Gender Differences in Negotiation Behavior and the Role of Information: Evidence from a Randomized Field Experiment

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February, 2024

Abstract

Previous studies show a gender difference in wage negotiation behavior, which may explain a part of the observed gender wage gap. However, it remains unclear how to close this gap. In this project, I aim to provide causal evidence on the role of information on university graduates' negotiation intentions and behavior in a real-life setting. I conduct a randomized control trial (RCT) with about 6,000 final-year master's students at German universities before graduation. During the baseline survey, I randomly assign participants to two short experimental treatments: the statistics treatment and the role-model treatment. The statistics treatment provides information on gender differences in negotiation and wages, while the role-model treatment provides personalized information on negotiation experiences conveyed by successful role models. Following the treatments, I use follow-up surveys to track participants as they enter the labor market after graduation. The baseline results show that there is a pronounced gender gap in negotiation intentions for base salary and other monetary components. For the treatment effects, I first find that both the statistics and the role-model treatments significantly increase females' negotiation intentions, while only the role-model treatment increases males' negotiation intentions. However, despite the increase in negotiation intentions as a result of the interventions, the treatments do not affect actual negotiation behavior for the first job after graduation for either gender.

JEL Classification: JEL C93, J16, J31

Keywords: Field Experiments, Gender Gap, Negotiation, Information

1 Introduction

In recent decades, the gender wage gap has narrowed in economically advanced countries, largely driven by improvements in women's education, labor market attainment, and work experience (Goldin, 2014). However, even after accounting for a wide range of education and employment factors, an unexplained wage gap persists, which is even more pronounced among college graduates (Blau and Kahn, 2017; OECD, 2022). The literature points to gender differences in negotiation behavior as an explanation for an important part of the gender wage gap (Card et al., 2016), particularly among college graduates (Säve-Söderbergh, 2019).

In parallel, many countries have moved towards more decentralized wage-setting practices, leading to greater wage flexibility.[1] Therefore, understanding wage negotiation and the associated gender gap is becoming increasingly important. One potential reason for the gender gap in negotiation is that women may not be as informed as men about the benefits of negotiation, which leads to women having a lower propensity to negotiate and gaining less from negotiation than men (e.g. Rigdon, 2012).[2] However, how to close this gap is still not clear. Most studies examining the effect of information on negotiation behavior rely on non-causal surveys or lab experiments, which may not capture behavior in real-world, high-stakes negotiations.

This paper experimentally investigates the causal effect of information on negotiation intentions and actual negotiation behavior at the first job search, particularly for females. I focus on three components of negotiation; negotiation for base salary, for other monetary aspects such as bonuses, and for other non-monetary aspects. I conducted a randomized controlled trial (RCT) embedded in a survey of more than 6,000 final-year master's students in Germany. Since the negotiation gap is more pronounced among highly skilled individuals and since master's graduates are more likely to enter the labor market after graduation, I provide interventions to final-year master students.

I first elicit students' intentions to negotiate for their first job after graduation and their expected returns from such negotiation, as well as their beliefs about female and male negotiation behavior, which I can use to measure beliefs about the gender negotiation gap. Immediately after answering these questions, I randomly assign the students to two information treatments that focus on both aspects of negotiation: the propensity to negotiate, i.e., whether women enter negotiations less often than men, and the returns to negotiation. Most studies show that women tend to negotiate less than men (Babcock and Laschever, 2003) and also gain less from negotiation than men (Säve-Söderbergh, 2019). The first intervention, the statistics treatment, provides some statistics on the gender gap in the propensity to negotiate for base salary, the returns to wage

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[1]For example, in EU countries, the average coverage of collective bargaining decreased from 66 percent in 2000 to around 56 percent in 2018 (Eurofound, 2022).

[2]Other explanations for the gender gap in negotiation may include women's lower self-esteem or confidence (e.g. Barber and Odean, 2001), lower wage expectations (Filippin and Ichino, 2005; Reuben et al., 2017; Wiswall and Zafar, 2018; Kiessling et al., 2024), or fear of backlash (Babcock and Laschever, 2003).

negotiation, and women's income losses over time relative to men due to a lower propensity to negotiate at the first job. The second intervention, the role-model treatment, consists of short magazine-style interviews with successful role models in the labor market. The role models provide personalized information about the benefits of negotiation, share their negotiation experiences, and provide some negotiation advice. This treatment includes four female and one male role model to target primarily female students. It focuses not only on negotiating salary, but also on negotiating other monetary (e.g. bonuses) and non-monetary (e.g. working from home) benefits. The aim of conveying information through role models is to increase the credibility of the information and make it more relatable by allowing participants to associate with role models. The control group does not receive any negotiation information. Finally, at the end of the first survey, half of the participants receive an email invitation to participate in a negotiation training treatment that is cross-randomized with the control, statistics, and role-model treatment groups. This treatment consists of five short videos (approximately 15 minutes in length) prepared by an expert in the field. The videos are tailored specifically for women and designed to train participants for future negotiations.[3]

At baseline, the results show that men are more likely to express an intention to negotiate base salary and other monetary components for the first job after graduation, while women are more likely than men to report that they have not thought about negotiating. Interestingly, there is no gender difference in the proportion of individuals who report that they do not intend to negotiate. Further analysis of intentions to negotiate base salary shows that the gender gap remains statistically and economically significant even after controlling for students' sociodemographic, educational, and psychological characteristics,

Concerning treatment effects on negotiation intentions, I first find that the statistics treatment increases females' intentions to negotiate base salary by 7.6 percentage points, with no significant effect on males or on intentions to negotiate other negotiation components for either gender 2-4 months after the interventions. This finding is in line with the aims of the statistics treatment, which targets females by providing information on gender differences and also focuses on negotiating base salary, i.e., it does not mention other monetary or non-monetary aspects. The role-model treatment increases base salary negotiation intentions by about 9 percentage points for both genders, but only increases women's intentions for other monetary components. Heterogeneity analyses show that the effect of the statistics treatment is stronger for women in STEM fields, women with lower grades, and women with lower risk preferences, whereas the role-model treatment has a stronger effect on women in non-STEM fields, women with lower grades, and women with higher risk preferences. The effect of the role model treatment on base salary negotiation intentions is more pronounced for men in STEM fields, men with lower grades, and men with lower risk preferences. The training treatment increases women's negotiation intention for base salary and other-monetary components,

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[3]The statistics treatment is referred to as the "information treatment" in the pre-registration document.

however, the effects are statistically insignificant. Second, I further examine the treatment effects on expected returns to negotiation. The statistics and role model treatment significantly increase women's expectation of a base salary increase as a result of negotiation by 5-7 percentage points.

Third, to investigate the channel of the increase in base salary negotiation intentions and expected returns to negotiation, I examine the role of belief updating for men and women. I show that as a result of the statistics treatment, respondents perceive a larger gender gap than individuals in the control group.[4] In addition, graduates update their beliefs in the intended direction as a result of the treatments, but this does not explain the increase in the intention to negotiate base salary. I also elicit respondents' beliefs about the returns to negotiation for females and males. Although women underestimate the wage increase as a result of negotiation, there are no treatment effects on beliefs about the returns to negotiation for base salary for either gender. This suggests that the treatment effects are not driven by correcting misinformation, but rather by increasing the salience of information.

Finally, I examine how the increase in negotiation intention translates into actual negotiation behavior. I find that the treatments do not significantly alter the actual negotiation outcomes of women and men for base salary, other monetary, and non-monetary aspects, regardless of the examined subgroups. This intention-behavior gap is highlighted in the social psychology literature (e.g. Sheeran, 2002), which posits that even though people intend to behave in a certain way, it may not translate into actual behavior due to some external and internal difficulties. Because there may be multiple reasons for not negotiating, I examine these potential reasons by comparing the treatment and control groups by gender. I find that treated women are more likely to report that they are unsure of how to negotiate and that they are afraid of having their proposal rejected. This suggests that while the treatments were successful in increasing the salience of information, they were not sufficient to make women feel more confident about entering negotiations. Another consideration is the possibility that the time gap between the intervention and the actual opportunity to negotiate may have diminished its impact. However, this finding is not consistently robust across different specifications.

This paper makes three key contributions to the existing literature. First, I contribute to the literature on the effects of information on negotiation intentions and behavior. The literature suggests that the gender gap in negotiation behavior can be reduced or eliminated through the provision of information. However, the existing evidence on the relationship between the gender gap in negotiation behavior and information is sparse and mainly based on laboratory experiments (Bowles et al., 2005; Small et al., 2007; Schwieren, 2012) or surveys (Babcock and Laschever, 2003; Säve-Söderbergh, 2019; Biasi and Sarsons, 2021).[5] The

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[4]In this exercise, I focus only on the statistical treatment because only this treatment provides statistics on women's and men's propensity to negotiate.

[5]A recent paper by Fröberg et al. (2023) conducts a survey experiment and shows that providing information about women's

most relevant paper by Roussille (2021) shows that providing information about the median salary of a position on a job platform reduces the "ask gap", i.e. the gender gap in salary demands. However, this study is limited to a specific and highly skilled group of engineers, and because it uses a job platform, it cannot account for negotiations during job interviews. My paper contributes to this literature by exploring whether information interventions increase women's and men's intentions to negotiate 2-4 months after the interventions, as well as their actual negotiation behavior in a real-world setting. Furthermore, this paper also relates to the literature that examines the gender gap in negotiation. The literature typically shows that women are less likely to engage in negotiations than men (Babcock and Laschever, 2003; Card et al., 2016; Biasi and Sarsons, 2022)[6] and often achieve smaller gains (Stuhlmacher and Walters, 1999; Säve-Söderbergh, 2019; Dreber et al., 2022).[7] One exception is Exley et al. (2020), who conduct a lab experiment showing that women do not necessarily gain more when they are forced to negotiate compared to when they voluntarily enter a negotiation. I contribute to the literature by providing field evidence and highlighting a gender gap not only in base salary negotiations, but also in other monetary and non-monetary components. In addition, this study goes beyond actual negotiation behavior by showing that women intend to negotiate less than men and expect lower returns than men even before entering the labor market.

Second, this paper contributes to the literature on the effects of short and low-cost information interventions to study the gender negotiation gap.[8] The study by Settele (2022) provides a variety of statistics on the gender wage gap from different sources to examine how beliefs about the size of the gap influence policy preferences. She finds that participants who are exposed to a more pronounced wage gap exhibit stronger demand for specific policies aimed at mitigating it. In addition, Fröberg et al. (2023) find that a reminder of women's inferior position in negotiation outcomes increases women's negotiation intentions. However, as Fröberg et al. (2023) note, because negotiation intentions are elicited immediately after the interventions, the experimenter demand effect may play a role in the results. In this paper, the first information treatment highlights gender differences in wage negotiation behavior among university graduates and potential wage increases as a result of such negotiations.[9] By highlighting these differences, the aim is to inform and encourage women to engage in negotiation during their first job search after graduation. The findings show that exposure to gender differences in negotiation outcomes and potential gains from negotiation increases

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inferior status in salary negotiations increases women's negotiation intentions immediately after the intervention. However, this paper does not examine longer-term effects or actual negotiation behavior.

[6]One exception is Säve-Söderbergh (2019) who finds a small gender difference in the propensity to negotiate for Sweden.

[7]For a review of research on gender differences in negotiation behavior, see Stuhlmacher and Walters (1999), Bertrand (2011), Mazei et al. (2015), Kugler et al. (2018), Hernandez-Arenaz and Iriberri (2019) and Recalde and Vesterlund (2023).

[8]The literature examines the effects of information in many different domains, such as educational outcomes (e.g., Herber, 2018; Peter et al., 2021), job search (e.g., Altmann et al., 2018; Belot et al., 2018; Abebe et al., 2021) and policy preferences (e.g., Kuziemko et al., 2015; Settele, 2022; Haaland and Roth, 2023). See Haaland et al. (2020), for a review of the literature on information provision.

[9]The statistics used in this treatment are based on a survey by Babcock and Laschever (2003).

women's negotiation intentions even a considerable time (2-4 months) after the intervention, but does not affect men.

Finally, this paper adds to the growing literature examining the impact of role models. Most of the evidence on role-model interventions focuses on educational outcomes. For example, Herber (2018), using an approach similar to this paper, finds that providing information about the scholarship application process significantly increases the likelihood of applying. Riley (2022) finds that showing students movies with potential role models significantly reduces the failure rate on math exams. Several other studies place role-model interventions in the context of gender. For example, female high school students exposed to role models working in scientific fields are more likely to pursue STEM fields (Breda et al., 2020). Similar results are observed in the choice of economics major (Porterfield and Winkler, 2007) and enrollment in software coding programs (Del Carpio and Guadalupe, 2022). A recent paper by Palffy et al. (2023) shows that exposure to role models in stereotypically male occupations increases female applications for STEM jobs. To the best of my knowledge, this paper is the first to focus on the effect of information conveyed by role models in the context of negotiation.[10] My findings suggest that personalized information provided by role models significantly increases negotiation intentions of both women and men, even 2-4 months after the interventions, but does not affect actual negotiation behavior.

The paper is organized as follows. Section 2 describes the surveys, interventions, and experimental design implemented in this study and presents descriptive analyses. Section 3 provides descriptive results on gender differences in negotiation intentions using pre-treatment data. Section 4 presents the methodology and the main results. Section 5 discusses the results and the underlying mechanisms. Section 6 concludes.

