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

Jennie Huang and Corinne Low

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Abstract

This paper studies how gender affects negotiation strategy and payoffs. Although conventional wisdom holds that women are "worse" negotiators, we find that men have a disadvantage in negotiation in a setting with explicit verbal communication relative to a control game without communication. This effect is driven by a treatment where partner gender information is public, to most closely mirror a real-world negotiation. The mechanism of the effect appears to be that men fail to tailor their negotiation strategy "optimally" to partner gender. Men are significantly less likely to use tough (and effective) negotiation strategies against female partners than against male partners. We show that these choices reduce payoffs, and male-male pairs perform particularly poorly, demonstrating a "toxic masculinity" effect. As an explanation for these results, we suggest men may be "constrained" by gender norms in their communication strategy—leading them to be more chivalrous to women and "tough" toward men—at the expense of their own payoffs.

1 Introduction

Conventional wisdom holds that men outperform women in negotiations. However, this popular tale has surprisingly little empirical support. While a considerable body of literature appears to indicate that men have a negotiation advantage relative to women, these studies typically use performance in scenarios with no monetary incentives (e.g., Bowles, Babcock and McGinn (2005); Kray, Galinsky and Thompson (2002); Kray, Thompson and

Galinsky (2001), which all use the negotiated outcome of an unincentivized classroom scenario).[1] Additional evidence that women may face censure for negotiating or using certain tactics comes from evaluations from third party observers (Bowles, Babcock and Lai, 2007; Tinsley et al., 2009; Bowles, 2012; Bowles and Babcock, 2013; Amanatullah and Tinsley, 2013). The only field experiments on actual negotiation outcomes, Castillo et al. (2013) and Busse, Israeli and Zettelmeyer (2017), use designated bargaining scripts, and thus are more like audit studies of the target's (taxis and repair shops, respectively) gender biases. Even then, results are mixed, with women achieving better outcomes in some circumstances.[2]

Then, from where does the legend of men as better negotiators arise? Perhaps since women negotiate less, for which there is strong, incentivized evidence in both the field (Leibbrandt and List, 2015) and lab (Small et al., 2007; Exley, Niederle and Vesterlund, 2016),[3] we assume they are internalizing their lack of skill in this arena. There is also incentivized evidence that appears to show women get lower payoffs relative to men or that men make lower bargaining offers to women. However, these papers use either variations of 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 what we think of as negotiation in the real world, we have no evidence of its impact on gender differential payoffs. In other words, we lack conclusive evidence on whether in the act of bargaining itself – using verbal communication to try to effect a certain outcome – men do or not have an advantage.

In this paper, we fill this gap by studying the impact of gender, both one's own and one's negotiating partner's, on outcomes in a verbal negotiation. How should we expect the addition of explicit, free-form communication to affect the one-shot bargaining outcomes in the literature? The evidence suggests that men have an advantage in a wide variety of

[1] Also see Walters, Stuhlmacher and Meyer (1998); Stuhlmacher and Walters (1999); Mazei et al. (2015).

[2] 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.

[3] See also Bowles and L. McGinn (2008); Fiona (2008); Amanatullah and Morris (2010).

games precisely because they can exploit information about gender to tailor their approach, playing 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). 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) provides further evidence that targeting them with more hawkish behavior could pay off. Because negotiation strategy might depend on expectations of the other player's type, it seems natural that men might exploit women's gender to target them with aggressive communication strategies, meaning the introduction of communication would widen the gap shown in one-shot bargaining games.

What we find is precisely the opposite. We replicate the results of the literature, that in a non-communication (control) game, men receive a higher payoff than women by tailoring their play to be more aggressive to women (from whom they receive a more dovish response) than men. However, in a negotiation that features verbal communication, we see a stunning reversal of this result: negotiation levels the playing field for women, more than reversing men's advantage in the non-communication game.

Furthermore, by randomly assigning whether gender information is revealed or not, we show that this wedge between the negotiation game and control game is created by the use of gender information to tailor one's strategies. In the non-communication game, men optimally exploit gender information to be more hawkish toward female partners and less so toward male partners. In the negotiation game, however, strategy tailoring is exactly the inverse. This results in men and women earning about equal payoffs in both games without gender information, whereas with gender information men outperform in the non-communication game and under-perform in the negotiation game. The no gender information condition also helps us confirm that in this particular negotiation setting, neither men nor women are inherently more "skilled."

So what is it about the combination of gender information and communication that make men under-perform? We show that men tailor their communication strategies in exactly the opposite direction one might expect based on the one-shot bargaining literature. Men are starkly more aggressive toward men than women. For example, men issue

ultimatums, which we term "hard commitment," toward male negotiating partners more than twice as often as they do with female negotiating partners. Similarly, men are more likely to use friendly or yielding strategies toward female partners than male partners.

Moreover, it is not that the optimal tailoring has changed in the negotiation game, explaining the shift in strategies. We show evidence from payoffs that men's use of aggressive and yielding strategies appear mis-paired with whom they are most effective against. Being a "friendly negotiator," used far more frequently against women, increases payoffs against male, but not female partners. Similarly, the use of tough strategies, used much more with men, reduces payoffs against male, but not female, partners.

We thus posit that complying with social norms or non-pecuniary values may explain this paradoxical result. Men may feel constrained in their use of aggressive strategies toward women, or, in other words, derive negative utility from using aggressive communication toward women. Similarly, they may derive some social or other non-pecuniary benefit from using such aggressive communication against men, even when it reduces their own payoff.

This latter result could be referred to as a manifestation of "toxic masculinity." In the non-communication game, men curtail their naturally more aggressive play when they know they're facing a male partner. However, in the negotiation game, men persist in their use of aggressive strategies toward men, despite it increasing negotiation breakdown. This leads to a startling result: Male-male pairs are the least efficient in the negotiation game, earning \$15.60 in joint payoffs compared to over \$18 for other pair-types (and a possible \$20 at a fully efficient equilibrium). That is, adding a woman to the negotiation increases joint payoffs, by around \$3 out of \$20.

Our experimental design solves several problems that could arise in testing the impact of partner gender on negotiation strategy. First, by randomly varying whether individuals are informed about their negotiating partner's gender (at the session level), we separate the causal effect of partner gender on negotiating strategy from other dynamics that might arise in the negotiation that are merely correlated with partner gender (e.g., if a partner is perceived to be more dovish during the negotiation, one might choose to use an aggressive strategy). Second, we tackle the challenge of providing gender information without making it overly salient or introducing other confounders by using a partner information sheet that

contains multiple characteristics, and is modified in the "informed" treatment to include gender. Lastly, to make the negotiation game incentive compatible (and replicable), we use the payoffs from Battle of the Sexes, with the neutral framing of splitting $20 (with the possible splits of ($15, $5) or ($5, $15), and zero for both partners if no agreement is reached). The abstract framing of the game eliminates the need for a strong scenario that may influence behavior. This game is then also used in the "control" condition without communication.

