The Myth of the Male Negotiator: Gender's Effect on Negotiation Strategies and Outcomes

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Abstract

Conventional wisdom holds that women are worse negotiators than men. However, in an incentivized negotiation with explicit verbal communication, we find that men perform worse compared to women, relative to a control game without communication. This is driven by men's performance against male partners, and more specifically their performance when they *know* their partner is male. Using chat transcripts to classify the negotiation approaches used, we show that men over-use aggressive negotiation strategies against male partners, reducing their payoffs. Female negotiators create joint gains without reducing their individual payoffs.

Keywords: gender differences, negotiations, experimental economics

JEL Classificaions: C91, J16

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1 Introduction

Conventional wisdom holds that men outperform women in negotiations. However, this popular tale has surprisingly little empirical support. We know that women negotiate *less* than men (Leibbrandt and List, 2015; Small et al., 2007; Exley, Niederle and Vesterlund, 2016). We also know that outside observers rate their performance worse (Bowles, Babcock and Lai, 2007; Tinsley et al., 2009; Bowles, 2012; Bowles and Babcock, 2013; Amanatullah and Tinsley, 2013). But do they actually get less at the negotiating table?

Apparent evidence for this gender gap in negotiation performance actually comes from either one-shot bargaining games (i.e., ultimatum or dictator games) that explicitly do not have a communication feature (Eckel and Grossman, 2001; Solnick, 2001; Sutter et al., 2009; Ridgon, 2012; Demiral and Mollerstrom, 2017; Eckel, De Oliveira and Grossman, 2008) or alternating bargaining with numeric offers only (Dittrich, Knabe and Leipold, 2012; Andersen et al., 2015; Hernandez-Arenaz and Iriberri, 2016, 2018). If verbal communication is the essence of negotiation in practice, we lack incentivized evidence of relative performance in this crucial domain.[1]

In this paper, we fill this gap by measuring relative outcomes in an incentivized verbal negotiation. We might expect that the presence of verbal communication would exacerbate the differences found in the no-communication bargaining literature, since men might exploit women's gender to target them with more aggressive communication strategies, mirroring the finding in non-communication games where men play more "hawkishly" toward female partners, anticipating a more "dovish" response (Eckel and Grossman, 2001; Holm, 2000; Ben-Ner et al., 2004; Houser and Schunk, 2009).[2]

What we find is precisely the opposite. Relative to a control game where we replicate the literature's finding of a male advantage, we find that the introduction of verbal communication disadvantages men, leading to lower payoffs. We find that this is driven

[1] There is evidence from other fields that examines performance in scenarios with no monetary incentives, such as classroom negotiation exercises (Bowles, Babcock and McGinn, 2005; Kray, Galinsky and Thompson, 2002; Kray, Thompson and Galinsky, 2001; Walters, Stuhlmacher and Meyer, 1998; Stuhlmacher and Walters, 1999; Mazei et al., 2015).

[2] Moreover, the fact that women have been shown to be more generous, community-minded, and inequality-averse in experimental games (Bolton and Katok, 1995; Eckel and Grossman, 1998; Andreoni and Vesterlund, 2001; Heinz, Juranek and Rau, 2012; Croson and Gneezy, 2009*a*) provides further evidence that targeting them with more hawkish behavior could pay off.

by men employing overly aggressive negotiation strategies against other men, particularly when they *know* they are negotiating against another man, which we vary experimentally.

The negotiation we implement involves participants bargaining verbally, via computer chat, over $20. The money can be split with $15 for one party and $5 for the other, or vice versa, but if no agreement is reached both participants receive $0. Thus, in this negotiation there is scope for both value creation, by ensuring an agreement is made, and distributive bargaining, in deciding how that agreement should split the pie. Because the payoffs mirror a Battle of the Sexes game, we can also implement a control game that aligns with existing literature on the role of gender information.

In the control game, men perform better than women, but this advantage is more than undone by the introduction of verbal communication. By varying whether partner gender is known (via a partner information sheet), we can determine that *both* effects are driven by the presence of gender information. Without verbal communication, men use gender information to optimally tailor their strategy, behaving more "hawkishly" toward women and more "dovishly" toward other men. In the negotiation game, however, men appear to amp *up* aggressiveness against other men, choosing $15 more frequently.

By analyzing the natural language data created by the negotiation chat transcripts, we are able to link this directly to their choice of negotiation strategy. We find that with gender information, men choose a starkly more aggressive negotiation style toward men than women, issuing ultimatums 121% more frequently to (known) male partners than to female partners. This leads to male-male pairs significantly underperforming all other pair types, taking home more than a dollar less in the negotiation. This is driven by the failure to reach an agreement, or mismatch: a more measured negotiation strategy will result in the lower payoff if one fails to secure $15, but still some monetary gain. A failed ultimatum, on the other hand, may result in a game of chicken where neither party swerves, resulting in $0. Because of this, having at least one woman in the negotiation improves negotiation efficiency (the percent of the possible joint payoff captured) by 17%.

As this behavior only appears when men *know* they are facing other men, it appears behavioral, rather than payoff maximizing. In fact, the negotiation outcomes indicate that men's use of aggressive and yielding strategies appear mis-paired with whom they are most effective against. The use of ultimatums, used much more with men, reduces payoffs against

male, but not female, partners. Similarly, a friendly approach, used far more frequently against women, increases payoffs against male, but not female partners.

The apparent sub-optimality of these strategies suggests men may derive some social or other non-pecuniary benefit from using aggressive communication against men—a manifestation of "toxic masculinity." One possibility is that the setting of negotiating against other men directly triggers men's preferences for competition, and tendency to "over-compete" as in Niederle and Vesterlund (2007). Such behavior could be evolutionary, aligning with the need to compete to reproduce (e.g., the evolution of over-sized antlers in bull elk Frank (2011)). However, behavior from a winner-take-all setting may be maladaptive in a setting with a range of monetary payoffs, and thus men could be financially worse off in settings that activate these instincts.

Our experiment thus shows that situations with communication may be fundamentally different than games with no interaction. This finding highlights that gendered results from one-shot and alternating bargaining games without communication may be limited in their external validity as "negotiation" experiments, since most negotiations involve at least some communication.[3] Our findings *with* verbal communication show men unable to tamp down on instincts to compete aggressively against other men, resulting in more failed negotiations and lower payoffs, calling into question the myth of the great male negotiator.

The remainder of the paper proceeds as follows: Section 2 presents the experimental design, Section 3 describes our results, and Section 4 concludes.

2 Experimental Design

Our experiment investigates the role of gender in negotiations using an incentive compatible negotiation game with a neutral frame.[4] Participants are matched in pairs in a

[3]The few examples in the literature with actual verbal communication use designated bargaining scripts, and thus are more like audit studies of the target's gender biases. Even then, results are mixed, with women achieving better outcomes in some circumstances. Castillo et al. (2013) shows women get lower quotes from taxis, and Busse, Israeli and Zettelmeyer (2017) shows that while women who signal they are uninformed get higher quotes than men, women are more likely to be offered price concessions. Andersen et al. (2015) also contains an audit element, and finds that patrilocal versus matrilocal traditions affect response to male versus female bargainers. Exley, Niederle and Vesterlund (2016) also uses verbal communication and find no gender differences in communication strategy; however, partner gender information is not revealed in their experiment, as such gendered social norms may not be at play.

[4]The experiment was conducted using z-Tree (Fischbacher, 2007).

given round and negotiate how to divide $20. At the conclusion of the negotiation, each participant can choose either $15 for themselves or $5 for themselves. If they agree, meaning one chooses $15 while one chooses $5, the split is implemented and participants receive their respective shares as earnings. If they fail to agree, that is, both choose $15 or $5, then they both get $0. Notice, these payoffs mirror those from a standard Battle of the Sexes game:

		Participant 2	
		A	B
Participant 1	A	(15, 5)	(0,0)
	B	(0, 0)	(5, 15)

In the negotiation game, partners were allowed to communicate via unstructured chat for two and a half minutes. After the expiration of the chat period, participants simultaneously made their choices without further communication. All participants also played a control game without communication, where participants play the same game but simply make their choices simultaneously. This allows us to separately identify the effect of verbal communication and compare it to outcomes in one-shot bargaining literature.

We randomized whether participants were informed or not of their partner's gender at the session level. To inform participants of their partner's gender without making it overly salient (and cuing this as a gender study), *all* negotiating pairs were shown a partner information sheet with five plausibly relevant, but actually substantively meaningless, partner characteristics prior to making their choices.[5] In the "informed" condition, an additional line containing their partner's gender was simply inserted as the first characteristic (see Appendix B Figure B4).

In total, we have four conditions: (1) an informed negotiation game, (2) an uninformed negotiation game, (3) an informed control (non-communication) game, and (4) an uninformed control (non-communication) game.[6]

The informed negotiation game can be thought of as the closest stand-in for real negotiations, since, in practice, individuals rarely negotiate without actual communication or

[5]The five characteristics revealed in the partner information sheet were: if their partner (1) is left- or right-handed; (2) is an only child; (3) their month of birth; (4) could roll their tongue; and (5) had hitchhiker thumbs.

[6]See Appendix B for experimental protocol.

are able to hide their gender. While the control game serves as a baseline on behavior that mirrors the literature, the uninformed negotiation game serves to isolate the role of gender information in creating the dynamics observed.

In the control game, there are two pure strategy equilibria of ($15, $5) or ($5, $15). There is also a mixed strategy equilibrium, where each participant chooses $15 for themselves 75% of the time, leading to an expected payoff of $3.75, which is a lower payoff than one would achieve choosing randomly.

Like a typical negotiation, payoffs in our game are set up such that both participants prefer an agreement to their outside option of $0, but there is disagreement over whom the agreement favors (that is, who will choose $15 for themselves). As there is no theoretical prediction for which one of the pure strategy equilibria will be selected, there is scope for the ultimate outcome to depend on the effectiveness of each party's communication.

2.1 Experimental Procedure

A total of 232 subjects participated in the experiment, 122 in the informed condition and 110 in the uninformed condition, with equal gender split, yielding over 1800 observations.[7] The "informed" condition was varied at the session level so instructions could be read out loud. Subjects in the informed and uninformed conditions are balanced on all characteristics with the exception of being a US citizen.[8]

In each session, subjects played a total of eight rounds with their partner randomly assigned in each round. First, subjects answer a pre-survey to populate the partner information sheet. Then participants played four rounds of the control game, followed by four rounds of the negotiation game, thus the subject pool in both games is identical. No information about the outcomes of each round was revealed until the end to limit learning effects.[9] After all eight rounds, subjects also answered a post-survey, then one round

[7] Participants are students from the University of Pennsylvania across a wide range of disciplines. They participated in 1 of 21 sessions at the Wharton Behavioral Lab in October 2016. We restricted only an equal number of women and men to play the game, in order to have sufficient observations for male-female pairs. If there were additional women or men in the session, these extra subjects were diverted to a separate game, and excluded from our sample. The WBL subject pool skews female, and thus these exclusions were entirely female (and randomly selected). We exclude data from three sessions that had only one male participant.

[8] See Appendix Table A1. Our results are robust to controlling for a number of individual controls, including being a US citizen, and session controls.

[9] Prior to the eight game rounds, subjects played two practice rounds of the control game with the same

is randomly selected and subjects received their earnings from that round (in addition to a show-up fee). Average earnings were over $17 including a show up fee of $10 upon completion of the study.

2.2 Qualitative Coding

The 464 negotiation conversations from the experiment provide a rich dataset to understand specific communication strategies and styles used. To analyze the negotiation transcripts, we used 310 Amazon Mechanical Turk (MTurk) workers to classify chat transcripts according to definitions we provided.[10] MTurk workers were blind to the gender of participants, whether participants were informed of their partner's gender, and the overall objective of the study. On average, five different MTurk workers classified each negotiation transcript. We use the average score given by the MTurk workers for each communication measure in each negotiation.

Our key metric of endogenous negotiation strategy was the choice to issue an *ultimatum*. This is defined as one negotiating party intransigently insisting they are choosing $15, and refusing to entertain any discussion to the contrary.[11] If credible, this makes the other party's best response to choose $5, or face mismatch and thus $0, essentially turning two-way communication into one-way communication.[12] Of course, ultimatums are not always effective. They can be met with countervailing "commitment" from the other partner, or may destroy goodwill in the negotiation and result in mismatch.

On the other side of the communication strategy spectrum are negotiators who choose a non-aggressive, or "friendly" approach. We defined being *friendly* as a negotiator who is

payoffs against a computer to understand the game, this also minimizes in-game learning (and we control for order effects).

[10] See Appendix C for negotiation transcript coding protocol.

[11] Some participants described this trade-off explicitly to their partners, saying, "I'm choosing 15 no matter what. So if you want anything you only have one option." The definition of *ultimatum* provided to MTurk workers is as follows: using an *ultimatum* is "when a person starts the conversation (not including saying 'hi' or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change." Also see Appendix C.

