

Gender Differences in Initiation of Negotiation: Does The Gender of the Negotiation Counterpart Matter?

Karin Hederos Eriksson
Stockholm School of Economics

Anna Sandberg
Stockholm School of Economics

April 4, 2012

Abstract

In this study we investigate if and how gender differences in the propensity to initiate a negotiation are affected by the gender of the counterpart in the negotiation. We let 204 Swedish students take part in an experiment in which they have to decide whether to initiate a negotiation for higher compensation. In line with previous research we find that men are more prone than women to initiate a negotiation; 42 percent of the male participants and 28 percent of the female participants initiate a negotiation. However, the gender difference is only large and statistically significant when the negotiation counterpart is a woman. With a female negotiation counterpart the gender difference is 24 percentage points, while with a male negotiation counterpart we cannot reject the hypothesis that men and women are equally likely to initiate a negotiation. This result suggests that the gender of the negotiation counterpart should be taken into consideration when analyzing gender differences in initiation of negotiation.

Key words: gender; negotiation; experiment; dyad composition

Introduction

Women earn less than men all over the world. Even when controlling for observed differences in job and worker characteristics, a significant unexplained gender wage gap remains (Weichselbaumer and Winter-Ebmer 2005). Previous research shows that men are more prone than women to initiate a negotiation for higher compensation (Babcock et al. 2003; Babcock et al. 2006; Small et al. 2007). If employees who negotiate their wage earn more than their colleagues who accept the employer's initial offer, the gender difference in the propensity to initiate a negotiation may account for part of the unexplained gender wage gap. Recent studies show that the size of gender differences in negotiation behavior depends on the context of the negotiation (Kray and Thompson 2005; Bohnet and Bowles 2008; Kolb 2009). One contextual variable that has been largely left out in prior negotiation research is the gender composition of the negotiation dyad (Kray and Thompson 2005; Bowles and Flynn 2010). The purpose of this paper is to fill part of this research gap by investigating how gender differences in the propensity to initiate negotiations are affected by the gender composition of the negotiation dyad. We do this by conducting a negotiation experiment on 204 Swedish students. We use and modify an experimental design developed by Deborah A. Small and her colleagues (2007) in which participants play a word game in exchange for cash. After the word game each participant is, regardless of his or her performance in the word game, offered the minimum payment possible. Our dependent measure is whether the participant subsequently initiates a negotiation for higher payment. To investigate the effect of the gender of the negotiation counterpart, we extend Small et al.'s (2007) experimental design by employing several experimenters of each gender.

Previous research suggests that there exist gender differences in negotiation outcomes and behavior.¹ Despite the numerous studies on gender and negotiation, relatively few studies touch upon the propensity to initiate negotiations. Previous studies based on surveys suggest

that men are more prone than women to initiate wage negotiations (Babcock et al. 2003; Babcock et al. 2006). When investigating this in an experimental setting, Small et al. (2007) found that men are significantly more likely than women to initiate a negotiation for higher payment. Hannah Riley Bowles, Linda Babcock, and Lei Lai (2007) conducted a series of experiments to investigate gender differences in initiation of negotiation. They concluded that differential treatment of men and women when they attempt to negotiate can explain the gender difference in initiation of negotiation.

Investigating how gender differences vary with the gender composition of the negotiation dyad is especially interesting given recent developments within the area of negotiation research. The study of gender differences in negotiation behavior has gradually shifted focus from treating gender as a stable predictor of behavior, towards examining how gender differences depend on the context of the negotiation (Bohnet and Bowles 2008; Kolb 2009). For instance, the size of the gender difference in negotiation behavior has been shown to vary with situational factors such as the uncertainty of the situation (Walters, Stuhlmacher, and Meyer 1998; Bowles, Babcock, and McGinn 2005), whether participants bargain for themselves or on behalf of someone else (Bowles, Babcock, and McGinn 2005), the nature of the negotiation task (Stuhlmacher and Walters 1999) and how explicitly gender stereotypes are activated (Kray, Galinsky, and Thompson 2001). Regarding gender differences in initiation of negotiation, Small et al. (2007) showed that the framing of the negotiation opportunity is important. They found that male participants are more prone than female participants to initiate a negotiation when participants are informed that there is an opportunity to “negotiate for more”. However, this gender difference disappears when participants are instead informed that there is an opportunity to “ask for more”.

The gender composition of the negotiation dyad can be seen as an additional contextual variable that may influence the size and direction of gender differences in negotiation. It

seems particularly important to investigate the effect of this contextual variable in negotiation research since in most wage negotiations the negotiator can be assumed to know the gender of his or her negotiation counterpart. Previous experimental studies show that the gender of the opponent can influence gender differences in various types of economic behavior. For instance, in a literature review Rachel Croson and Uri Gneezy (2009) found that women's rejection rates in the ultimatum game and offers in the dictator game are more sensitive to the gender of the opponent than those of men. Furthermore, when conducting a bargaining game similar to the ultimatum game, Matthias Sutter and his colleagues (2009) found that there is more competition and retaliation within same-gender dyads compared to mixed-gender dyads. Regarding competitive behavior, experimental evidence on the effect of the gender of the opponent is mixed.²

The effect of the gender composition of the negotiation dyad has been largely left out in prior negotiation research (Kray and Thompson 2005; Bowles and Flynn 2010). There are however a few exceptions. For instance, Hannah Riley Bowles and Francis Flynn (2010) found that women persist more in negotiations when negotiating with a man than when negotiating with a woman. Laura J. Kray, Adam Galinsky, and Leigh Thompson (2001) found that when implicitly activating gender stereotypes, the relative advantage for male negotiators increases in mixed-gender dyads, but not in same-gender dyads.