In addition to the fact that women might actually have advantages in high stakes negotiations where reaching some agreement is more important than the exact division, the paradoxical tailoring of men's strategies toward women has additional policy implications. While chivalrous behavior from men towards women does not negatively affect women's payoffs in this setting, such behavior still suggests underlying unequal views toward women. Such views have been termed "benevolent sexism" in the psychology literature (Glick and Fiske, 1996), and have been shown to have a negative long-term effect on women (Dardenne, Dumont and Bollier, 2007; Dumont, Sarlet and Dardenne, 2010). Moreover, toxic masculinity could lead to efficiency losses when men negotiate with other men, and be reflective of the costs of "over-competitiveness" identified by previous literature (Niederle and Vesterlund, 2007). In particular, our results could indicate an advantage to including women in negotiations with asymmetric costs to reduce negotiation breakdown.

Our experiment shows that situations with communication may be fundamentally different than games with no interaction, and thus there are limits in the external validity of bargaining games to what we think of as "negotiation" in the business or legal world. In so doing, we poke holes in the myth of the "great" male negotiator, and show that, in our setting, men perform equally well as women in the negotiation game with no gender information, while in the setting with gender information, they perform worse in the negotiation game relative to the non-communication (control) game. Moreover, having women at the negotiating table increases efficiency of negotiations.

The remainder of the paper proceeds as follows: Section 2 presents the experimental design and theoretical predictions, Section 3 shows the impact of gender information in settings with and without communication based on our quantitative and qualitative data, and Section 4 concludes.

2 Experimental Design and Data

2.1 Experimental Design

Our experiment investigates the role of gender information on negotiations, in a neutral frame and incentive compatible setting.[4] Participants played a negotiation game where the payoffs amounted to dividing $20: each participant could choose either $15 for themselves or $5 for themselves. If they "agree," meaning one chooses $15 while one chooses $5, the split is implemented; if both choose $15 or $5, each participant gets $0:

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

These payoffs mirror the payoffs from a standard "Battle of the Sexes" (hereafter BoS) game, allowing us to easily compare to a control treatment with no communication.

In the negotiation game, communication occurred via unstructured online 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 non-communication (control) game. In this game, participants simply make their choice simultaneously with their partner, after viewing the partner information sheet.

Whether or not gender information was public was randomized at the session level. In order to randomize whether participants where informed of their partner's gender or not without making it overly salient, *all* negotiating pairs were shown a partner information sheet with five apparently relevant, but actually meaningless, partner characteristics prior to making their choices.[5] When gender information was public, an additional line

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

[5] The five characteristics revealed in the partner information sheet were: if their partner (1) was left- or right-handed; (2) were an only child; (3) their month of birth; (4) could roll their tongue; and (5) had hitchhiker thumbs. This partner information sheet was shown to subjects for 15 seconds before proceeding to the "choice" window, and was also displayed in the "choice" window. This information was designed to seem potentially relevant, and plausibly related to some other research objectives, but highly unlikely to actually influence what a person would choose in the BoS game, and thus have little effect on strategic behavior.

containing their partner's gender was inserted as the first characteristic. Showing this table allowed us to give subjects their partner's gender information without cuing that the experiment was focused on gender.

Thus, we have four treatments: (1) a negotiation game with public gender information, (2) a negotiation game with no information, (3) a non-communication (control) game with public gender information, and (4) a non-communication (control) game with no information.

We note, the negotiation game with public gender information best exemplifies actual negotiations. In practice, individuals rarely negotiate without actual communication or are able to "hide" their gender. Thus, the negotiation game with public gender information provides a more realistic setting, mirroring standard negotiations.

The full experiment proceeded as follows. Subjects played eight rounds with their partner randomly assigned in each round. First, subjects played four rounds in the non-communication condition, followed by four rounds in the negotiation condition. After all eight rounds were played, subjects answered a post-survey and payment was revealed. No information about the outcomes of each round was revealed until the end to limit learning effects.[6] Subjects received a \$10 show-up fee. In addition, subjects received their earnings from a randomly selected round as bonus payment.

In the standard BoS, the control game, there are two pure strategy equilibria and a mixed strategy equilibrium. In the pure strategy equilibria, either Participant 1 chooses \$15 for themselves and Participant 2 chooses \$5 for themselves or Participant 1 chooses \$5 for themselves and Participant 2 chooses \$15 for themselves, leading to those payoffs, respectively. In the mixed strategy equilibrium, each participant chooses \$15 for themselves (i.e., their preferred choice) 75% of the time, leading to an expected payoff of \$3.75, which is a lower payoff than one would achieve choosing randomly.

We exploit the fact that these payoffs mirror a typical negotiation payoff structure to conduct our negotiation experiment with a replicable game. Like a typical negotiation, in BoS, 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).

[6] Prior to the eight game rounds, subjects played two practice rounds of the non-communication (control) game with the same payoffs against a computer to understand the game, this also minimizes in-game learning (and we control for order effects).

Moreover, there is no strong theoretical predictions for which one of the pure strategy equilibria will be selected, and thus there is scope for this ultimate outcome to depend on the strength of the communication.

2.2 Negotiation transcript coding

Our data allows us to study how partners actually negotiate verbally. To analyze the negotiation transcripts, we used 310 Amazon Mechanical Turk (MTurk) workers to classify chat transcripts according to definitions we provided.[7] MTurk workers were blind to the gender of participants and the negotiating parties' treatment (that is, whether participants were informed of gender). 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.

MTurk workers coded for both specific strategies used and negotiation style. On one side of the communication strategy spectrum, we defined two "aggressive" communication measures, *hard commitment* (strategy) and *tough talker* (style). We defined *hard commitment* as one negotiating party intransigently insisting they are choosing \$15, and refusing to entertain any discussion to the contrary. 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.[8] Some of our 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." Of course, *hard commitment* is not always effective. It can be met with countervailing "commitment" from the other partner, or may destroy goodwill in the negotiation and result in mismatch. A *tough talker* was defined as a "pushy" or "mean" negotiator that fights for the \$15 and actively tries to convince the other person

[7] 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.

