
82/20	No	Unjust and greedy.
80/20	Yes	I would have been glad if you were more generous. In any case, since I did not want that we both loose and you had the upper hand I shall accept your offer.
80/20	Yes	It is a pity that you don't have a sense for justice But it is a pity that we both loose. Maybe you need the money.
90/10	No	If you were decent we would have both earned money. Pity!
90/10	No	Pity. If you have chosen 20:20 we would both had gained. Now we lost. Greedy!!!
90/10	Yes	Look I accepted your offer only in order to receive 4 NIS and give you 36 NIS but your offer is not fair.

### *3. Analysis of Messages Content*

Five students independently evaluated all the messages. They were instructed to probe, in each message, the presence or absence of specific emotions, motivations and intents. These included:

- a) Expressions of *anger, satisfaction, frustration and insult*.
- b) Reference to *self interest, equality and spite*, as possible motives and intents behind the responder's decision.
- c) Expressions of *insult, blame, sarcasm and gratitude* towards the proposer.

We concluded that each dimension is contained in a given message, only if three or more judges indicated its containment in the message.

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

<b><i>Emotion</i></b>	<b><i>Responder's Decision</i></b>	
	<b><i>Accept</i></b> <b>(n = 22)</b>	<b><i>Reject</i></b> <b>(n = 29)</b>
<b><i>Anger</i></b>	<b>17</b> <b>77.27%</b>	<b>28</b> <b>96.55%</b>
<b><i>Satisfaction</i></b>	<b>6</b> <b>27.27%</b>	<b>2</b> <b>6.90%</b>
<b><i>Frustration</i></b>	<b>18</b> <b>81.82%</b>	<b>28</b> <b>95.55</b>
<b><i>Insult</i></b>	<b>15</b> <b>68.18%</b>	<b>25</b> <b>86.21%</b>

*Frequency of motivation as a function of responder's decision*

<b>Motivation</b>	<b>Responder's Decision</b>	
	<b>Accept (n =22)</b>	<b>Reject (n = 29)</b>
<b><i>Self interest *</i></b>	21 95.45%	19 65.52%
<b><i>Fairness</i></b>	19 86.36%	25 86.21%
<b><i>Spite ****</i></b>	2 9.09%	23 79.31%

\*  $p < 0.05$ ; \*\*\*\*  $p < 0.0001$  (Fisher's two sided exact test, N = 51)



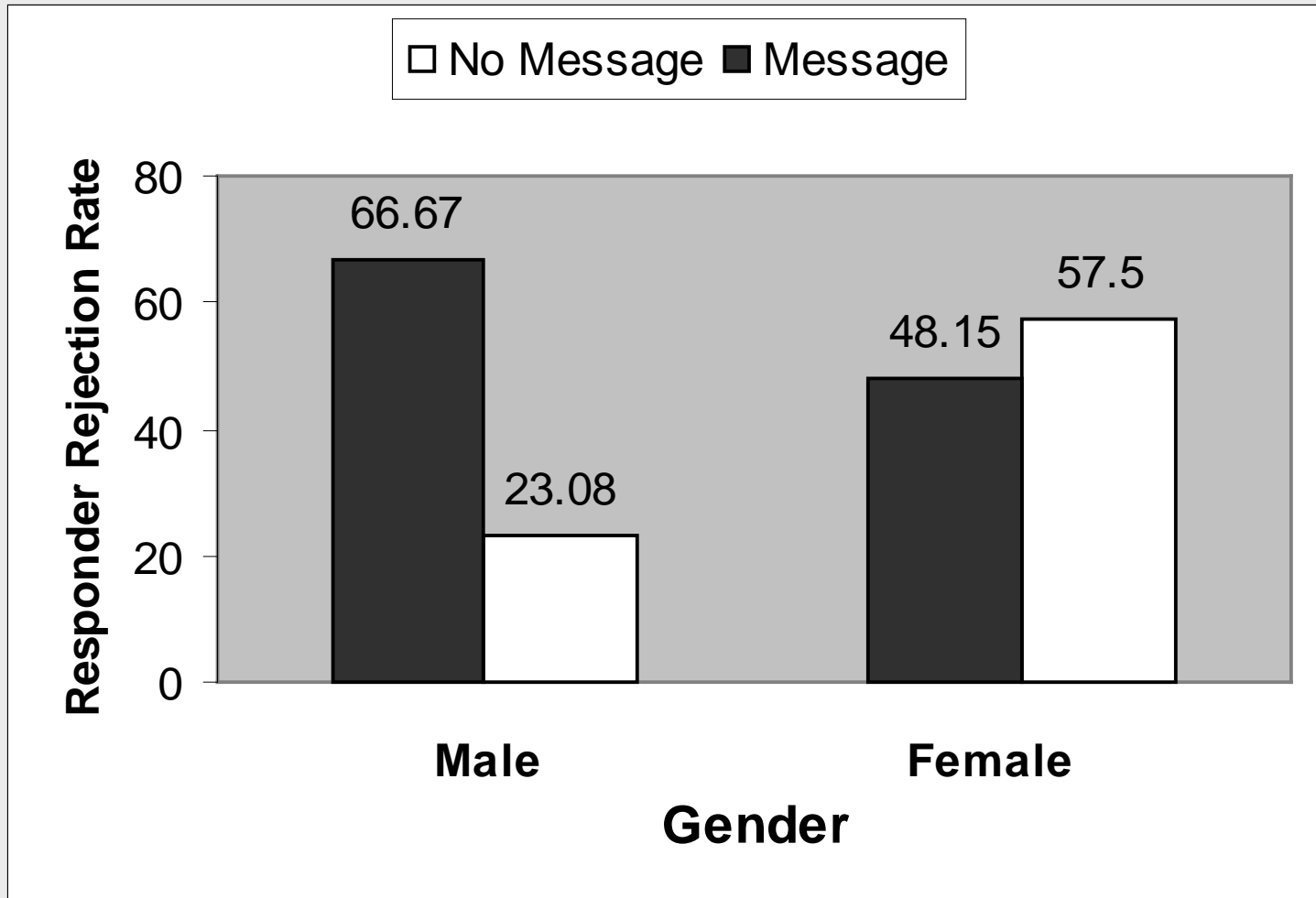
Frequency of verbal behavior towards the proposer  
as a function of the responder's decision