2 Experimental Design and Intervention

2.1 Main Survey and Interventions

I conducted the first survey among final-year master's students between December 2020 and June 2021. Figure 1 illustrates the survey outline and the experimental design. As the primary channel for student recruitment, I first sent personalized invitation letters to the heads of approximately 400 German universities to inform them about the study. Subsequently, I sent follow-up emails to the same university heads and management offices with a request to distribute a link to the online experiment to their students. Most of the student respondents were recruited through this channel.[11] The experiment was also advertised

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[10] Ashraf et al. (2020) study the effects of negotiation skills training by female coaches on the educational outcomes of female students in Zambia, which may capture the effect of role models.

[11] For the template of invitation letters, follow-up emails sent to university heads, and the data protection document and the flyer attached to the letters and e-mails see link https://doku.iab.de/grauepap/Supplementary_Materials.pdf. The flyer was

on social media platforms, online forums, and select student magazines, with approximately 120 students participating in the study through these channels. The study does not include students studying to become teachers or medical students, as most of their wages are set by collective bargaining agreements at the start of their careers. A total of 6,043 students from 108 German universities and universities of applied sciences participated in the main survey.

The respondents answered sociodemographic, study-related, negotiation-related, and other pre-treatment questions, such as questions about the covid pandemic, regrets about their study, and personality traits. To mask the study's primary objective, some additional questions unrelated to the study were included. After completing the pre-treatment section, I randomly assigned individuals to the control, statistics, or role model treatment groups. I utilized stratified randomization and defined strata based on field of study (5 categories), gender, grades (3 categories), and graduation date (2 categories). To incentivize participation in subsequent surveys, I provided a 5 Euro online gift voucher at the end of the survey. Cross-randomized across all groups, half of the participants received an email invitation to a negotiation training intervention after completing the survey.

Statistics Treatment: The statistics treatment provides information on the gender gap in the incidence of wage negotiation, the percentage increase as a result of negotiation, and the starting salaries as a result of negotiation. This information is taken from a well-known study in the literature on the gender negotiation gap by Babcock and Laschever (2003). In addition, the treatment includes a hypothetical example of Felix and Anna, showing how much Anna will lose over time if Felix negotiates for the first wages, and Anna does not. This information is formulated similar to the study by Babcock and Laschever (2003), but adapted to the German context and wages. The treatment consists of five pages and includes intuitive graphs, images, short paragraphs of text, and a comprehension question.[12]

Providing information about other people's earnings or experiences may reduce the gender negotiation gap (Rigdon, 2012; Roussille, 2021). In addition, showing women's negotiation behavior relative to men may increase the salience of the information and encourage women to negotiate more. This treatment focuses only on base salary negotiation, does not provide information on other monetary or non-monetary aspects, and aims only to increase female negotiation outcomes by demonstrating gender differences.

Role-Model Treatment: The role-model treatment also provides information about negotiation, but through successful role models in the labor market. I conducted short magazine-style interviews with one male and four female role models, supplemented by responses from other interviews.[13] The role models

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designed by Christine Weidmann from the IAB.

[12]See Appendix Figures A.1 and A.2 for example pages of the treatments, translated into English. For screenshots of all treatments, see link https://doku.iab.de/grauepap/Supplementary_Materials.pdf.

[13]See Appendix Figure A.3 for an example of an interview with one role-model, translated into English. Note that only selected questions are included in this example. For screenshots of all treatments, see link https://doku.iab.de/grauepap/

Figure 1: Survey Overview and Experimental Design
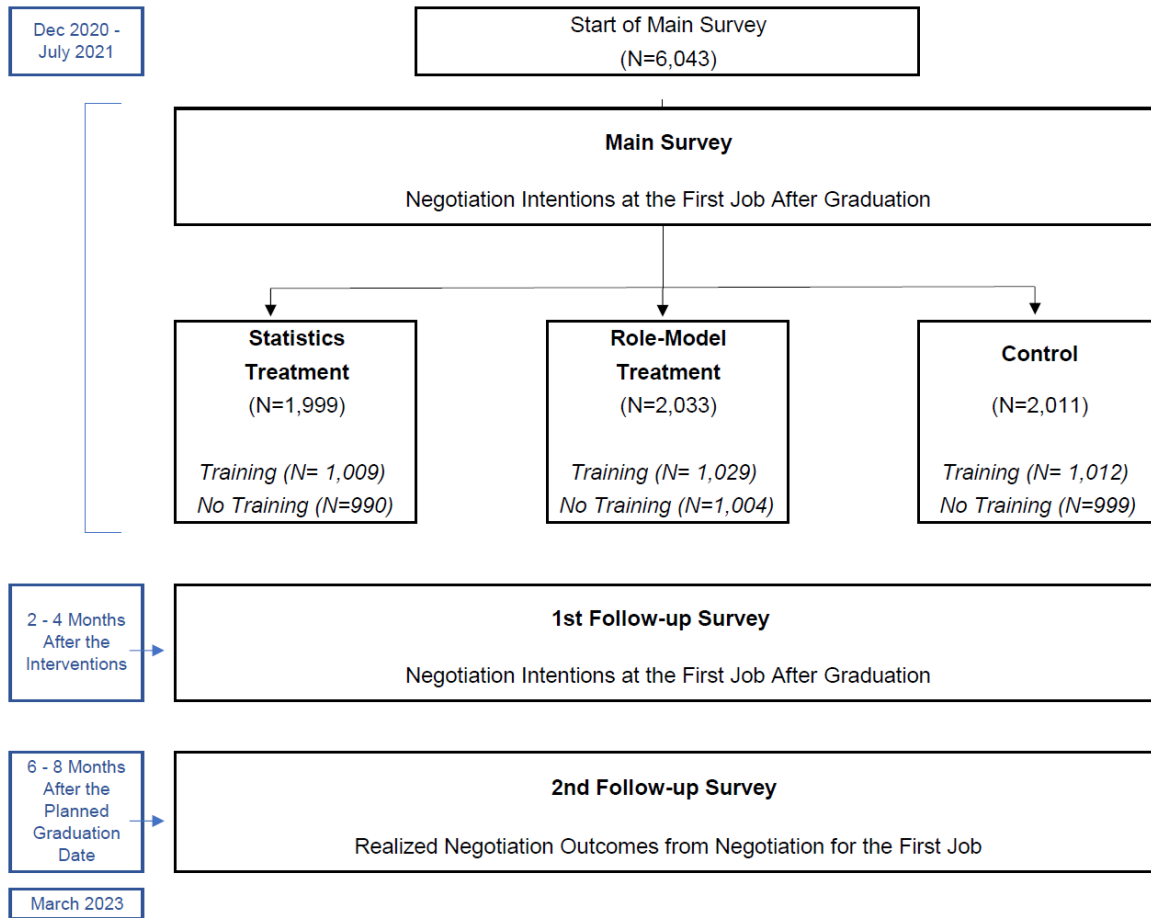
Note: This figure provides an overview of the main survey (first wave) and follow-up surveys, including the experimental design, the number of participants, and the timeline.

answer a series of questions about their negotiation experiences at labor market entry, potential gains as a result of negotiation, and also give some negotiation advice. The use of role models is intended to make the information more salient by increasing the students' sense of belonging. Because the participants in this study come from a variety of fields, including STEM and non-STEM, and the goal of the treatment is to increase women's negotiation outcomes, this treatment includes female role models from non-STEM and STEM fields and a male journalist role model.[14] Since the literature shows that forcing women to engage in negotiation may not always be beneficial (Exley et al., 2020), the role models in this intervention suggest that participants should do their research before entering negotiations and assess average wages in the labor

Supplementary_Materials.pdf.

[14]Since around half of the participants are male students, I include one interview with a man, which is relatively shorter than the remaining interviews with successful women.

market, as a signal to initiate negotiations only when it is deemed appropriate. Furthermore, the role models emphasize that even if the base salary is not negotiable, participants can negotiate other monetary aspects, such as bonuses, or non-monetary aspects, such as the option to work from home.

Training Treatment: One potential explanation for the gender gap in negotiation behavior is that women may lack knowledge about how or when to negotiate during job interviews (Babcock and Laschever, 2003). Ashraf et al. (2020) show that providing intensive negotiation training significantly improves educational outcomes for females in Zambia. Conversely, Chotiputsilp and Kim (2021) find that negotiation training for job seekers in Thailand increases the reported wages of men, but not women. The training intervention provides negotiation training videos prepared by a professional coach to improve students' negotiation skills and encourage them to negotiate more frequently. Students assigned to the training treatment receive an email invitation to the online negotiation training shortly after completing the first survey. The training consists of five negotiation training videos. The first four videos each cover a single topic (information, clarity, awareness, strategy) and last approximately 10-15 minutes. After watching each video, the participants are required to answer some control questions. The final video is a 5-minute summary by the instructor. The videos can only be viewed once and the link cannot be shared with others or third parties. The negotiation training was designed specifically for women (without mentioning women) and is similar to other workshops at universities in Germany that aim to improve women's negotiation skills.[15]

2.2 Follow-up Surveys

As presented in Figure 1, I invited all participants to a short follow-up survey 2-4 months after the main survey (wave 1) and the interventions. The participants did not receive any reminders about the treatments. The first follow-up survey (wave 2) collects initial results on students' negotiation intentions, their beliefs and expectations about negotiation, and their expected chances of gaining from negotiation. In cases where students had already found a regular job, they received questions about their realized negotiation outcomes from the second follow-up survey (wave 3).

The second follow-up survey took place 6-8 months after the planned graduation date. Since the planned graduation dates of the master's students varied over time, they received the second follow-up survey over a period of several months in 2022 and 2023. The survey collected information on the wage negotiation behavior of graduates in their first job after graduation. This survey includes questions about the occurrence of wage negotiations for the first job and the outcome of those negotiations. In cases where no negotiations took place, the reasons for non-negotiation were explored.

Both follow-up surveys took approximately 10-15 minutes to complete, and participants received a 5

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[15]The training videos are prepared by Susan J. Moldenhauer (STRATEGY PIRATES® GmbH & Co. KG).

Euro voucher after each survey. In addition, in order to increase the response rate, participants who did not participate in either of the follow-up surveys were invited to complete a very short survey (approximately 5 minutes) that included only the most relevant questions about their realized negotiation experiences.

2.3 Data and Summary Statistics

A total of 6,043 final-year master's students participated in the main survey, and the median time spent on the survey was around 22 minutes (including treatments). Table 1 shows the general characteristics of the students and the balance of covariates between the control and treatment groups for the main survey participants. The table shows that the randomization worked well, as the sample is balanced across covariates. Due to the low response rate to the negotiation training treatment (about 7.6 percent), I only include the statistics and role-model treatment groups in the table. The attrition rates in the first and second follow-up surveys are 35 percent and 52 percent, respectively. These rates are not significantly different between the treatment and control groups (see the last two rows of Table 1). Participants in non-master's programs or not in their final year of study were excluded at the beginning of the survey. The main outcomes are negotiation intentions (collected in wave 2) and actual negotiation outcomes (collected in waves 2 and 3, if participants found a job). Because some participants receive the realized negotiation questions directly and do not answer the negotiation intention questions, I create two different estimation sample groups. Participants who answered the negotiation intention questions belong to the first group, and those who answered the realized negotiation questions belong to the second group. Appendix Tables A.1 and Table A.2 show that there are no significant differences between the control and treatment groups for both sample groups.

Gender Differences: Appendix Table A.3 presents summary statistics for female and male participants in Wave 1. Similar to previous studies, females on average achieve better grades than males (Becker et al., 2010; Francesconi and Parey, 2018)[16] and are much more likely to pursue studies in languages, humanities, and social sciences. Conversely, a higher proportion of males are enrolled in engineering fields, which is in line with overall population trends (Federal Statistical Office, 2023). In addition, women are younger at the time of the first survey and more likely to be born in Germany than men. There are no significant gender differences in terms of family educational background, having siblings, and starting to apply for a job. The monthly reservation wage (expected wage) of female students is around 2,836 euros (3,359 Euros) compared to 3,387 euros (3,973 euros) for males. The gender gap in reservation and expected wages is approximately 16 percent. These findings are similar to the paper by Kiessling et al. (2024), which finds a 19 percent and 14 percent gender gap in reservation and expected wages, respectively. Finally, confirming the findings in

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[16]In the German education system, lower grades indicate better academic performance. They range from 1 (best) to 4 (passed).

the literature, women have lower risk preferences (i.e. are more risk averse) than men (Eckel and Grossman, 2002; Croson and Gneezy, 2009; Cortés et al., 2023).