Since the gender difference in various outcomes has been shown to vary with the gender composition of the dyad, it seems relevant to take the gender of the counterpart into account when investigating gender differences in the propensity to initiate negotiations. As Small et al. (2007) did not employ multiple experimenters of each gender, their experiment was not designed to test for gender composition effects. To our knowledge, the paper by Bowles, Babcock, and Lai (2007) is the only previous study examining how gender differences in the propensity to ask for higher compensation depends on the gender of the negotiation

counterpart. They conducted four experiments to investigate if differential treatment of men and women who attempt to negotiate can explain the gender difference in initiation of negotiation. They argued that initiation of negotiation is a dominant and assertive act which goes against stereotypes about how women should behave. Consequently, they hypothesized that women encounter a higher social cost than men when initiating negotiations, and that therefore women will be less prone than men to initiate negotiations. Bowles, Babcock, and Lai (2007) also hypothesized that the gender difference in social cost, and hence the gender difference in the propensity to initiate a negotiation, would be larger with a male than with a female counterpart. In their first two experiments Bowles, Babcock, and Lai (2007) let participants evaluate written descriptions of job candidates who either do or do not initiate a negotiation for higher compensation. They found that both male and female participants penalize female job candidates more than male job candidates for initiating a negotiation. In their third experiment Bowles, Babcock, and Lai (2007) let participants evaluate video recordings of job candidates. In this experiment male participants still penalize female job candidates more than male job candidates for initiating a negotiation. Female participants, on the other hand, penalize female and male job candidates equally for initiating a negotiation. In their fourth experiment, Bowles, Babcock, and Lai (2007) let participants play the role of job candidates. Participants were provided with a written job interview scenario and asked how likely they would be to ask for higher compensation. In accordance with their hypothesis, they found that men are more likely than women to ask for higher compensation when the counterpart is a man, but not when the counterpart is a woman.

Our study builds on the comprehensive work of Bowles, Babcock, and Lai (2007) and Small et al. (2007). We complement their studies by investigating how gender differences in initiation of negotiation are affected by the gender of the counterpart, using an experimental design in which we evaluate if participants initiate a negotiation for higher payment when

they meet their negotiation counterpart face to face and are free to choose their own words. We begin our study with two hypotheses. Firstly, following the results in Small et al. (2007), we hypothesize that men are more likely than women to initiate a negotiation for higher payment. Secondly, as Bowles, Babcock, and Lai (2007), we hypothesize that this gender difference is larger when the negotiation counterpart is a man.

We find that men are more prone than women to initiate a negotiation, which is in line with our first hypothesis. However, the gender difference in the study by Small et al. (2007) is three times as large as in our study. We speculate that this may be due to differences in culture and gender norms between Sweden and the United States. Also, in contradiction to our second hypothesis and the results of Bowles, Babcock, and Lai (2007), we find that the gender difference in the propensity to initiate a negotiation is statistically significant when the negotiation counterpart is a female, but not when the negotiation counterpart is a male. The fact that our results differ from those of Bowles, Babcock, and Lai (2007) might be due to differences in experimental design. We conclude that more research is needed regarding situational factors influencing how the gender composition of the negotiation dyad affects gender differences in initiation of negotiation.

Our findings suggest that gender differences in the propensity to initiate negotiations are better understood at the dyadic than at the individual level. This is in line with the stream of negotiation research showing that gender differences are not stable across contexts. Our results indicate that the gender of the negotiation counterpart is a contextual factor that should be considered when interpreting observed gender differences in negotiation behavior.

The remainder of the paper is structured as follows. In section 2 we describe our experimental design and in section 3 we present the results. In section 4 we analyze the results, highlight some theoretical and practical implications and discuss directions for future research.

Experimental Design

We employ an experimental design developed by Small et al. (2007). To test for the effect of the interaction between the gender of the participant and the gender of the experimenter, we modify Small et al.'s (2007) experimental design by using several experimenters of each gender.

Participants

A total of 204 students (107 men and 97 women) participated in the experiment in exchange for 30-100 SEK (\approx 3.75-12.50 USD). We recruited the participants at three different locations: 61 at Stockholm University, 61 at Södertörn University and 82 at Studentpalatset (a place for study for students from different universities in Stockholm). We approached the participants at public places on the respective campuses, and asked if they would like to participate in a study. The age of the participants ranged from 18 to 41, with a mean age of 24.

Experimenters

20 experimenters (10 men and 10 women) conducted the experiment on approximately 10 participants each. The experimenters were either students or recent graduates, and were unaware of the purpose of the study. Half of them were randomized to wear business attire, and half of them to wear jeans and t-shirt. The age of the experimenters ranged from 20 to 26, with a mean age of 24. We standardized the behavior of the experimenters by training them to follow a narrow script.

We made sound recordings of all negotiations enabling us to verify that the experimenters had acted according to the instructions. We hid the recording device from the participants since we did not want the recording to influence their behavior. After each experimental session, we e-mailed the participants informing them about the recording.³ In section 3.2 we

perform a sensitivity analysis excluding the observations for which the recording reveals that the experimenter did not act in accordance with the instructions.

Procedure

As a student agreed to participate in the experiment, we escorted him or her to a room where an experimenter waited. Participants were randomly assigned to a male or a female experimenter who gave the participant a word puzzle⁴ and instructed him or her to find as many words as possible in three minutes (for a translation of the instructions and a copy of the word puzzle, see Appendix 1). After three minutes, the experimenter collected the word puzzle and gave the participant the following written instructions: “You have now finished the word puzzle and will be paid between 30 and 100 SEK. Wait here while your word puzzle is being scored. When the word puzzle has been scored, you will be paid. The exact payment is negotiable⁵.” The experimenter left the participant alone with these instructions for two minutes. When two minutes had passed, the experimenter returned to the room, held out the minimum payment 30 SEK and said: “Thank you for participating. You will receive 30 SEK in compensation. Is that OK?” If the participant asked for higher payment than 30 SEK, he or she was offered more money up until the maximum payment⁶. However, if the participant accepted the offer of 30 SEK, he or she was paid only 30 SEK. A participant who asked questions or complained about the size of the payment, but never explicitly asked for higher payment, was also paid only 30 SEK. The experimenter did not give the participant any information regarding his or her performance in the word puzzle or how the exact payment was determined.