[8] 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).

to choose $5, but does not necessarily lay out the "all or nothing" ultimatum implied by *hard commitment*.[9]

On the other side of the communication strategy spectrum, we defined two "yielding" communication measures which we called *offer $15* (strategy) and *friendly negotiator* (style). We defined *offer $15* as individuals who outright offer that their negotiating partner can take the higher payoff of $15, thus guaranteeing coordination but yielding a lower payoff than the average in the session. A *friendly negotiator* is a negotiator who is trying to build up-front rapport and acting friendly towards their negotiating partner."[10]

We defined several other metrics to examine the mechanisms behind paradoxical gender tailoring and the robustness of our results. Usage rates for these secondary measures can be found in Appendix Table A3.

2.3 Data and Balance

Our data comes from 21 sessions held at the Wharton Behavioral Lab during October 2016. Our participants were students across various schools and fields of study at the University of Pennsylvania. A total of 232 subjects participated in the experiment.[11] All individuals participated in both the non-communication (control) game and the negotiation game, and

[9]The specific definition given to MTurk workers for *hard commitment* and *tough talker* are as follows. *Hard commitment* 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." *Tough talker* is "when a 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.)"

[10]The specific definition given to MTurk workers for *offer $15* and *friendly negotiator* are as follows. *Offer $15* is "when a person offers $15 to the other person or offers to pick the $5 at any point in the conversation." *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."

[11]The Wharton Behavioral Lab allows researchers to choose a number of weeks to run a given experiment, and guarantees a certain minimum number of participants per week (thus, experimenters do not select the exact sample size). Based on pilot data, we determined that two weeks of data collection would provide sufficient sample, including necessary exclusions due to gender imbalance. 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.

thus the subject pool is identical. The sessions in the uninformed and informed conditions are balanced on all characteristics with the exception of being a US citizen.[12]

3 Results

3.1 Negotiation Payoffs by Gender

In our first set of results, we compare payoffs by participant gender in the negotiation game to the non-communication control game, shown in Table 1. The regressions in the first 6 columns all estimate the following equation:

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

while columns (7) and (8) add interactions with the gender information treatment. Odd columns show the raw data without controls, while even columns add controls for session timing, game order, and subject characteristics.

In columns (1) and (2), we pool the *public gender information* and *no information* treatments, and demonstrate that across the entire experiment, men perform worse relative to women in the negotiation game, compared to the non-communication (control) game. Columns (3) and (4) show the sessions with public gender information only, whereas columns (5) and (6) restrict to the no gender information sessions. This analysis demonstrates that the effect is entirely driven by the public gender information setting, which is the setting that mirrors most real-life negotiations. With public gender information, men outperform women in the non-communication (control) setting, 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. The no gender information settings also show that in this game, men have no inherent "negotiation edge" over women—both genders perform equally well at getting the \$15 payoff for themselves.

Columns (7) and (8) confirms that the difference between the information settings is

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

Table 1: Payoff by Gender and Treatment

	Dependent variable: Payoff							
	All		Public Gender Information		No Information		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 × Nego. × Informed							-2.118**	-2.224**
							(1.047)	(1.048)
Male × Informed							1.594**	1.740**
							(0.779)	(0.772)
Negotiation × 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: 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

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

statistically significant—communication does not impact payoffs for men when partner gender is unknown, while significantly decreasing payoffs when gender is known. This interaction also provides another lens through which to view the results: verbal communication in a negotiation significantly reduces the value of gender information to male participants. While men take advantage of gender information to increase payoffs in the non-communication 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.

Figure 1 sheds more light on the mechanism of the effect, showing the total payoffs for men and women in the two games, with and without gender information. Again, we can see that when there is no information about partner gender, men and women perform equally well in both the negotiation and control game. In the setting with public gender information, men outperform in the control game, but (more than) lose this advantage in the negotiation game. Payoffs are naturally higher in the game with negotiation, as coordination is increased versus the one shot game, but this reverses, rather than widens, the gender gap in payoffs.

Appendix Figure A1 shows the average payoffs received by different partner-types in each treatment to provide more details on the drivers of these results — in the public gender information condition, when there is no communication, men do better both against other men, because they act less hawkishly, and against women, as they act more hawkishly and women play more dovishly against known male partners. With negotiation, men do not have an advantage against women, and perform worse against male partners.

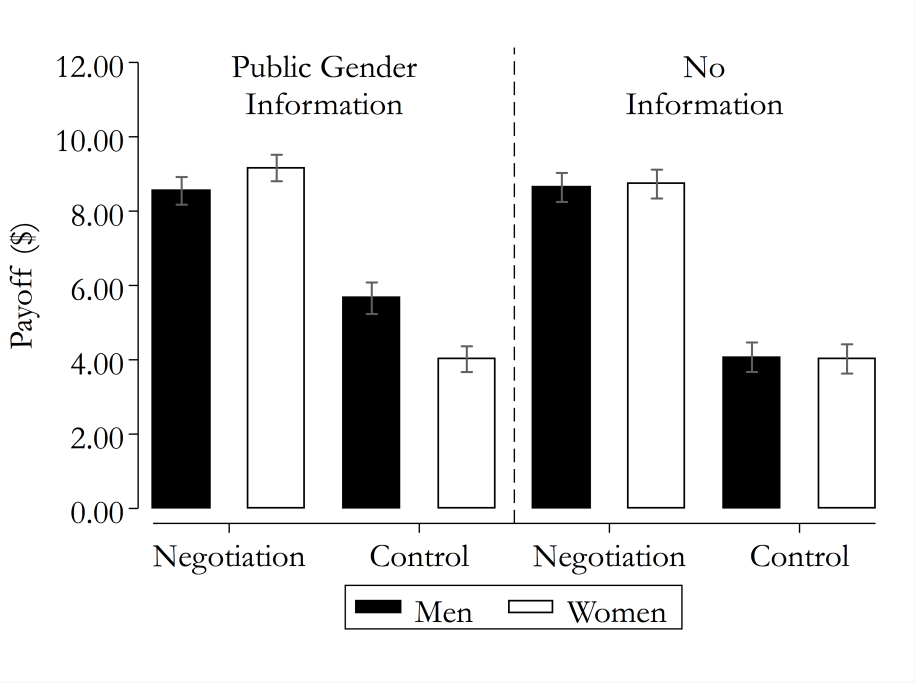
In the next section, we explore the drivers of men's apparent negotiation disadvantage, and in particular their use of gender information to tailor their strategy to their partner.