<b>Verbal Behavior</b>	<b>Responder's Decision</b>	
	<b>Accept (n = 22)</b>	<b>Reject (n = 29)</b>
<b>insult</b>	11 50%	19 65.52%
<b>Blame</b>	17 77.27%	27 93.10%
<b>sarcasm</b>	5 22.73%	2 6.90%
<b>gratefulness</b>	5 22.73%	1 3.45%

Also, an unpredicted gender difference emerged:

*Male responders reacted to sending messages similar to individualists, while female responders reacted to sending messages similar to cooperatives.*

## *Rejection Rate by Gender*



<b>SVO</b>	<b>Gender</b>		<b>Overall</b>
	<b>Males</b>	<b>Females</b>	
<b>Cooperative</b>	<b>17</b> <b>50.00%</b>	<b>38</b> <b>56.72%</b>	<b>55</b>
<b>Individualistic</b>	<b>17</b> <b>50.00%</b>	<b>29</b> <b>43.28%</b>	<b>46</b>
<b>Overall</b>	<b>34</b>	<b>67</b>	<b>101</b>

# *Experiment 1*

## *Conclusions*

- **The effect of sending messages on the responder's behavior is more complex than proposed by Xiao & Houser (2005).**
- **In addition to the ventilation of emotions, a verbal message to the proposer: (a) Conveys attitudes, and (b) Primes the presence of the Proposer and focuses attention on social comparison with him/her.**
- **The relative valence of such priming in affecting the responder's behavior depends on the nature of the latter's social utility function (SVO)**

# *Experiment 1*

## *Conclusions (Cont.)*

- **Negative emotions alone are poor predictors of responder's rejection behavior.**
- **Such behavior is better understood by looking at the affective *and* the rational (calculative) components of the responder's reaction.**
- **Regardless of their decision to accept or reject a low offer, responders are concerned with fairness issues.**
- **Responders who accept a low offer are more concerned than others with profit maximization.**

# *Experiment 1*

## *Conclusions (Cont.)*

➤ **The emerging gender difference supports findings indicating that compared to females, males experience more difficulty in emotion management and are more outcome oriented and less process oriented.**

## A General Conclusion:

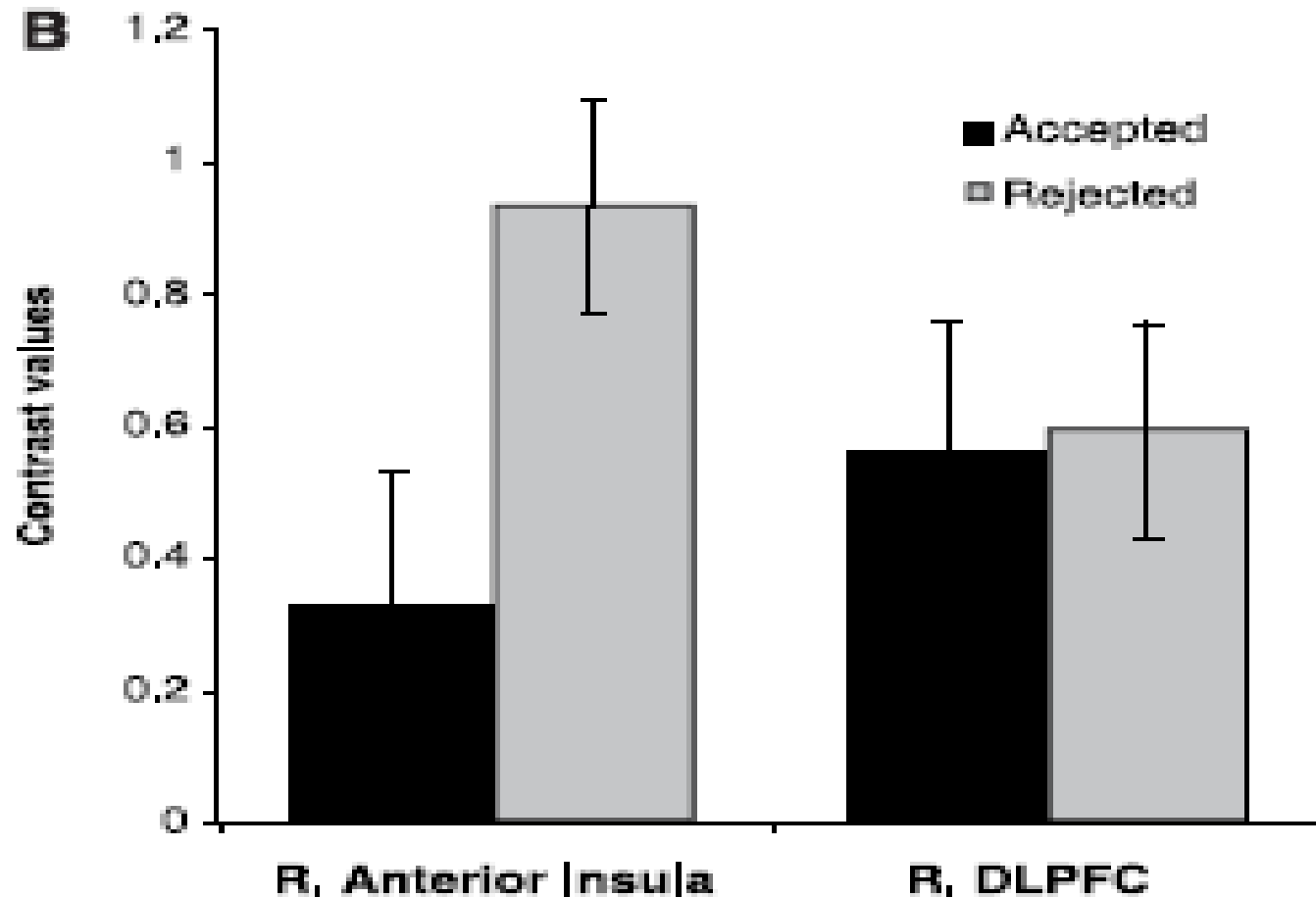
Several scholars have pointed that authorities might use the appearance of fair procedures (e.g., freedom of speech) as an inexpensive way to distract citizens from tangible outcomes.