Dependent Measure

We are interested in whether a participant initiated a negotiation by asking for higher payment. Hence, the dependent variable is binary; either the participant asked for higher

payment, or he or she did not. We retrieve this variable from a questionnaire which the experimenter filled out after each participant.

Additional Measures

Our additional measures stem from two different sources. We retrieved demographic characteristics of the participants from a questionnaire which participants filled out after they had been paid. In the questionnaire we also asked participants to rate their own word puzzle performance on a five-point scale (1=much worse than the average participant, 5=much better than the average participant), to state what they believed to be the purpose of the study, and to declare whether they had heard about the experiment prior to participating. The experimenters' age, the number of words that each participant found in the word puzzle, and the location of each experimental session were noted by us.

Results

Descriptive Statistics

Out of a total of 204 observations, we dropped two.⁷ The remaining sample thus consists of 202 observations (106 men and 96 women). We present the descriptive statistics in Table 1. We define the variable *participant word puzzle performance* as the number of words a participant found in the word puzzle. On average, male participants found one word less than female participants (16.4 as compared to 17.4 words). However, we cannot reject the null hypothesis that male and female participants found equally many words ($p=0.239$, double sided t-test), neither can we reject the null hypothesis of equal variance ($p=0.123$, double sided F-test). The variable *participant perceived performance* denotes the participant's own rating of his or her performance on a five-point scale. For male participants average perceived performance is 3.1, and for female participants it is 2.9. The gender difference in perceived performance is significant at the 10 percent level ($p=0.096$, double sided t-test). We can however not reject the null hypothesis of equal variance ($p=0.132$, double sided F-test). The

variable *initiation of negotiation* takes on the value 1 if a participant initiated a negotiation, and 0 otherwise. The gender difference in this variable is analyzed in the following sections.

Table 1
Descriptive Statistics

Variable	All			Men			Women		
	Mean	Std	N	Mean	Std	N	Mean	Std	N
Experimenter age	24.10	1.48	20	24.10	1.29	10	24.10	1.73	10
Participant age	24.11	3.84	202	24.45	4.19	106	23.74	3.39	96
Participant word puzzle performance	16.87	6.25	202	16.38	5.77	106	17.42	6.73	96
Participant perceived performance	2.96	0.82	199	3.06	0.87	103	2.86	0.75	96
Initiation of negotiation	0.356	0.480	202	0.425	0.497	106	0.281	0.452	96

Note: The gender specific descriptive statistics of “Experimenter age” are presented by the gender of the experimenter. All other gender specific descriptive statistics are presented by the gender of the participant.

Main Results

In total, 35.6 percent of the participants initiated a negotiation. As shown in Table 1 and Figure 1, 28.1 percent of the female participants initiated a negotiation, compared to 42.5 percent of the male participants. The gender difference of 14 percentage points is statistically significant ($\chi^2(1)=4.508$, $p=0.034$). We thus conclude that male participants are 1.5 times more likely than female participants to initiate a negotiation.

[Figure 1 about here]

In Figure 2, we present the results by the gender of the experimenter. With a female experimenter, 22.7 percent of the female participants initiated a negotiation, to be compared to 46.4 percent of the male participants. This gender difference is 24 percentage points and statistically significant ($\chi^2(1)=6.008$, $p=0.014$). With a male experimenter, 32.7 percent of the female participants, and 38.0 percent of the male participants, initiated a negotiation. This gender difference of 5 percentage points is not statistically significant ($\chi^2(1)=0.314$, $p=0.575$).

We conclude that with a female experimenter, men are twice as likely as women to initiate a negotiation. However, with a male experimenter, we cannot reject the null hypothesis that men and women are equally likely to initiate a negotiation.⁸ The proportion of participants who initiated a negotiation in the four different dyad compositions is presented in Table 2.

[Figure 2 about here]

	Female experimenter	Male experimenter	Total
Female participant	22.7% (10/44)	32.7% (17/52)	28.1% (27/96)
Male participant	46.4% (26/56)	38.0% (19/50)	42.5% (45/106)
Total	36.0% (36/100)	35.3% (36/102)	35.6% (72/202)

Note: The numbers in the parentheses indicate the number of initiated negotiations divided by the number of observations.

To investigate whether the observed gender differences remain when we control for *participant age*, *participant word puzzle performance* and the *location* of the experimental session, we estimate OLS regression models. The dependent variable is whether the participant initiated a negotiation or not. We present the results from these regressions in Table 3.⁹

Table 3
OLS regression model for Initiation of Negotiation

Variable	Model (1)	Model (2)	Model (3)	Model (4)
Female participant	-0.143 (0.067)** (0.054)**	-0.136 (0.066)** (0.056)**	-0.136 (0.066)** (0.056)**	-0.034 (0.092) (0.084)
Female experimenter			-0.007 (0.065) (0.039)	0.090 (0.094) (0.062)
Female participant*Female Experimenter				-0.206 (0.129) (0.096)**
Participant age		0.029 (0.009)*** (0.011)**	0.029 (0.009)*** (0.011)**	0.030 (0.009)*** (0.011)**
Participant word puzzle performance		0.009 (0.005)* (0.004)**	0.009 (0.005)* (0.004)**	0.009 (0.005)* (0.004)*
Constant	0.425 (0.048)*** (0.039)***	-0.475 (0.246)* (0.266)*	-0.472 (0.246)* (0.259)*	-0.544 (0.243)** (0.261)*
Controls for location	No	Yes	Yes	Yes
Observations	202	202	202	202
R-squared	0.022	0.101	0.102	0.113

Note: The dependent variable takes on the value 1 if a participant initiated a negotiation and 0 otherwise. The upper parentheses show robust standard errors, and the lower parentheses show standard errors clustered on experimenters.