3.2 The Impact of Partner Gender

3.2.1 Tailoring of Actions by Partner Gender

In this section, we show that the driver of men's payoff reversal between the negotiation and the non-communication (control) games is men failing to tailor their play based on partner gender in the negotiation game. As shown in Table 2, when partner gender information is

Figure 1: Payoff by Treatment and Gender



Notes: Average payoff by treatment and gender.

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

public, both men and women choose $15 for themselves less often against male compared to female partners. The tailoring by men is optimal from a payoff perspective, because women choose $15 less often against male partners thus leading to increased coordination and payoffs.[13]

Table 2: Choosing $15 by Partner Gender and Treatment (Men Only)

	Dependent variable: Choosing $15			
	Public Gender Information		No Information	
	(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: 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
Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

In contrast, in the negotiation game, men's play when gender is known appears to invert from the optimal tailoring: they choose $15 for themselves more often against men, and less often against women. This reversal is marginally significant without controls, and highly significant in the regression with controls. These effects are absent in the setting with no gender information, indicating that it is men being unable to capitalize on gender information in the negotiation game that drives their negotiation disadvantage.

[13] See appendix Figure A2 for the rates of playing preferred for each condition.

3.2.2 Tailoring of Communication Strategy by Partner Gender

In this section, we demonstrate that the paradoxical tailoring of men's actions in the negotiation game is an extension of their gendered strategy within the negotiation itself.

Based on both the literature and the non-communication game, we might expect men to be more "hawkish" in their communication toward women, expecting a more "dovish" response, just as their approach to the non-communication game appears to anticipate less aggressive play by women.

However, Figure 2 shows that men's tailoring of negotiation approach goes in the opposite direction. Men are substantially less likely to use aggressive communication strategies against female compared to male partners. Figure 2 Panel A shows that men are 14.7 percentage points less likely to use *hard commitment* against known female compared to male partners. Similarly, Figure 2 Panel B shows that men are 12.6 percentage points less likely to be *tough talkers* towards female compared to male partners.[14]

This tailoring effect in aggressive behavior is strikingly large: men are 121% more likely to use *hard commitment* against known male partners compared to known female partners, and 129% more likely to be a *tough talker*. Men's tailoring in response to gender information is so strong that it eliminates the original gender effect in negotiation behavior—when men play against known female partners, they tailor their communication behavior to the point of behaving like female players. Perhaps for this reason, we find very little tailoring in women's behavior (if anything, it goes in the opposite direction, with women acting more aggressively toward other women), since, to them, male and female partners use aggressive strategies at similar rates.[15]

Likewise, we find that men are more likely to use yielding communication strategies against female compared to male partners. Figure 2 Panel C shows that men are directionally more likely to *offer $15* to a known female compared to male partner. Similarly, Figure 2 Panel D shows that men are 13.4 percentage points more likely to be *friendly*

[14] Table 3 Panel A shows that results are statistically significant at the 1% level for *hard commitment* and *tough talker*.

[15] Prior literature has shown that women are more responsive and tailor their negotiation "persistence" more than men (Bowles and Flynn, 2010). However, in our case, male and female negotiators behave very similarly when playing against known female partners, because of men's paradoxical tailoring, thus women may not need to tailor their behavior.

negotiators against known female partners compared to male partners.[16]

These findings are also supported by a subjective rating of negotiator aggressiveness by MTurk workers, where men are rated as much more aggressive toward other men than women, and a subjective measure of whether an agreement was reached at the end of the negotiation, which is much lower in male-male pairs (shown in Appendix Table A3).

One might worry that this behavior is not reflective of men's responsiveness to gender information, but rather a joint product of men's and women's behavior in the negotiation. This is where the random assignment of information provision is key. We can check that when participants are uninformed, there is no significant tailoring of men's strategies, shown in Panel B of Table 3. Moreover, in Appendix Table A2, we show that men's tailoring toward women is significantly different when informed versus uninformed for *hard commitment*, being a *tough talker*, and being a *friendly negotiator*. Only when men are informed does the decreased use of aggressive strategies and increased use of yielding strategies toward women appear.

Our results are robust to limiting to those who "hard commit" as a first action, further ruling out that it is a response to the other player's behavior, also shown in Appendix Table A3.

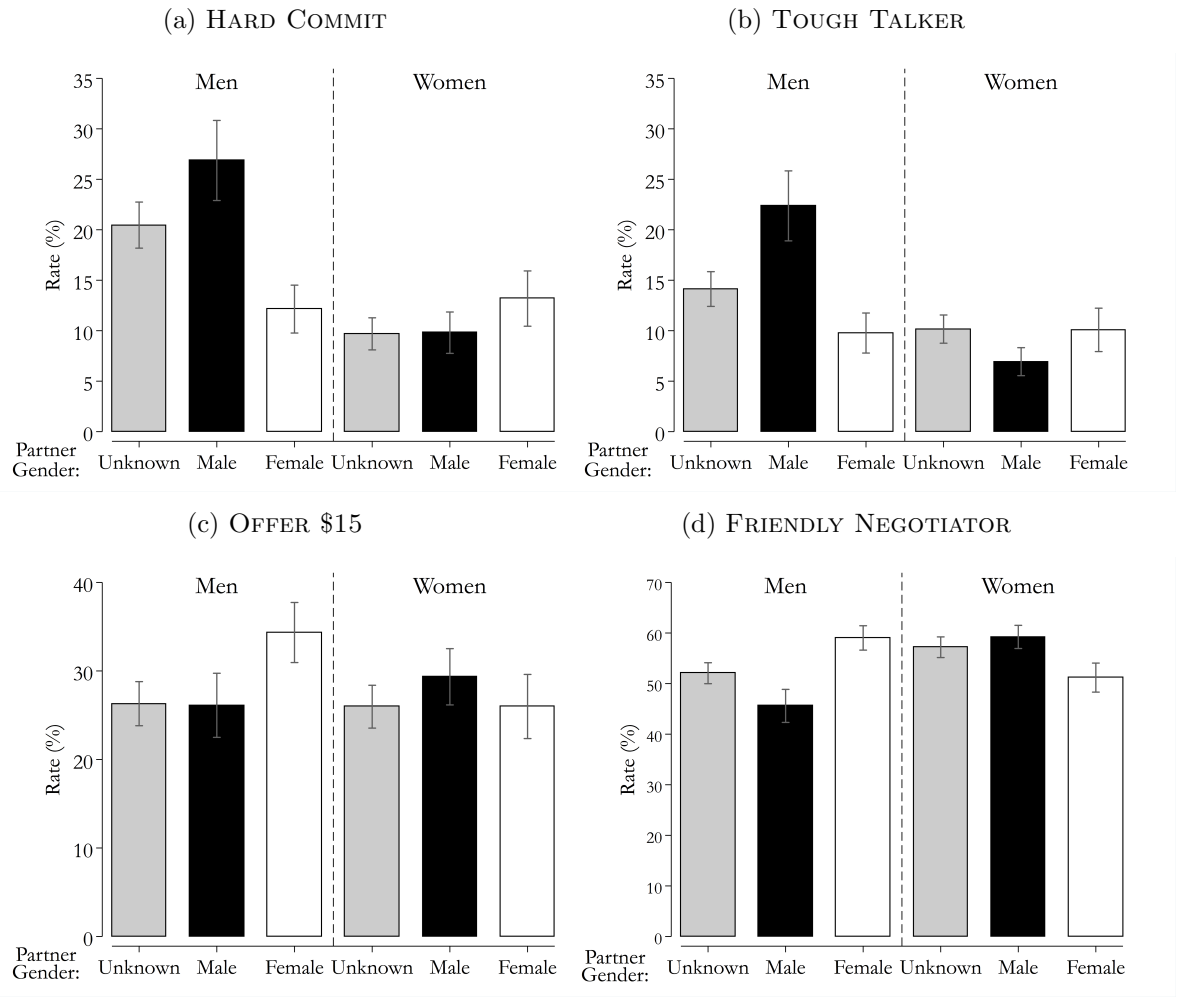
One natural explanation for this behavior is that it is the optimal strategy, based on beliefs about who is more receptive to which type of strategy. However, not only would that run counter to evidence in the literature that women are expected to be more "dovish," it also contradicts the apparent beliefs of the same men in our study, demonstrated by their play in the non-communication (control) game, as shown previously in Table 2. Moreover, in the next section, we test directly whether these approaches are "optimal" given partner's responses.

