

# Information, Confidence, and The Gender Gap in Bargaining

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Women are more reluctant than men to bargain (Exley, Niederle and Vesterlund, 2019; Babcock and Laschever, 2003), especially over their pay (Leibbrandt and List, 2014). This difference in behavior has been linked to the observed gaps in wages among otherwise similar men and women (Biasi and Sarsons, 2020; Card, Cardoso and Kline, 2015; Roussille, 2020). Research has also associated the gender pay gap to transparency over pay and the wage-setting process (Baker et al., 2019) and to self-confidence (Exley and Kessler, 2019). If this association operates through differences in bargaining, reducing gender differences in information over pay and self-confidence could promote bargaining for women and close, at least in part, the gender wage gap. To date, however, we know very little about the relationship between information over pay, self-confidence, and bargaining.<sup>1</sup> In this paper we use survey data from public-school teachers in Wisconsin to begin to study this question.

Up until 2011, Wisconsin teachers were paid based on variables such as seniority and credentials, and teachers' salaries were set using salary schedules negotiated by the teachers' union. In 2011 the state legislature passed Act 10, a bill that substantially reduced the powers of public-sector unions and prevented teachers' unions from negotiating salary schedules. In fact, the

Act gave districts the flexibility to adjust teachers' pay on an individual basis and opened up the possibility for individual negotiations between each teacher and their school district over pay (Biasi, 2020). This policy change makes the Wisconsin context particularly well suited to study the bargaining behavior of men and women in a non-experimental setting. Furthermore, information on Wisconsin teachers' salaries is publicly available; this allows us to measure gender differences in information on other teachers' salaries and to test whether these differences are related to bargaining.<sup>2</sup>

To study the relationship between information, confidence, and bargaining we use responses to a short email survey, designed to learn about teachers' negotiating experiences and administered to all Wisconsin teachers in February 2020. In Biasi and Sarsons (2020) we analyzed survey responses and found that women are less likely than men to have negotiated their pay at any point in their career. Here, we investigate whether these gaps in bargaining can be explained by gender differences in (i) information about colleagues' bargaining and pay and (ii) confidence in one's teaching performance and in talking to strangers, a situation likely to occur during a negotiation. More specifically, we test the extent to which previous estimates of the gender gap in bargaining get closer to zero when we control for (i) and (ii). Regarding (i), we hypothesize that knowledge of other people who negotiated might inform workers that bargaining for higher pay is a possibility; furthermore, knowing other people's pay might give them a (possibly higher) salary benchmark to use in the negotiation. Regarding (ii), our hypothesis is

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<sup>1</sup>For example, Baker et al. (2019) found that increased pay transparency closed the gender salary gap among university professors in Canada. However, it is unclear whether this is due to women negotiating more or to something else. Pay transparency could affect employer behavior if employers are concerned with worker morale, for example.

<sup>2</sup>Salaries of Wisconsin public-school teachers are published by the Department of Public Instruction every year; see <https://publicstaffreports.dpi.wi.gov/PubStaffReport>.

TABLE 1—SURVEY ANSWERS: SUMMARY STATISTICS, MEN VS WOMEN

	Women	Men	Difference	Std. Error
<i>Have you ever negotiated...</i>				
w/current employer, at start	0.223	0.306	-0.083***	(0.018)
w/current employer, after start	0.205	0.245	-0.040**	(0.017)
in the future	0.337	0.389	-0.052***	(0.012)
<i>Share agreeing w/statements</i>				
I know someone who negotiated	0.505	0.590	-0.085***	(0.020)
I know my colleagues' pay	0.299	0.410	-0.110***	(0.020)
My performance is above the mean	0.640	0.596	0.043**	(0.020)
I am confident talking to people I don't know	0.728	0.839	-0.110***	(0.017)
N (teachers)	2190	843		

Note: Summary of survey responses by gender and differences across genders. \*  $\leq 0.1$ , \*\*  $\leq 0.05$ , \*\*\*  $\leq 0.01$ .

that higher levels of confidence will make people more comfortable in a negotiation and strengthen the belief that they deserve higher pay. Our results are based on the responses by a cross-section of workers and should be interpreted as correlations. Nevertheless, they can be used to motivate and inform possible interventions aimed at closing gender gaps in bargaining and, potentially, in pay.