*** p<0.01; ** p<0.05; * p<0.1.

Table 4
Test of sums of coefficients from model (4)

	F-statistic	p-value
Female participant + Female participant*Female Experimenter = 0	F(1,194)=6.82 F(1,19)=23.29	0.0097 0.0001
Female experimenter + Female participant*Female Experimenter = 0	F(1,194)=1.70 F(1,19)=3.68	0.1942 0.0703

Note: The 1st and 3rd rows show test results using robust standard errors, while the 2nd and 4th rows show test results using standard errors clustered on experimenters.

Comparing models (1) and (2), we see that when we control for *participant age*, *participant word puzzle performance* and the *location* of the experimental session, the gender difference in the propensity to initiate a negotiation is still large (13.6 percentage points), and significant at the 5 percent level ($p=0.040$). Model (3) differs from model (2) in that we add a dummy for *female experimenter*. The coefficient of *female experimenter* is small and statistically insignificant ($p=0.915$), indicating that, on average, participants are neither more nor less prone to initiate a negotiation when the experimenter is a woman, than when the experimenter is a man. As expected given the randomization of participants to experimenters, the addition of *female experimenter* does not affect the gender difference in the propensity to initiate a negotiation. Finally, in model (4), we add an interaction term between *female participant* and *female experimenter*. The inclusion of this interaction term allows us to compare the gender difference in the propensity to initiate a negotiation when the experimenter is a man, to the gender difference when the experimenter is a woman. The regression coefficient of *female participant* in model (4) gives us the gender difference in the propensity to initiate a negotiation when the experimenter is a man. The gender difference of 3.4 percentage points is statistically insignificant ($p=0.712$). To test whether the gender difference is statistically significant when the experimenter is a woman, we test whether the sum of the regression coefficients of *female participant* and the interaction term between *female participant* and *female experimenter* is statistically significant. This gender difference is 24.0 percentage points and, as shown by the test in Table 4, significant at the 1 percent level ($p=0.0097$). Thus we conclude that when we control for *participant age*, *participant word puzzle performance* and *location*, male participants are significantly more likely than female participants to initiate a negotiation when the experimenter is a female, but not when the experimenter is a male.¹⁰

The coefficient of the interaction term between *female participant* and *female experimenter* shows that the gender difference in the propensity to initiate a negotiation is 20.6 percentage points higher when the experimenter is a female than when the experimenter is a male. When we do not cluster the standard errors on experimenter, the difference in the gender difference between the two conditions (female or male experimenter) is not statistically significant ($p=0.113$). However, when we cluster the standard errors, the coefficient of the interaction term is significant at the 5 percent level ($p=0.045$). Moreover, when we run a logit model instead of an OLS model, the coefficient of the interaction term is significant at the 10 percent level ($p=0.054$). The change in the significance level of the interaction term is the only important difference between the results from the OLS model and those from the logit model.

We also rerun the regressions in Table 3, adding a dummy indicating whether the experimenter was dressed in business attire. The coefficient of this variable is statistically insignificant in all specifications, indicating that, on average, a participant's propensity to initiate a negotiation is not affected by whether the experimenter wears business attire.

Robustness Checks

To evaluate the robustness of the results we rerun the regressions omitting different groups of observations. First we exclude four observations for which the sound recordings reveal that the experimenters departed from the instructions.¹¹ Then we exclude five participants who stated in the participant questionnaire that they had heard about the experiment before participating, suggesting that they might have received useful hints on how to obtain a high compensation. Finally we remove five participants who reported in the participant questionnaire that they thought that the purpose of the experiment was related to negotiation and gender. The results are robust both when we exclude the three groups of observations one by one, and when we remove them simultaneously.¹²

The Influence of Participants' Perceived Performance

To investigate whether gender differences in confidence can explain part of the gender difference in the propensity to initiate a negotiation, we rerun models (2), (3) and (4) including participants' perceived performance as explanatory variable. We present the results from these OLS regression models¹³ in Table 5.

Table 5
OLS regression model for Initiation of Negotiation

Variable	Model (5)	Model (6)	Model (7)
Female participant	-0.089 (0.063) (0.057)	-0.089 (0.063) (0.057)	0.018 (0.083) (0.074)
Female experimenter		-0.008 (0.061) (0.037)	0.096 (0.090) (0.066)
Female participant*Female Experimenter			-0.216 (0.121)* (0.098)**
Participant age	0.030 (0.010)*** (0.011)**	0.031 (0.010)*** (0.011)**	0.032 (0.010)*** (0.011)***
Participant word puzzle performance	-0.001 (0.006) (0.005)	-0.001 (0.006) (0.005)	-0.002 (0.006) (0.005)
Participant perceived performance	0.224 (0.037)*** (0.024)***	0.224 (0.037)*** (0.024)***	0.225 (0.037)*** (0.024)***
Constant	-1.022 (0.242)*** (0.249)***	-1.018 (0.244)*** (0.244)***	-1.106 (0.243)*** (0.246)***
Controls for location	Yes	Yes	Yes
Observations	199	199	199
R-squared	0.225	0.225	0.237

Note: The dependent variable takes on the value 1 if a participant initiated a negotiation and 0 otherwise. The upper parentheses show robust standard errors, and the lower parentheses show standard errors clustered on experimenters.