[12] Previous work on coordination games has shown that while one-way communication can be very effective, two-way communication can sometimes fail to resolve the issue, and becomes, in a sense, no communication. In the presence of one-way communication, if one side communicates their move, the other side has a clear best response to choose the coordinating move. However, with two-way communication, a tussle can develop over who receives their preferred outcome (Cooper et al., 1989).

trying to build up-front rapport, and acts friendly towards their negotiating partner.[13] A friendly negotiator aims to ingratiate themselves with their partner without automatically giving up and taking the lower payoff. The MTurk workers additionally coded several other pre-defined metrics to examine mechanisms and test the robustness of our results. Definitions and usage rates for these secondary measures can be found in Appendix Table A5.

3 Results

3.1 Payoffs by Gender

We first examine how payoffs vary by gender, by looking at the number of dollars a player ends each game with. To analyze the impact of gender and the impact of verbal communication on this outcome, we run the following regression specification:

$$Payoff_i = \beta_0 + \beta_1\, male_i \times negotiation_i + \beta_2\, male_i + \beta_3\, negotiation_i + \beta_4\, X_i + \epsilon_i,$$

where $negotiation_i$ represents whether the payoff is from the negotiation game or the control game; $male_i$ reflects whether the subject is male, and X_i reflects controls for session timing, round order, and subject characteristics, added in even columns. We cluster standard errors at the individual level.

Table 1, columns (1) and (2), shows the results of this regression on the pooled informed and uninformed treatments. These results show that men perform worse relative to women in the negotiation game compared to the control game. Column (1) shows that men earn \$0.88 more than women in the control game, but in the negotiation game, this effect is more than reversed: their relative payoff is reduced by \$1.25. Thus, the presence of verbal communication disadvantages men.

Regressions (3) and (4) show results under the informed treatment whereas regressions (5) and (6) restrict to the uninformed treatment. This analysis demonstrates that the effect

[13] The definition of *friendly negotiator* provided to MTurk workers is as follows: being a *Friendly Negotiator* is "when the person tries to be friendly and build a relationship with the other person in order to gain their trust. We provided each person some information about the other person (e.g., birthday month, can they roll their tongue, do they have hitchhiker thumbs, etc.), many times, the person will comment on one of these traits." Also see Appendix C.

Table 1: Payoff by Treatment and Gender

	Dependent variable: Payoff							
	All		Informed		Uninformed		All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Male	0.884**	1.080***	1.639***	1.964***	0.0455	0.177	0.0455	0.166
	(0.397)	(0.396)	(0.561)	(0.531)	(0.542)	(0.539)	(0.541)	(0.555)
Male × Negotiation	-1.250**	-1.304**	-2.254***	-2.361***	-0.136	-0.136	-0.136	-0.136
	(0.527)	(0.527)	(0.697)	(0.697)	(0.784)	(0.789)	(0.783)	(0.785)
Male × Negotiation × Informed							-2.118**	-2.224**
							(1.047)	(1.048)
Male × Informed							1.594**	1.740**
							(0.779)	(0.772)
Chat × Informed							0.439	0.545
							(0.681)	(0.680)
Informed							-0.00633	0.0676
							(0.519)	(0.561)
Negotiation	4.935***	5.271***	5.143***	5.655***	4.705***	4.850***	4.705***	4.986***
	(0.340)	(0.614)	(0.466)	(0.877)	(0.498)	(0.860)	(0.497)	(0.695)
Constant	4.019***	5.769***	4.016***	5.362***	4.023***	6.533***	4.023***	5.305***
	(0.260)	(1.156)	(0.373)	(1.559)	(0.363)	(1.781)	(0.362)	(1.235)
Ind. Clusters	232	231	122	121	110	110	232	231
Controls		YES		YES		YES		YES
Observations	1856	1848	976	968	880	880	1856	1848
R-Squared	0.122	0.131	0.114	0.138	0.138	0.144	0.127	0.136

Notes: Table 1 shows that men have a disadvantage in the negotiation setting compared to to a control game without communication and this is driven by gender information. Robust standard errors clustered at the individual level are in parentheses. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being nonwhite, begin politically liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

is entirely driven by the public gender information setting. When informed of gender, men outperform women in the control game, earning on average $1.64 more (a substantial effect when average payoffs are around $4). But this advantage is more than reversed in the negotiation game, with men earning $2.25 *less* in the negotiation game relative to the control game. Meanwhile, the uninformed treatment shows that in both games men have no inherent edge over women—both genders perform equally well in terms of payoff. The provision of gender information results in inverse payoff patterns depending on the presence of verbal communication.

Regressions (7) and (8) use all the data and interacts the two games and information conditions to confirm that the difference between the informed and uninformed treatments is statistically significant. Indeed, communication does not impact payoffs for men when partner gender is unknown, while significantly decreasing payoffs when gender is known. This interaction suggests that, contrary to prior results in one-shot bargaining games, a negotiation with verbal communication significantly reduces the value of gender information to male participants. While men take advantage of gender information to increase payoffs in the control game, gender information does not provide an advantage in the negotiation game. This demonstrates that non-communication bargaining games are limited in their external validity as a proxy for "real-world" negotiations, which involve direct communication.[14]

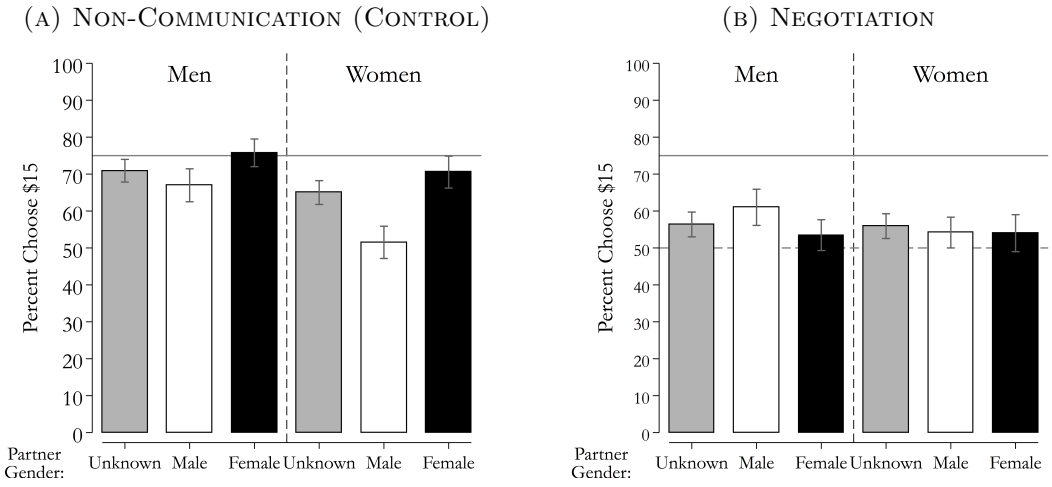
In sum, men perform worse than women in the negotiation game relative to the control game, and this effect is driven by knowledge of partner gender. We next explore what could be driving men's poor performance in the negotiation game when informed about partner gender.

[14]Appendix Figure A1 shows the average joint payoffs received by different gender-pair types in each treatment. Panel (B) presents payoffs for the informed control game and shows men do better both against other male and female partners. In particular, we observe gender information increasing coordination (and thus payoffs) with men in mixed-gender pairs reaping the benefits and obtaining higher payoffs compared to their female partners. However, in the informed negotiation game, Panel (D), men do not have an advantage against women, that is, we do not observe the unequal split in payoffs in mixed-gendered pairs, and perform worse against male partners.

3.2 The Role of Partner Gender

One would think that gender information would allow men to more optimally tailor their strategy toward the partner type that they are facing, as shown in the literature on non-communication games (e.g., Holm, 2000). Indeed, in the non-communication game, when men are informed of gender, they play more hawkishly against known female partners, choosing \$15 for themselves more often, matching women's more dovish play, as shown in Figure 1, Panel (A). This results in men's higher payoff in the control game when partner gender is known. However, in the communication game, shown in Figure 1, Panel (B), this tailoring approach is actually *reversed*, with men actually choosing \$15 more often against known male partners. This inversion of "choice" tailoring with the introduction of communication is statistically significant (shown in Appendix Table A2). Women, by contrast, show no tailoring in choice strategy in the communication game, and rather only a decreased propensity of choosing \$15, given the ability for advance coordination.

FIGURE 1: CHOOSING \$15 BY TREATMENT AND GENDER-PAIR



Notes: Figure 1 shows the average rate of choosing \$15 for themselves by communication, information condition, and gender pair-type. The gray bars are for subjects who are uninformed of their partner's gender, the white bars are for subjects who are informed that their partner's gender is male, and the black bars are for subjects who are informed that their partner's gender is female. The solid horizontal gray line marks the theoretical mixed strategy equilibrium which is picking \$15 for themselves (\$5 for their partner) 75 percent of the time. The dashed horizontal gray line marks 50 percent probability which denotes equal split and full coordination. Standard errors bars are shown around each mean.

In the negotiation game, we can also directly examine men's choice of negotiation strategies, which precede these choice selections, and examine any gender-based tailoring in these communication approaches. As described in Section 2.2, we coded up how often men and women used different verbal communication strategies against different partners. This coding reveals men taking a starkly more aggressive approach toward male versus female partners when informed of partner gender.

Endogenous Negotiation Strategy

Figure 2, Panel A shows that men are 121% more likely to use ultimatums against known male partners compared to known female partners. This more than doubling of the rate of issuing *ultimatums* shows a substantial endogenous response to gender information. That is, men are endogenously choosing to be considerably more aggressive against male, rather than female, partners. Appendix Table A3 shows that these results are statistically significant at the 1% level in a regression framework.[15]

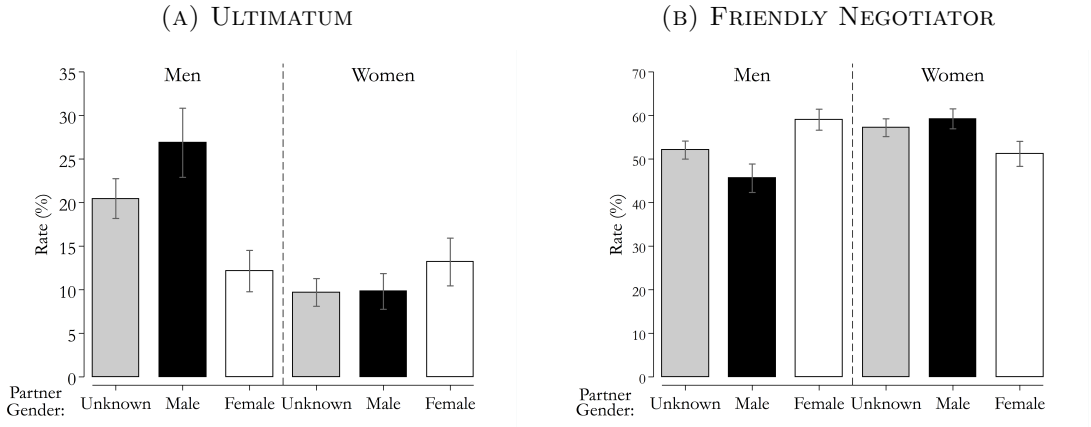
To check that this is not specific to *ultimatums* only, we show results for the opposite communication strategy—choosing to strike a *friendly* and collaborative tone in the negotiation. Figure 2, Panel B shows that men use this strategy substantially more against female partners: men are 13.4 percentage points more likely to be *friendly* against known female partners compared to male partners (that is, a 30% increase). Appendix Table A3 shows that these results are statistically significant at the 1% level in a regression framework.

These findings are also supported by a subjective rating of negotiator aggressiveness by MTurk workers (men are rated as much more aggressive toward other men than women) as well as alternative measures of aggressiveness and friendliness, shown in Appendix Table A5.

We can demonstrate that this difference in men's approach to male versus female partners is not simply a joint product of men's and women's behavior in the negotiation, but rather an endogenous reaction to the provision of gender information. Focusing on participants in the uninformed treatment we find there is no significant tailoring of men's strategies (see Appendix Table A3 Panel B), and men's use of *ultimatums* and being *friendly* by

[15] Interestingly, when men play against known women, they behave similarly to women on average. One could view this as a cooperation spillover from female negotiators.

Figure 2: Communication Strategies by Treatment and Gender-Pair



Notes: Figure 2 shows the average rate that men and women use aggressive and yielding communication measures by information condition and gender pair-types. The gray bars are for subjects who are uninformed of their partner's gender, the white bars are for subjects who are informed that their partner's gender is male, and the black bars are for subjects who are informed that their partner's gender is female. Standard errors bars are shown around each mean.

partner gender is significantly different when informed versus uninformed (See Appendix Table A4). Our results are also robust to limiting to those who issue ultimatums as a first action, further ruling out that it is a response to the other player's behavior.