## I. Data

Our data consist of responses to a survey administered to Wisconsin public school teachers in March 2020. We designed the survey primarily to gather information on teachers' bargaining experiences and attitudes. We also measured respondents' knowledge of their colleagues' pay and negotiation experiences, and we assessed confidence in their own teaching ability and in talking to people they don't know. Lastly, we collected information on people's age and gender. We received responses from 3,156 teachers employed in 294 districts (a 13% response rate). The survey sample, described in greater detail in Biasi and Sarsons (2020), is representative of the population of Wisconsin public-school teachers in terms of gender and age composition.

In this article, we use survey responses to three sets of questions. First, we asked

workers whether they have ever negotiated their salary with their current employer (either at the start of the work relationship or at any point after that) and whether they plan on doing so in the future. Second, we asked them if they know the pay of their colleagues or of a colleague who has negotiated. Third, we asked them to self-rate their performance relative to their colleagues and to agree or disagree with the statement: "I am confident talking to people I do not know." Exact questions are shown in Appendix B of Biasi and Sarsons (2020).

Survey responses are summarized in Table 1. Women are less likely than men to have negotiated at every step of their careers. They are 8.3 percentage points (pp) less likely to have negotiated at the start of their current contract, or 27% compared with a 30.6% average for men. Similarly, they are 4.0 pp (16%) less likely to have negotiated after the start of their contract and 5.2 pp (13%) less likely to plan to negotiate in the future. Women also have less information on their colleagues' bargaining experiences and pay. Specifically, female workers are 11.0 pp (27%) less likely to state that they know their colleagues' pay and 8.5 pp (14%) less likely to know someone who negotiated. Perhaps surprisingly, women display higher confidence in

their teaching ability: They are 4.3 pp (7%) more likely than men to report that their performance is above average. They are, however, 11 pp (13%) less likely than men to claim that they are confident talking to people that they do not know, a dimension of confidence which could have an impact on their bargaining behavior and negotiation outcomes.

## II. Results

To explore the impact of information and confidence on the gender gap in bargaining, we start by estimating cross-gender differences in bargaining behavior. We estimate:

$$(1) \quad Y_i = \delta F_i + \beta X_i + \varepsilon_i$$

where  $Y_i$  is the outcome variable of interest and  $F_i$  equals one if teacher  $i$  is a woman. The inclusion of age group and district fixed effects ( $X_i$ ) allows us to hold fixed differences in age and district attributes, which might impact workers' behavior. Our main outcomes of interest are indicators for whether a worker negotiated their pay with their current employer (either at the start of the work relationship or afterwards) and the likelihood that they will negotiate in the future. The parameter  $\delta$  captures the difference in the outcome variable  $Y_i$  between women and men, conditional on  $X_i$ .

Estimates of  $\delta$ , shown in columns 1, 4, and 7 of Table 2, confirm the findings in Biasi and Sarsons (2020). Women are 33% (8.2 pp) less likely than men to have negotiated their pay at the beginning of their current employment relationship, 17% (3.7 pp) less likely to have negotiated after this point, and 16% (5.7 pp) less likely to plan on negotiating in the future.

### A. The Role of Information

To test whether differences in information attenuate the gender gap in bargaining, we re-estimate equation (1) controlling for information on colleagues' pay and bargaining experiences. Specifically, we include indicators for whether a respondent knows their colleagues' pay or a colleague who has negotiated her salary.

The results are shown in columns 2, 5, and 8 of Table 2. Knowing someone who negotiated is associated with a 8.5 pp (28%) higher chance of having negotiated with the current employer at the start of the work relationship (column 2) and a larger 14.3 pp (59%) higher chance of having negotiated after the start of the contract (column 5). It is also associated with a 11.0 pp (28%) higher chance of planning to negotiate in the future (column 8). Knowing the pay of colleagues is associated with a 5.7 pp (24%) higher chance of having negotiated after the start of the current contract (column 4); it is instead not significantly related to negotiations at the beginning of the current work relationship or in the future. A possible interpretation for this finding is that knowledge of colleagues' pay might have motivated teachers to ask for more after having been on the job for a few years.

Accounting for differences in information reduces the gender gap in bargaining, but does not completely close it. The gap in the likelihood of having negotiated at the start of the current work relationship decreases by 13% (from 8.2 pp to 7.1 pp); the gap in the likelihood of having negotiated after the start of the contract decreases by more than half (from 3.7 pp to a statistically insignificant 1.7 pp); and the gap in the likelihood of future negotiations decreases by 21% (from 5.7 pp to 4.5 pp). We take these results as suggestive evidence that information helps close part, but not all, of the gender gap in bargaining.