*** p<0.01; ** p<0.05; * p<0.1.

Table 6
Test of sums of coefficients from model (7)

	F-statistic	p-value
Female participant + Female participant*Female Experimenter = 0	F(1,190)= 4.81 F(1,19)= 9.57	0.0296 0.0060
Female experimenter + Female participant*Female Experimenter = 0	F(1,190)=2.22 F(1,19)=4.55	0.1375 0.0462

Note: The 1st and 3rd rows show test results using robust standard errors, while the 2nd and 4th rows show test results using standard errors clustered on experimenters.

Comparing the results from models (5) and (6) to those from models (2) and (3), we see that the inclusion of *participant perceived performance* reduces the gender difference in the propensity to initiate a negotiation by about a third from 13.6 to 8.9 percentage points and renders it statistically insignificant ($p=0.158$ in model (5) and $p=0.156$ in model (6).) The coefficient of *female participant* in model (7) gives us the gender difference in the propensity to initiate a negotiation when the experimenter is a man. As in model (4), this coefficient is small and statistically insignificant ($p=0.288$). To test whether the gender difference is statistically significant when the experimenter is a woman, we test whether the sum of the regression coefficients of *female participant* and the interaction term between *female participant* and *female experimenter* is statistically significant. As in model (4), the gender difference is still statistically significant ($p=0.030$, see Table 6), but it is reduced from 24.0 to 19.8 percentage points. These results suggest that one partial explanation for the observed gender difference in the propensity to initiate a negotiation is that men rate their own word puzzle performance higher than women do. However, the variable *participant perceived performance* is problematic since we did not ask the participants to rate their performance until after they had been paid. If participants believed that the payment reflected their word puzzle performance, we have a problem of reverse causality. That is, we do not know whether a higher perceived performance increased participants' probability to initiate a negotiation, or if the initiation of negotiation, leading to a higher payment, gave participants reason to report a higher perceived performance.

Discussion

The finding that men are more likely than women to initiate a negotiation is in line with our first hypothesis and contributes to the literature on gender and negotiation by verifying the findings of previous studies. Nevertheless, the estimated gender difference in Small et al.'s (2007) study is substantially larger than in our study. We find that men are 1.5 times more likely than women to initiate a negotiation, while Small et al. (2007), using the same experimental setting, found that men are 3.5 times more likely than women to initiate a negotiation. One potential explanation for this is that Sweden is a more gender equal country than the United States.¹⁴ However the evidence of the effects of culture on gender differences in economic behavior is mixed.¹⁵

Furthermore, our findings suggest that the gender of the negotiation counterpart is a crucial factor for the gender gap in the propensity to initiate a negotiation. Thus, we argue that gender differences in initiation of negotiation should be analyzed at the dyadic rather than at the individual level. This is clearly in line with the growing literature on how gender differences in economic behavior vary across contexts. Previous negotiation research has pointed to the importance of taking situational factors such as the situational ambiguity, the salience of gender stereotypes and the nature of the negotiation task into consideration. Our results indicate that the gender of the negotiation counterpart is an additional situational factor that needs to be considered, and it further illustrates the importance of viewing gender differences in negotiations as contextual.

However, the direction of the effect of the gender of the counterpart does not support our second hypothesis. In line with Bowles, Babcock, and Lai (2007), we hypothesized that the gender difference would be larger with a male than with a female counterpart. Our results show a gender composition effect in the opposite direction; the gender difference is large and statistically significant when the negotiation counterpart is a female, but not when the

negotiation counterpart is a male. The difference between our results and those of Bowles, Babcock, and Lai (2007) might be due to the differences in experimental design. For instance, we evaluate if participants initiate a negotiation when they meet their negotiation counterpart face to face. In contrast, Bowles, Babcock, and Lai (2007) gave participants a written job interview scenario and let them rate how likely they would be to initiate a negotiation. Also, we let participants choose their own words, while Bowles, Babcock, and Lai (2007) asked participants to choose between two specific scripts. Furthermore, our studies differ in how we manipulate the status difference between the participant and the negotiation counterpart. Bowles, Babcock, and Lai (2007) instructed participants to picture that they were applying for a more qualified position within their organization, and that they were about to be interviewed by a senior manager. In our experiment, the instructions do not put any label neither on the role of participants nor on the role of the experimenter. The fact that we did not label the roles, and the proximity in age between participants and experimenters, may suggest that our participants perceived the experimenter as a peer. On the other hand, the experimenters instructed the participants what to do, evaluated them and controlled their payment. Thus, it is also possible that participants perceived themselves as having less power than the experimenter. To understand gender differences in initiation of negotiation, it seems relevant to take into account not only the gender composition of the negotiation dyad but also other status and power differences within the dyad. Joe C. Magee, Adam D. Galinsky, and Deborah H. Gruenfeld (2007) found that power priming increases an individual's propensity to initiate a negotiation. Also, Small et al. (2007) found that among female participants, those primed with power find the prospect of negotiating less intimidating than those not primed with power. In future research, it would be interesting to investigate how the gender composition of the negotiation dyad interacts with other status and power differences between negotiators to influence gender differences in the propensity to initiate negotiations.

The female participants in our study show a tendency (albeit in most specifications not statistically significant) to be more prone to initiate a negotiation with a male than with a female experimenter. Bowles and Flynn (2010) offer an explanation for this tendency. They conducted two experiments to investigate how gender differences in persistence in negotiation vary with the gender of the negotiation counterpart, and found that women are more persistent with male than with female negotiation counterparts. They argue that this pattern emerges because women expect male and female counterparts to behave differently in the negotiation. Women expect male negotiation counterparts to act competitively, and female counterparts to act cooperatively. Therefore, to avoid being exploited, women persist more when facing a male than a female counterpart.