Optimal Strategy?

One explanation for men's selection of more aggressive negotiation strategies toward known male partners is that it is based on beliefs about who is more receptive to which type of strategy. This would not only run counter to evidence in the literature that women are expected to be more dovish, but also to men's play in our control game. Moreover, recall the type of game played was varied *within* subject, thus, men's own actions from the control game indicate they expect more aggressive play by men.

Nonetheless, it is possible that the optimal tailoring approach based on gender could be different in a setting with explicit verbal communication. For example, it might pay to try to "convince" other men aggressively, because the gain in getting the higher payoff might balance out the loss from lower coordination. Thus we look directly at whether these approaches are optimal given partner responses, although these results are only suggestive given that they are conditioned on endogenously chosen communication strategy.

Table 2 shows the payoff for men using our key communication strategies against female compared to male partners. First, *ultimatums* appears to perform far better against female versus male partners. Regressions (1) and (2) show that men using *ultimatums* against a male partner decreases payoffs by over $3, while using it against a female partner directionally increases payoffs. This suggests that, when using aggressive negotiation strategies against male partners, the benefit of "forcing" the other party more often does not appear to outweigh the negative impacts of negotiation breakdown.

In contrast, we find that being *friendly* performs significantly better against male partners. Table 2 regressions (3) and (4) shows that being *friendly* actually increases payoffs against male partners. Moreover, the interaction coefficient for using it against female partners more than cancels out this effect. That is, against male partners, simply opening with a friendly greeting is correlated with higher payoffs by almost $4, showing the deep consequences of overly aggressive communication.

Although evidence of communication strategy effectiveness is only suggestive as they

Table 2: Payoff by Communication Strategies and Partner Gender (Men in Informed Arm Only)

	Dependent variable: Payoff			
Communication Strategy:	Ultimatum		Friendly	
	(1)	(2)	(3)	(4)
Strategy	-3.029*	-3.384**	3.912*	4.499**
	(1.813)	(1.659)	(2.006)	(1.931)
Strategy × Partner Female	4.753*	5.272*	-5.268**	-5.998**
	(2.692)	(2.916)	(2.401)	(2.415)
Partner Female	0.239	0.185	3.847**	4.218***
	(0.754)	(0.797)	(1.521)	(1.507)
Constant	8.614***	7.975**	6.017***	4.251
	(0.642)	(3.491)	(1.191)	(3.477)
Ind. Cluster	61	61	61	61
Controls		YES		YES
Observations	244	244	244	244
R-Squared	0.033	0.072	0.034	0.074

Notes: Table 2 show the payoff for men using *ultimatums* and being *friendly* towards female partners. We find the inverse tailoring observed in the negotiation games is not optimal from a payoff perspective. Robust standard errors clustered at the individual level are in parenthesis. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being nonwhite, begin liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

may be being used by the most effective people, against the most effective targets, the large effect sizes indicate that there should be some marginal people who could benefit monetarily from switching strategies.

Payoff Consequences

This "over" aggressiveness results in male-male pairs leaving significant value on the table due to negotiation breakdown. Figure 3 show the payoffs by participants' gender and their partner's gender for all negotiation rounds, split into the uninformed and informed conditions. Looking at the pooled sample, men do significantly worse when paired with male partners compared to all other gender-pairs, taking home \$0.96 less (p-value of 0.035).[16] This is driven by the informed condition, where men with male partners take home \$1.32 less (p-value of 0.038).

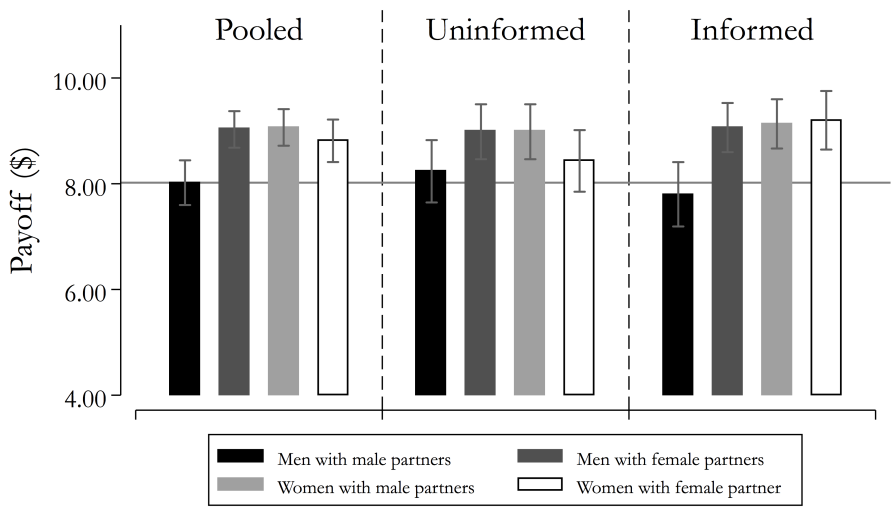
In fact, if you knew you were sending a negotiator to face a male partner, you would be better off sending a female, versus male negotiator by \$1.33 dollars, although this is marginally significant (p-value of 0.079).

These lower payoffs are driven by negotiation breakdown, or mismatch. The problem with issuing ultimatums is that they can result in a game of "chicken," with both partners committing to choose \$15, and neither "swerving." A more measured negotiation approach might result in ultimately receiving \$5 if one fails to secure the \$15, whereas an aggressive strategy is more likely to result in \$0. Appendix Figure A2 shows the frequency of reaching each possible outcome, \$5, \$15, or \$0, by each gender and partner type. Men with male partners receive \$0 150% more than men with female partners or women with either partner type (p-value $<.01$). Although men are somewhat more aggressive generally, and thus male-male pairs have more mismatch without gender information, this result is starkly intensified by the presence of gender information. These results are additionally supported by subjective ratings by MTurk workers, showing that men fail to reach a conclusive agreement in the negotiation transcript with known male partners 296% more frequently than against known female partners, shown in Appendix Table A5.

This means that not only do male negotiators destroy value for themselves, but they also decrease the social efficiency of negotiation. A male-male pair receives a payoff that

[16] All p-values from two-sided t-tests.

Figure 3: Payoff by Gender and Partner Gender
(Negotation Game Only)



Notes: Figure 3 shows the average payoff by gender and partner gender for the negotiation game. We find that men do worse when paired with male partners compared to to all other gender pairs. The first 4 bars shows the results from the pooled sample, the next 4 bars shows results from the uninformed condition, and the final 4 bars shows payoffs from the informed condition. The horizontal line shows the average payoff for men with male partners in the pooled sample. Standard error bars shown around each mean.

is $1.92 lower than any other pair type across the pooled sample, and $2.65 lower in the informed condition, shown in Appendix Table A6. Another way to think about this is the value of adding a woman to the negotiation: adding at least one woman into the negotiation increases the joint expected payoff by 17%.

3.3 Toxic competitiveness?

It seems clear that the choice of aggressive strategies by male partners against known male partners is not a payoff maximizing choice, and thus appears to be driven by non-pecuniary motivations. One possible explanation is that men have a preference against giving men the higher payoff, and for giving female partners the higher payoff. In other words, the negotiation setting created gender-specific altruism. However, gender specific altruism appears inconsistent with men's behavior in the non-communication game, where they are more dovish toward men and hawkish toward women. If men preferred to "punish" other men and reward women, even at the expense of their own payoffs, we would expect similar behavior in the non-communication game.

Moreover, if men truly had altruistic preferences toward women, and potentially the opposite toward men, then in the presence of communication, they could simply grant the higher payoff to women more often. Instead, we find suggestive evidence that men do try to get the higher payoff for themselves against known female partners, but merely through non-confrontational means. For example, men mention their previous choices more against female versus male partners as a way to get the higher payoff by appealing to a sense of fairness, saying they got $5 last time, and so should be allowed to take $15 this time.[17]

If participants are not optimally responding to partner gender information and are not exhibiting gender-specific altruism, what could explain this behavior? The act of negotiating with other men may trigger direct preferences for competition, as shown in Niederle and Vesterlund (2007), that do not appear against women or when merely choosing an option without first negotiating. Excess male competition may be the natural product of an evolutionary process that is winner-take-all. If males need to be the best in or-

[17] Mentioning previous choices is positively correlated with the strategy of asking for $15 directly, and negatively correlated with offering $15 at the outset. Additionally, men are marginally significantly more likely to claim to be alternating their choice as their strategy against female partners, which could be another way to try to get them to agree to go with the lower payoff. See Appendix Table A5.

der to reproduce, they may, for example, evolve sub-optimally large antlers to beat out the competition, as described by Frank (2011). Unfortunately, behaviors optimized for a winner-take-all setting may produce negative consequences in situations with financial payoffs, where aggressively trying and failing to win produces a worse outcome than the downside of a more moderated approach.

In regards to women, men may be constrained in their behavior by social norms that dictate chivalry or politeness toward women.[18] From an efficiency stand point, these social norms appear to provide a useful "fire break" to the toxic masculinity exhibited by male-male pairs, which results in significant money going up in smoke.

4 Conclusion

In this paper, we developed an incentivized negotiation experiment to study the impact of gender on negotiation strategies and payoffs. We find that situations with communication may be fundamentally different than games without verbal interaction. Relative to a control game with no communication, men do worse compared to women in the same game with communication. This effect is driven by the treatment where participants were informed of their partner's gender, which we show leads to men exhibiting more aggressive behavior toward male partners.

Men use ultimatums towards male negotiating partners more than twice as often as they do with female negotiating partners. Similarly, men are more likely to use a friendly approach toward female partners than male partners. We present evidence from payoffs that men's use of ultimatums versus friendly strategies appear mis-paired with whom they are most effective against, even contradicting participant's own behavior in the non-communication game. As a result, male-male pairs perform the worst of all pair types, destroying significant value. We posit that men are influenced by behavioral factors in their negotiation behavior, leading them to be over-competitive against other men, at the

[18] This is consistent with a body of literature showing that complying with norms, rules, and social considerations can create utility that might offset losses from non-payoff maximizing behavior. For example, participants stopping at (meaningless but payoff-costly) "red lights" in a timed lab game (Kimbrough and Vostroknutov, 2016), participants rejecting low or unfair offers in an ultimatum game (Kahneman, Knetsch and Thaler, 1986; Thaler, 1988), and participants contributing more to public goods when identified to other players (Kessler, Low and Singhal, 2017).

expense of their own payoff.

Our results align with findings of over-competitiveness by men (Niederle and Vesterlund, 2007) as well as findings that same sex pairs may perform worse in certain games (Sutter et al., 2009). Yet our findings stand in direct contradiction to literature that suggests that men are more skilled or effective negotiators, largely based on games without explicit verbal communication. We find that men's over-aggressiveness toward other men disadvantages them in negotiations, and thus that companies may benefit from including female negotiators, especially when facing male negotiators and when there are high costs of negotiation breakdown.

The fact that men's excess aggressiveness appears tempered against female partners may in some cases be a positive for women, particularly in their ability to be effective negotiators. However, even such "benevolent" sexism has been linked to overall sexist beliefs (Glick and Fiske, 1996). Moreover, Huang and Low (2017) shows that hostile behavior by men toward women in this same negotiation setup increased dramatically immediately following the 2016 Presidential election, demonstrating that social norm constraints on male aggression may be sensitive to context.

More broadly, our results have significant policy implications for the elevation of male negotiating skills and tactics as something to be desired or emulated. There is a large body of literature examining behavioral differences between men and women, and musing on how these differences may ultimately contribute to the gender wage gap (e.g., Buser, Niederle and Oosterbeek, 2014; Wiswall and Zafar, 2018; Coffman, 2014; Exley and Kessler, 2019; Dohmen and Falk, 2011; Charness and Gneezy, 2012; Croson and Gneezy, 2009*b*). There is scanter examination of when male behavior may actually fail to maximize social welfare, such as in the production of asset bubbles (Eckel and Füllbrunn, 2015).[19] We show that toxic masculinity in negotiations could be a real threat for value creation, and that it may be wise to consider when competitive instincts are suboptimal for companies wishing to maximize profits, rather than rack up binary "wins." It is worth considering then, when female negotiators should be the ones sent to the table.

[19]This connection has been made in the popular press. For example, Christine Lagarde mused to a reporter: "if Lehman Brothers had been 'Lehman Sisters,' todays economic crisis clearly would look quite different." See (Dealbook, 2010; NPR, 2014).