Table 1: Summary Statistics: Balance in Covariates

	Pooled		Control (C)	Statistics Treatment (T1)	Role-Model Treatment (T2)	C - T1	C - T2	T1 - T2
	Mean (1)	SD (2)	Mean (3)	Mean (4)	Mean (5)	p-value (6)	p-value (7)	p-value (8)
Female	0.552	0.497	0.553	0.552	0.551	0.955	0.908	0.953
Top Grade (<= 1.7)	0.554	0.497	0.553	0.554	0.553	0.970	0.991	0.979
Planned Graduation before May	0.243	0.429	0.245	0.237	0.246	0.537	0.976	0.516
Field of Study								
Languages, Humanities and Social Sciences	0.279	0.449	0.281	0.280	0.276	0.957	0.742	0.782
Economics, Business and Law	0.225	0.417	0.220	0.225	0.229	0.665	0.488	0.793
Mathematics and Natural Sciences	0.160	0.367	0.159	0.162	0.160	0.746	0.928	0.815
Engineering and IT	0.336	0.472	0.341	0.332	0.335	0.561	0.712	0.833
Age	27.044	2.966	26.984	27.136	27.015	0.131	0.758	0.243
Born in Germany	0.843	0.363	0.843	0.842	0.846	0.909	0.798	0.711
College Family Background	0.382	0.486	0.380	0.377	0.390	0.849	0.530	0.411
Having Siblings	0.837	0.369	0.841	0.833	0.838	0.483	0.827	0.629
University Type								
University	0.678	0.467	0.687	0.681	0.668	0.678	0.198	0.380
University of Applied Sciences	0.295	0.456	0.284	0.292	0.308	0.573	0.101	0.278
Worked During Studying								
No	0.083	0.276	0.089	0.086	0.075	0.697	0.106	0.218
Yes, Entirely	0.488	0.500	0.490	0.481	0.492	0.560	0.884	0.465
Yes, Occasionally	0.401	0.490	0.394	0.403	0.404	0.575	0.523	0.937
Risk Preferences	4.908	3.426	4.971	4.914	4.838	0.618	0.206	0.468
Started Applying For a Job	0.440	0.496	0.433	0.442	0.443	0.565	0.530	0.956
Reservation Wage	3068.858	899.879	3049.472	3081.697	3075.207	0.267	0.373	0.819
Expected Monthly Wage	3648.680	949.585	3628.860	3678.906	3637.843	0.103	0.768	0.170
Perceived Share of Women Who Negotiate the Wage of Their First Job	33.757	20.949	33.433	33.780	34.060	0.628	0.383	0.695
Perceived Share of Men Who Negotiate the Wage of Their First Job	59.342	20.888	58.863	59.103	60.061	0.736	0.090	0.175
Perceived Wage Increase after Women Negotiated Their Wage	10.348	11.885	10.279	10.257	10.508	0.959	0.615	0.575
Perceived Wage Increase after Men Negotiated Their Wage	15.169	14.301	15.030	15.298	15.177	0.614	0.784	0.821
Individuals	6,043		1,999	2,033	2,011			
Panel B. Attrition								
Not participated the follow-up 1	0.350	0.477	0.344	0.350	0.357	0.662	0.393	0.674
Not participated the follow-up 2	0.522	0.500	0.525	0.508	0.534	0.263	0.599	0.099

This table presents summary statistics for the sample of final-year master's students who participated in the main survey (wave 1). Columns (1) and columns (2) to (5) present mean values for all individuals who participated in the first wave and the treatments, including the control group, statistics treatment group, and role-model treatment group, respectively. Columns (6) to (8) show the p-value for t-tests of the differences in means between the control and statistics treatment groups, the control and role-model treatment groups, and the statistics and role-model treatment groups. All variables are measured prior to treatment. ***, ** and * denote significance at the 1, 5, and 10% levels.

3 Gender Differences in Intention to Negotiate

This section presents gender differences in negotiation intentions along with a descriptive exploration of the potential underlying factors contributing to these differences. Figure 2 shows gender differences in (a) intentions to negotiate base salary, (b) other monetary salary components (e.g. bonuses), (c) and non-monetary aspects (e.g. flexible working hours) in the first regular job after graduation. Men are more likely to intend to negotiate base salary and other monetary aspects. While 42 percent (24 percent) of men intend to negotiate base salary (other monetary aspects), 32 percent (18 percent) of women express the same intention. However, this is not because women refuse to negotiate, but because they are more likely not to have thought about it. Although there is no significant gender gap in negotiation intentions for other non-monetary components, a higher share of women than men indicate that they have not thought about it.

Figure 2: Pre-Treatment Negotiation Intention

(a) Base Salary

(b) Other Monetary Aspects

(c) Other Non-Monetary Aspects
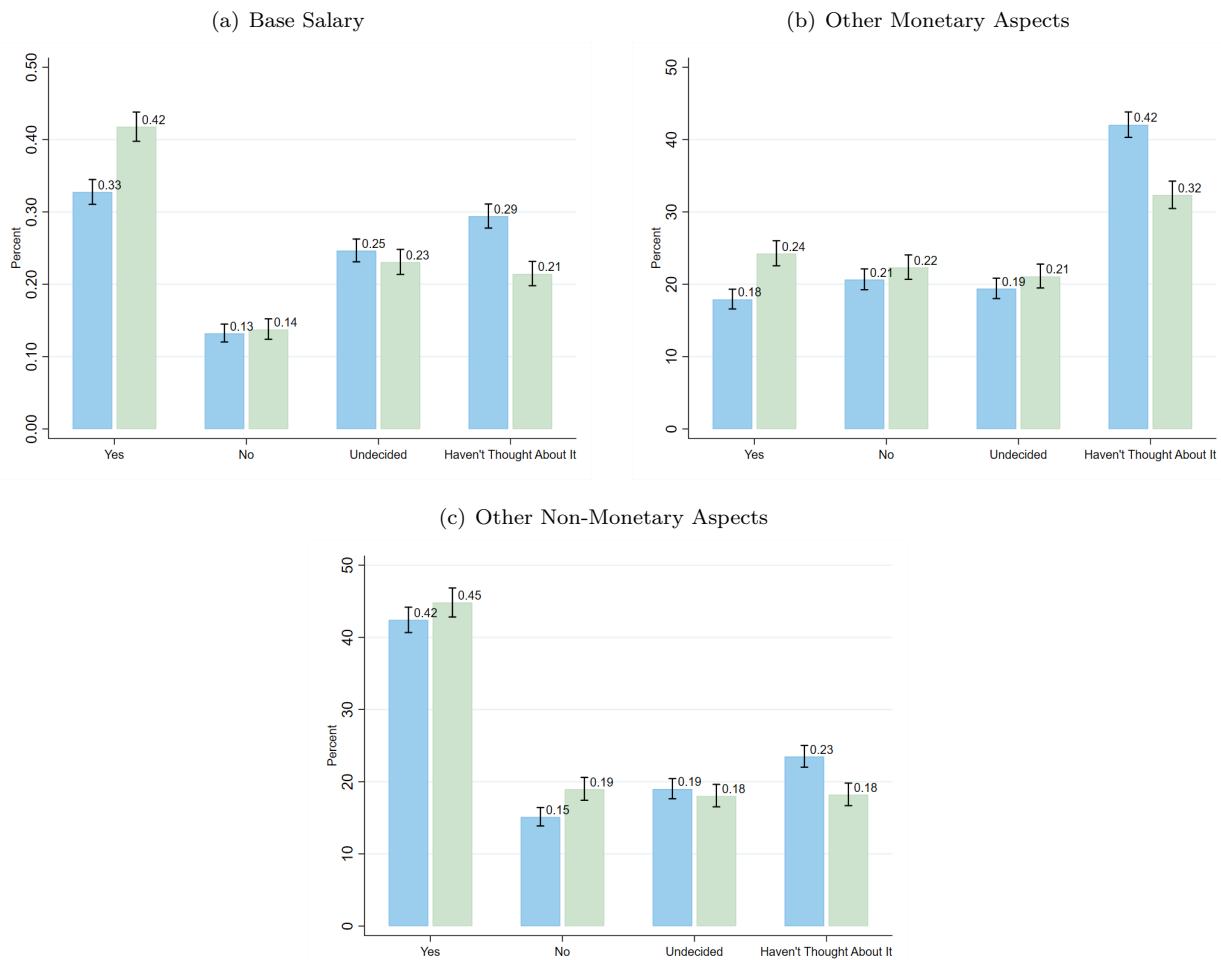
To explore the sources of the gender gap in negotiation intention and other factors correlated with it, I create a dummy for negotiation intention that equals 1 if an individual intends to negotiate and 0 otherwise,
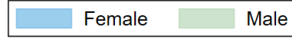
Note: The sample consists of final-year master's students who participated in the main survey (wave 1). The blue (green) bars represent the mean negotiation intentions of females (males) for the base salary (Panel A), other monetary aspects (Panel B), and other non-monetary aspects (Panel C). The outcomes are measured prior to the interventions. The point estimates indicate the difference between the mean responses of women and men. Controls are not included.

Table 2: The Gender Differences in Intention to Negotiate for Base Salary

Dependent Variable: Intention to Negotiate for Base Salary							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-0.090***	-0.091***	-0.056***	-0.063***	-0.063***	-0.056***	-0.051***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)
Born in Germany		0.060***	0.070***	0.064***	0.068***	0.077***	0.075***
		(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)
Age		0.007***	0.007***	0.006***	0.007***	0.006***	0.005***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
College Family Background		-0.022	-0.018	-0.011	-0.011	-0.010	-0.012
		(0.014)	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)
Field: Economics, Business and Law			0.169***	0.176***	0.152***	0.147***	0.095***
			(0.019)	(0.019)	(0.019)	(0.019)	(0.021)
Field: Mathematics and Natural Sciences			-0.013	0.009	-0.003	-0.002	-0.004
			(0.019)	(0.019)	(0.019)	(0.019)	(0.020)
Field: Engineering			0.125***	0.138***	0.111***	0.108***	0.076***
			(0.018)	(0.018)	(0.018)	(0.018)	(0.020)
Top Grade				-0.009	-0.004	-0.001	-0.008
				(0.014)	(0.014)	(0.014)	(0.016)
Having Siblings				0.029	0.030*	0.032*	0.031*
				(0.018)	(0.018)	(0.018)	(0.018)
Worked During Studying				0.105***	0.110***	0.108***	0.097***
				(0.013)	(0.013)	(0.013)	(0.013)
Public Sector					-0.171***	-0.167***	-0.156***
					(0.017)	(0.017)	(0.018)
General Risk Attitude						0.012**	0.008**
						(0.005)	(0.004)
Other Controls	No	No	No	No	No	No	Yes
Mean of Dependent Variable	0.368	0.368	0.368	0.368	0.368	0.368	0.368
Adjusted R-squared	0.008	0.015	0.037	0.048	0.062	0.068	0.090
Individuals	5,168	5,168	5,168	5,168	5,168	5,168	5,168

Note: The sample consists of final-year master's students who participated in the main survey and answered the question on intentions to negotiate base salary in wave 1. This table reports gender differences in in intentions to negotiate base salary, based on OLS regressions. The outcome variable is binary, equal to 1 if the respondent intends to negotiate base salary and 0 otherwise. Other controls include a dummy for overconfidence, time preferences (7 categories), preferred sector to work in after graduation (private, public, indifferent, do not know), preferred number of working hours after graduation, and university fixed effects for universities with more than 50 students in the sample. *Mean of Dependent Variable* is the corresponding mean outcome (follow-up 1). Robust standard errors are in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

and regress it on a female dummy and other control variables that are gradually added to the estimation. Table 2 shows that there is a raw gender gap of 9 percentage points in negotiation intentions for base salary. After all controls are added, the gender gap in negotiation intentions drops to 5.1 percentage points and remains statistically significant. The gender gap in negotiation intention is also economically significant. Given that the mean outcome is approximately 37 percent, the raw gender negotiation gap amounts to 25 percent of the mean intention to negotiate, while the adjusted gender difference is 10 percent.

By gradually adding controls, the table also shows which variables are correlated with negotiation intentions and which are relevant for reducing the gender gap in negotiation intentions. The largest reduction is observed when the field of study is included in the estimations. The inclusion of other variables does not substantially change the gender gap in negotiation intentions. The table also shows that the intention to negotiate is higher for people born in Germany and increases with age. In addition, students of economics, business and law as well as engineering and IT have a significantly higher intention to negotiate compared to students of languages, humanities and social sciences (base category), while there is no statistical difference between mathematics and natural sciences compared to the base category. Considering that negotiation experience may increase negotiation intentions, for example, people who had the opportunity to learn how to negotiate with their siblings or while working during their university studies, I show that having siblings does not affect the intention to negotiate for base salary, while working during studies increases negotiation intentions by about 11 percentage points. Interestingly, having good grades or having parents with a university degree does not affect the intention to negotiate the base salary. Finally, having a higher risk attitude is associated with a higher intention to negotiate.

Even after adding a comprehensive set of controls, the gender gap in negotiation intention persists. Among other unobserved factors, a potential reason for this gap could be that women have not yet thought about negotiating compared to men, a lack of information about the importance of negotiation, or insufficient knowledge about how to negotiate during the job interview. In this case, the interventions could inform women and also encourage them to negotiate at a later point in time, potentially leading to a reduction in the observed gender gap in negotiation intentions in follow-up surveys.