When we add controls for participant age and performance in the word puzzle, the estimated effect of participant gender is robust. When we also control for perceived performance in the word puzzle, the estimated gender effect decreases with about one third and is no longer statistically significant. This finding is not in line with the results of Small et al. (2007) who did not find that the gender difference decreased when controlling for participant perceived performance. It is however in accordance with the results of Muriel Niederle and Lise Vesterlund (2007) who found that about one third of the gender gap in competitiveness can be attributed to men being more confident than women. Our finding regarding the effect of perceived performance on gender differences in negotiation should be interpreted with caution since participants assessed their performance in the word puzzle after they had been paid, which may cause a problem of reverse causality. One interesting avenue for future research is thus to design an experiment to investigate the effect of perceived performance on gender differences in initiation of negotiation, and whether performance feedback reduces this effect.

Our results have some theoretical implications to consider when interpreting experimental data and designing new experiments. In particular, our findings suggest that observed gender differences should not necessarily be interpreted as stable behavioral differences between men and women. The gender composition of participants should be considered, and when possible compared to similar studies. Furthermore, in experiments with a high level of interaction between experimenter and participant, it might be advisable to include experimenters of both genders. Otherwise, observed gender differences may be contingent on the gender of the experimenter.

The practical implications of research on gender differences in the propensity to initiate negotiations depend on how negotiations are related to wage and promotion. Due to data availability issues, empirical evidence on the link between negotiation and labor market outcomes is scarce. One exception is a study by Jenny Säve-Söderbergh (2007). Using unique data from a survey of Swedish university graduates, she found that there is no gender difference in the propensity to apply for a job requiring individual wage bargaining, but that women submit lower wage bids and are offered lower wages than men. Another exception is Fiona Greig's (2008) study on whether gender differences in the propensity to initiate negotiations can explain why women are underrepresented in senior positions. Running an experiment at a US investment bank she found that female employees have a lower propensity to initiate a negotiation than their male colleagues and that the propensity to negotiate is correlated with rate of advancement. More field studies are clearly needed on the link between gender differences in initiation of negotiation and gender differences in labor market outcomes.

Since we conduct a laboratory experiment, we must be cautious in generalizing our results to other settings. The negotiation situation we created differs from negotiations in the labor market in several aspects. For instance, our participants first played the word puzzle, and then

they had the possibility to negotiate. In contrast, many wage negotiations, especially negotiations over starting salaries, are related to future rather than past performance. Thus, an interesting avenue for further research is to see if our results hold if the negotiation is related to compensation for future performance. Moreover, we standardized the behavior of all experimenters in order to isolate the effect of the gender of the experimenter. However, previous research suggests that negotiation behavior differs between men and women (Kray and Thompson 2005), and that male and female leaders employ different leadership styles (Eagly, Johannesen-Schmidt, and van Engen 2003). This implies that the standardized behavior of our experimenters may be inconsistent with behavioral differences between male and female managers in wage negotiations. More field studies investigating gender differences in the behavior of managers and employees in wage negotiations would therefore be of great interest. Field studies could also advance the research on gender differences in initiation of negotiation by studying settings in which the manager and the employee meet regularly, the employees have some insight into their performance and the negotiation involves substantial monetary incentives.

Notes

We would like to thank the Jan Wallander and Tom Hedelius Foundation for funding the experiment. We are also grateful for valuable comments and suggestions from one anonymous reviewer, Anna Dreber, Tore Ellingsen, Emma von Essen, Juanna Joensen, Magnus Johannesson, Eva Ranehill, Rickard Sandberg, and Robert Östling.

¹ Men often achieve better economic outcomes than women in negotiation experiments (Stuhlmacher and Walters 1999; Kray and Thompson 2005). Men also tend to negotiate in a more competitive style, set higher goals for themselves and expect to perform better in negotiations (Walters, Stuhlmacher, and Meyer 1998; Kray and Thompson 2005).

² Some studies find that men compete more against men, or that women compete more against women (Gneezy, Niederle, and Rustichini 2003; Datta Gupta, Poulsen, and Villevall 2005). Uri Gneezy and Aldo Rustichini (2004), on the other hand, find that girls perform better when competing against a boy than against another girl while the performance of boys is not affected by the gender of the opponent. Anna Dreber, Emma von Essen, and Eva Ranehill (2011) find that neither the competitiveness of boys nor that of girls is influenced by the gender of the opponent while Juan-Camilo Cárdenas and his colleagues (forthcoming) find that the effect of the gender of the opponent varies between different countries and tasks.

³ We specified in the e-mail that participants could contact us if they wanted us to erase the recording without listening to it. Four participants asked us to do this. Furthermore, fifteen participants did not leave a valid e-mail address. Since we could not inform those participants about the recording, we did not listen to those recordings either. Finally, we lack seven recordings because of technical failures. In total, we thus listened to 178 out of 204 negotiations.

⁴ We employ a slightly different task than Small et al. (2007). They used the word game Boggle which is less well known in Sweden than in the United States. We employ a word puzzle in order to use a task as similar as possible to Boggle, but familiar to the participants of our study.

⁵ We choose to employ a framing in which participants are informed that there is an opportunity to *negotiate*, and not an opportunity to *ask*, because we believe that the former term is more frequently used in the context of real wage negotiations.

⁶ To prevent rumors about how to obtain a high payment, we did not use the same maximum payment for all participants. Instead, the highest possible payment for each participant was randomly assigned to be between 60 and 100 SEK, an amount that was never revealed to the participant.

⁷ We dropped one observation because the participant misunderstood the instructions, and one because the experimenter and the participant knew each other.

⁸ The results can also be analyzed for each participant gender separately. Both men and women seem to be more prone to initiate a negotiation with an experimenter of the opposite gender. However the difference in the proportion of participants who initiated a negotiation between the two conditions (female or male experimenter) is not statistically significant, neither for female ($\chi^2(1)=1.171$ $p=0.279$) nor for male ($\chi^2(1)=0.077$ $p=0.381$) participants.