Our results suggest that *heterogeneous* societies, comprised of different social types, might be more successful in attaining and stabilizing norms of fairness than *homogenous* societies.

The possibility for cooperation requires that societies include sufficient ratios of *cooperators*. The presence of *individualists* could be beneficial in safeguarding fairness norms, by preventing authorities from exploiting citizens' false consciousness.



3. מה שנראה כמבחין בין משיבים שמקבלים הצעות נמוכות ומקבלים שדוחים הצעות דומות, הוא הדאגה להגדלת הרווח אצל הקבוצה הראשונה **והצורך בנקמנות** אצל הקבוצה השנייה.
4. המסקנה האחרונה עולה בקנה אחד עם ממצא דומה ממחקר ההדמיה שהוזכר בהקדמה.



**Right anterior insula and right DLPFC activation for all unfair offer trials, categorized by subsequent acceptance or rejection.**

## Study 2

**In study 2 we challenged the punishment explanation by investigating whether responders might reject low offers even if this entails no punishment of unfair proposers.**

**In addition, we further examined the role played by emotions in the decisions to accept or reject low offers.**

To study these issues, we used a novel variant of the ultimatum and dictator games.

The new game, which we call the "take-or-leave" (TOL) game, resembles the ultimatum game, except in that the rejection of an offer results in the proposer receiving the entire "cake".

*Thus, in the TOL game, the prospects for punishing unfair proposer are entirely eliminated.*

*Moreover, rejecting unfair offers could result in increasing the extent of unfairness rather than abolishing it.*

# Method

**Participants:** 138 undergraduates (78 Females, 53 Males, 7 ?). Half played the role of proposers and the other half the role of responders in a one-period TOL game.

Of the 69 pairs, 38 played under a “No-Message” treatment and 31 pairs played under a “Message treatment”. The amount to be split in all games was 40 NIS (about \$10). Subjects received 10 NIS (about \$2.5) as show-up bonus and another 10NIS for filling a questionnaire.

**Design:** 2 (player's role: *Proposer/Responder*) X 2 Message (*No/Yes*) between subjects design

**Procedure:** Very Similar to the one implemented by Xiao & Houser (2005), except for the rules of the game (TOL, instead of ultimatum).

9 sessions, 6-8 pairs in each session.

While waiting for the responders' decisions (accept / reject), the proposers were asked to fill a short questionnaire which included the two following questions:

1. Do you expect the responder to accept your offer? (answer: Yes/No)
2. Had you been randomly assigned to 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).

# Results

## Distribution of offers

Offer (in %)	No-Message		Message	
	n offers	n rejections	n offers	n rejections
10%	8	0	10	5
20%	7	2	10	4
<b>Low offers (<math>\leq 20\%</math>)</b>	<b>15 (39.47%)</b>	<b>2 (13.33%)</b>	<b>20 (64.52%)</b>	<b>9 (45%)</b>
40%	8	0	2	1
50%	15	0	9	0
<b>High offers (<math>\geq 40\%</math>)</b>	<b>23 (60.53%)</b>	<b>0 (0%)</b>	<b>11 (34.48%)</b>	<b>1 (9.09%)</b>
Total	38 (100%)	2 (5.26%)	31 (100%)	10 (32.26%)

In the Message condition, about 65% of the proposers offered 20% or less, compared to about 39% in the No-Message condition.

The difference is statistically significant. ( $z = 2.0476$ ;  $p = 0.04006$ ; Wilcoxon two-tailed test).

**Thus, proposers offer significantly less when they know that along with the accept/reject decisions, responders could send to them messages.**

**(Cultural difference)**



## *A sample of messages written by responders*

<i>Offer (in %)</i>	<i>Decision</i>	<i>Message</i>
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 (said ironically ?)
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.