3.3 "Sub-optimal" Play

We have shown that men perform worse in a negotiation game relative to a non-communication (control) game when gender information is public. This result is partially driven by failing to tailor their actions by gender in the negotiation game, compared to the tailoring that

[16] Table 3 Panel A shows that results are directionally consistent for *offer $15* and statistically significant at the 1% level for *friendly negotiator*.

Figure 2: Use of Aggressive and Yielding Communication Strategies by Treatment and Gender



Notes: 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.

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

Table 3: Tailoring of Strategies by Gender and Partner Gender, Informed vs. Uninformed

Panel A: Informed Only

	Aggressive Strategies				**Yielding Strategies**			
Dependent variable:	Hard Commitment		Tough Talker		Offer $15		Friendly Negotiator	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Male × Partner Female	-0.181***	-0.184***	-0.157***	-0.154***	0.116*	0.099	0.215***	0.199***
	(0.055)	(0.056)	(0.052)	(0.051)	(0.067)	(0.064)	(0.053)	(0.056)
Male	0.171***	0.181***	0.154***	0.154***	-0.032	-0.035	-0.136***	-0.136***
	(0.060)	(0.063)	(0.048)	(0.047)	(0.056)	(0.053)	(0.046)	(0.049)
Partner Female	0.034	0.030	0.032	0.026	-0.034	-0.015	-0.080**	-0.067*
	(0.029)	(0.032)	(0.030)	(0.031)	(0.047)	(0.046)	(0.034)	(0.037)
Constant	0.098***	-0.065	0.069***	-0.024	0.293***	0.205	0.592***	0.695***
	(0.026)	(0.165)	(0.015)	(0.137)	(0.037)	(0.186)	(0.027)	(0.153)
Ind. Cluster	122	121	122	121	122	121	122	121
Controls		YES		YES		YES		YES
Observations	488	484	488	484	488	484	488	484
R-Squared	0.043	0.078	0.051	0.083	0.008	0.065	0.035	0.057

Panel B: Uninformed Only

	Aggressive Strategies				**Yielding Strategies**			
Dependent variable:	Hard Commitment		Tough Talker		Offer $15		Friendly Negotiator	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Male × Partner Female	-0.079	-0.081	-0.055	-0.059	0.006	-0.015	0.036	0.043
	(0.052)	(0.051)	(0.044)	(0.045)	(0.062)	(0.064)	(0.056)	(0.053)
Male	0.147***	0.127***	0.065**	0.049	-0.002	-0.005	-0.070	-0.059
	(0.048)	(0.046)	(0.032)	(0.031)	(0.057)	(0.057)	(0.049)	(0.046)
Partner Female	0.039	0.036	0.056*	0.053*	0.024	0.034	-0.006	-0.001
	(0.028)	(0.031)	(0.031)	(0.032)	(0.041)	(0.044)	(0.037)	(0.037)
Constant	0.079***	-0.135	0.076***	-0.104	0.248***	0.029	0.575***	0.621***
	(0.020)	(0.252)	(0.019)	(0.171)	(0.040)	(0.211)	(0.033)	(0.197)
Ind. Cluster	110	110	110	110	110	110	110	110
Controls		YES		YES		YES		YES
Observations	440	440	440	440	440	440	440	440
R-Squared	0.038	0.158	0.014	0.105	0.001	0.051	0.008	0.129

Notes: 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

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

has been shown both in the non-communication (control) game and the bargaining game literature. In our study, the type of game is varied *within* subject, so the same individuals are demonstrating a willingness to behave more aggressively toward known female partners in the non-communication (control) game, but drastically less aggressively toward known female partners in the negotiation game. Although this tailoring appears sub-optimal from a total payoff perspective, it is possible that the optimal tailoring approach based on gender could be different in the communication condition, where there is opportunity for interaction, versus the no communication condition, where there is just "one shot" to try to match responses. For example, women might respond negatively toward aggressive strategies when they know their partner is male, or 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 at how different communication strategies affect payoffs against male and female partners. Table 4 shows the payoff for men using our four key communication strategies against female compared to male partners. While evidence from payoffs based on communication strategy is only suggestive since results are conditional on men using the strategy, we find stark evidence that the inverse tailoring is not optimal from a payoff perspective. Aggressive communication measures appear to perform far better against female versus male partners. Columns (1) and (2) show that men using *hard commitment* against a male partner decreases payoffs by over $3, while using it against a female partner directionally increases payoffs (adding the coefficient for "Strategy" and "Strategy × Partner Female"). That is, against male partners, the benefit of "convincing" the other party more often does not appear to cancel out the negative impacts on overall cooperation of this particular aggressive strategy. Column (4) shows directionally consistent evidence that being *tough talkers* against male partners reduces payoffs, whereas this loss is canceled out when using it against female partners.