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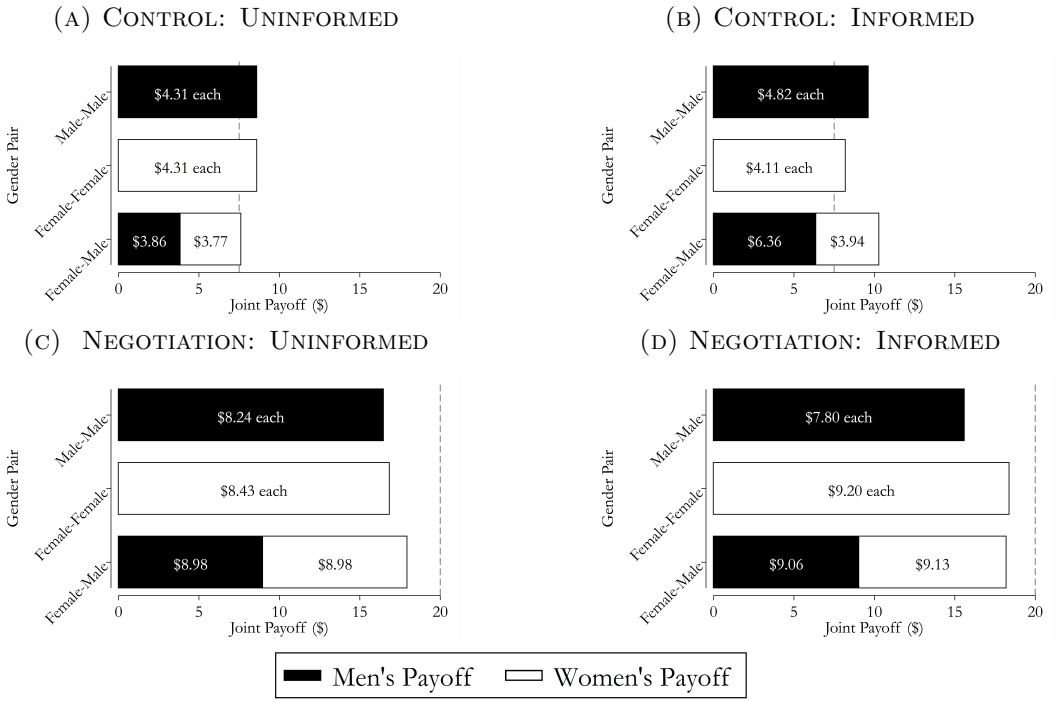
A Supplemental Results

Table A1: Summary Statistics

	Informed	Uninformed	p-value
N:	**122**	**110**	
Male	.5	.5	1
	(.045)	(.048)	
Age	21.066	20.736	.584
	(.428)	(.421)	
Non-white	.721	.627	.129
	(.041)	(.046)	
Employment Status	.364	.382	.777
	(.044)	(.047)	
Native English Speaker	.843	.9	.195
	(.033)	(.029)	
US Citizen	.785	.882	.048
	(.037)	(.031)	
Politically Liberal	.861	.882	.632
	(.031)	(.031)	

Notes: Table A1 provides summary statistics of participant's characteristics between these two treatments. Participants were randomly assigned to the Informed and Uninformed treatment at the session level. Fifty-five men and 55 women were uninformed of their negotiating partner's gender and 61 men and 61 women were informed of their negotiating partner's gender. We find these two groups are balanced on all characteristics with the exception of being a US citizen. Our results are robust to controlling for a number of individual controls, including being a US citizen, and session controls. Standard deviations in parentheses.

Figure A1: Joint Payoff by Treatment and Gender-Pair Type



Notes: Figure A1 summarizes the joint payoffs results in all treatments by treatment and gender-pair type. The payoff split between male and female partners is shown in mixed-gender pairs. Panel A presents results from the uninformed control game and shows the joint payoff is close to the mixed strategy equilibrium. Panel B presents results for the informed control game and shows that payoff of mixed-gender pairs increases sharply, but it is men who reap the rewards from this increase. Panel C shows that communication increases coordination, as expected, but there are no notable gender asymmetries in payoffs, indicating that one gender does not appear "better" at negotiating in this game than the other. Panels D show that results of introducing gender information in the negotiation game are starkly different. Importantly, in Panel D, introducing gender information does not change to the payoff allocation between male and female partners in mixed gender pairs, in contrast to the control game without communication. Moreover, when informed, male-male pairs perform notably worse than all other pair types, achieving only $15 out of a joint payoff of a possible $20.

Table A2: Choosing $15 by Treatment and Partner Gender (Men Only)

	Dependent variable: Choosing $15			
	Informed		Uninformed	
	(1)	(2)	(3)	(4)
Negotiation × Partner Female	-0.163*	-0.232***	0.0213	0.0375
	(0.0935)	(0.0870)	(0.0971)	(0.0965)
Partner Female	0.0879	0.124**	-0.0671	-0.0854
	(0.0584)	(0.0545)	(0.0702)	(0.0702)
Negotiation	-0.0596	-0.161*	-0.157**	-0.183**
	(0.0669)	(0.0886)	(0.0595)	(0.0808)
Constant	0.670***	0.745***	0.745***	0.570*
	(0.0490)	(0.216)	(0.0477)	(0.293)
Ind. Clusters	61	61	55	55
Controls		YES		YES
Observations	488	488	440	440
R-Squared	0.032	0.107	0.026	0.081

Notes: Table A2 shows that in the informed negotiation game men's action when gender is known appears to invert compared to the optimal tailoring observed in the control game in a regression framework. Robust standard errors clustered at the individual level are in parentheses. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being non-white, begin liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

TABLE A3: TAILORING OF COMMUNICATION STRATEGIES BY GENDER AND PARTNER GENDER
(INFORMED AND UNINFORMED TREATMENT)

Panel A: Informed Only

Dependent variable:	Ultimatum		Friendly	
	(1)	(2)	(3)	(4)
Male × Partner Female	-0.181***	-0.184***	0.215***	0.199***
	(0.055)	(0.056)	(0.053)	(0.056)
Male	0.171***	0.181***	-0.136***	-0.136***
	(0.060)	(0.063)	(0.046)	(0.049)
Partner Female	0.034	0.030	-0.080**	-0.067*
	(0.029)	(0.032)	(0.034)	(0.037)
Constant	0.098***	-0.065	0.592***	0.695***
	(0.026)	(0.165)	(0.027)	(0.153)
Ind. Cluster	122	121	122	121
Controls		YES		YES
Observations	488	484	488	484
R-Squared	0	0	0	0

Panel B: Uninformed Only

Dependent variable:	Ultimatum		Friendly	
	(1)	(2)	(3)	(4)
Male × Partner Female	-0.079	-0.081	0.036	0.043
	(0.052)	(0.051)	(0.056)	(0.053)
Male	0.147***	0.127***	-0.070	-0.059
	(0.048)	(0.046)	(0.049)	(0.046)
Partner Female	0.039	0.036	-0.006	-0.001
	(0.028)	(0.031)	(0.037)	(0.037)
Constant	0.079***	-0.135	0.575***	0.621***
	(0.020)	(0.252)	(0.033)	(0.197)
Ind. Cluster	110	110	110	110
Controls		YES		YES
Observations	440	440	440	440
R-Squared	0	0	0	0

Notes: Table A3 shows that men's tailoring of negotiation approach also goes in the opposite direction than expected in a regression framework. Men are substantially more likely to use *ultimatums* against male compared to female partners and much more likely to be *friendly* to female compare to male partners when participants are informed of their partner's gender (Panel A). In Panel B, we check that when participants are uninformed there is no significant tailoring of men's strategies. Robust standard errors clustered at the individual level are in parenthesis. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being nonwhite, begin politically liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

Table A4: Use of Aggressive and Yielding Communication Strategies by Men
Informed vs Uninformed

Dependent variable:	Ultimatum		Friendly	
	(1)	(2)	(3)	(4)
Partner Female × Informed	-0.107*	-0.135**	0.104*	0.114**
	(0.064)	(0.061)	(0.058)	(0.057)
Informed	0.042	0.026	-0.048	-0.032
	(0.070)	(0.081)	(0.053)	(0.055)
Partner Female	-0.040	-0.037	0.030	0.032
	(0.043)	(0.039)	(0.042)	(0.038)
Constant	0.226***	0.209	0.504***	0.491***
	(0.044)	(0.241)	(0.036)	(0.179)
Ind. Cluster	116	116	116	116
Controls		YES		YES
Observations	464	464	464	464
R-Squared	0	0	0	0

Notes: Table A4 shows that men's tailoring toward women is significantly different when informed versus uninformed for *ultimatums* and being *friendly*. This suggest that the paradoxical tailor is driven by gender information since only when men are informed does the decreased use of aggressive strategies and increased use of yielding strategies toward women appear. Robust standard errors clustered at the individual level are in parentheses. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being nonwhite, begin liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

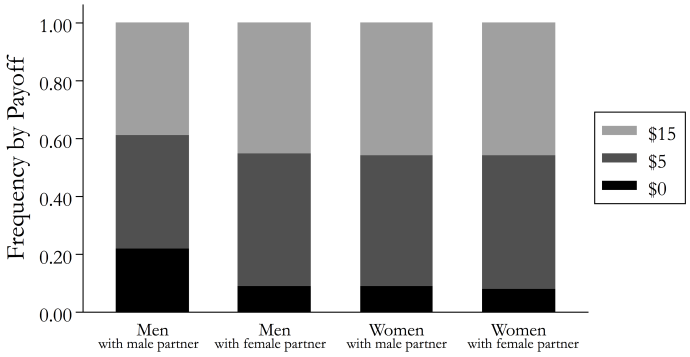
Table A5: Other Communication Measures
Informed Treatment Only

Strategy	Definition	Percent Use Measure							
		Men				Women			
		Unknown Partner	Male Partner	Female Partner		Unknown Partner	Male Partner	Female Partner	
Leading Ultimatum	This is the first person who used an ultimatum strategy.	11.86 (1.61)	15.04 (2.82)	6.84 (1.65)	**	3.64 (.96)	4.94 (1.35)	7.15 (2.04)	
Tough Talker	This is when a person is a tough negotiator and fights for the $15. They are trying hard to convince the other person to take the $5. They will use a strong tone and may seem pushy or mean.	14.13 (1.72)	22.37 (3.47)	9.77 (1.98)	***	10.16 (1.4)	6.93 (1.39)	10.08 (2.15)	
Ask $15	This is when a person asks the other person if they can take the $15 at any point in the conversation.	17.8 (1.95)	16.11 (2.88)	14.03 (2.23)		21.16 (2.24)	19.95 (2.82)	22.33 (3.36)	
Leading Concession	This is when a person starts the conversation (not including saying hi or other pleasantries) by offering the $15 to the other person or stating that they will take $5.	17.36 (2.03)	15.75 (2.76)	19.28 (2.45)		15.74 (1.98)	19.98 (2.71)	16.23 (2.75)	
Concession	This is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may alos be doing a leading consession.)	26.3 (2.49)	26.12 (3.62)	34.34 (3.39)	*	25.96 (2.42)	29.34 (3.18)	25.98 (3.62)	
Responsive Concession	This is when the person gives in to the other person's ask or demands after there is an initial negotiation or backandforth.	19.76 (1.84)	15.12 (2.65)	21.68 (2.29)	*	23.63 (2.16)	23.34 (2.48)	21.58 (3.02)	
Started Negotiation	This is the person that starts the negotiations on how to split the money, not including saying hi or other pleasantries.	33.15 (2.12)	33.28 (2.92)	34.97 (2.6)		37.83 (2.32)	43.59 (2.63)	34.07 (3.14)	***
Used the Word Fair	This is when the person mentions anything about trying to make a fair split.	4.67 (1.14)	4.28 (1.16)	4.1 (1.26)		4.49 (.92)	3.46 (1.05)	2.9 (.91)	
Mentioned Previous Choices	This is when the person mentions what they previously chose. Individuals had to negotiate with multiple people, so sometimes they will mention what their previous choice was.	34.52 (2.75)	15.32 (2.99)	36.06 (3.38)	***	35.58 (2.78)	30.73 (3.33)	35.75 (4.09)	
Random Game	This is the person that introduces a random game such as playing rock/paper/scissor (rps), guessing a number, using trivia questions, using birthday dates, or other similar games to choose who picks $15 for themselves.	8.17 (1.6)	6.82 (2.18)	9.32 (2.04)		10.05 (1.76)	8.43 (2.03)	7.6 (2.11)	
Alternating Strategy	This is when the person claims to be alternating between 5 and 15 and that this is their strategy.	12.07 (1.61)	9 (2.15)	13.82 (2.14)	*	16.02 (1.93)	10.43 (1.64)	14.8 (2.51)	
Sad Story	This is a person that uses their current (unfortunate) situation to gain sympathy from the other person and tries to get the $15.	8.27 (1.42)	5.82 (1.84)	3.95 (.99)		11.46 (1.7)	3.81 (.91)	8.82 (2.17)	*
Happy Emojis	This is when a person uses any sort of happy emojis or smiley faces.	5.28 (1.15)	4.68 (1.7)	8.15 (1.74)	*	7.96 (1.37)	10.36 (2.06)	8.95 (2.3)	
Sad Emojis	This is when a person uses any sort of sad or angry emojis.	2 (.48)	1.35 (.58)	1.64 (.6)		5.23 (1.13)	1.86 (.61)	1.87 (.92)	
Aggressive Score	Normalized friendly to aggressive score given to each participant by the MTurk worker based on the conversation transcript.	26.82 (1.37)	33.32 (2.72)	21.75 (1.73)	***	22.96 (1.2)	19.96 (1.38)	21.66 (1.7)	
Reached Agreement	Mturk worker's perception that the negotiation was successful?	80.14 (2.47)	73.27 (4.26)	90.97 (2.01)	***	82.38 (2.28)	90.97 (2.01)	90.3 (2.65)	