4 Effects on Negotiation Intention and on Realized Negotiation Outcomes

4.1 Main Empirical Specification

I estimate intention-to-treat (ITT) effects, since it is not certain that the students read all of the information on the page.[17] The main estimation equation for the statistics and role-model treatment effects is

$$y_{ij} = \beta_0 + \beta_1 Statistics_i + \beta_2 Rolemodel_i + \beta_3 X_i + \gamma_j + \epsilon_{ij} \tag{1}$$

where y_i is the outcome of interest for graduate i measured either in the first (2-4 months after the intervention) or in the second (6-8 months after the planned graduation date) follow-up survey. The main outcomes are binary indicators of negotiation intention and realized negotiation behavior. The negotiation intention dummy is equal to 1 if a student is planning to negotiate for their first regular job after graduation, and 0 if they are not planning to negotiate, if they have not decided yet, or if they have not thought about it.[18] The realized negotiation dummy is equal to 1 if a graduate has negotiated for their first regular job after graduation, and 0 otherwise. The negotiation outcomes include three elements; negotiation for base salary, negotiation for other monetary components (e.g., bonuses) and negotiation for other non-monetary components (e.g., flexible hours). The treatment indicators $Statistics_i$ and $Rolemodel_i$ are equal to 1 if a master student is assigned to statistics or role-model treatment, respectively. X_i includes strata fixed effects, a dummy variable for having ever participated in negotiation training,[19] and a set of baseline control variables such as being born in Germany, having parents with a college degree, having siblings, and days since the intervention. Strata variables are the field of study (5 categories), grades (2 categories) and planned graduation date (2 categories). γ_j is a university fixed effects for universities with more than 50 students in the sample. The remaining universities are grouped as "other".

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[17]Although I measure how long each participant stays on each page of the survey, I cannot be certain that they read the information.

[18]The exact negotiation intention questions are: Are you planning to negotiate for the base salary/other monetary components (e.g., bonuses)/other non-monetary components (e.g., flexible hours) of your first regular job after completing your master's degree?

[19]Half of the participants are invited to the negotiation training which, includes five short videos about negotiation. All videos are approximately 1 hour in length in total.

4.2 Effects on Negotiation Intention

4.2.1 Effects of the Statistics and the Role-Model Treatments

The first set of results, presented in Table 3, show the effects of the interventions on the intention to negotiate for base salary (Columns (1) and (2)), other monetary aspects (Columns (3) and (4)) and other non-monetary aspects (Columns (5) and (6)) for female and male graduates 2-4 months after the interventions.[20]

Table 3 shows that the statistics treatment significantly increases females' intention to negotiate for base salary by 7.6 percentage points. The statistics treatment does not affect men's negotiation intentions. This result is consistent with the aim of the statistics treatment, which specifically targets female students by providing statistics on gender differences in negotiation behavior. The role-model treatment increases the intention of both female and male participants to negotiate their base salary by 9.2 and 9.1 percentage points, respectively. Compared to the mean of the control group, this corresponds to an increase of about 30 percent for women and 19 percent for men.

The statistics treatment does not significantly increase negotiation intentions for other monetary or non-monetary aspects for either gender (Columns (3) to (6) of Table 3). This result is not surprising, given that the statistics treatment only provides information on the base salary. The role-model treatment significantly increases negotiation intentions for other monetary aspects, but only for women. It has no significant effect on non-monetary aspects where the gender gap is small.

Figure 3 illustrates the effects of statistics and role-model treatments and plots the gender negotiation intention gap in the control group to benchmark the size of the treatment effects. The colored bars are based on Columns (1) and (2) of Table 3. The figure shows that providing information treatment to females closes about a half of the gender gap in the control group and the role-model treatment closes around two thirds of the gap. This result suggests that providing treatments exclusively to female students would eliminate an important part of the gender gap in negotiation intentions. The result is similar for other monetary aspects, but this time providing the role-model treatment only to women would even reverse the gap (Appendix Figure A.7 and Columns (3) to (6) of Table 3). Given that the treatment effects on males' negotiation intentions for other non-monetary aspects are so small, the treatments could be provided to both genders, which would almost entirely close the gap or even reverse it.

To understand which individuals are more affected by treatments, Appendix Table A.4 shows the main results separately for those who did not intend to negotiate in the baseline survey and those who did. As expected, the treatments significantly increase base salary negotiation intentions for individuals who had no prior intention of negotiating. The results are similar for other monetary aspects, except for women who

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[20]The negotiation intention analysis includes only those individuals who responded to the negotiation intention questions in both the baseline and the first follow-up survey, as explained in Section 2.

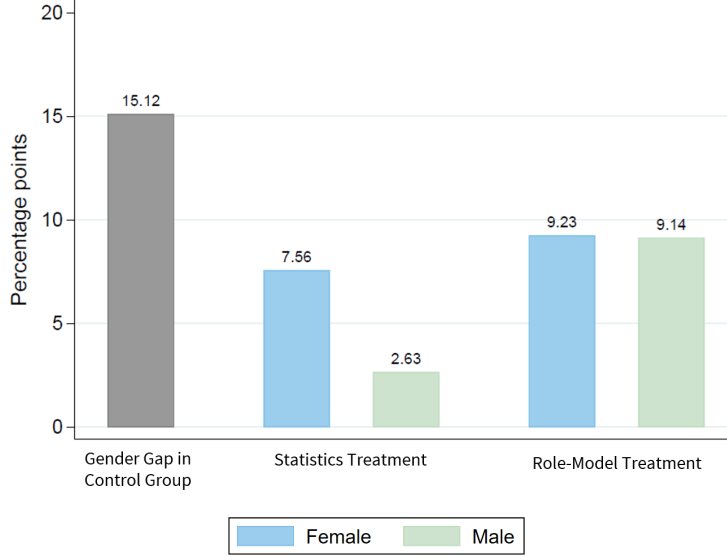Table 3: The Treatment Effects on Negotiation Intentions

	Base Salary		Other Monetary Aspects		Other Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)
Statistics Treatment	0.076**	0.026	0.047	0.051	0.037	0.006
	(0.031)	(0.038)	(0.029)	(0.036)	(0.032)	(0.038)
Role-Model Treatment	0.092***	0.091**	0.083***	0.060	0.051	-0.002
	(0.031)	(0.038)	(0.029)	(0.037)	(0.032)	(0.039)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.328	0.479	0.243	0.300	0.447	0.495
Individuals	1,468	1,024	1,468	1,024	1,468	1,024

Note: The table reports the effects of the treatments on the negotiation intention outcomes 2-4 months after the intervention, based on the estimation of Equation 1. The outcome variables are binary and equal to 1 if respondents intend to negotiate for base salary (Columns (1) and (2)), for other monetary aspects (Columns (3) and (4)), and other non-monetary aspects (Columns (5) and (6)), and equal to 0 otherwise. The statistics treatment and the role-model treatment are represented by dummy variables with a value of 1 if the respondent received the corresponding treatment and 0 for those in the control group. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and who responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. Strata fixed effects include field of study (4 categories), grades (2 categories), and planned graduation date (2 categories). Controls include being born in Germany, having parents with a college degree, having siblings, days since the intervention, ever participating in the negotiation training treatment, and university fixed effects for universities with more than 50 students in the sample. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

intended to negotiate for other monetary aspects in the baseline.

To further explore the effects of the treatment, we also examine the effects on each category of responses to the negotiation intention questions. Appendix Figure A.4 shows that after the intervention, treated women are less likely to respond with *"undecided"* and *"haven't thought about it"* compared to women in the control group. The largest difference is observed in the *"haven't thought about it"* response, where the baseline gender differences are also the largest (see Figure 2). Therefore, females increase their negotiation intention for base salary primarily by thinking more about it than they would otherwise. Appendix Figure A.5 shows a similar pattern for other monetary aspects, while for other non-monetary aspects, the change in response is less distinct (Appendix Figure A.6).

Figure 3: The Treatment Effects on Negotiation Intention

Note: The figure shows the effects of the treatments on the intention to negotiate for base salary, based on the estimation of Equation 1. The coefficient estimates are taken from Columns (1) and (2) of Table 3. The gray bar represents the gender gap in the control group at follow-up 1. The blue (green) bars represent the treatment effect for females (males). Outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. Controls include strata fixed effects: the field of study (4 categories), grades (2 categories), and the planned graduation date (2 categories). Other controls include being born in Germany, having parents with a college degree, having siblings, days since the intervention, ever participating in the negotiation training treatment, and university fixed effects for universities with more than 50 students in the sample.

4.2.2   Effects of the Negotiation Training Treatment

The participation rate in the training is 15 percent, and 13 percent of all invited participants completed the training. The gender distribution of participants is balanced, with 14 percent of females and 16 percent of males participating, and 13 percent of females and 14 percent of males completing the training.

Although individuals are randomly allocated to the training treatment, the decision to attend the training may be correlated with students' motivation or interest in ways that are not observable in our data, so OLS results may be biased. Therefore, in this analysis, I use the randomized invitation to the training treatment as an instrumental variable to determine the causal effect of the training program on negotiation intentions for base salary, and other monetary and non-monetary components.

The results of the first stage show that receiving an invitation significantly increases the probability of joining the treatment for both genders (Columns (1) and (2) of Table A.5).[21] The instrumental variable approach estimating the Local Average Treatment Effect (LATE) shows that participation in the training treatment positively increases both women's and men's intentions to negotiate base salary, with the effect

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[21]Participants received a code and a link to participate in the training treatment, so it is unlikely that people from the control group joined the treatment.

being twice as pronounced for men (Columns (3) and (4) of Table A.5). However, the estimated coefficients are not statistically significant. The treatment coefficients indicate a pronounced and statistically significant effect for males for both monetary and non-monetary negotiation aspects (Columns (6) and (8)), in contrast to the smaller and statistically insignificant effects observed for females (Columns (5) and (7)). To sum up, the results suggest that the training treatment increases females' negotiation intention for base salary and other non-monetary aspects, however, the effects are statistically insignificant.

4.2.3 Heterogeneity of Treatment Effects

As graduates in various fields of study may have different labor market perspectives and outcomes (e.g. Altonji et al., 2016), they may also be affected by treatments differently. Therefore, I examine the treatment effects separately for STEM and non-STEM fields of study. Focusing on the primary outcome of negotiation intention for base salary, the left panel of Figure 4 reveals that the effects of treatment vary between study fields.[22] It is notable that the statistics treatment has a positive and statistically significant effect on female STEM students, while the role-model treatment increases the intention to negotiate for base salary for female non-STEM students.

The role-model treatment also has a significant effect on female non-STEM students regarding negotiation intentions for other monetary aspects (left panel of Appendix Figure A.8) and STEM students for other non-monetary aspects (left panel of Appendix Figure A.9). For males, both treatments have no significant effect on any outcome, regardless of the field of study. With the small exception of the role-model treatment, which increases (at the 10 percent level) base salary negotiation intentions for male STEM students.

Next, I examine the impact of the treatments based on different grades. I distinguish between high grades (1.3 and better) and lower grades (worse than 1.3). The central panel of Figure 4 shows that neither treatment produces significant effects on those with high grades. However, a different pattern emerges among students with lower grades. The statistics treatment solely increases negotiation intentions among females with lower grades with respect to base salary. In contrast, the role-model treatment enhances negotiation intentions for both male and female students, affecting not only the base salary but also other monetary components (central panel of Appendix Figure A.8). Moreover, for female students, this treatment increases negotiation intentions regarding non-monetary aspects as well (central panel of Appendix Figure A.9).

The effect of treatment might also be different for individuals with different levels of risk aversion. As a final step in the heterogeneity analysis, I explore whether treatments have different effects on individuals based on their levels of risk aversion. To conduct this analysis, I categorize individuals as either above or below the median level of risk aversion, which is calculated separately for men and women. The role-model

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[22]All coefficient estimates are also presented in Appendix Table A.6.

Figure 4: Heterogeneity in the Treatment Effect: Base Salary
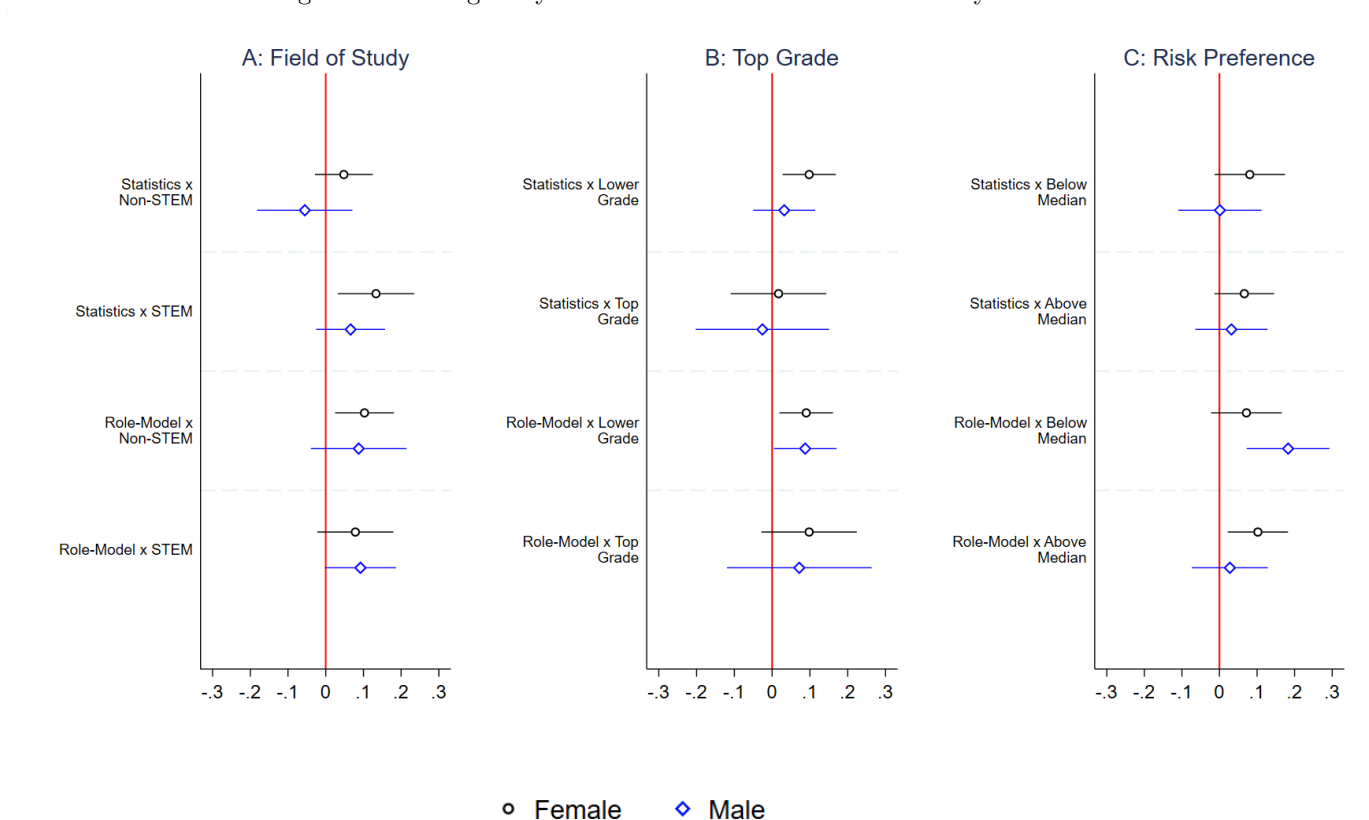
Note: The figure shows heterogeneous treatment effects on the intention to negotiate for base salary. The coefficient estimates are taken from Columns (1) and (2) of Table A.6. The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. Controls include strata fixed effects: the field of study (4 categories), grades (2 categories), and the planned graduation date (2 categories). Other controls include being born in Germany, having parents with a college degree, having siblings, days since the intervention, ever participating in the negotiation training treatment, and university fixed effects for universities with more than 50 students in the sample.