In contrast, we find that yielding communication measures perform significantly better against male partners. Table 4 columns (5) and (6) show that, naturally, *offering $15* to one's partner reduces payoffs against either gender, since it virtually guarantees the below-average $5 payoff. However, the negative payoff impact is statistically significantly much greater, by over $3, when using the strategy against female partners, since for male-male

Table 4: Payoff by Aggressive and Yielding Communication Measures and Partner Gender (Informed Men Only)

	Dependent variable: Payoff							
Communication Strategy:	**Aggressive Strategies**				**Yielding Strategies**			
	Hard Commitment		Tough Talker		Offer $15		Friendly Negotiator	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Strategy × Partner Female	4.753*	5.272*	2.818	3.266	-3.219**	-3.678**	-5.268**	-5.998**
	(2.692)	(2.916)	(2.604)	(2.933)	(1.506)	(1.577)	(2.401)	(2.415)
Strategy	-3.029*	-3.384**	-3.073	-3.553*	-3.791***	-3.309**	3.912*	4.499**
	(1.813)	(1.659)	(1.886)	(1.855)	(1.199)	(1.283)	(2.006)	(1.931)
Partner Female	0.239	0.185	0.600	0.567	2.680***	2.868***	3.847**	4.218***
	(0.754)	(0.797)	(0.803)	(0.844)	(0.988)	(1.006)	(1.521)	(1.507)
Constant	8.614***	7.975**	8.487***	7.720**	8.790***	8.314**	6.017***	4.251
	(0.642)	(3.491)	(0.636)	(3.526)	(0.827)	(3.475)	(1.191)	(3.477)
Ind. Cluster	61	61	61	61	61	61	61	61
Controls		YES		YES		YES		YES
Observations	244	244	244	244	244	244	244	244
R-Squared	0.033	0.072	0.025	0.064	0.176	0.195	0.034	0.074

Notes: 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

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

pairs usage of the strategy helps reduce mis-matching (which is much more common for these pairs). Columns (7) and (8) shows that being a *friendly negotiator* actually increases payoffs against male partners, while the interaction coefficient for using it against female partners more than cancels out this effect. That is, against male partners, something as simple as opening with a friendly greeting increases payoffs on average by almost $4, showing just how sub-optimal overly aggressive communication can be. It is also unlikely that men are making a mistake, and trying to use the best strategy from a purely payoff perspective, since men demonstrate they *are* aware of who is likely to be more or less aggressive in the no communication game.

Not only do male negotiators appear to not tailor their strategies optimally to the gender of their player, but male-male pairs leave significant value on the table due to negotiation breakdown. Table 5 show that the presence of women in the negotiation significantly improves efficiency. Having women in the negotiation, 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, shown in columns (3) and

(4) where negotiating pairs with at least one woman (female-male or female-female) earn around $3 more compared to male-male pairs. However, even in the no gender information setting, in column (5) and (6) the results are directionally consistent, indicating that men's tendency toward more aggressive communication is also associated with lower coordination in this setting. As a result, the two settings are not statistically significantly different from one another in columns (7) and (8). Nevertheless, it appears that the presence of gender information exacerbates men's aggressive tendencies toward one another. And, the fact that it is more strongly present when gender information is known, and associated with decreased payoffs, show that this is not just about the optimal deployment of "driving a hard bargain."

Table 5: Efficiency Impacts of Women in Negotiation

	Dependent variable: Payoff | Negotiation							
	All		Public Gender Information		No Information		All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Any Women	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)
Any Women × Informed							1.485	1.935
							(1.718)	(1.833)
Informed							-0.871	-1.212
							(1.592)	(1.699)
Constant	16.040***	18.129***	15.600***	14.651***	16.471***	31.807***	16.471***	18.175***
	(0.795)	(4.235)	(1.176)	(5.097)	(1.073)	(9.776)	(1.072)	(4.181)
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: 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
Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

3.4 Constrained by gender norms?

These findings show that men could likely improve their payoffs by choosing to use less aggressive strategies against male partners, and more aggressive strategies against female partners. A possible driver of this behavior could be that the communication setting carries with it social norms, which then constrain men's behavior. That is, gender norms might encourage men to be more chivalrous towards women in their communication behavior and

show bravado towards other men.

To examine whether this "constraint" view of our results has merit, we need to consider other possible explanations. We have already ruled out that this approach is driven by an optimal strategy in terms of how women respond to aggressive communication tactics. One additional possible alternative explanation is that men have a preference for giving female partners the higher payoff. In other words rather than constraining communication behavior, "chivalry" creates some kind of gender-specific altruism. This explanation for our findings is inconsistent with a number of facts, however. First, altruistic preferences toward women would not explain the inefficient outcome in male-male pairs, and the apparent "over-use" of aggressive strategies toward men. Secondly, altruism towards women appears inconsistent with men's behavior in the non-communication (control) game, where they are more hawkish toward women. In that game, since coordination increases payoffs for both players versus mismatching, it is possible that even with altruistic preferences toward women, men would want to behave more hawkishly based on their beliefs about women's actions, in order to create more coordination.[17]

Perhaps most importantly, the payoff split in the negotiation game with gender revealed is even, and matches the payoff split without gender being revealed. If men truly had altruistic preferences, then in the presence of communication, they could easily simply grant the higher payoff to women more often. However, men and women split the payoff approximately equally in the negotiation game with and without gender information, as shown in Figure A1. If it were only *some* men with altruistic preferences, and this effect was perhaps canceled out by women being worse negotiators when they encounter men without these preferences, then we would expect a less favorable split without gender information, where men could not correctly target their altruism (but women's inferior negotiating would still be active).

Finally, we see suggestive evidence that men do try to get the higher payoff for themselves against known female partners, but merely through non-confrontational means. Ap-

[17]Moreover, the difference between our results in the negotiation and non-communication (control) conditions do not come from order effects or learning. We control for game round, and find an insignificant impact of round on behavior (thus the huge switch from the non-communication (control) game to the negotiation game cannot be caused by the negotiation rounds coming later). Our results are also robust to restricting to the first period only, to limit the potential impact of previous rounds on behavior (even though payoffs are not revealed). Results available upon request.

pendix Table A3 shows that men are significantly more likely to mention their previous choices against female versus male partners. This is often used by players as a "sneaky" way to get the higher payoff, but appealing to a sense of fairness, saying they got $5 last time, and so should be allowed to take $15 this time.[18] Additionally, men are more likely to claim to be alternating as their strategy against female partners (significant at the 10% level), which could be another way to try to get them to agree to go with the lower payoff.