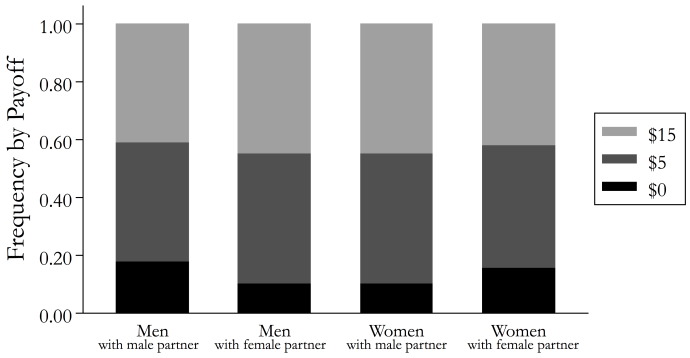
Notes: Table A5 provides the definition and average usage rate for all strategies coded by gender and partner gender. *Leading Ultimatum*, *Tough Talker* and *Ask $15* are secondary measures for aggressive communication strategies. *Leading Concession*, *Concession*, and *Responsive Concession* are secondary measures for yielding communication strategies, respectively. *Started negotiation, used the word fair, mentioned previous choices, random game,* and *alternating strategy* are different "neutral" mechanisms. *Sad story, happy emojis,* and *sad emojis* are "emotion" based strategies and styles. Finally, *aggressive score* and *reached agreement* are scored provided from the MTurk worker's perception of the negotiation as a "third party" observer. Robust standard errors clustered at the individual level in parenthesis. Stars denote significant difference in tailoring of strategies by men or women based on partner's gender based on a two-sided t-test. Significance: *** p<0.01, ** p<0.05, * p<0.1

FIGURE A2: PAYOFF FREQUENCY BY GENDER-PAIR BY INFORMATION CONDITION (NEGOTIATION GAME ONLY)

(A) INFORMED



(B) UNINFORMED



Notes: Figure A2 shows the frequency of possible payoffs (that is, \$0, \$5, or \$15) by gender-pair and information condition in the negotiation game. Note men with male partners are twice as likely to get a payoff of \$0 compare to any other gender-pair.

Table A6: Efficiency Performance of Pair Types in Negotiation (Negotiation Only)

	Dependent variable: Payoff | Negotiation							
	All		Informed		Uninformed		All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Male-Male Pair	-1.922**	-2.134**	-2.647**	-3.478**	-1.163	-1.239	-1.163	-1.183
	(0.856)	(0.898)	(1.245)	(1.446)	(1.183)	(1.211)	(1.183)	(1.186)
Male-Male Pair × Informed							-1.485	-1.935
							(1.718)	(1.833)
Informed							0.614	0.723
							(0.645)	(0.796)
Constant	17.961***	20.263***	18.247***	18.129***	17.633***	33.046***	17.633***	19.358***
	(0.318)	(4.063)	(0.408)	(4.745)	(0.499)	(9.739)	(0.499)	(4.114)
Pair Clusters	464	464	244	244	220	220	464	464
Controls		YES		YES		YES		YES
Observations	464	464	244	244	220	220	464	464
R-Squared	0.015	0.056	0.028	0.082	0.005	0.108	0.017	0.060

Notes: Table A6 shows that male-male pairs do worst compared to all other pair-types. Having a woman in the negotiation (either on one side or both sides), in the combined sample with both gender information treatments, leads to an approximately $2 increase in joint payoff. This effect is primarily driven by the public gender information setting. Robust standard errors clustered at the individual level are in parenthesis. Session controls include day of the week, within day trend, and game round. Individual controls include subject's age, being nonwhite, begin liberal, being a US citizen, being a native English speaker, employment status, and the number of sessions completed. Significance: *** p<0.01, ** p<0.05, * p<0.1

B Experimental Protocol

The full experimental protocol was as follows. Randomization of the informed and uninformed treatment was at the session level. Figure B1 shows the timeline of events. After consenting to participate in this study, each participant read the general instructions, went through two practice rounds with the computer to understand the game and proceeded to the actual control and negotiation games. All subjects participated in four rounds of the control game followed by four rounds of the negotiation game. In addition, participants also went through two "add-on" rounds. Results from the add-on round are not included in this paper but instructions have been included for completeness. Below are the instructions used in this paper.

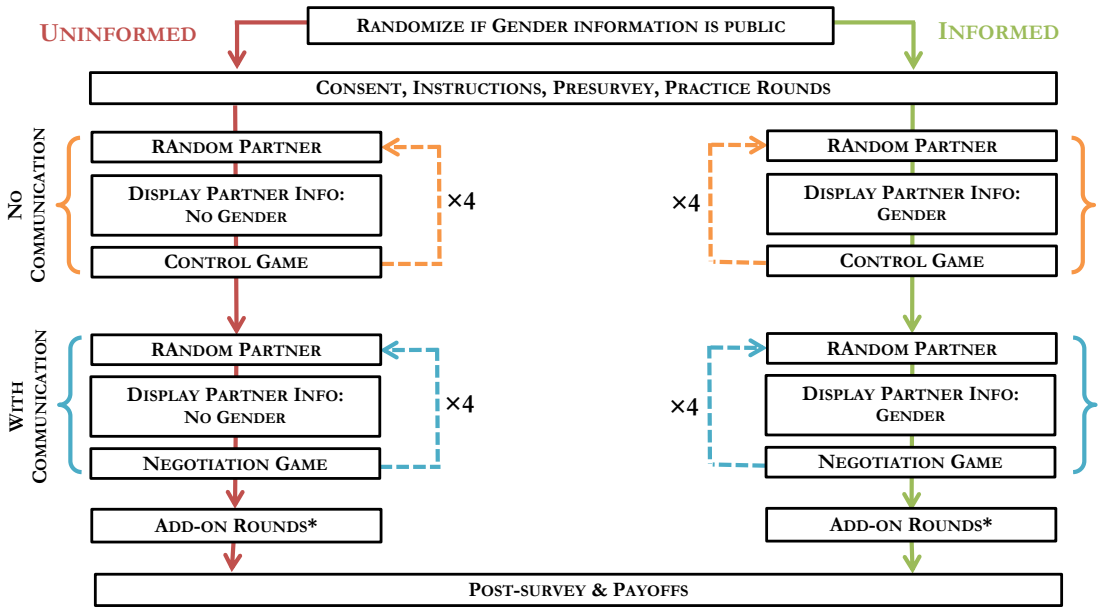


Figure B1: Full Experimental Design

Experimental Instructions: Choice Study

We will now go through the instructions for the experiment in more detail. Note that **this study involves bonus payment, and so understanding the instructions carefully will allow you to maximize your earnings.**

Experiment policies

This experiment is being done by economists Corinne Low and Zheng Jai Huang. It is the policy of economists that **participants cannot be deceived at any point throughout the experiment**. Therefore, the instructions described are exactly the way the experiment will proceed, and you will be paid.

Please don't talk or gesture to any participants in the lab, nor should you do anything on the computers other than the experiment, as this could interfere with the validity of the results. We greatly appreciate you offering your full attention for the duration of the experiment.

Experiment stages

This experiment will have three stages. There will be an opportunity to earn bonus pay at each of the stages.

1. First, you will take a brief survey.
2. Then you will be asked to make 10 rounds of decisions. You will be randomly assigned a different partner in the lab in each round. At the end of the study, a computer will randomly determine which round will count towards your bonus pay.
3. Finally, you will take a brief post-survey.

Stage 1

We will now complete a survey. Please answer the questions truthfully to the best of your ability.

Please note, some of this information will be shared with your partners, anonymously, in the next stage of the experiment.

Please you click next, and you will begin the survey.

(Note from the experimenter: Participants saw the following questions. Each questions was in its own window. Included are the choices provided to the participant when applicable.)

- What is your major?
- Why do you participate in WBL experiments? (Check ALL that apply.) [Answer options: (1) They're interesting; (2) To make extra money; (3) Course Credit; (4) Other, please specify.]
- What is your gender? [Answer choices: male, female]
- Are you right- or left-handed? [Answer choices: left, right]

- Please type this word as quickly and accurately as you can in the box below:

  shenanigans
  Hit "OK" immediately after finishing.

- What month were you born in? [Answer choices: January to December]
- Lay your right hand flat on the table. Is your **index finger** (next to thumb) or your **ring finger** (next to pinky) longer? [Answer choices: (1) Index is longer; (2) Ring is longer; (3) Same length]
- **Please answer yes/no to the following:**
  - Can you roll your tongue (shape tongue into "u" shape)?
  - Do you have a "hitchhiker" thumb (extend thumb as far as you can - you have hitchhiker thumbs if the top segment bends past 45 degrees)?
  - Are you an only child?
- What is your favorite color?
- Finally as bonus payment for this part of the study, you will receive $1.00. You can either take that dollar as-is, or put some portion of it into a lottery. Money placed in the lottery will be worth **0 with 50% probability and 2.5x its value with 50% probability** (decided randomly by the computer). How much of your $1.00 would you like to place in the lottery? [Answer choices: $0 to $1.00 in 5 cents increments.]

General Instructions

You will play 10 different rounds and will be randomly assigned a **different** partner in each round. Results from each round will be saved and stored in the system.

One of the 10 rounds will be randomly chosen by the computer and you will receive the full payoff of that round as your bonus payment. **Thus, you should play each round as though you will be paid for that round, as it may be selected at the end.**

In each rounds, you and your partner will choose how to split $20, with the caveat that there are only two possible ways to split it: Either you can take $15, and your partner takes $5, OR you can take $5, and your partner takes $15. But, if you do not agree on how to split it, you each get $0.

Please click "Page 2 of Instructions".

General Instructions (continued)

To clarify further, in each round, you and your partner will be shown the same two choices:

- $15 for yourself ($5 for partner)
- $5 for yourself ($15 for partner)

If one of you chooses $15, and one chooses $5, you will each receive this payoff. If both of you choose the same amount for yourself, however, you will each get $0.

Lets review each possible scenario:

- If you choose $15 for yourself ($5 for partner)
  - . . . And your partner "agrees," by choosing $5 for themselves, **you get $15** (partner gets $5)
  - . . . And your partner "disagrees," by also choosing $15 for themselves, **you each get $0**
- If you choose $5 for yourself ($15 for partner)
  - . . . And your partner "agrees," by choosing $15 for themselves, **you get $5** (partner gets $15)
  - . . . And your partner "disagrees," by also choosing $5 for themselves, **you each get $0**

You and your partner must make this choice simultaneously, so you cannot see what they are choosing while you make your choice.

For whichever round is randomly chosen for payment, you will receive the entire amount of the game's outcome, either $15, $5, or $0.

Please click next, and we will give you a chance to practice the game.

Practice Rounds

We will now do two practice rounds. In these rounds, you will not have a real partner; instead, the computer will choose your "partner's" choices randomly.

The payoffs from the practice rounds will NOT count towards your final earnings.

When you hit next, you will be taken to the practice rounds.

Note to experimenter: To help participants understand the game, outcomes from the practice rounds were shown after each round.