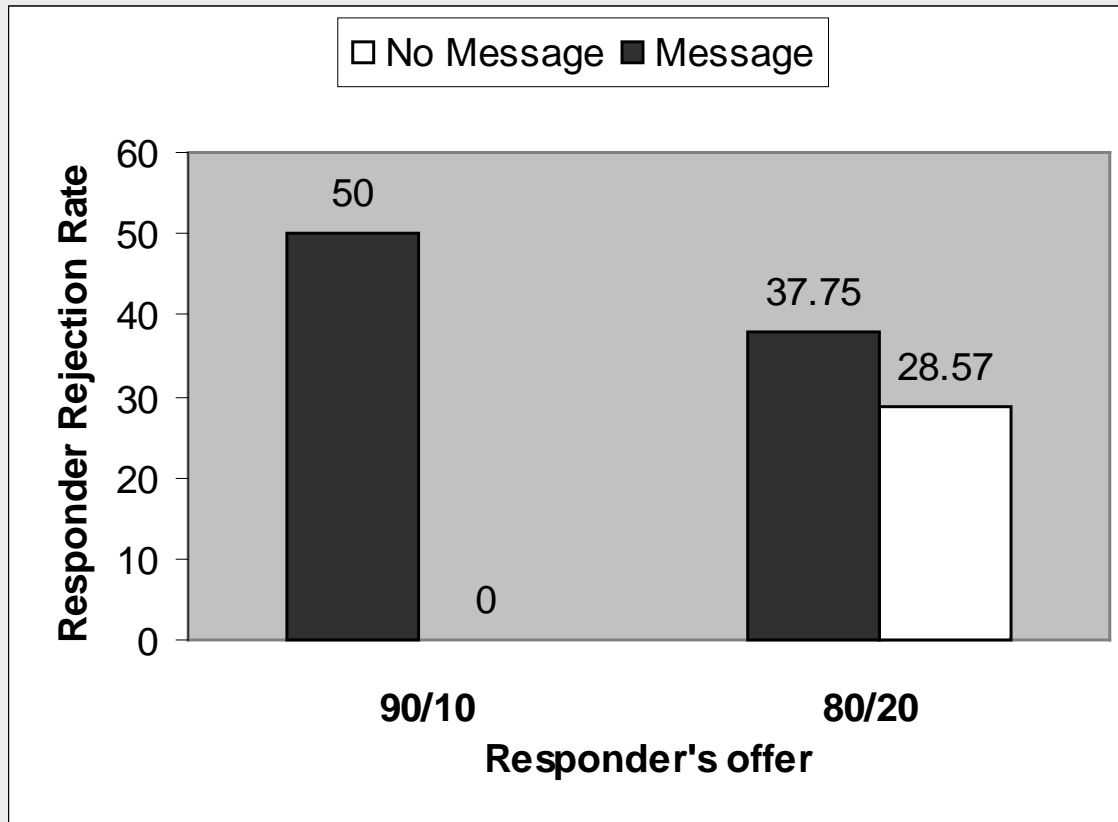
# Rejection rates

Offer (in %)	No-Message		Message	
	n offers	n rejections	n offers	n rejections
10%	8	0	10	5
20%	7	2	10	4
<b>Low offers (<math>\leq 20\%</math>)</b>	<b>15 (39.47%)</b>	<b>2 (13.33%)</b>	<b>20 (64.52%)</b>	<b>9 (45%)</b>
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Total	38 (100%)	2 (5.26%)	31 (100%)	10 (32.26%)

Of the 31 responders in the Message condition, 29 responders (**93.36%**) wrote messages.

In support of our hypothesis, **8 out of the 18 responders (44.44%) in the Message treatment, who actually sent messages, rejected offers of 20% or less**, compared to only 2 out of 15 responders (13.33%) who received similar offers in the No-Message treatment (the difference was significant,  $p = 0.0283$ ,  $z = 1.9068$ , one-tailed Wilcoxon two-sample test).

## *Rejection rates for low offers by offer size*



**For 10% offers:** 50% (5 out of 10) offers in the Message condition were rejected, compared to none (0%) in the No-Message condition (difference significant,  $p = 0.0111$ ).

**For 20% offers,** 37.75% (3 out of 8) offers in the Message condition were rejected, compared to 28.57% (2 out of 7) in the No-Message condition (difference not significant,  $p = 0.3618$ ).

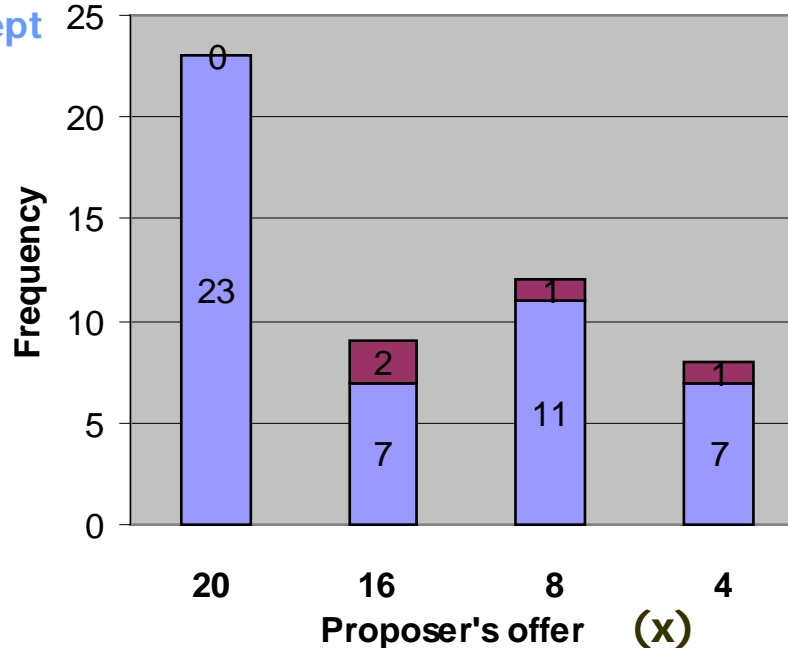
## Questions

Of the 34 proposers who gave *high* offers (of 40% or more) 32 (about 94%) indicated that they expect the responder to accept the offer.

In contrast, of the 35 proposers who gave *low* offers (of 20% or less), 21 (60%) indicated that they expect the responder to accept the offer. **The remaining 14 (40%) indicated that they expect the responder to reject the offer.** This result raises the possibility that at least some of the proposers behaved strategically, in the sense that they had deliberately gave low offers in anticipation that the responders would reject them and return his portion, thus leaving the entire amount for them.

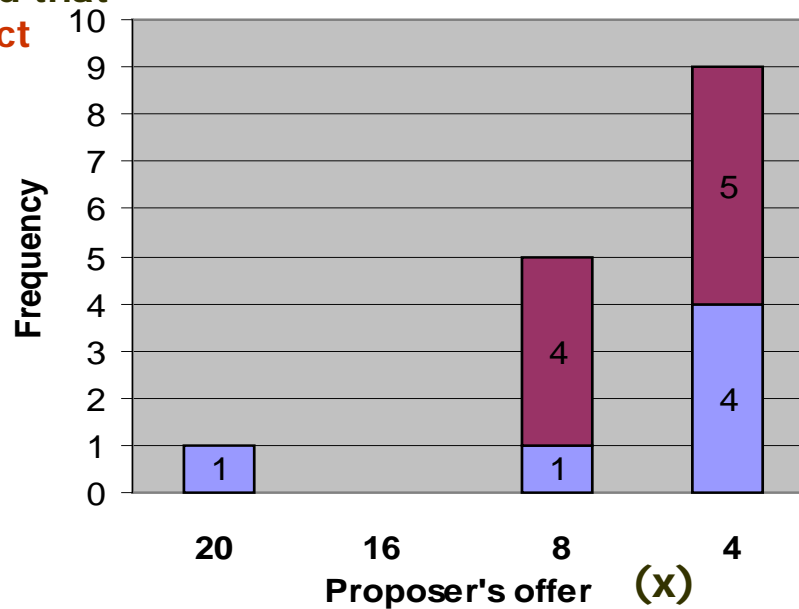
Proposers who estimated that the responders will **accept** their low offers.