treatment has a greater effect on base salary negotiation intentions for females with higher risk tolerance, while the statistics treatment has no significant effect (right panel of Figure 4).

This suggests that risk-taking women may be more willing to negotiate, especially after exposure to experiences and the encouragement of role models who would otherwise not think about negotiating. Engaging risk-averse individuals in negotiation appears to be more complex and may require more intensive interventions such as specialized negotiation training. Interestingly, role-model treatment has a significant and large effect (18 percentage points) on the intention to negotiate base salary for males who are risk averse. Finally, role-model treatment also has a significant effect on negotiation intentions for other monetary aspects for both genders with lower risk preferences (right panel of Appendix Figure A.8).

4.2.4 Expected Returns from Salary Negotiation

To investigate whether treatments influence the anticipated return of the negotiation, I examine the effects of the intervention on the expected percentage chance of a base salary increase conditional on a negotiation.[23] The results in Table 4 show that the effects of the treatments are significant for women, but only marginally significant for men. For women, the effect of role-model treatment is larger than the effect of statistics treatment. For example, statistics treatment increases the expected percentage chance of a base salary by 4.592 percentage points. Compared to the control group mean, this represents a large increase of around 24 percent. The distribution of the outcome variable by gender is presented in the Appendix Figure A.10.

Table 4: The Percentage Chance of Increase of Base Salary

	Female	Male
	(1)	(2)
Statistics Treatment	4.464***	3.661*
	(1.444)	(1.882)
Role-Model Treatment	6.750***	3.790*
	(1.468)	(1.957)
Strata FE	Yes	Yes
Controls	Yes	Yes
Mean of Control Group	28.637	35.040
Individuals	1,410	1,002

Note: This table reports the treatment effects on the expected percentage chance of a base salary increase as a result of negotiation. The outcome variable is continuous and is illustrated in Appendix Figure A.10. For explanations of the variables of interest and controls, refer to Table 3. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

4.2.5 The Role of Belief Update on Negotiation Intention

The treatments may affect negotiation intentions and expected returns to negotiation via two channels. First, the treatments may increase participants' negotiation intentions by informing them about the percentage of women/men who negotiate their wages or about the potential returns to negotiation. This assumes that

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[23]The exact question is "If you were to negotiate with your future employer about the base salary of your first regular job after graduation, what do you think the percentage chance is that your base salary will increase?"

participants are misinformed exante and adjust their beliefs after receiving the information (Rockoff et al., 2012; Bursztyn et al., 2020b). Second, assuming that respondents already have accurate information prior to the interventions, the treatments may increase the salience of the information, (e.g. Bleemer and Zafar, 2018; Grewenig et al., 2020).

Figure 5: Perceived Gender Gap in Negotiation
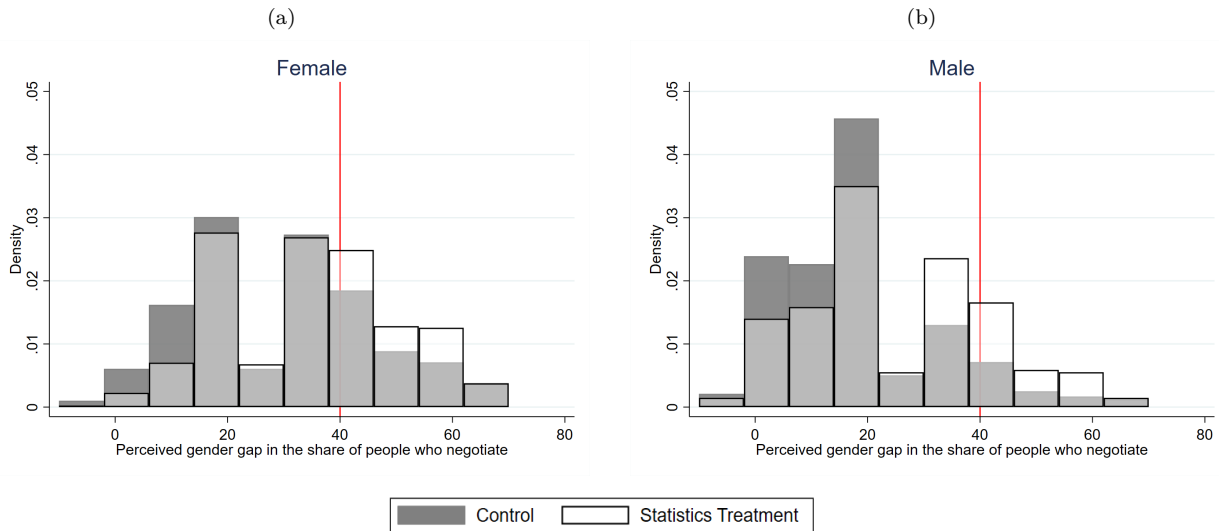
Note: The figure illustrates the post-treatment beliefs of females and males regarding the gender negotiation gap in the population. The outcomes are measured 2-4 months after the intervention at Follow-Up 1. The sample includes individuals who participated in Wave 1 and Follow-Up 1 (Wave 2) and responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in Wave 1 and Follow-Up 1. The vertical red line represents the gender gap in salary negotiation intention, which is equal to 40 percent according to the statistics treatment. For explanations of the controls, refer to Table 3.

To examine these channels, I elicit participants' beliefs about the share of women and men who negotiate their first full-time wage both before and after the treatment. Figure 5 shows that 2-4 months after the statistics treatment, which highlights a 40 percent gender gap in wage negotiation, treated women perceive a larger gender gap compared to those in the control group. This difference is even more pronounced for men.[24]

Following Bleemer and Zafar (2018), I explore the mechanisms that facilitate belief updating in the following way:

$$\Delta Belief_{ij} = \beta_0 + \beta_1 Statistics_i + \beta_2 Error_i + \beta_3 (Statistics_i \times Error_i) + \beta_4 X_i + \gamma_j + \epsilon_{ij} \qquad (2)$$

where the outcome variable $\Delta Belief_{ij}$ denotes the belief update of individual i 2-4 months after the intervention. Given the range of beliefs, from those far from the true value to those close to it, I compute

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[24]Since only the statistics treatment includes information about the gender gap in wage negotiation, I exclude those who received the role-model treatment in the first estimation.

an error variable to assess the role of belief accuracy. This error, denoted as $Error_i$, is calculated as the difference between the perceived gender gap in the proportion of people who negotiate their wages and the true value according to the statistics treatment (40 percent), so a positive (negative) error indicates an overestimation (underestimation). $Statistics_i$ is an indicator for participant i being assigned to the statistics treatment. For individuals whose error in the gender negotiation gap is zero, β_0 reflects the average belief update in the control group, while β_1 denotes the average update for individuals assigned to the statistics treatment. β_2 is the average belief update related to the error for the control group. Finally, β_3 captures the mean update in beliefs associated with the error in the gender negotiation gap for treated individuals. If β_1 is non-zero, respondents are updating their beliefs due to increase in salience of information related to the gender negotiation gap. However, if respondents are updating their beliefs as a result of information updating, β_3 must be different from zero. In order to test whether belief updating has any effect on the intention to negotiate for base salary, I use a dummy for the intention to negotiate (see Section 4.1 for more details), which takes the value 1 if a graduate i intends to negotiate for their first job after graduation, and 0 otherwise.

The results derived from Equation 2 show that the statistics treatment leads to a 3.5 (5.7) percentage point increase in women's (men's) perceptions of the gender negotiation gap when there is no pre-treatment error (Columns (1) and (2) of Appendix A.7), implying an upward revision. The coefficient on the interaction term in Row (3) is negative and significant for women, indicating that women who overestimate (underestimate) the true population gender negotiation gap revise down (up) their beliefs. Overall, however, the relationship between revisions and errors is weak for women and absent for men.

In addition, when analyzing the intention to negotiate base salary as the outcome, it appears that the effect of the statistics treatment on negotiation intentions cannot be attributed to belief updating, as the interactions in Columns (3) and (4) (Appendix Table A.7) are statistically insignificant, indicating that the magnitude of the treatment effect is not related to information updating.

Furthermore, the results in Section 4.2.1 document that the treatments have an effect on anticipated wage increases as a result of negotiations. To examine whether information updating plays a role in this result, I focus on the question asking participants how much they expect the average female (male) salary to increase (in percent) after women (men) negotiate. In the statistics treatment, the reported true population value is 7.4 percent, while in the role-model treatment it ranges from 5 to 15 percent. For this exercise, I use the 7.4 threshold as the true value. The treatments focus on the overall success of wage negotiation rather than the gender gap. Therefore, in figures and estimates, I use the female (male) response as the corresponding reported belief for women (men). Figure 6 documents the distribution of perceived wage increases for women and men separately after treatment. On average, women underestimate the salary increase as a result of

Figure 6: Perceived Wage Increases as a Result of Negotiation

(a)

Female

(b)

Male

| Control | Treated |
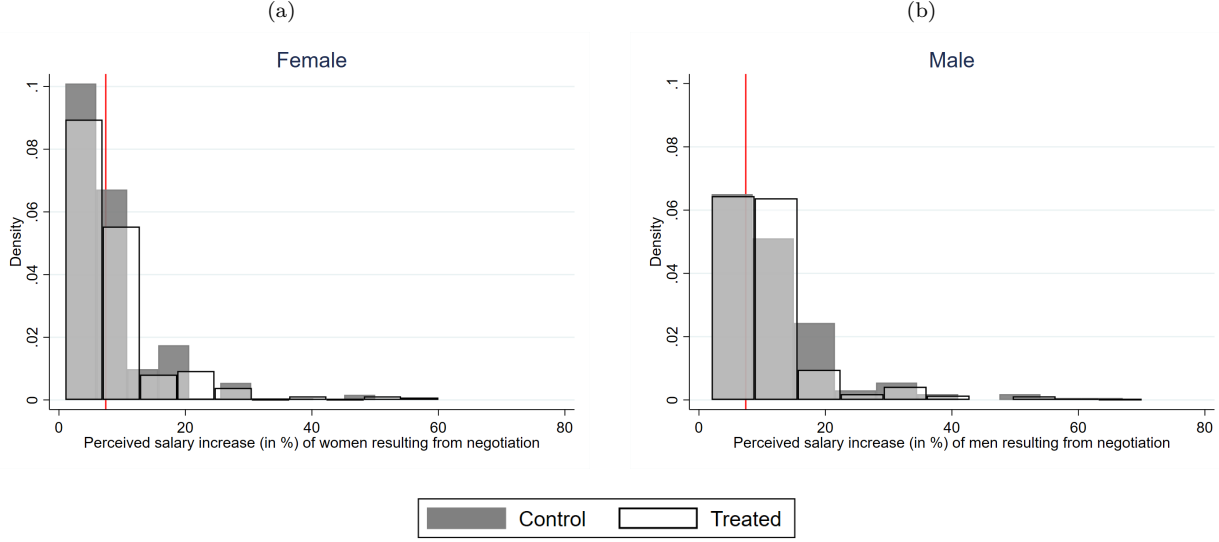
Note: The figure illustrates the distribution of post-treatment beliefs about negotiation success rates in the population, separately for women and men. The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. The statistic treatment documents that the expected increase in the average salary is 7.4, which is represented by the vertical red line. For explanations of the controls, refer to Table 3.

negotiations. However, the difference between the control and treatment groups is not very clear.