We thus conclude that men indeed *prefer* the higher payoff, even against female partners, but dislike using aggressive communication strategies against female partners, and "like" using these same strategies against male partners, even to the detriment of their own payoffs. This is consistent with a model of an additional social reward or punishment from complying with gender norms dictating more chivalrous behavior toward women and "tough" behavior toward men. Here, men might enjoy the "pissing match" against other male participants, similar to Niederle and Vesterlund's (2007) finding that men choose to "over-compete" due to what seems like a preference for competition itself. Moreover, they might have an aversion to feeling like they are "beating up" on female participants, in violation of gender norms. Complying with these norms comes at a cost. Although we cannot say for certain if men could do better against women if they did not choose the "paradoxical" tailoring of their approach, the "money left on the table" in male-male pairs demonstrates the cost of over-competitiveness, and potentially "toxic masculinity."

This is consistent with a body of literature showing that norms, rules, and social considerations can create an auxiliary payoff system that might over-ride payoff-optimizing behavior. For example, lab participants stopping at (meaningless) "red lights" in a timed game (Kimbrough and Vostroknutov, 2016), participants punishing 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). More broadly, it is consistent with work that shows that process, not only final payoff, can matter for individual's preferences. For example, Thaler (1985) shows that individuals might value the utility from a transaction — the process of acquiring an item — in addition to the item itself.

Here, the valuation of process is asymmetric — opposing types of behavior towards

[18] Mentioning previous choices is positively correlated with the strategy of asking for $15 directly, and negatively correlated with offering $15 at the outset.

men versus women appear to yield non-pecuniary rewards. This shows that men do not view male and female players as equivalent, and thus is linked to a type of gender inequity. Even though here the result is perhaps positive (or at least neutral) for women, such "benevolent" sexism has been shown to be linked to overall sexist beliefs (Glick and Fiske, 1996). Moreover, related work has shown that norms of what is appropriate behavior toward each gender might be sensitive to role model or leader effects, and thus could potentially flip to "hostile" sexism under the right conditions (Huang and Low, 2017).

4 Conclusion

In this paper, we use an incentivized negotiation to study the impact of gender on negotiation strategies and payoffs. Our experiment shows 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 a negotiation game. This result appears to be driven by men sub-optimally tailoring their negotiation strategy in response to partner gender.

We show that men are more aggressive toward men than women, using "hard commitments" toward male negotiating partners more than twice as often as they do with female negotiating partners. Similarly, men are more likely to use friendly or yielding strategies toward female partners than male partners. We show evidence from payoffs that men's use of aggressive and yielding strategies appear mis-paired with whom they are most effective against. This suggests that the optimal tailoring has not changed in the negotiation game. Instead, we posit that men are constrained by social norms in their communication strategy, leading them to be more chivalrous to women and "tough" toward men, at the expense of their own payoff.

While chivalrous behavior may seem innocuous, such gendered behavior might reflect underlying sexist views.[19] Importantly, the "chivalry" we show is about how women are to be treated, via the types of communication strategies used, but does not appear to reflect an underlying desire to actually give women the higher payoff, since that could be easily accomplished in the negotiation game. Moreover, a behavioral norm predicated on differ-

[19] Chivalry has been described by psychologists as "benevolent sexism," since women are still being seen differently due to their gender (Glick and Fiske, 1996).

ential treatment by gender might be sensitive to broader societal context. Huang and Low (2017) showed that immediately following the 2016 Presidential election, hostile behavior toward women strikingly increased, perhaps indicating a reduction in the "chivalrous" norm. Future research should examine how exogenously varying expected social behavior can influence gendered interactions in the short and long run.

Moreover, we find that manifestation of "toxic masculinity" in the negotiation game can lead to increasing negotiation breakdown. In our game, male-male pairs are the least efficient in the negotiation game, earning \$15.60 in joint payoffs compared to over \$18 for other pair-types (and a possible \$20 at a fully efficient equilibrium). In fact, adding a woman to a negotiation pair increases the pair's efficiency by \$2 to \$3. Given that this increase in efficiency comes without decreasing women's share of the pie, it seems in our setting, it is women who have the negotiation edge.

Our finding is consistent with prior research on gender and competitiveness that has shown that men over-compete, significantly reducing their payoffs (Niederle and Vesterlund, 2007). Our research shows that in this setting, men are able to modulate their competitive instincts in actions, choosing to be less aggressive in the non-communication (control) game against other men, and receiving a higher payoff as a result. However, when words and actions combine, men sub-optimally display aggression toward other men, reducing the size of the joint pie. This behavior could have substantial implications outside the lab. For example, toxic masculinity and over-competitiveness in trading markets may lead to over-investments in risky options, something popular press articles linked to the financial crisis.[20]

Our study indicates that the introduction of verbal communication actually advantages women relative to men. Moreover, pairs with at least one woman are more efficient overall in the negotiation. We place this in the context of the male behaviors that might generate this effect, calling into question the myth of the great male negotiator.

[20]For example, in response to a journalist's question on women's strength in times of crisis, Christine Lagarde said: "if Lehman Brothers had been Lehman Sisters," today's economic crisis clearly would look quite different." See (Dealbook, 2010; NPR, 2014).