■ would reject x or more  
■ would accept x or more



Proposers who estimated that The responders will **reject** Their low offers.

■ would reject x or more  
■ would accept x or more



# *Responders emotions*

We elicited the responders' self rating of negative and positive emotions on a 1-7 scale.

Analysis of these data reveals that responders report higher levels of negative feelings and lower levels of positive feelings when receiving low, as compared to high offers.

More angry: 3.88 compared to 1.85 (on a 1-7 scale).

More insulted: 3.12 compared to 1.74

Considerably less satisfied: 2.09 compared to 5.29.

## *Responders emotions*

More interestingly, for responders who received low offers, their self ratings of emotional responses were not dependent on whether they accepted or rejected a low offer, nor whether they sent, or did not send messages.

For responders who **rejected** low offers, the mean ratings of **anger, frustration, insult and satisfaction** were **3.82, 2.74, 1.7 and 2.00**, respectively.

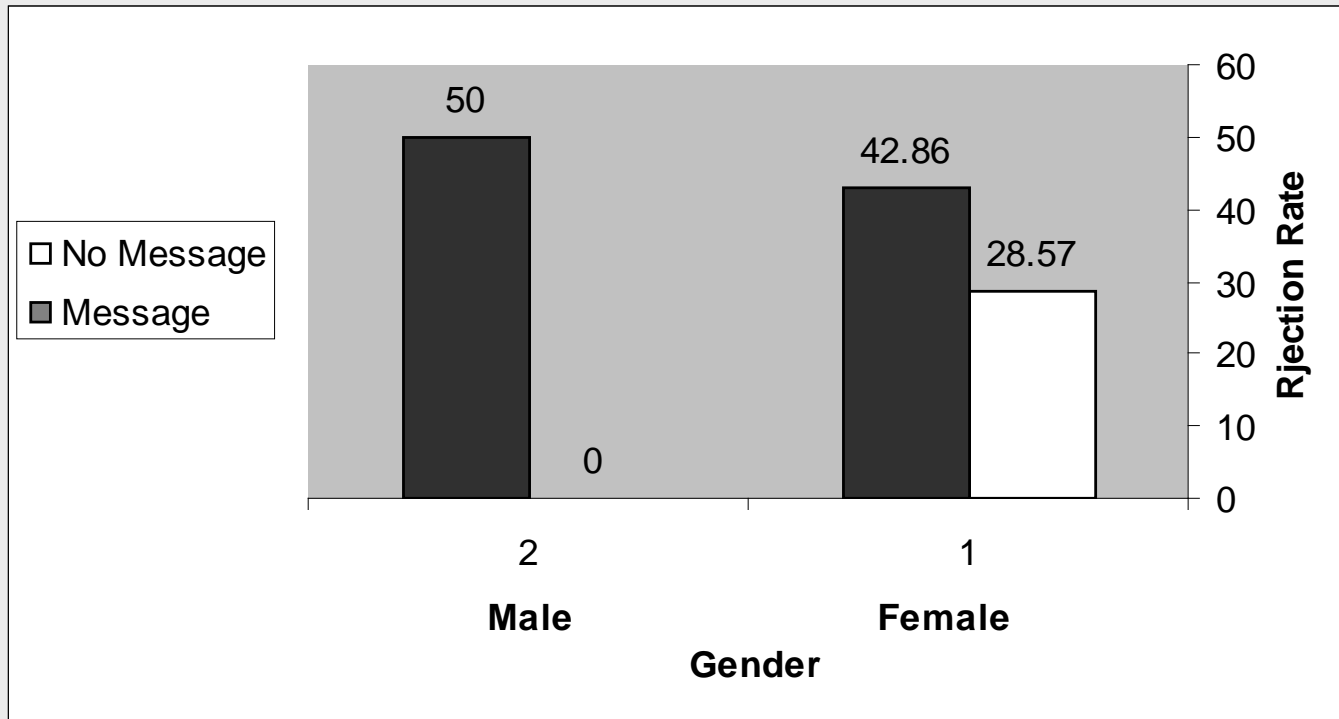
For responders who **accepted** low offers the mean ratings for **anger, frustration, insult and satisfaction** were, **4.00, 3.2, 2.09 and 2.13**, respectively.

# Gender Differences

Missing Results for proposers



# *Rejection rate for low offers by Gender*



# Study 3

## **Method**

**The experiment utilized a 2 "Message" X 2 "Offer Size" factorial design. Participants played the role of responders in one of two treatments: A "No-Message" and a "Message" treatment. In both treatments, participants played a one-period TOL game with fictitious proposers. In the "Message" treatment, after receiving their offers, participants had an option of sending written messages to proposers.**

**We hypothesized that while rejecting low offers in the ultimatum game is mainly driven by a desire to punish unfair proposers; rejecting similar offers in the TOL game serve as *costly signals*, indicating the responders' intent to safeguard themselves from insult and to protect their prestige and self worth.**

**We also hypothesized that such costly signaling would be more utilized if it is accompanied by a verbal message to the proposer.**

# מעריך

## ■ שני תנאים:

. (M) עם אפשרות למסר מילולי TOL - משחק  
(NM.) ללא אפשרות למסר מילולי (TOL) - משחק

- בתנאי המסר, במקביל להחלטה אם לקבל או לדחות את ההצעה, ניתנה למקבל הזדמנות (שהייתה ידועה למקצה) לכתוב למקצה מסר מילולי.
- נבדקים. כל הנבדקים שיחקו בתפקיד המקבל. כמחצית  $n = 97$  הנבדקים בכל תנאי קיבלו הצעות בגודל 20% מהעוגה ומחציתם האחר קיבלו הצעות בגודל 10% מהעוגה.
- גודל הסכום לחלוקה: 40 ₪. כל נבדק קיבל 10 ₪ על עצם השתתפותו בניסוי.
- 8-12 נבדקים השתתפו בכל הרצה.