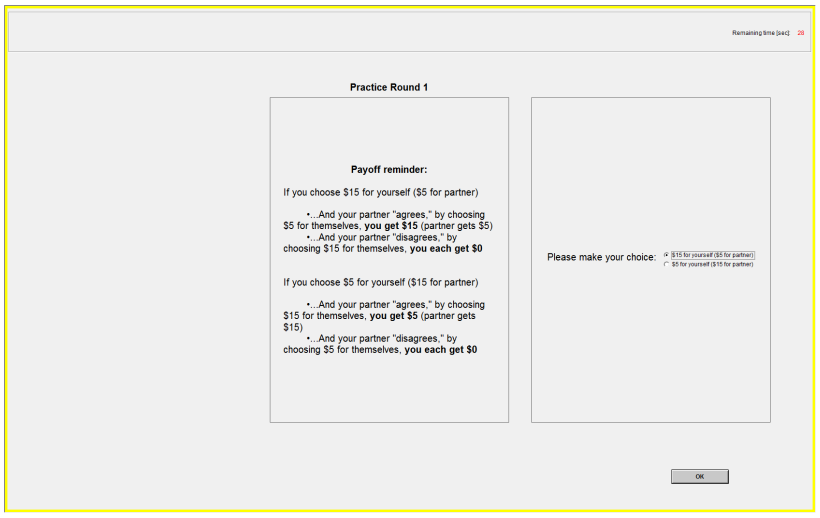


FIGURE B2: EXAMPLE OF PRACTICE ROUND CHOICE SCREEN

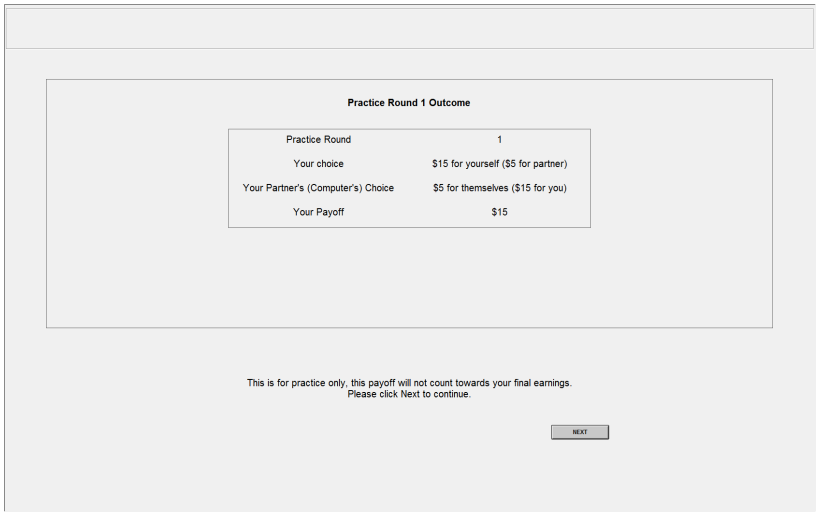


FIGURE B3: EXAMPLE OF PRACTICE ROUND OUTCOME SCREEN

Instructions: Rounds 1-4

Now that we have practiced, you will be paired with a partner and we will start the experiment.

In the next 4 rounds, you will be shown some information about your partner first, then you will be shown the decision screen where you can make your choice. You will each pick simultaneously whether to choose $15 or $5 for yourself without knowing what the other person is choosing.

The outcome of these rounds will be stored in the system, and you will only be told your results when all 10 rounds are completed. Remember, any round could be randomly chosen to determine your bonus payment, so you would play each round as though real money is on the table.

Note that you will be randomly paired with a DIFFERENT partner in each round.

Please click Next to begin.

(Note to experimenter: Below are the two sequential screens participants saw: (1) participants saw the partner information screen for 15 seconds; (2) participants saw the choice screen. Gender information was randomized at the session level. Participants either saw the partner information sheet with or without gender for all rounds.)

(A) Informed Condition

Round 1

Your partner in this round:	
Gender	Male
Left- or right-handed?	Left
Are you an only child?	No
Month of birth	May
Can roll tongue?	No
Has hitchhiker thumbs?	No

(B) Uninformed Condition

Round 1

Your partner in this round:	
Left- or right-handed?	Left
Are you an only child?	No
Month of birth	May
Can roll tongue?	No
Has hitchhiker thumbs?	No

Figure B4: Example of Partner Information Screen with and without Partner Gender

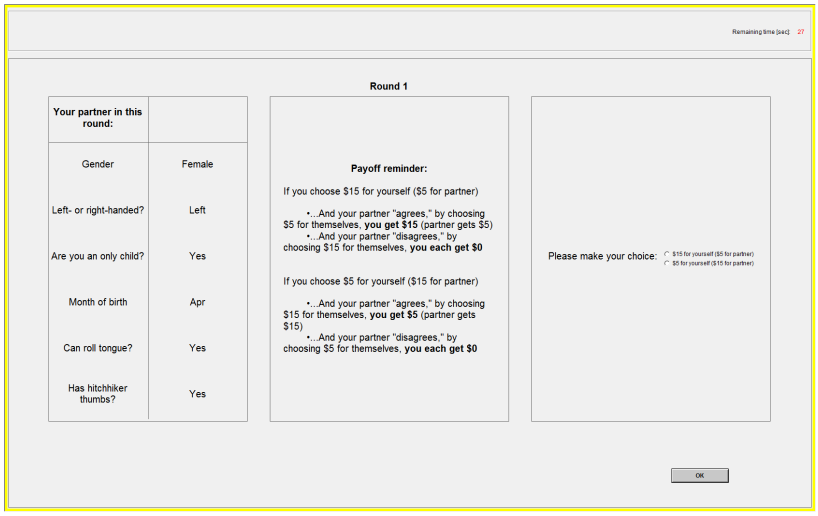


FIGURE B5: EXAMPLE OF CHOICE WINDOW

Instructions: Rounds 5-8

In the next 4 rounds, Rounds 5-8, you will be allowed to communicate with your partner prior to making your decision. This time, after you view the information about your partner, you will have the opportunity to discuss your choice with your partner for 2.5 minutes before you each choose.

When the 2.5 minutes are up, you will each pick simultaneously whether to choose $15 or $5 out of the $20 for yourself without knowing what the other person is choosing.

To repeat, the pattern is:

1. View information about partner
2. Communicate with partner via chat for 2.5 minutes
3. Make choice

Important note about chat communication: The chat window allows you to discuss your choice with your partner. However, you may not:

- Reveal identifiable information about yourself
- Ask others to reveal identifiable information
- Make arrangements to discuss or meet outside the lab.

(Failure to comply with this will affect your future ability to participate in WBL studies)

The outcome of these rounds will be stored in the system, and you will only be told your results when all games are completed. Remember, any round could be randomly chosen to determine your bonus payment, so you would play each round as though real money is on the table.

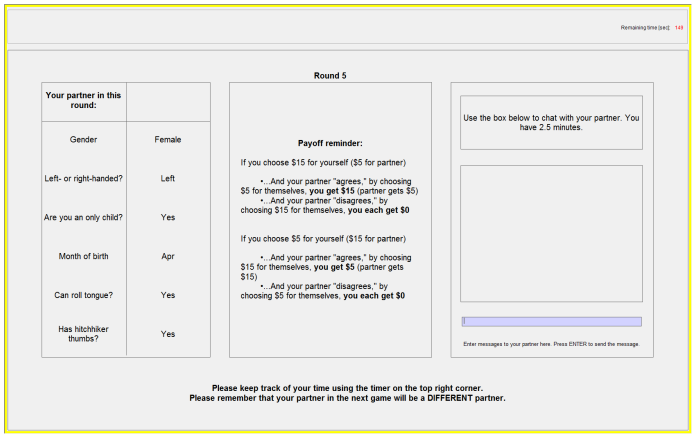
Note that you will be randomly paired with a DIFFERENT partner in each round.

Please click Next to begin.

(Note to experimenter: Below are the three sequential screens participants saw: (1) partner information screen; (2) chat window; (3) choice window.)

(A) Partner Information

(B) Chat Window



(C) Choice Window

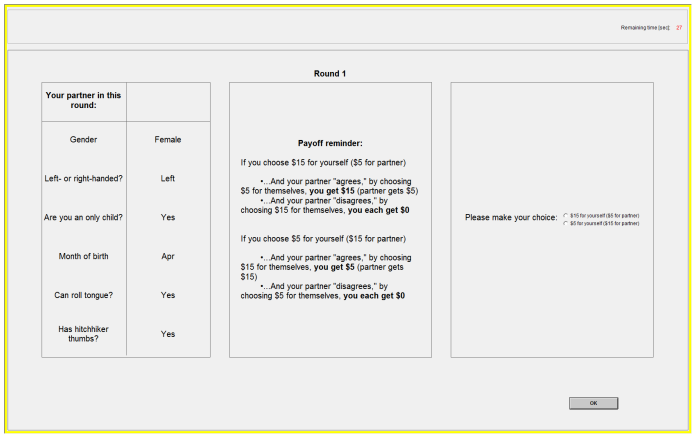


Figure B6: Example of Negotiation Game Screen Sequence

(Note to experimenter: Results from Rounds 9 and 10 (the "add-on" rounds) are not included in this paper, but instructions are included for completion.)

Instructions: Round 9

We will now proceed to Round 9.

In this round, you will have the opportunity to choose whether you would like to communicate with your partner or not. This time, after you view the information about your partner, you will choose whether you would like to:

- Not communicate with your partner (like in rounds 1-4)
- Communicate with your partner (like in rounds 5-8)

Both you and your partner will make this choice. Then, the computer will choose randomly whether *your* choice your *your partner's* choice will be used to determine the game ou will actually play. With a 50% chance, your choice will be used, and you will play the game you have chosen. And with a 50% chance your partner's choice will be used, and you will play the game they have chosen.

The sequence of the round will be:

1. Participants are matched randomly with a partner.
2. You will be shown some information about your partner.
3. Each partner chooses whether they would like to communicate or not communicate with their partner.
4. A computer will randomly decided if you or your partner's choice of game will be used.
5. You will play the chosen round.

As in the previous rounds, you will be shown the decision screen where you can make your choice. You will each pick simultaneously whether to choose \$15 or \$5 out of the \$20 for yourself without knowing what the other person is choosing.

The outcome of these rounds will be stored in the system, and you will only be told your results when all games are completed. Remember, any round could be randomly chosen to determine your bonus payment, so you should play each round as though real money is on the table.

Note that you will be randomly paired with a DIFFERENT partner in each round.

Please click Next to begin.

Note to experimenter: Participants saw three sequential screens: (1) participants saw the partner information screen for 15 seconds; (2) participants choose whether they want to play the control or negotiation game with their randomly assigned partner; (3) participants are told whether they are playing the control or negotiation game and proceed accordingly. Below is an example of the screen where participants choose which game they wished to play with their partner.

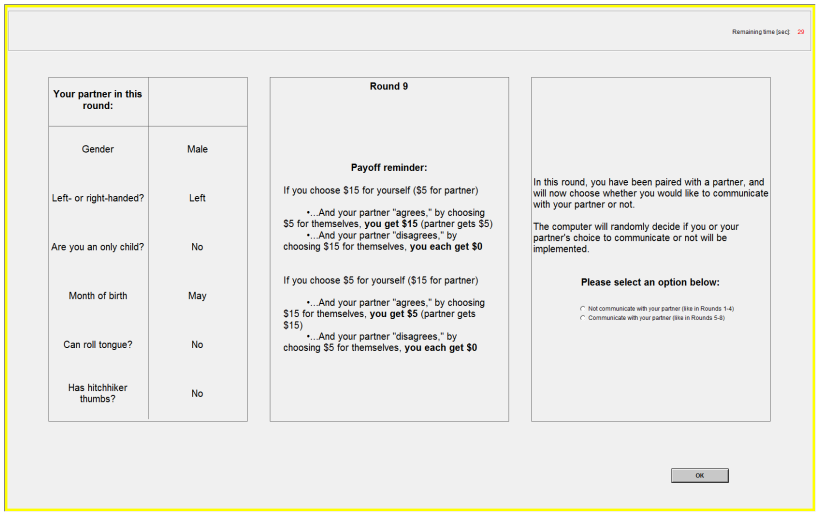


FIGURE B7: EXAMPLE OF GAME CHOICE WINDOW

Instructions: Round 10

For the 10th round, you will choose one of your previous rounds to "count" an extra time, and therefore have an extra chance of being randomly drawn for payment. You get to choose whether you want a random round from rounds 1-4 (with no communication) or rounds 5-8 (with communication) to fill this extra "slot." This round will be saved in the system and may be randomly picked as your bonus payment. Please choose if you would like this random round to be picked from:

- Rounds 1-4 (with no communication)
- Rounds 5-8 (with communication)

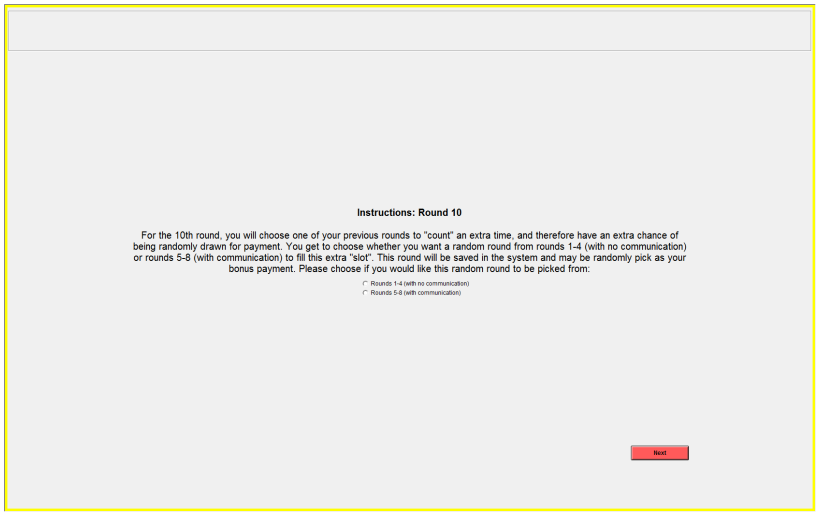


FIGURE B8: EXAMPLE OF ROUND 10 CHOICE WINDOW

(Notes to the experimenter: after all 10 rounds were played, participants saw the outcome of all 10 rounds. Afterwards they answered a post-survey.)