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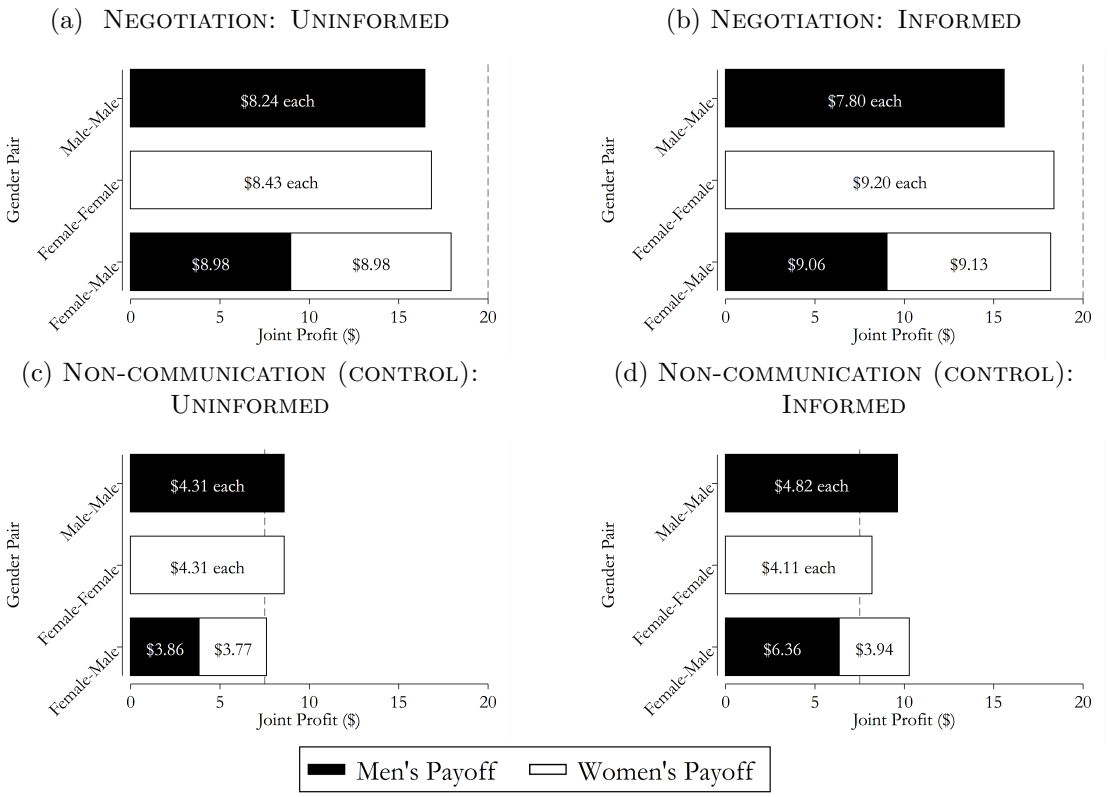
A Appendix

Table A1: Summary Statistics

	Public Gender Information	**No Information**	***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: This table presents the summary statistics of participant's characteristics. 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. When the balance test is restricted to men only, there is a marginally significant difference in being a US citizen and a native English speaker between informed and uninformed conditions. Standard deviations in parentheses.
Source: Data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

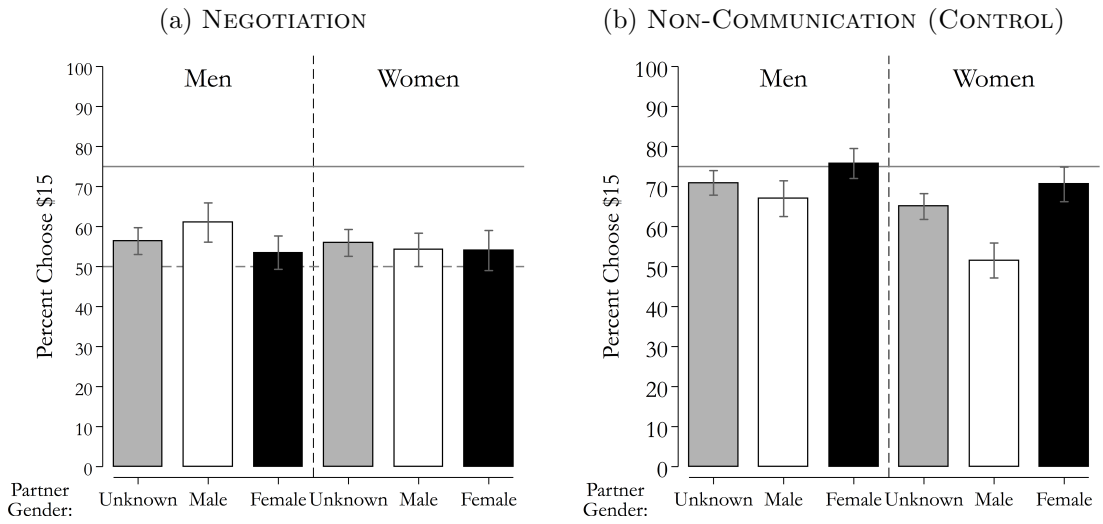
Figure A1: Joint Payoff by Treatment and Gender-Pair Type



Notes: Average joint payoff by treatment and gender-pair type. The payoff split between male and female partners is shown in mixed-gender pairs.

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

Figure A2: Choose $15 by Treatment and Gender Pair



Notes: 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.

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

Table A2: Use of Aggressive and Yielding Communication Strategies by Men, Informed versus Uninformed

	Aggressive Strategies				**Yielding Strategies**			
Dependent variable:	Hard Commitment		Tough Talker		Offer $15		Friendly Negotiator	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Partner Female × Informed	-0.107*	-0.135**	-0.127**	-0.135***	0.052	0.072	0.104*	0.114**
	(0.064)	(0.061)	(0.053)	(0.051)	(0.066)	(0.066)	(0.058)	(0.057)
Informed	0.042	0.026	0.083	0.070	0.015	0.034	-0.048	-0.032
	(0.070)	(0.081)	(0.052)	(0.061)	(0.058)	(0.055)	(0.053)	(0.055)
Partner Female	-0.040	-0.037	0.001	-0.002	0.031	0.026	0.030	0.032
	(0.043)	(0.039)	(0.032)	(0.030)	(0.046)	(0.047)	(0.042)	(0.038)
Constant	0.226***	0.209	0.141***	0.155	0.247***	0.263	0.504***	0.491***
	(0.044)	(0.241)	(0.025)	(0.194)	(0.040)	(0.203)	(0.036)	(0.179)
Ind. Cluster	116	116	116	116	116	116	116	116
Controls		YES		YES		YES		YES
Observations	464	464	464	464	464	464	464	464
R-Squared	0.027	0.116	0.027	0.083	0.010	0.059	0.026	0.084

Notes: 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

Source: Experimental data from 21 sessions held at the Wharton Behavioral Lab in October 2016.

Table A3: Other Communication Measures: Informed Sessions Only

Strategy	Definition	Percent Use Measure							
		Men				Women			
		Unknown Partner	Male Partner	Female Partner		Unknown Partner	Male Partner	Female Partner	
Hard Commit (First Mover)	This is the first person who used a hard commitment strategy.	11.86 (1.61)	15.04 (2.82)	6.84 (1.65)	**	3.64 (.96)	4.94 (1.35)	7.15 (2.04)	
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)	
Offer $15 (First Mover)	This is when a person starts the conversation (not including saying 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)	
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.	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 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 (), 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 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 .	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: Average rate men and women use these communication measures in percent. *Hard commit (first mover)* and *offer $15 (first mover)* are robustness checks to the corresponding primary measures in the main paper. *Ask $15* and *gave in* are secondary measures for aggressive and 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. Significance: *** p<0.01, ** p<0.05, * p<0.1
Source: Data from 21 sessions held at the Wharton Behavioral Lab in October 2016.