## כלל חלוקה

על המקצה לבחור בכלל חלוקה אחד מהטבלה למטה.

כמה שקלים מתוך ה-40 יקבלו המקצה והמשיב	כללי חלוקה אפשריים
המקצה מקבל 36 שקלים והמשיב מקבל 4 שקלים	א
המקצה מקבל 32 שקלים והמשיב מקבל 8 שקלים	ב
המקצה מקבל 24 שקלים והמשיב מקבל 16 שקלים	ג
המקצה מקבל 20 שקלים והמשיב מקבל 20 שקלים	ד
המקצה מקבל 16 שקלים והמשיב מקבל 24 שקלים	ה
המקצה מקבל 8 שקלים והמשיב מקבל 32 שקלים	ו
המקצה מקבל 4 שקלים והמשיב מקבל 36 שקלים	ז

# כרטיס החלטה

## מקצה: (כלל חלוקה)

אני בוחר בכלל חלוקה \_\_\_\_\_.

כלומר, מתוך 40 השקלים:

המקצה מקבל \_\_\_\_\_ שקלים

והמשיב מקבל \_\_\_\_\_ שקלים

## משיב:

אני בוחר – (הקף בעיגול את בחירתך)

1 לקבל את ההצעה (כלומר, המקצה מקבל \_\_\_\_\_ ₪  
ואני מקבל \_\_\_\_\_ ₪).

2 לדחות את ההצעה ולהחזיר למקצה את החלק שהקצה  
עבורי (כלומר, המקצה מקבל \_\_\_\_\_ ₪ ואני מקבל \_\_\_\_\_  
(₪)

# שאלון למשיב לאחר הניסוי

1. כאשר קיבלת את הצעת החלוקה, באיזו מידה הרגשת:

כעס, שביעות רצון, תסכול, עלבון

2. באיזה מידה החלטתך הושפעה מכל אחד מן השיקולים הבאים?

רציתי להרוויח כמה שיותר, רציתי להרגיש טוב עם עצמי,  
רציתי להעניש את המציע, רציתי להעליב את המציע,  
רציתי להחזיר למציע כגמולו, רציתי שהמציע ירוויח  
כמה שיותר.



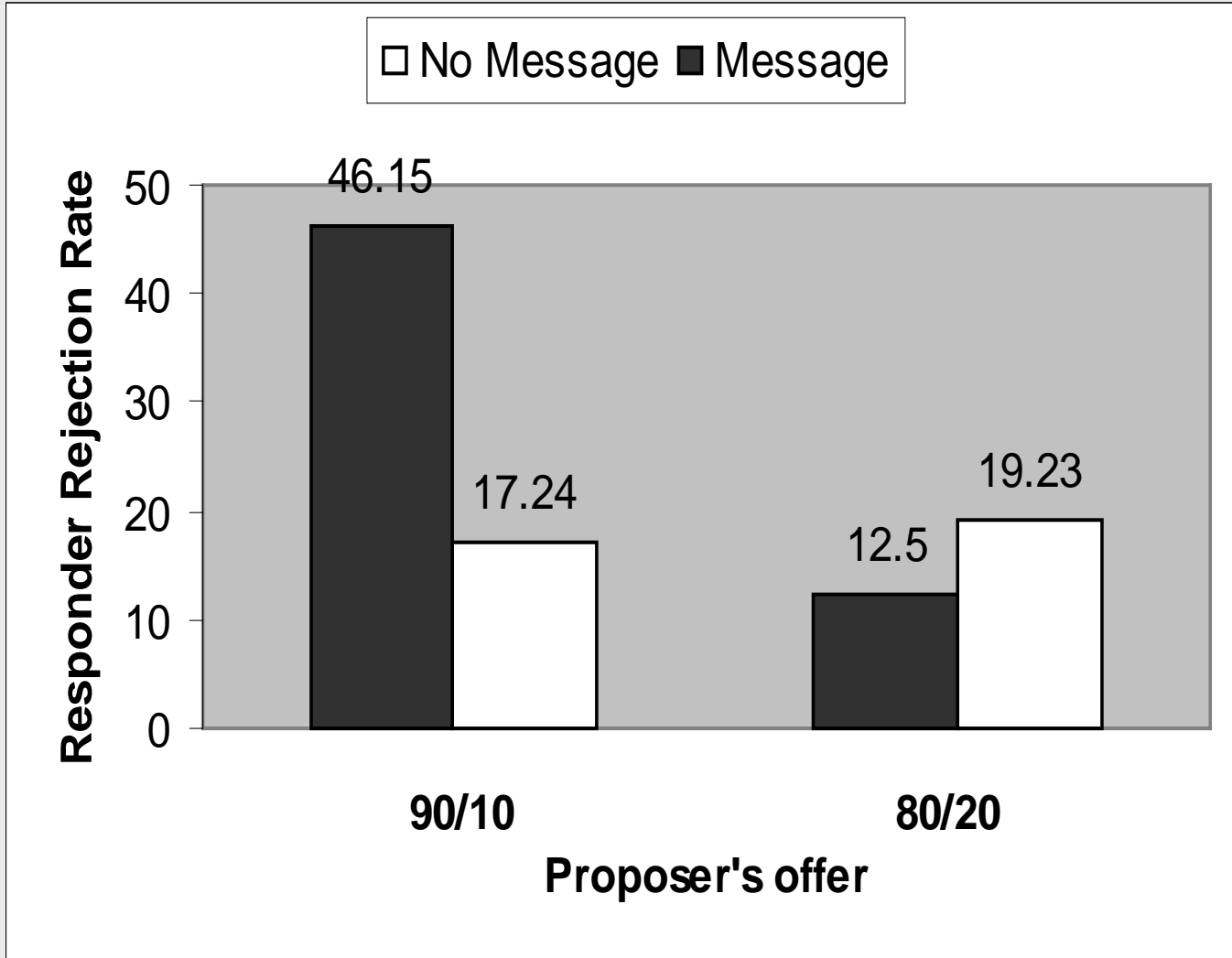
## **תוצאות עיקריות**

■ בתנאי ללא מסר: הצעות נמוכות של 20% או פחות נדחו ע"י 18.18% מכלל המשיבים בתנאי זה.