Round	Your choice	Your Partner's Choice	Your Payoff
1	$15 for yourself ($5 for partner)	$5 for themselves ($15 for you)	$15
2	$5 for yourself ($15 for partner)	$5 for themselves ($15 for you)	$0
3	$15 for yourself ($5 for partner)	$5 for themselves ($15 for you)	$15
4	$5 for yourself ($15 for partner)	$5 for themselves ($15 for you)	$0
5	$15 for yourself ($5 for partner)	$5 for themselves ($15 for you)	$15
6	$5 for yourself ($15 for partner)	$5 for themselves ($15 for you)	$0
7	$5 for yourself ($15 for partner)	$15 for themselves ($5 for you)	$5
8	$15 for yourself ($5 for partner)	$5 for themselves ($15 for you)	$15
9	$5 for yourself ($15 for partner)	$15 for themselves ($5 for you)	$5
10	$5 for yourself ($15 for partner)	$5 for themselves ($15 for you)	$0

FIGURE B9: EXAMPLE OF CONTROL AND NEGOTIATION GAMES OUTCOME TABLE

Post-Survey

You will now be asked to complete a brief post-survey, and then will learn you final earnings. Remember, a computer will randomly choose one of the 10 rounds you played and the payoffs in that round will be your bonus earnings for this lab session.

Please click next to be taken to the post-survey.

- What did you think the experiment was about?
- In rounds 1-9, you were partnered with someone in the lab. How many of your partners do you think were women? [Answer choices from 0 to 9.]
- Please answer the following questions from Strongly Agree to Strongly Disagree. [Answer choices were on a 5-point likert scale: Strongly Agree, Agree, Neither Agree Not Disagree, Disagree, Strongly Disagree.]
  - Many women are actually seeking special favors, such as hiring policies, that favor them over men, under the guise of asking for "equality."
  - In a disaster, women ought not necessarily to be rescued before men.
  - Women are too easily offended.
  - Women should be cherished and protected by men.
  - When women lose to men in a fair competition, they typically complain about being discriminated against.
  - Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives.
- For each of the following information you learned about your partners, say how much it influenced your interactions: [Answer choices were on a 5-point likert scale: Influenced a lot, Influenced a little, Influenced in some period, Did no influence very much, Did not influence at all.]
  - Gender
  - Dominant hand
  - Only Child
  - Month of birth
  - Ability to roll tongue
  - "Hitchhiker" thumb
- Did your mother work full-time outside the home when you were growing up? [Answer choices: yes, no]
- Do you have any other comments about this study?

(Notes to the experimenter: after the post-survey, the computer randomly selected the round for bonus payment and final payoffs were revealed.)

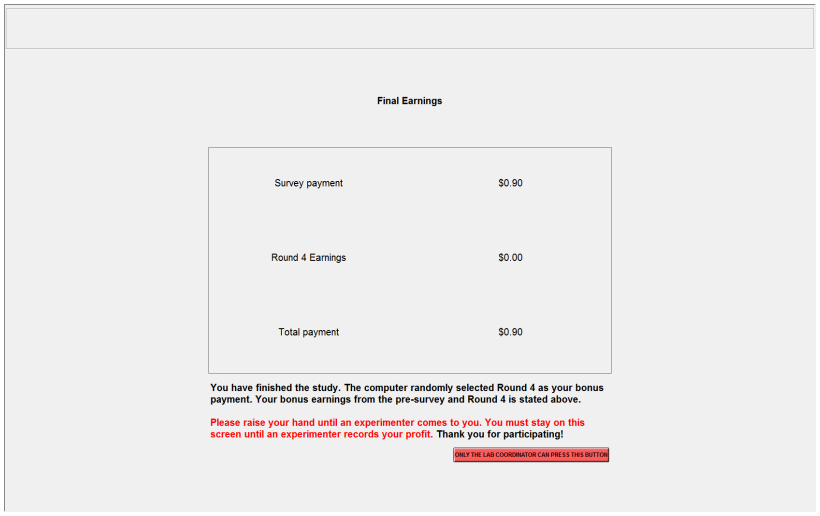


Figure B10: Example of Final Payoff Window

C Negotiation Transcript Coding Protocol

After all sessions were finished, we had MTurk workers classify different communication strategies. Each MTurk worker reviewed 15 randomly selected negotiation transcripts. To ensure high quality of work, MTurk workers reviewed the communication strategy definitions and had to answer all 8 comprehension questions correctly to continue. Additionally, workers where also asked an attention question and if any worker failed to pass the attention question we discarded their work. Below are the specific instructions provided to MTurk workers.

General Instructions:

In this survey you will be asked to read through 16 different conversations and answer some questions regarding each conversation. Each conversation has only two people: Person A and Person B. Person A and Person B are negotiating over how to split $20 dollars, BUT there are only two possible way to split it: $15 for one person and $5 for the other, or the reverse. If they do not agree, then they will both get $0.

Note: In this survey you will be asked comprehension questions and attention questions. Please read all instructions and materials carefully. If you fail the comprehension question, you will not be allowed to continue with the HIT. If you fail the attention questions, your work will be rejected. There is a probability that we will check a randomly selected question. If we find your work was not completed accurately, we may reject your work.

Definitions:

Before you begin, we will define some negotiation strategies that you will help identify in the 16 conversations. Please read through each of the definitions and examples carefully. (Do not worry if you are unable to memorize or remember all the definitions, these will be provided again later.)

Hard commitment: this is when a person starts the conversation (not including saying "hi" or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change.

- *Example 1: "Hi, I'm always choosing 15 not matter what, that is my strategy."*
- *Example 2: "I'm letting you know that I'm picking 15 regardless of what you do."*

Tough talker: this is when person is a tough negotiator and fights for the $15. They are trying hard to convince the other person to take $5. This may happen at any point in the conversation. They will use a strong tone and may seem "pushy" or "mean." (Note: Someone using a tough talker strategy may also be playing a hard commitment strategy.)

- *Example 1: "It's my turn to take $15, I let the other person have theirs"*

Asked for the $15: this is when a person asks the other person if they can take the $15 at any point in the conversation.

- *Example 1: "Can I pick $15?"*
- *Example 2: "Would it be ok if I pick 15?"*

Led with a concession: this is when a person starts the conversation (not including saying "hi" or other pleasantries) by offering the $15 to the other person or stating that they will take $5.

- *Example 1: "Hi, you can take the $15" or "Hi, I'll pick $5"*
- *Example 2: "Hi, you can pick which one you want, I'll pick the other option."*

Offered the $15: this is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may also be doing a "led with a concession" strategy.)

- *Example 1: "Ok, you can pick $15"*
- *Example 2: "I'll just take the $5"*

Friendly negotiator: this is when the person tries to be friendly and build a relationship with the other person in order to gain their trust. We provided each person some information about the other person (e.g., birthday month, can they roll their tongue, do they have hitchhiker thumbs, etc) – many times, the person will comment on one of these traits.

- *Example 1: "Hi, how is your day going?"*
- *Example 2: "Happy birthday month! Oh look, we both have hitchhiker thumbs!"*

Started negotiations: this is the person that starts the negotiations on how to split the money, not including saying "hi" or other pleasantries.

- *Example 1: "We should discuss this so we can cooperate and get something. How do you want to split this?"*
- *Example 2: "Any ideas on what we should do?"*

Random game: this is the person that introduces a random game such as playing rock/paper/scissor ("rps"), guessing a number, using trivia questions, using birthday dates, or other similar games to choose who picks $15 for themselves.

- *Example 1: "What if we play rps?"*

- *Example 2: "How about I think of a number, 0 or 1, and if you guess it you get $15. I promise to tell the truth"*
- *Example 3: "We were both born in June! Let's do birth dates, the closest one wins $15?"*

Sad story: this is a person that uses their current (unfortunate) situation to gain sympathy from the other person and tries to get the $15.

- *Example 1: "I really need the money, my fridge broke so I need to buy food."*
- *Example 2: "I'm having a terrible day, I just failed my midterm."*
- *Example 3: "I'm poor, I need the money for food and to pay for college."*

Happy emojis: this is when a person uses any sort of happy "emojis" or smiley faces.

- *Example 1: ":)"*
- *Example 2: ":D"*

Sad/angry emojis: this is when a person uses any sort of sad or angry "emojis".

- *Example 1: ":("*
- *Example 2: "¿:("*

Mentioned the word fair: this is when the person mentions anything about trying to make a fair split

- *Example 1: "How can we do this fairly?"*
- *Example 2: "I'll pick $5, its fair since you picked $5 before"*
- *Example 3: "I don't know how to split this in a fair way."*

Mentioned previous choices/outcomes: this is when the person mentions what they previously chose. Individuals had to negotiate with multiple people, so sometimes they will mention what their previous choice was.

- *Example 1: "I chose 5, 15, 5 in the previous rounds"*
- *Example 2: "But I've picked 5 in the last 2 rounds too"*

Alternating strategy: this is when the person claims to be alternating between 5 and 15 and that this is their strategy.

- *Example 1: "I'm alternating between 5 and 15"*

- *Example 2: "My strategy is to pick 5 on even rounds and 15 on odd rounds"*

Gave-in: this is when the person gives in to the other person's ask or demands after there is an initial negotiation or back-and-forth.

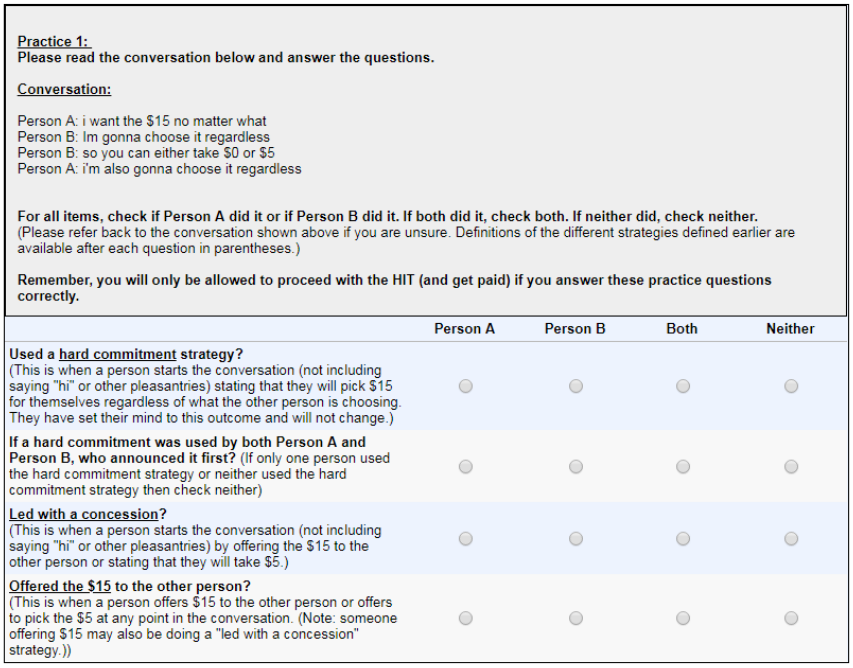
- *Example 1: Person A: "Can I pick 15?"*
  - *Person A: "Can I pick 15?"*
  - *Person B: "I would like 15 as well. Why do you want 15?"*
  - *Person A: "Honestly, I need it to buy food."*
  - *Person B: "Oh, me too. This is hard...Ok, you can take the $15."*
- *(In this example, Person B is "giving in".)*

Comprehension Check:

Before you begin, we will let you practice. Please read the conversation below and answer the questions carefully. If you have any question, please refer to the definitions and examples above.

If you are unable to correctly identify the negotiation strategies in the following practice conversation, you will not be allowed to proceed with the task and you will not receive payment for this HIT.

(Notes for the experimenter: In order to ensure the highest quality of data, MTurk workers had to pass both comprehension checks to proceed to the actual classification. Failure to pass the comprehension check meant the MTurk worker would not be allowed to proceed and would have to "return" the task. MTurk workers who passed the comprehension question proceeded to the actual negotiation analysis. Each MTurk worker analyzed 7 negotiations. Then they saw an attention check question (disguised as an 8th conversation) followed by 8 more actual negotiations.)



Practice 1:
Please read the conversation below and answer the questions.