To explore this further, I examine the effect of the error in beliefs about the true value (7.4 percent) of returns to negotiation on post-treatment beliefs and negotiation intentions. I use an approach similar to Equation 2, but since participants' beliefs about their own gender's success would play a larger role, I run the analysis separately for women and men.[25]

Columns (5) and (6) in Appendix Table A.7 first show that the statistics and role-model treatments do not significantly change beliefs about the returns to negotiation for either men or women. The results also reveal that the effects of both treatments on negotiation intentions (Columns (7) and (8)) are unrelated to the size of the error in beliefs, as the coefficients on the interaction terms are insignificant for both genders. Thus, the error in beliefs about the returns to negotiation does not play a role in the estimated treatment effects. Overall, this section suggests that the increase in negotiation intention is not explained by belief updates, but rather by an increase in the salience of information.

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[25] For example, the estimation equation for women is as follows:

$$\Delta Belief_{ij} = \beta_0 + \beta_1 Statistics_i + \beta_2 Rolemodel_i + \beta_3 Error - Female_i +$$
$$\beta_4 (Statistics_i \times Error - Female_i) + \beta_5 (Rolemodel_i \times Error - Female_i) + \beta_4 X_i + \gamma_j + \epsilon_{ij}$$

(3)

4.3 Effect on Realized Negotiation Behavior

4.3.1 The Main Effects or Treatments Effects

This section examines the effects of the treatments on the actual negotiation for the base salary, other monetary aspects, and other non-monetary aspects.[26] Table 5 documents that the effects of the statistics and role-model treatments are insignificant for all negotiation outcomes and for both genders. The insignificant effect on realized negotiation for base salary is surprising, given that the statistics treatment significantly increased women's negotiation intentions for base salary, and the role-model treatments increased the negotiation intentions of both women and men. Overall, the results suggest that although individuals increased their intention to negotiate, this did not translate into actual negotiation behavior.

In addition, I perform a heterogeneity analysis to assess whether the null effects of treatments might be masked by variations in the fields of study (Non-STEM vs. STEM), grades (better than or worse than 1.3), and risk preferences (below vs. above the median). Appendix Table A.11 shows that treatments do not significantly alter the actual negotiation behavior of these different groups.

4.3.2 Channels

Reasons for not Negotiating for Base Salary

Conditional on not negotiating for their first job, participants were asked to provide reasons for not negotiating for their base salary. Table 6 compares the control and treated groups on the reasons for not negotiating, separately for men and women.[27] Treated women are more likely to report that they were *"unsure how to negotiate"*. They were also more likely than the control group to *be afraid of having their proposal rejected*, although the difference is only slightly significant. In contrast, females in the control group are more likely to report that they *"did not want to be perceived as too aggressive"*. Thus, the results suggest that the treatments make women consider negotiation by increasing their intention to negotiate; however, they do not address the issue of how to conduct a negotiation intensively or how to get rid of fears.

Interestingly, for men, the only significant difference between the control and treatment groups lies in the perception that the *"base salary was fixed"*, and men in the control group report this more frequently than treated men. This difference could potentially arise from men in the control group do not really consider negotiating unless they receive the treatment.

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[26]The outcome variables are measured in waves 2 and 3 and take the value 1 if an individual negotiates for their first job and 0 otherwise. Participants answer this question in wave 2 if they have started applying for a job, and also in wave 3. If an individual answers this question in both waves, I focus on the first answer from wave 2. As a robustness check, I re-estimate the treatment effects by dropping the individuals who answer this question in both waves and who give different answers and the result does not change (see Appendix Table A.8).

[27]Because of the small sample size of those who answered this question, I combine the reasons for not negotiating for their first regular job after graduation and for not negotiating during their first job search.

Table 5: The Treatment Effects on Realized Negotiation Outcome

	Base Salary		Other Monetary Aspects		Other Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)
Statistics Treatment	-0.006	0.001	0.029	-0.010	-0.031	-0.006
	(0.037)	(0.040)	(0.028)	(0.034)	(0.031)	(0.031)
Role-Model Treatment	-0.008	0.013	0.033	-0.022	0.004	0.032
	(0.037)	(0.041)	(0.027)	(0.033)	(0.031)	(0.033)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.403	0.470	0.147	0.192	0.236	0.176
Individuals	1,051	909	1,051	909	1,051	909

Note: This table reports the treatment effects on realized negotiation outcomes, based on the estimation of Equation 1. The outcome variables are binary and equal to 1 if respondents negotiated for base salary (Columns (1) and (2)), for other monetary aspects (Columns (3) and (4)), and for other non-monetary aspects (Columns (5) and (6)) for their first regular job after negotiation, and equal to 0 if they did not. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) or follow-up 2 (wave 3) and who responded to the realized negotiation outcomes (base salary, other monetary aspects, non-monetary aspects) in the first follow-up or second follow-up. If a participant answers this question in both waves, I focus on the first answer from follow-up 1 (wave 2). For explanations of the variables of interest and controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

Since we find that treatment and control groups differ in different ways for men than for women, Appendix Table A.12 additionally presents the reasons for not negotiating by gender by pooling control and treatment groups. As expected, females are more likely to work in more secure jobs with fixed salaries. In addition, women are significantly more likely to report concerns such as *"fear of not getting the job"*, *"unsure what amount to propose"*, or *"unsure how to negotiate"*. In contrast, men often justify their decision not to negotiate by asserting that *"the salary offer was reasonable"* or *"I don't know"*.

Timing of the Intervention

One potential reason for the observed null effect might be that graduates simply forgot about the intervention, since the negotiation takes place a considerable time after the intervention for some graduates. To address this concern, I separated the analysis into two groups: those who answered the negotiation questions during the second wave (2-4 months after the intervention), and those who answered during the

Table 6: Reasons for Not Negotiating: A Comparison of Control and Treatment Groups

	Female			Male		
	Control	Treated	Control - Treated	Control	Treated	Control - Treated
	(1)	(2)	(3)	(4)	(5)	(6)
Base Salary Was Fixed	0.718	0.645	0.074	0.493	0.547	-0.054
Salary Did Not Matter	0.035	0.054	-0.019	0.071	0.076	-0.004
Fear of Not Getting the Job	0.158	0.221	-0.064	0.143	0.124	0.019
Fear of Having Proposal Rejected	0.035	0.114	-0.079*	0.086	0.034	0.051
Unsure What Amount to Propose	0.140	0.215	-0.074	0.114	0.090	0.025
Unsure How to Negotiate	0.105	0.228	-0.123**	0.129	0.110	0.018
Thought the Salary Was Fixed	0.053	0.047	0.006	0.086	0.007	0.079***
Salary Was Not Discussed	0.263	0.295	-0.032	0.214	0.276	-0.062
Would Not Want to Be Perceived as Too Aggressive	0.105	0.040	0.065*	0.057	0.041	0.016
Already Negotiated Other Aspects	0.035	0.027	0.008	0.071	0.048	0.023
Concern about Negative Relationship with Employer	0.053	0.107	-0.055	0.043	0.062	-0.019
Salary Offer Was Reasonable	0.439	0.369	0.069	0.514	0.476	0.038
I Don't Know	0.000	0.007	-0.007	0.029	0.041	-0.013
Other Reason	0.246	0.221	0.024	0.200	0.248	-0.048
Individuals	110		252	67	172	

Note: This table shows the distribution of responses to the question "What were the main reasons for not negotiating the base salary of your first regular job after your master's degree?", which was asked only of participants who reported not negotiating the salary of their first job. Columns (1) to (3) show female responses and Columns (4) to (6) show male responses. Columns (1) and (4) show the responses of the control group, Columns (2) and (5) show the responses of the treatment group, and Columns (3) and (6) compare the responses of the control and treatment groups. ***, ** and * denote significance at the 1, 5, and 10% levels.

third wave (6-8 months after the planned graduation date).

Appendix Table A.14 shows that role-model treatment significantly increases all negotiation outcomes for women who responded to the negotiation question during the second wave. The effect becomes insignificant and negative for those who answered in the third wave.

In addition, I examine the time between the intervention and the responses to the negotiation questions. Since the planned graduation dates vary, respondents faced the negotiation questions at different intervals after the interventions. Appendix Figure A.11 illustrates the density of the months between the intervention and the base salary negotiation question. To investigate the timing effect, I divided the individuals into two groups based on whether the time between the intervention and the question answered was less than 8 months or longer. Appendix Table A.13 indicates a positive and significant impact on those who received the negotiation question earlier after the intervention. However, when I limited the analysis to respondents who had non-missing responses for all negotiation outcomes, including negotiations for base salary and other monetary and non-monetary aspects, the significance of the coefficients disappeared. Therefore, the timing after the intervention seems to provide only a partial explanation for the null effects.

4.3.3 Alternative Explanations or Robustness Check

To further examine the null effects on realized negotiation outcomes, I conduct two complementary analyses that explore different negotiation contexts and expand the sample size by not dropping observations with missing values in other negotiation outcomes. First, the initial analysis concentrated on whether graduates negotiate for their first regular job after graduation. However, it is also possible that graduates do not negotiate for their first regular job, but negotiate during their first job search. Since the survey asks these two questions separately, I am also able to examine whether a negotiation occurs at any point during the job search process. The results, presented in Appendix Table A.9, are similar to the main analysis, showing no substantial treatment effects.

Second, the main sample of analysis for realized negotiation outcomes is limited to respondents who have a non-missing response to all negotiation outcome questions for base salary, other monetary aspects, and other non-monetary aspects. I repeat the analysis of treatment effects on the negotiation intention for base salary outcomes without excluding those with missing data on other monetary and non-monetary aspects. Even with the expanded sample for base salary negotiation (Columns (1) and (2)), the findings remain consistent and reveal no meaningful treatment effects (see Appendix Table A.10).

5 Discussion of the Channels of Impact

The results show that both the statistics and the role-model treatments substantially increase women's intention to negotiate, and the expected percentage increase in salary conditional on negotiation. Given that the interventions are cheap and short, the effect on negotiation intention is large and significant. As noted in Section 2, both treatments aim to provide master students with information about the importance and benefits of salary negotiation. In the role-model treatment, this information is conveyed by successful role models in the labor market.

Two main reasons could explain the increased intention to negotiate. First, the treatments might have corrected pre-existing misinformation, leading people to update their beliefs (Rockoff et al., 2012; Bursztyn et al., 2020a). Second, the treatments might have increased the salience of the information (Schwarz and Vaughn, 2002; Chetty et al., 2009; DellaVigna, 2009; Bleemer and Zafar, 2018; Grewenig et al., 2020). The statistics treatment aimed to increase the salience, particularly for women, by emphasizing gender differences in negotiation behavior. The role-model treatment, on the other hand, conveyed information via role models and aimed to make master's students, particularly females, relate and increase their attention to real-life examples of positive experiences. In addition, role-model treatment included some helpful tips

about negotiation that might encourage students to learn more about it.

To investigate these channels, I tested in Section 4.2.5 whether the participants update their beliefs as a result of negotiation. I find that students update their beliefs about the proportion of people who negotiate according to the information provided in the statistics treatment. However, this updating of beliefs did not affect their negotiation intentions. In addition, the section showed that the treatments do not significantly change beliefs about the potential gains from negotiation. These findings suggest that the observed increase in negotiation intentions does not stem from information updating. Instead, it appears to be driven by an increase in the salience of the information provided.

Section 4.2.1 further illustrates that the effect of the treatments is particularly pronounced among women who *"hadn't thought about"* negotiating before the treatments. This pattern also suggests that the treatments may encourage students to pay more attention to the topic of negotiation, to think about it, to seek out more information about it, and to reduce the likelihood of forgetting about negotiation during the job search period. This is particularly important for those who might not have thought about negotiation before the treatments were provided.

Although the treatments succeeded in increasing graduates' intentions to negotiate, they did not lead to a change in their actual negotiation behavior. This disconnect between intention and action is a well-documented phenomenon in the field of social psychology and psychology, often referred to as the "intention-behavior gap" or the "intention-action gap." The intention-behavior gap occurs primarily when an individual intends to achieve a goal but does not act accordingly. The meta-analysis conducted by Sheeran (2002) shows that the median proportion of people who intend to act but do not act is 47 percent. This gap can be attributed to various challenges and external factors that can complicate the transition from intention to action (Wiedemann et al., 2009; Moghavvemi et al., 2015; Hassan et al., 2016).

In the context of wage negotiations, there are several obstacles that can prevent a negotiation. For example, the salary might be fixed, leaving no room for negotiation. There may also be a fear of backlash or a lack of confidence in negotiating, especially among women. In such situations, a short intervention may not be sufficient to overcome these fears or increase confidence. To address this issue, Section 4.3.2 examined the reasons for not negotiating. It shows descriptively that women are more likely to express concerns such as being *unsure how to negotiate*, having *fear of having a proposal rejected*, and *not wanting to be perceived as being too aggressive*. This result shows that although the treatments increased individuals' intentions to negotiate by making the information given more salient, they were not intensive enough to overcome fears, encouraging enough to increase confidence or providing sufficient guidance on how to negotiate. They also did not encourage individuals to seek out this information on their own. The findings highlight the complexity of turning intention into action, especially in the context of wage negotiation.