■ בתנאי עם מסר: הצעות נמוכות של 20% או פחות נדחו ע"י 33.33% מכלל המשיבים בתנאי זה.

ההבדל מובהק ( $p = 0.0446$ ,  $z = 1.6698$ , one-tailed Wilcoxon two-sample test)

# שיעורי דחייה



## מסרים מילוליים

42 מתוך 55 נבדקים בתנאי המסר (76.36%) שלחו מסרים.

אחוז זה נמוך מ-89.48% שולחי המסר בתנאים דומים בניסויי אולטימאטום (89.48% ו-89.66% בניסויים של Xiao & Houser ושל Suleiman et al. בהתאמה)

## דוגמאות למסרים

<b>Offer</b>	<b>Reply</b>	<b>Message</b>
82/20	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.
90/10	Yes	You just have to know that because of you, I shall not eat dinner. You have no heart. Have it for medicine
90/10	No	I would have chosen the equal split. Fifty-fifty. Greed is not something to be proud about.
90/10	No	I will not compromise for 4 NIS. Nothing is better.
90/10	No	OK. Take the 4 NIS and enjoy them, but when you look in the mirror, all you will see is a shitty person.

## Means of responders' ratings of their emotional responses to low offers

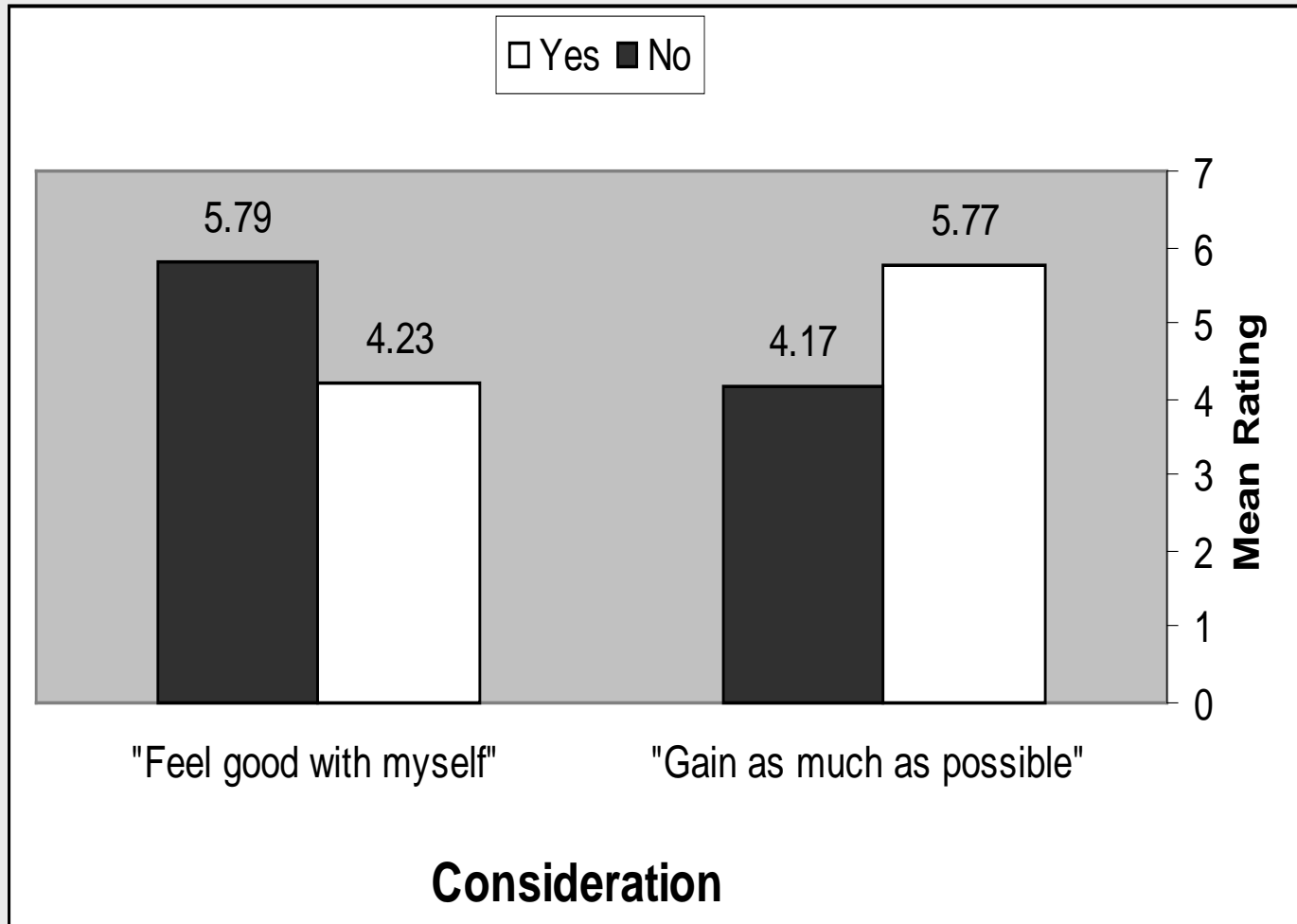
<b>Emotion</b>	<b>Responder's Decision</b>	<b>Condition</b>		<b>Across Conditions (n = 97)</b>
		<b>No message (n = 55)</b>	<b>Message (n = 42)</b>	
<b><i>Anger</i></b>	<b>Yes (n = 73)</b>	<b>3.40</b>	<b>4.00</b>	<b>3.63</b>
	<b>No (n = 24)</b>	<b>3.40</b>	<b>3.57</b>	<b>3.50</b>
	<b>Across Decisions</b>	<b>3.40</b>	<b>3.86</b>	<b>3.60</b>
<b><i>Frustration</i></b>	<b>Yes</b>	<b>3.31</b>	<b>3.86</b>	<b>3.52</b>
	<b>No</b>	<b>3.40</b>	<b>3.64</b>	<b>3.54</b>
	<b>Across Decisions</b>	<b>3.33</b>	<b>3.79</b>	<b>3.53</b>
<b><i>Insult</i></b>	<b>Yes</b>	<b>2.93</b>	<b>3.39</b>	<b>3.11</b>
	<b>No</b>	<b>3.80</b>	<b>3.57</b>	<b>3.67</b>
	<b>Across Decisions</b>	<b>3.09</b>	<b>3.45</b>	<b>3.25</b>
<b><i>Satisfaction</i></b>	<b>Yes</b>	<b>2.55</b>	<b>2.25</b>	<b>2.44</b>
	<b>No</b>	<b>1.60</b>	<b>1.71</b>	<b>1.67</b>
	<b>Across Decisions</b>	<b>2.38</b>	<b>2.07</b>	<b>2.25</b>