Conversation:

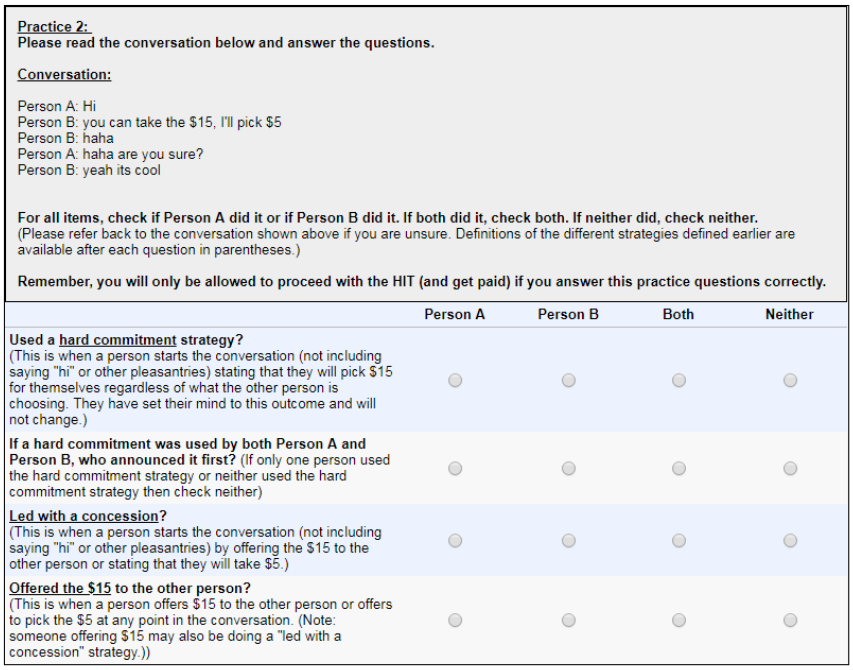
Person A: i want the $15 no matter what
Person B: Im gonna choose it regardless
Person B: so you can either take $0 or $5
Person A: i'm also gonna choose it regardless

For all items, check if Person A did it or if Person B did it. If both did it, check both. If neither did, check neither.
(Please refer back to the conversation shown above if you are unsure. Definitions of the different strategies defined earlier are available after each question in parentheses.)

Remember, you will only be allowed to proceed with the HIT (and get paid) if you answer these practice questions correctly.

	Person A	Person B	Both	Neither
Used a hard commitment strategy? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change.)	○	○	○	○
If a hard commitment was used by both Person A and Person B, who announced it first? (If only one person used the hard commitment strategy or neither used the hard commitment strategy then check neither)	○	○	○	○
Led with a concession? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) by offering the $15 to the other person or stating that they will take $5.)	○	○	○	○
Offered the $15 to the other person? (This is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may also be doing a "led with a concession" strategy.))	○	○	○	○

FIGURE C1: EXAMPLE OF COMPREHENSION CHECK 1



Practice 2:
Please read the conversation below and answer the questions.

Conversation:

Person A: Hi
Person B: you can take the $15, I'll pick $5
Person B: haha
Person A: haha are you sure?
Person B: yeah its cool

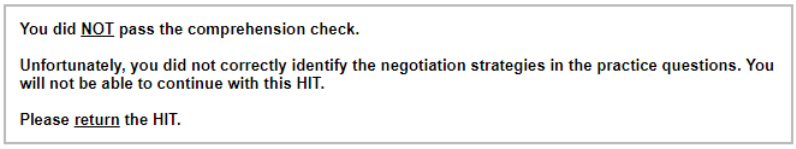
For all items, check if Person A did it or if Person B did it. If both did it, check both. If neither did, check neither.
(Please refer back to the conversation shown above if you are unsure. Definitions of the different strategies defined earlier are available after each question in parentheses.)

Remember, you will only be allowed to proceed with the HIT (and get paid) if you answer this practice questions correctly.

	Person A	Person B	Both	Neither
Used a hard commitment strategy? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change.)	○	○	○	○
If a hard commitment was used by both Person A and Person B, who announced it first? (If only one person used the hard commitment strategy or neither used the hard commitment strategy then check neither)	○	○	○	○
Led with a concession? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) by offering the $15 to the other person or stating that they will take $5.)	○	○	○	○
Offered the $15 to the other person? (This is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may also be doing a "led with a concession" strategy.))	○	○	○	○

FIGURE C2: EXAMPLE OF COMPREHENSION CHECK 2

(A) COMPREHENSION CHECK: FAILURE MESSAGE

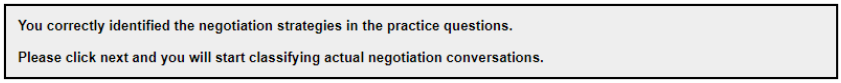


You did NOT pass the comprehension check.

Unfortunately, you did not correctly identify the negotiation strategies in the practice questions. You will not be able to continue with this HIT.

Please return the HIT.

(B) COMPREHENSION CHECK: PASSING MESSAGE



You correctly identified the negotiation strategies in the practice questions.

Please click next and you will start classifying actual negotiation conversations.

FIGURE C3: EXAMPLE OF COMPREHENSION CHECK PASSING/FAILURE MESSAGE

Please read the conversation below and answer the questions.

Conversation ID: 13001-130013-10

Conversation:

Person A: U choose the split, I dont care
Person B: Cool if I keep the 15 this time? Not feeling very generous :P
Person A: Yeah, go ahead
Person B: Gotcha.
Person B: tough decisions I swear
Person B: Feel like I'm in vegas
Person A: This is a really interesting game theory problem. I should really take game theory next year
Person B: Sounds fun!
Person B: Hope you get an A
Person A: thanks
Person A: it was much harder when we couldnt chat lol

For all items, check if Person A did it or if Person B did it. If both did it, check both. If neither did, check neither.
(Please refer back to the conversation shown above if you are unsure. Definitions of the different strategies defined earlier are available after each question in parentheses.)

	Person A	Person B	Both	Neither
Used a hard commitment strategy? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change.)				
If a hard commitment was used by both Person A and Person B, who announced it first? (If only one person used the hard commitment strategy or neither used the hard commitment strategy then check neither)				
Was a tough talker? (This is when person is a tough negotiator and fights for the $15. They are trying hard to convince the other person to take $5. This may happen at any point in the conversation. (Note: Someone using a tough talker strategy may also be playing a hard commitment strategy.))				
Asked for the $15? (This is when a person asks the other person if they can take the $15 at any point in the conversation.)				
Led with a concession? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) by offering the $15 to the other person or stating that they will take $5.)				
Offered the $15 to the other person? (This is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may also be doing a "led with a concession" strategy.))				

	Person A	Person B	Both	Neither
Was a friendly negotiator? (This is when the person tries to be friendly and build a relationship with the other person in order to gain their trust.)				
Started negotiations on how to split the money? (This is the person that starts the negotiations on how to split the money, not including saying "hi" or other pleasantries.)				
Mentioned using a random game to choose who picks $15? (This is the person that introduces a random game such as playing rock/paper/scissor ("rps"), guessing a number, using trivia questions, using birthday dates, or other similar games to choose who picks $15 for themselves.)				
Used a sad story to convince their partner? (This is the person that uses their current (unfortunate) situation to gain sympathy from the other person and tries to get the $15.)				
Used happy "emojis"? (This is when the person uses any sort of happy "emojis" or smiley faces.)				
Used sad/angry "emojis"? (This is when the person uses any sort of sad or angry "emojis".)				

	Person A	Person B	Both	Neither
Mentioned the word "fair"? (This is when the person mentions anything about trying to make a fair split.)				
Mentioned previous choices/outcomes? (This is when the person mentions what they previously chose. Individuals had to negotiate with multiple people, so sometimes they will mention what their previous choice was.)				
Used an alternating strategy? (This is when the person claims to be alternating between 5 and 15 and that this is their strategy.)				
Gave-in? (This is when the person gives in to the other person's ask or demands after there is an initial negotiation or back-and-forth.)				

On a scale from 1 to 7, where 1 is very friendly and 7 is very aggressive, please rate how friendly or aggressive you think Person A and Person B were overall.

	Very Friendly	Friendly	Somewhat Friendly	Neither Friendly nor Aggressive	Somewhat Aggressive	Aggressive	Very Aggressive
Person A							
Person B							

Was the negotiation successful?

	Negotiation successful?		If there was agreement, who chose $15? If there was no agreement, who do you think chose $15?
	Yes	No	
Does it appear like they reached an agreement?			

Figure C4: Example of Negotiation Transcript Classification

Please read the conversation below an answer the questions.

Conversation ID: Attention Check

Conversation:

Person A: this is not a real negotiation conversation.
Person B: this is only an attention check.
Person A: please answer all the questions below by only selecting Person A
Person A: this is only for this page
Person A: this will let us know that you are paying attention
Person B: on the next page, you will resume evaluating an actual conversation as before

For all items, check if Person A did it or if Person B did it. If both did it, check both. If neither did, check neither.
(Please refer back to the conversation shown above if you are unsure. Definitions of the different strategies defined earlier are available after each question in parentheses.)
(This is the attention check: please answer all the questions on this page by only selecting "Person A")

	Person A	Person B	Both	Neither
Used a hard commitment strategy? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) stating that they will pick $15 for themselves regardless of what the other person is choosing. They have set their mind to this outcome and will not change.)	○	○	○	○
If a hard commitment was used by both Person A and Person B, who announced it first? (If only one person used the hard commitment strategy or neither used the hard commitment strategy then check neither)	○	○	○	○
Was a tough talker? (This is when person is a tough negotiator and fights for the $15. They are trying hard to convince the other person to take $5. This may happen at any point in the conversation. (Note: Someone using a tough talker strategy may also be playing a hard commitment strategy.))	○	○	○	○
Asked for the $15? (This is when a person asks the other person if they can take the $15 at any point in the conversation.)	○	○	○	○
Led with a concession? (This is when a person starts the conversation (not including saying "hi" or other pleasantries) by offering the $15 to the other person or stating that they will take $5.)	○	○	○	○
Offered the $15 to the other person? (This is when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation. (Note: someone offering $15 may also be doing a "led with a concession" strategy.))	○	○	○	○
	Person A	**Person B**	**Both**	**Neither**
Was a friendly negotiator? (This is when the person tries to be friendly and build a relationship with the other person in order to gain their trust.)	○	○	○	○
Started negotiations on how to split the money? (This is the person that starts the negotiations on how to split the money, not including saying "hi" or other pleasantries.)	○	○	○	○
Mentioned using a random game to choose who picks $15? (This is the person that introduces a random game such as playing rock/paper/scissor ("rps"), guessing a number, using trivia questions, using birthday dates, or other similar games to choose who picks $15 for themselves.)	○	○	○	○
Used a sad story to convince their partner? (This is the person that uses their current (unfortunate) situation to gain sympathy from the other person and tries to get the $15.)	○	○	○	○
Used happy "emojis"? (This is when the person uses any sort of happy "emojis" or smiley faces.)	○	○	○	○
Used sad/angry "emojis"? (This is when the person uses any sort of sad or angry "emojis".)	○	○	○	○
	Person A	**Person B**	**Both**	**Neither**
Mentioned the word "fair"? (This is when the person mentions anything about trying to make a fair split.)	○	○	○	○
Mentioned previous choices/outcomes? (This is when the person mentions what they previously chose. Individuals had to negotiate with multiple people, so sometimes they will mention what their previous choice was.)	○	○	○	○
Used an alternating strategy? (This is when the person claims to be alternating between 5 and 15 and that this is their strategy.)	○	○	○	○
Gave-in? (This is when the person gives in to the other person's ask or demands after there is an initial negotiation or back-and-forth.)	○	○	○	○

FIGURE C5: EXAMPLE 55 ATTENTION QUESTION

(Notes for the experimenter: At the end, MTurk workers answered a demographics question.)

MTurk Worker Demographics Survey:

You have now completed identifying all 16 negotiations conversations. Please answer the following questions. Afterwards, you will be told your completion code.

- What is your gender? [Answer choices: male, female]
- What is your year of birth?
- What is your employment status? [Answer choices: (1) unemployed; (2) full-time employment (3) part-time employment]
- Are you a native English speaker? [Answer choices: yes, no]
- Please choose the answer that best describes your political ideology. [Answer choices: (1) very liberal; (2) somewhat liberal; (3) slightly liberal; (4) Neither liberal nor conservative; (5) slightly conservative; (6) somewhat conservative; (7) very conservative]
- What is the highest degree or level of school you have completed? If currently enrolled, highest degree received. [Answer choices: (1) Some high school, no diploma; (2) High school graduate, diploma or equivalent (for example, GED); (3) Some college credit, no degree; (4) Trade/technical/vocational training; (5) Associate degree; (6) Bachelor's degree; (7) Master's degree; (8) Professional degree (for example, JD or MD); (8) Doctorate degree (Ph.D)]
- Please specify your ethnicity. [Answer choices: (1) Caucasian; (2) Hispanic or Latino; (3) Black/African American; (4) Native American/American Indian; (5) Asian/Pacific Islander; (6) Middle Eastern; (7) Other (please specify)]
- Please let us know what you thought of the survey. Was anything confusing?

(Notes for the experimenter: once MTurker workers submitted the completed task, the attention question was checked and any worker who failed the attention check was told so and their work was discarded.)