⁹ In the tables, we report two standard errors for each estimated coefficient: one that is not clustered, and one that is clustered on experimenter to account for potential correlation between observations with the same experimenter. The reason we report both standard errors is that clustering on experimenter may be problematic since we only have 20 experimenters and cluster-robust standard errors are unreliable when the number of clusters is small (Angrist and Pischke 2009). Unless otherwise stated, the p-values and significance levels reported in the text are based on the standard errors that are not clustered on experimenter.

¹⁰ The results from model (4) can also be analyzed for each participant gender separately. The difference in the proportion of participants who initiated a negotiation between the two conditions (female or male experimenter) is not statistically significant, neither for female ($p=0.194$, see test in Table 4) nor for male participants ($p=0.340$). However, when the standard errors are clustered on experimenter, the difference in the proportion of participants who initiated a negotiation between the two conditions is statistically significant for female participants ($p=0.070$, see test in Table 4) but not for male participants ($p=0.164$).

¹¹ Since we only have access to recordings from 178 out of 202 observations, there may exist undetected experimenter mistakes. However, since the experimenters departed from the instructions in only four out of 178 recordings, we have reason to believe that the number of undetected experimenter mistakes is very small.

¹² In all robustness checks, the coefficient of *female participant* in models (1), (2), and (3) is statistically significant and its magnitude is similar to that in Table 3. Also, the gender difference in the propensity to initiate a negotiation is small and insignificant when the experimenter is a man. When the experimenter is a woman, the gender difference is statistically significant and similar to that presented in Table 3. The only notable difference between the results in Table 3 and those of the robustness checks is that the coefficient of the interaction term is

statistically significant at the 10 percent level in the robustness checks (except when we exclude only the participants that had heard about the experiment before participating).

¹³ The results do not change when we run logit models instead of OLS models.

¹⁴ In the Global Gender Gap Report 2010 (Hausmann, Tyson, and Zahidi 2010) Sweden ranked fourth, and the United States 19th.

¹⁵ See for instance Cárdenas et al. (forthcoming) for a discussion on the mixed evidence on the effect of culture on gender differences in competitiveness and risk preferences among children.

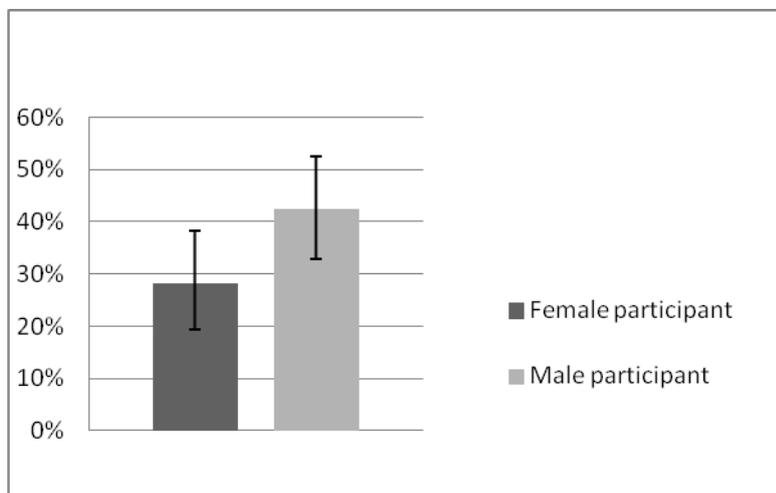
References

- Angrist, J.D. and J.S. Pischke. 2009. *Mostly harmless econometrics: An empiricist's companion*. Princeton, NJ: Princeton University Press.
- Babcock, L., M. Gelfand, D. Small, and H. Stayn. 2006. Gender differences in the propensity to initiate negotiations. In *Social psychology and economics*, edited by D. De Cremer, M. Zeelenberg, and J.K. Murnighan. Mahwah, NJ: Lawrence Erlbaum.
- Babcock, L., S. Laschever, M. Gelfand, and D. Small. 2003. Nice girls don't ask. *Harvard Business Review* 81(10): 14-15.
- Bohnet, I. and H.R. Bowles. 2008. Special section: Gender in negotiation (introduction). *Negotiation Journal* 24(4): 389-392.
- Bowles, H.R., L. Babcock, and L. Lai. 2007. Social incentives for gender differences in the propensity to initiate negotiations: Sometimes it does hurt to ask. *Organizational Behavior and Human Decision Processes* 103(1): 84-103.
- Bowles, H.R., L. Babcock, and K.L. McGinn. 2005. Constraints and triggers: Situational mechanics of gender in negotiation. *Journal of Personality and Social Psychology* 89(6): 951-965.
- Bowles, H.R. and F. Flynn. 2010. Gender and persistence in negotiation: A dyadic perspective. *Academy of Management Journal* 53(4): 769-787.
- Cárdenas, J.C., A. Dreber, E. von Essen, and E. Ranehill. Gender differences in competitiveness and risk taking: Comparing children in Colombia and Sweden. *Journal of Economic Behavior and Organization*. Forthcoming.
- Croson, R. and U. Gneezy. 2009. Gender differences in preferences. *Journal of Economic Literature* 47(2): 1-27.
- Datta Gupta, N., A. Poulsen, and M.C. Villeval. 2005. *Male and female competitive behavior – experimental evidence*. IZA Discussion Paper, No. 1833.
- Dreber, A., E. von Essen, and E. Ranehill. 2011. Outrunning the gender gap: Boys and girls compete equally. *Experimental Economics* 14(4), 567-582.
- Eagly, A. H., M.C. Johannesen-Schmidt, and M.L. van Engen. 2003. Transformational, Transactional, and Laissez-Faire Leadership Styles: A Meta-Analysis Comparing Women and Men. *Psychological Bulletin* 129(4): 569-591.
- Gneezy, U., M. Niederle, and A. Rustichini. 2003. Performance in competitive environments: Gender differences. *Quarterly Journal of Economics* 118(3): 1049-1074.
- Gneezy, U. and A. Rustichini. 2004. Gender and competition at a young age. *American Economic Review Papers and Proceedings* 94(2): 377-381.