It is also possible that the graduates, especially those who received the treatments a long time ago, may have forgotten about the treatments during their job search. In this case, the effect of the treatments would likely be more pronounced for those who found their first job shortly after the interventions. Section 4.3.2 provides some evidence in support of this hypothesis, showing that the effect of the role-model treatment was positive and significant for females who responded during the second wave, 2-4 months after the intervention. However, this significant effect was not observed in the third wave of responses. Further analysis indicates that the result is not robust when focusing on our main sample, which has no missing responses for all negotiation outcomes (base salary, other monetary and non-monetary aspects), suggesting only a partial explanation for the null effect of treatments on actual salary negotiation.

6   Conclusion

I conduct a randomized controlled trial to assess how providing information affects the negotiation intentions and outcomes of master's graduates, particularly for women. The first information intervention, *the statistics treatment*, provides students with information about the significance and potential benefits of negotiations, emphasizing the gender gap in negotiation behavior to increase the salience of the information. The second treatment, *the role-model treatment*, provides personalized information via role models, designed to both inform and motivate graduates, especially female graduates, to negotiate.

I first establish the existence of a gender gap in negotiation intention before the interventions take place. Furthermore, 2-4 months after the interventions, the statistics treatment increases negotiation intentions by 7.6 percentage points for women but has no effect on men. Conversely, the role-model treatment increased the negotiation intentions of both genders by roughly 9 percentage points. For women, these treatments also significantly affect the expected chance of a salary increase resulting from negotiation. The significant effect is primarily attributed to the salience of the information rather than mere information updates. Additionally, I demonstrate that the treatments do not significantly impact actual negotiation behavior. This implies that converting intentions into actions in high-stakes contexts, such as wage negotiations, is challenging. Consequently, more intensive interventions are necessary to alleviate the fear of negotiation and educate individuals on negotiation techniques.

The findings of this paper show that providing even a small amount of information can encourage graduates to consider participating in negotiations. While highlighting gender differences mainly affects females, using role models appeals to both men and women. However, to empower women to engage in negotiations, they may require more comprehensive and targeted training just before (or during) the job search period. These findings may encourage universities and other institutions to provide more negotiation training, es-

pecially for women. Universities could also consider adding negotiation courses into their curricula as a means of addressing the gender negotiation gap and, consequently, the gender wage gap among university students. However, given the findings of Exley et al. (2020) from a laboratory experiment, general advice about "leaning-in" may not necessarily be beneficial. Therefore, more research is needed to better understand which type of negotiation advice works best in which context.

References

Abebe, G., Caria, A. S., Fafchamps, M., Falco, P., Franklin, S., and Quinn, S. (2021). Anonymity or distance? job search and labour market exclusion in a growing african city. *The Review of Economic Studies*, 88(3):1279–1310.

Altmann, S., Falk, A., Jäger, S., and Zimmermann, F. (2018). Learning about job search: A field experiment with job seekers in germany. *Journal of Public Economics*, 164:33–49.

Altonji, J. G., Arcidiacono, P., and Maurel, A. (2016). The analysis of field choice in college and graduate school: Determinants and wage effects. In *Handbook of the Economics of Education*, volume 5, pages 305–396. Elsevier.

Ashraf, N., Bau, N., Low, C., and McGinn, K. (2020). Negotiating a better future: How interpersonal skills facilitate intergenerational investment. *The Quarterly Journal of Economics*, 135(2):1095–1151.

Babcock, L. and Laschever, S. (2003). *Women don't ask: Negotiation and the gender divide*. Princeton University Press.

Barber, B. M. and Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The quarterly journal of economics*, 116(1):261–292.

Becker, G. S., Hubbard, W. H., and Murphy, K. M. (2010). Explaining the worldwide boom in higher education of women. *Journal of Human Capital*, 4(3):203–241.

Belot, M., Kircher, P., and Muller, P. (2018). How wage announcements affect job search-a field experiment.

Bertrand, M. (2011). New perspectives on gender. In *Handbook of labor economics*, volume 4, pages 1543–1590. Elsevier.

Biasi, B. and Sarsons, H. (2021). Information, confidence, and the gender gap in bargaining. In *AEA Papers and Proceedings*, volume 111, pages 174–178. American Economic Association 2014 Broadway, Suite 305, Nashville, TN 37203.

Biasi, B. and Sarsons, H. (2022). Flexible wages, bargaining, and the gender gap. *The Quarterly Journal of Economics*, 137(1):215–266.

Blau, F. D. and Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55(3):789–865.

Bleemer, Z. and Zafar, B. (2018). Intended college attendance: Evidence from an experiment on college returns and costs. *Journal of Public Economics*, 157:184–211.

Bowles, H. R., Babcock, L., and McGinn, K. L. (2005). Constraints and triggers: Situational mechanics of gender in negotiation. *Journal of Personality and Social Psychology*, 89(6):951.

Breda, T., Grenet, J., Monnet, M., Van Effenterre, C., et al. (2020). Do female role models reduce the gender gap in science? evidence from french high schools. Technical report, Institute of Labor Economics (IZA).

Bursztyn, L., González, A. L., and Yanagizawa-Drott, D. (2020a). Misperceived social norms: Women working outside the home in saudi arabia. *American economic review*, 110(10):2997–3029.

Bursztyn, L., Rao, A., Roth, C. P., and Yanagizawa-Drott, D. H. (2020b). Misinformation during a pandemic.

Card, D., Cardoso, A. R., and Kline, P. (2016). Bargaining, sorting, and the gender wage gap: Quantifying the impact of firms on the relative pay of women. *The Quarterly Journal of Economics*, 131(2):633–686.

Chetty, R., Looney, A., and Kroft, K. (2009). Salience and taxation: Theory and evidence. *American economic review*, 99(4):1145–1177.

Chotiputsilp, B. and Kim, T. (2021). Can negotiation training help close the gender pay gap? *Available at SSRN 3899997*.

Cortés, P., Pan, J., Pilossoph, L., Reuben, E., and Zafar, B. (2023). Gender differences in job search and the earnings gap: Evidence from the field and lab. *The Quarterly Journal of Economics*, 138(4):2069–2126.

Croson, R. and Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic literature*, 47(2):448–474.

Del Carpio, L. and Guadalupe, M. (2022). More women in tech? evidence from a field experiment addressing social identity. *Management Science*, 68(5):3196–3218.

DellaVigna, S. (2009). Psychology and economics: Evidence from the field. *Journal of Economic literature*, 47(2):315–372.

Dreber, A., Heikensten, E., and Säve-Söderbergh, J. (2022). Why do women ask for less? *Labour Economics*, 78:102204.

Eckel, C. C. and Grossman, P. J. (2002). Sex differences and statistical stereotyping in attitudes toward financial risk. *Evolution and human behavior*, 23(4):281–295.

Eurofound (2022). *Moving with the times: Emerging practices and provisions in collective bargaining.* Publications Office of the European Union, Luxembourg.

Exley, C. L., Niederle, M., and Vesterlund, L. (2020). Knowing when to ask: The cost of leaning in. *Journal of Political Economy*, 128(3):816–854.

Federal Statistical Office (2023). *Bildung und Kultur.*

Filippin, A. and Ichino, A. (2005). Gender wage gap in expectations and realizations. *Labour Economics*, 12(1):125–145.

Francesconi, M. and Parey, M. (2018). Early gender gaps among university graduates. *European Economic Review*, 109:63–82.

Fröberg, E., Säve-Söderbergh, J., Wahlund, R., and Wakeman, S. W. (2023). The promise (and peril) in approaching gender parity: Preregistered survey experiments addressing gender inequality in negotiations. *Labour Economics*, page 102401.

Goldin, C. (2014). A grand gender convergence: Its last chapter. *American Economic Review*, 104(4):1091–1119.

Grewenig, E., Lergetporer, P., and Werner, K. (2020). Gender norms and labor-supply expectations: Experimental evidence from adolescents.

Haaland, I. and Roth, C. (2023). Beliefs about racial discrimination and support for pro-black policies. *Review of Economics and Statistics*, 105(1):40–53.

Haaland, I., Roth, C., and Wohlfart, J. (2020). Designing information provision experiments.

Hassan, L. M., Shiu, E., and Shaw, D. (2016). Who says there is an intention–behaviour gap? assessing the empirical evidence of an intention–behaviour gap in ethical consumption. *Journal of Business Ethics*, 136:219–236.

Herber, S. P. (2018). The role of information in the application for highly selective scholarships: Evidence from a randomized field experiment. *Economics of Education Review*, 62:287–301.

Hernandez-Arenaz, I. and Iriberri, N. (2019). A review of gender differences in negotiation. *Oxford Research Encyclopedia of Economics and Finance.*

Kiessling, L., Pinger, P., Seegers, P., and Bergerhoff, J. (2024). Gender differences in wage expectations and negotiation. *Labour Economics*, page 102505.

Kugler, K. G., Reif, J. A., Kaschner, T., and Brodbeck, F. C. (2018). Gender differences in the initiation of negotiations: A meta-analysis. *Psychological bulletin*, 144(2):198.

Kuziemko, I., Norton, M. I., Saez, E., and Stantcheva, S. (2015). How elastic are preferences for redistribution? evidence from randomized survey experiments. *American Economic Review*, 105(4):1478–1508.

Mazei, J., Hüffmeier, J., Freund, P. A., Stuhlmacher, A. F., Bilke, L., and Hertel, G. (2015). A meta-analysis on gender differences in negotiation outcomes and their moderators. *Psychological Bulletin*, 141(1):85.

Moghavvemi, S., Salleh, N. A. M., Sulaiman, A., and Abessi, M. (2015). Effect of external factors on intention–behaviour gap. *Behaviour & Information Technology*, 34(12):1171–1185.

OECD (2022). *Education at a Glance 2022: OECD Indicators.* OECD Publishing, Paris.

Palffy, P., Lehnert, P., and Backes-Gellner, U. (2023). Countering gender-typicality in occupational choices: An information intervention targeted at adolescents.

Peter, F., Spiess, C. K., and Zambre, V. (2021). Informing students about college: Increasing enrollment using a behavioral intervention? *Journal of Economic Behavior & Organization*, 190:524–549.

Porterfield, S. L. and Winkler, A. E. (2007). Teen time use and parental education: Evidence from the CPS, MTF, and ATUS. *Monthly Labor Review*, 130(5):37–56.

Recalde, M. P. and Vesterlund, L. (2023). Gender differences in negotiation: Can interventions reduce the gap? *Annual Review of Economics*, 15.

Reuben, E., Wiswall, M., and Zafar, B. (2017). Preferences and biases in educational choices and labour market expectations: Shrinking the black box of gender. *The Economic Journal*, 127(604):2153–2186.

Rigdon, M. L. (2012). An experimental investigation of gender differences in wage negotiations. *Available at SSRN 2165253*.

Riley, E. (2022). Role models in movies: the impact of queen of katwe on students' educational attainment. *Review of Economics and Statistics*, pages 1–48.

Rockoff, J. E., Staiger, D. O., Kane, T. J., and Taylor, E. S. (2012). Information and employee evaluation: Evidence from a randomized intervention in public schools. *American Economic Review*, 102(7):3184–3213.

Roussille, N. (2021). The central role of the ask gap in gender pay inequality. *University of California, Berkeley*.

Säve-Söderbergh, J. (2019). Gender gaps in salary negotiations: Salary requests and starting salaries in the field. *Journal of Economic Behavior & Organization*, 161:35–51.

Schwarz, N. and Vaughn, L. A. (2002). The availability heuristic revisited: Ease of recall and content of recall as distinct sources of information.

Schwieren, C. (2012). The gender wage gap in experimental labor markets. *Economics Letters*, 117(3):592–595.

Settele, S. (2022). How do beliefs about the gender wage gap affect the demand for public policy? *American Economic Journal: Economic Policy*, 14(2):475–508.

Sheeran, P. (2002). Intention—behavior relations: a conceptual and empirical review. *European review of social psychology*, 12(1):1–36.

Small, D. A., Gelfand, M., Babcock, L., and Gettman, H. (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.

Stuhlmacher, A. F. and Walters, A. E. (1999). Gender differences in negotiation outcome: A meta-analysis. *Personnel Psychology*, 52(3):653–677.

Wiedemann, A. U., Schüz, B., Sniehotta, F., Scholz, U., and Schwarzer, R. (2009). Disentangling the relation between intentions, planning, and behaviour: A moderated mediation analysis. *Psychology and Health*, 24(1):67–79.

Wiswall, M. and Zafar, B. (2018). Preference for the workplace, investment in human capital, and gender. *The Quarterly Journal of Economics*, 133(1):457–507.

A   Appendix: Additional Figures and Tables

Figure A.1: Statistics Treatment: Example Page - 1

The negotiation behavior of university graduates
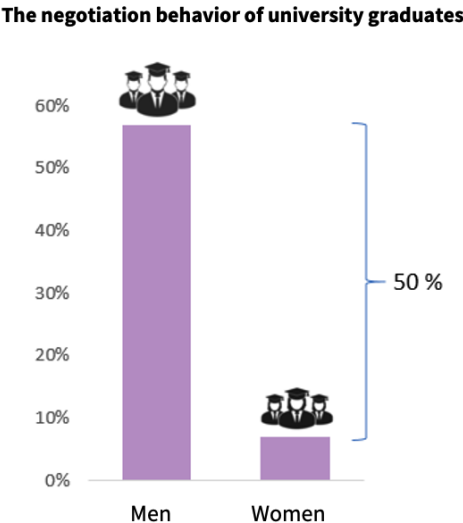
A U.S. study by Carnegie Mellon University shows that among master's graduates, only **7 percent of women** negotiate their salaries when entering the workforce. By contrast, **57 percent of men** negotiate in their first job interviews: the gender negotiation gap is thus 50 percentage points. Male graduates are eight times more likely to negotiate than female graduates.