# Considerations behind the responders decisions to accept of reject an offer

Consideration behind decision	Decision	Condition		Across Conditions (n = 97)
		No message (n =55)	Message (n = 42)	
<b>Gain as much as possible</b>	Yes (n = 73)	5.69	5.89	<b>5.77<sup>(1)</sup></b>
	No (n = 24)	3.70	4.50	<b>4.17<sup>(2)</sup></b>
	Across Decisions	5.33	5.43	5.37
<b>Feel good with myself</b>	Yes	4.31	4.11	<b>4.23<sup>(3)</sup></b>
	No	5.80	5.79	<b>5.79<sup>(4)</sup></b>
	Across Decisions	4.58	4.67	4.62
<b>Punish the proposer</b>	Yes	2.47	3.57	2.89
	No	2.10	2.64	2.42
	Across Decisions	2.40	3.26	2.77
<b>Insult the proposer</b>	Yes	1.87	3.71	2.34
	No	2.92	3.86	3.25
	Across Decisions	2.15	3.12	2.57
<b>Retaliate to proposer's behavior</b>	Yes	2.82	3.71	3.16
	No	2.20	3.86	3.17
	Across Decisions	2.71	3.76	3.17
<b>Allow the proposer gain as much as possible</b>	Yes	1.47	1.61	1.52
	No	1.80	1.79	1.79
	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  $p = 0.0011$ .

# Considerations behind the responders decisions to accept of reject an offer



## מסקנות עיקריות מניסוי 3

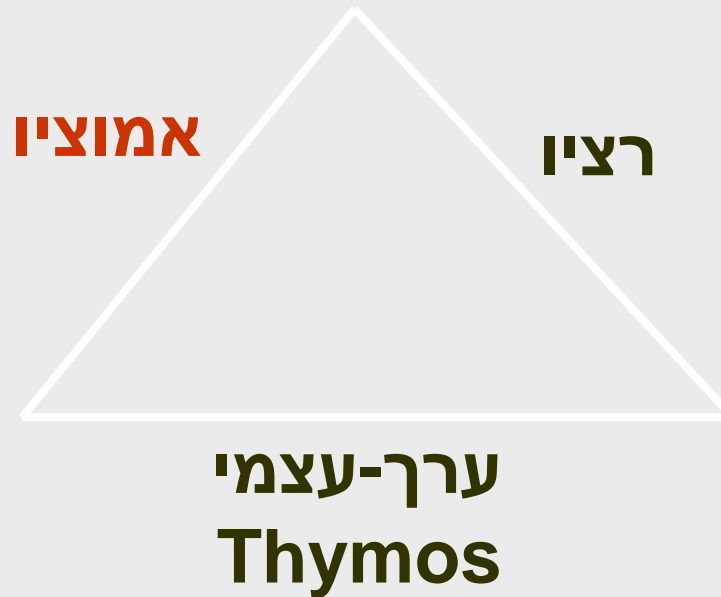
1. משיבים מחזירים כסף למקצים, גם אם פעולה כזו אינה כרוכה בהענשה.
2. משיבים אשר מקבלים הצעות נמוכות אינם נבדלים בעוצמת הרגשות השליליים, כגון כעס ועלבון, ממשיבים שדוחים הצעות דומות.
3. נראה כי ההחלטה אם לקבל הצעה מעליבה או לא תלויה בקונטרסט שבין מניע תועלתני כלכלי ומניע פסיכולוגי הקשור לערך העצמי.



■ חוקרי מוח וחוקרי רגשות מצביעים בשנים האחרונות על חשיבותם של רגשות בתהליכי קבלת החלטות אינדוידואליות (Bechara et al., 1997; Damasio, 1994) ואינטראקטיביות (Sanfey et al., 2003).

■ נראה שלצד החשיבה הרציונאלית והרגשות (הרציו והאימוציו), יש להוסיף צלע נוספת ע"י התייחסות למרכיב בעל חשיבות רבה בעיני הפסיכולוגיה החברתית: הערך-העצמי

# משולש ההחלטה



■ לפי סוקרטס, בנוסף ל- Reason ול- Desire הנשמה מכילה חלק שלישי עצמאי: ה- Thymos שהוא הערך שאדם מציב לעצמו, תחושת ערך-עצמי אנושית מולדת (אפלטון. ב"רפובליקה", ספר III).