- Greig, F. 2008. Propensity to negotiate and career advancement: Evidence from an investment bank that women are on a “slow elevator”. *Negotiation Journal* 24(4): 495-508.
- Hausmann, R., L.D. Tyson, and S. Zahidi. 2010. *The global gender gap report 2010*. Geneva: World Economic Forum.
- Kolb, D.M. 2009. Too bad for the women or does it have to be? Gender and negotiation research over the past twenty-five years. *Negotiation Journal* 25(4): 515-531.
- Kray, L.J., A. Galinsky, and L. Thompson. 2001. Battle of the sexes: Gender stereotype confirmation and reactance in negotiations. *Journal of Personality and Social Psychology* 80(6): 942-958.
- Kray, L.J. and L. Thompson. 2005. Gender stereotypes and negotiation performance: An examination of theory and research. In *Research in Organizational Behavior* 26, edited by B.M. Staw and R.M. Kramer. Greenwich, CT: JAI Press.
- Magee, J.C., A.D. Galinsky, and D.H. Gruenfeld. 2007. Power, propensity to negotiate, and moving first in competitive interactions. *Personality and Social Psychology Bulletin* 33(2): 200-212.
- Niederle, M. and L. Vesterlund. 2007. Do women shy away from competition? Do men compete too much? *Quarterly Journal of Economics* 122(3): 1067-1101.
- Small, D., M. Gelfand, L. Babcock, and H. Gettman. 2007. Who goes to the bargaining table? The influence of gender and framing on the initiation of negotiation. *Journal of Personality and Social Psychology* 93(4): 600-613.
- Stuhlmacher, A.F. and A.E. Walters. 1999. Gender differences in negotiation outcome: A meta-analysis. *Personnel Psychology* 52(3): 653-677.
- Sutter, M., R. Bosman, M. Kocher, and F. van Winden. 2009. Gender pairing and bargaining - Beware the same sex! *Experimental Economics* 12(3): 318-331.
- Säve-Söderbergh, J. 2007. *Are women asking for low wages? Gender differences in competitive bargaining strategies and ensuing bargaining success*. Working Paper 2007:07, Swedish Institute for Social Research (SOFI), Stockholm University.
- Walters, A.E., A.F. Stuhlmacher, and L.L. Meyer. 1998. Gender and negotiator competitiveness: A meta-analysis. *Organizational Behavior and Human Decision Processes* 76(1): 1-29.
- Weichselbaumer, D. and R. Winter-Ebmer. 2005. A meta-analysis on the international gender wage gap. *Journal of Economic Surveys* 19(3): 479-511.

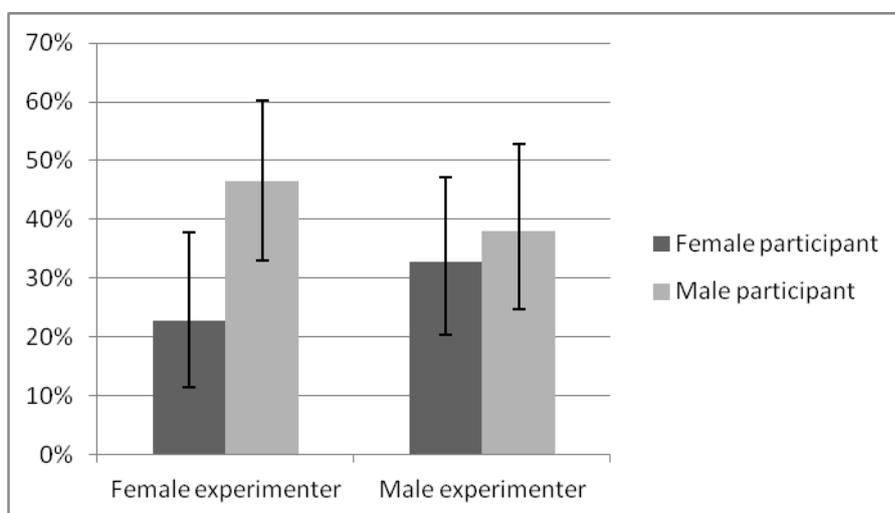
Figures

Figure 1: Proportion of participants who initiated a negotiation.



The 95% confidence interval is based on the binomial distribution.

Figure 2: Proportion of participants who initiated a negotiation by the gender of the experimenter.



The 95% confidence interval is based on the binomial distribution.

Appendix 1: Instructions and word puzzle

Appendix 1.A: Instructions

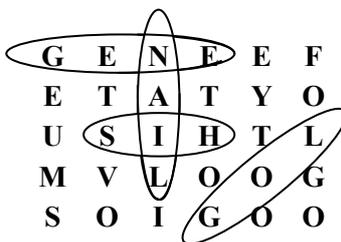
Welcome and thank you for participating in this study. The study will take approximately 15 minutes and your task is to find words in a word puzzle.

INSTRUCTIONS

1) Read the following description of the word puzzle:

The objective is to find as many words as possible. You can form words from adjoining letters in any direction: horizontally, vertically, diagonally, and forwards and backwards. Please circle the words you find and list them below the word puzzle.

Example:



WORDS:

gene _____
nail _____
his _____
log _____

2) A word puzzle is enclosed in this envelope. Once you have understood what to do, open the envelope and start searching for words. You will have 3 minutes to find as many words as possible. Please do not forget to list all the words you find below the word puzzle.