### B. The Role of Confidence

Lastly, we test the extent to which individual differences in confidence are related to the observed gender gap in bargaining. We do so by re-estimating equation (1) controlling for indicators for a respondent claiming that their performance is above the median and stating that they are confident talking to people they don't know.

Estimates of this test are shown in columns 3, 6, and 9 of Table 2. Confidence in talking to strangers is associated with a 10.8 pp (35%) higher likelihood of

TABLE 2—GENDER GAPS IN NEGOTIATING BEHAVIOR AND ROLE OF INFORMATION AND CONFIDENCE

	Negotiated at start			Negotiated after start			Lik. future negotiation		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female	-0.082 (0.019)	-0.071 (0.019)	-0.068 (0.019)	-0.037 (0.016)	-0.017 (0.017)	-0.035 (0.017)	-0.057 (0.014)	-0.045 (0.013)	-0.051 (0.014)
<i>Knows...</i>									
someone who negotiated		0.085 (0.017)			0.143 (0.017)			0.110 (0.011)	
colleagues' pay		-0.000 (0.017)			0.057 (0.018)			0.009 (0.013)	
<i>Confident in...</i>									
talking to strangers			0.108 (0.019)			0.036 (0.019)			0.047 (0.013)
own performance			0.014 (0.018)			0.087 (0.017)			0.012 (0.010)
N	2967	2809	2809	2951	2808	2808	2857	2800	2800
Mean dep. var. (men)	0.306	0.305	0.306	0.245	0.242	0.243	0.389	0.387	0.388

Note: OLS estimates of equation (1). In columns 1-3 the dependent variable is an indicator for teachers who reported having negotiated with the current employer, at the beginning of the work relationship; in columns 4-6, it is an indicator for teachers who reported having negotiated after the start of their current contract; and in columns 7-9, it is the self-reported likelihood of negotiating in the future (measured as a number between 0 and 1). The variable *Female* equals one for women. The variable *Knows someone who negotiated* equals one for teachers who report knowing at least a colleague who negotiated with their employer. The variable *Knows colleagues' pay* equals one for teachers who report having knowledge of their colleagues' salaries. The variable *Confident in talking to strangers* equals one for teachers who report feeling comfortable talking to people they do not know. The variable *Confident in own performance* equals one for teachers who report that their performance is above average. Robust standard errors are shown in parentheses. \*  $\leq 0.1$ , \*\*  $\leq 0.05$ , \*\*\*  $\leq 0.01$ .

having negotiated at the beginning of the current work relationship (column 3), a 3.6 pp (15%) higher likelihood of having negotiated after the start of the contract (column 6), and a 4.7 pp (12%) higher chance of negotiating in the future (column 9). Confidence in one's own teaching performance is instead only associated with a 8.7 pp (36%) higher chance of having negotiated with the current employer after the start of the contract (column 6).

As with information, accounting for differences in confidence reduces the gender gap in bargaining but does not close it fully. The gap in the likelihood of having negotiated at the start of the current work relationship decreases by 17% (from 8.2 pp to 6.8 pp); the gap in the likelihood of having negotiated after the start of the contract decreases by 5% (from 3.7 pp to 3.5 pp); and the gap in the likelihood of future negotiations decreases by 11% (from 5.7 pp to 5.1 pp). These results suggest that boosting

women's confidence might close part, but not all, of the gender gap in bargaining.

### III. Discussion and Conclusion

A growing literature documents gender differences in the willingness to negotiate (Card, Cardoso and Kline, 2015; Exley, Niederle and Vesterlund, 2019; Leibbrandt and List, 2014; Babcock and Laschever, 2003; Dittrich, Knabe and Leipold, 2014; Biasi and Sarsons, 2020) but researchers are still working to understand how to close this gap. In this paper, we ask whether knowledge of colleagues' pay and negotiating experience and self-confidence can explain the gender gap in bargaining. We find that accounting for individual differences in information and confidence helps close part, but not all, of this gap. It should be kept in mind that this evidence is correlational. A more rigorous test of the causal effect of pay information and of increased confidence on the gender gap in bargaining represents an

avenue for future research.

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