Figure A.2: Statistics Treatment: Example Page - 2

Annual wage differentials through salary negotiation increase over the working life.

Annual wage differences between Anna and Felix by age
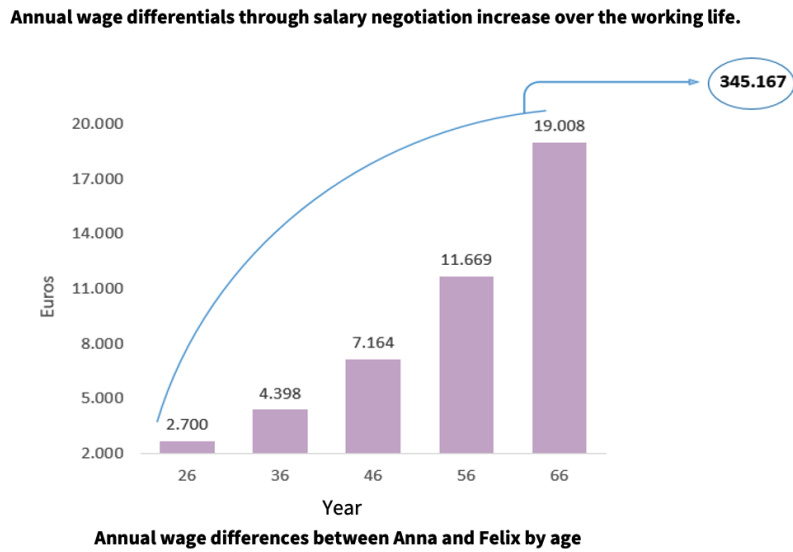
Over the entire period, Felix earns a total of **345,167 euros more** than Anna by the age of 66.

These figures show example pages from the statistics treatment. These pages are translated from the original language (German). For complete survey questions and treatments in the original language (German), see link https://doku.iab.de/grauepap/Supplementary_Materials.pdf.

Figure A.3: Role-Model Treatment: Example of An Interview With Selected Questions

Photo

Name: Jeannine

Age: 39

Education: Diploma, English/American studies

Occupation: Executive Chairwoman of the Board

Current position: CEO & Chairwoman of the Board

Did you negotiate your salary for your first job after graduation?
Yes

How likely do you think applicants' salaries would increase as a result of negotiation?
Very likely. (Depending on what the base salary was. Is it a good offer when measured against the market? Does it reflect my skills and is it fair in the overall context and comparable to salaries of others in similar positions, with similar experience levels?)

By what percentage do you think the salary would increase?
5-15%

What is the best way to prepare for salary negotiations?
Inquire: What are the salaries currently in similar industries, for people in similar positions, with similar experience and skills? Make healthy self-assessments and develop healthy self-esteem. Adopt an attitude.

This page shows part of an example page from the role-model treatment. This page is translated from the original language (German). For complete survey questions and treatments in the original language (German), see link https://doku.iab.de/grauepap/Supplementary_Materials.pdf.

Figure A.4: The Treatment Effects on Negotiation Intention for Base Salary - All Response Categories
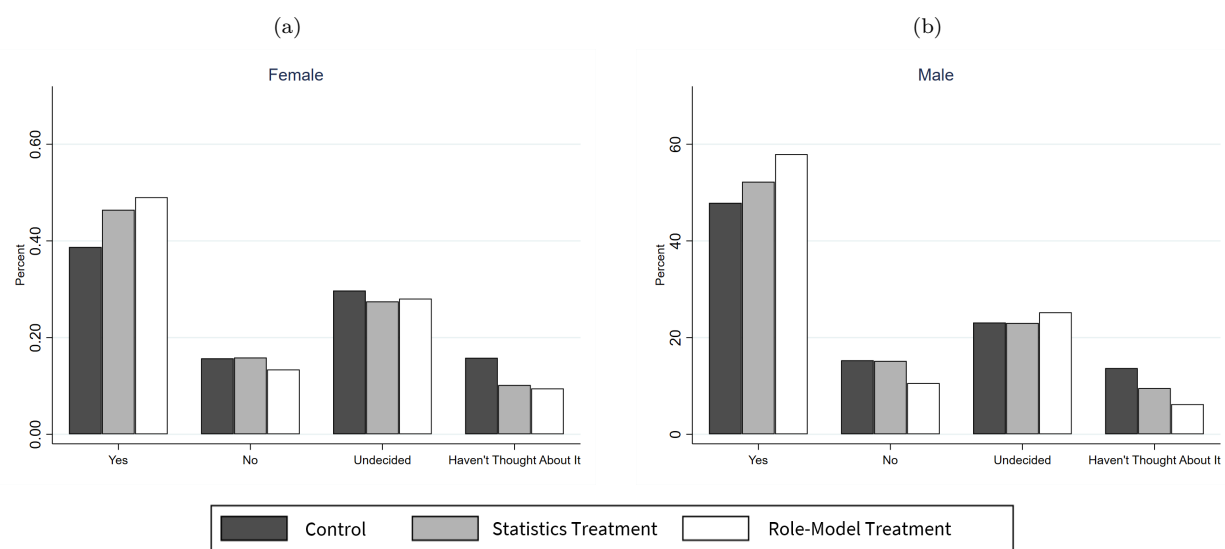
(a)

Female

(b)

Male

| Control | Statistics Treatment | Role-Model Treatment |

Figure shows the effects of treatments on the outcomes of the negotiation intention for base salary for females (left panel) and for males (right panel). The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the controls, refer to Table 3.

Figure A.5: The Treatment Effects on Negotiation Intention for Other Monetary Aspects - All Response Categories

Figure shows the effects of treatments on the outcomes of the negotiation intention for other monetary aspects for females (left panel) and males (right panel). The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the controls, refer to Table 3.

Figure A.6: The Treatment on Negotiation Intention for Other Non-Monetary Aspects - All Response Categories

(a)   (b)

Figure shows the effects of treatments on the outcomes of the negotiation intention for other non-monetary aspects for females (left panel) and males (right panel). The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the controls, refer to Table 3.

Figure A.7: The Treatment Effects on Negotiation Intention for Other Monetary and Non-Monetary Aspects

(a)

Other Monetary Aspects

(b)

Other Non-Monetary Aspects

Female   Male
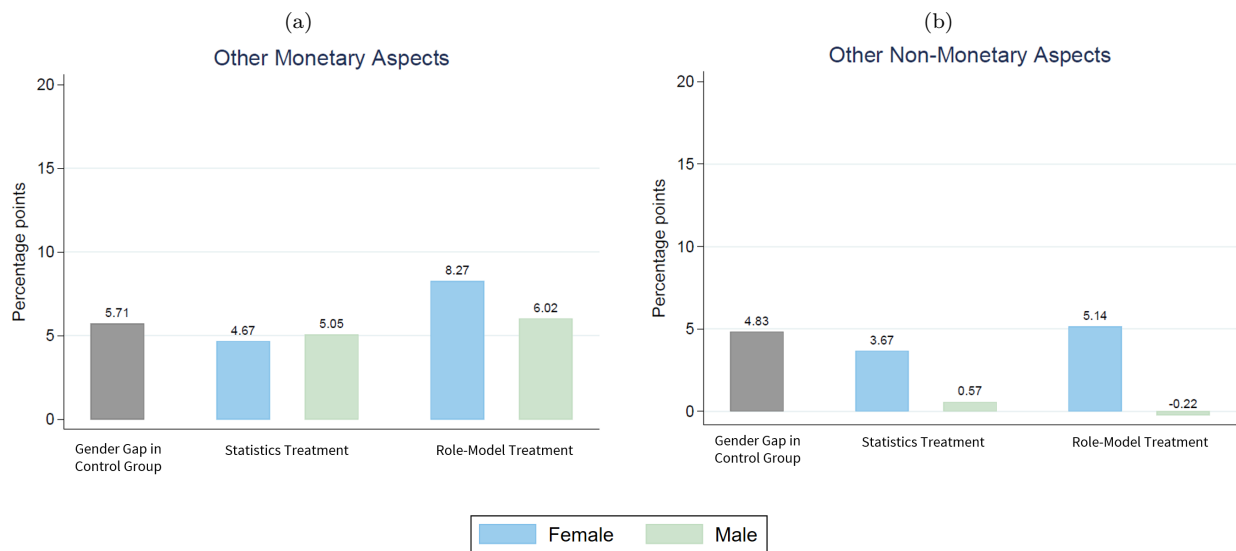
Note: Figure shows the effects of treatments on the outcomes of the negotiation intention for other monetary aspects (left panel) and other non-monetary aspects (right panel), based on the estimation equation 1. The effects of treatments are also shown in Table 3, Columns (3) to (4), and Columns (5) to (6), respectively. The gray bar represents the gender gap in the control group at follow-up 1. Blue (green) bars represent the treatment effect on the negotiation intention for females (the males). The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the variables of interest and controls, refer to Table 3.

Figure A.8: Heterogeneity in the Treatment Effect: Other Monetary Aspects
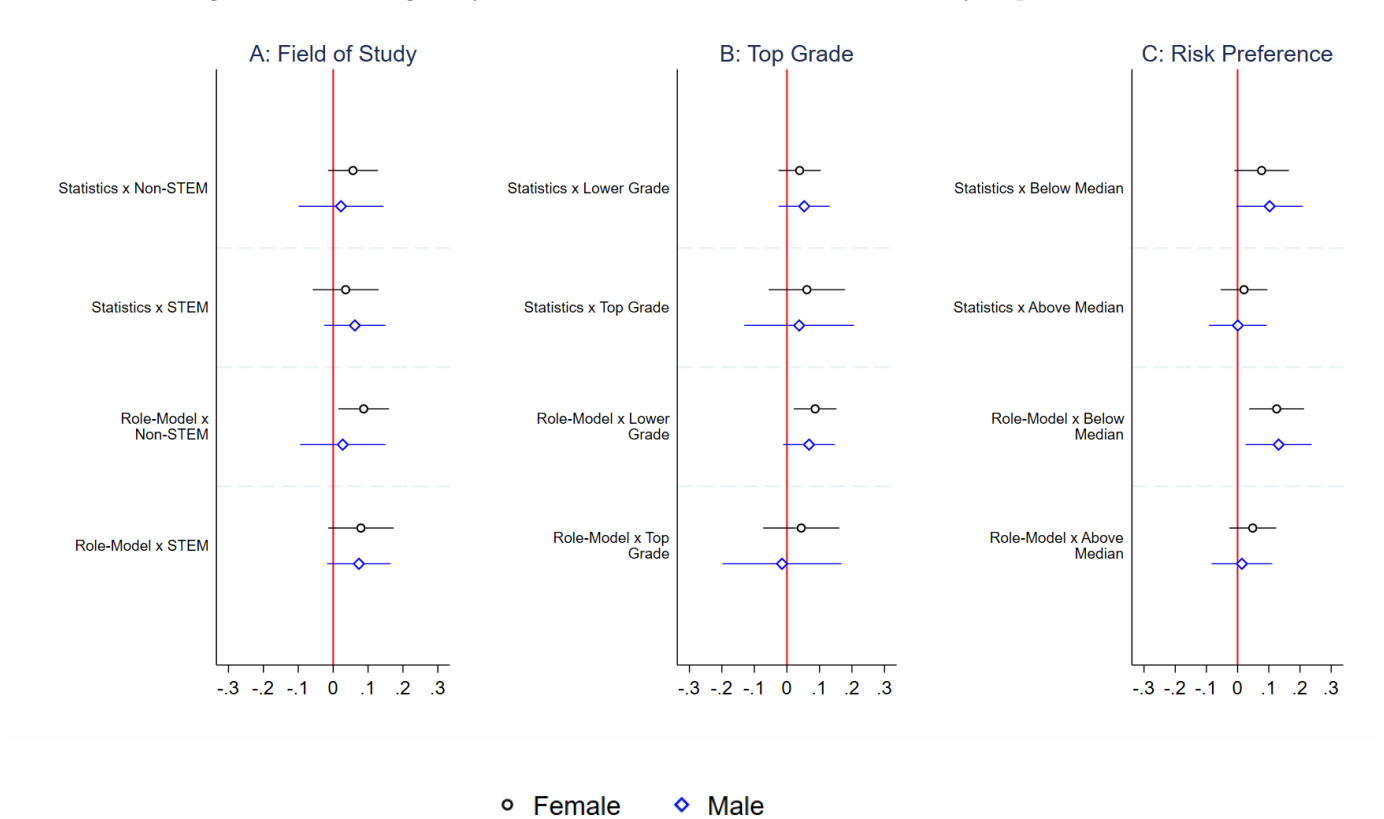
Note: Figure shows heterogeneous treatment effects on the negotiation intention for other monetary aspects. The effects of treatments are also shown in Columns (3) and (4) of Table A.6. The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the variables of interest and controls, refer to Table 3.

Figure A.9: Heterogeneity in the Treatment Effect: Base Salary for Other Non-Monetary Aspects
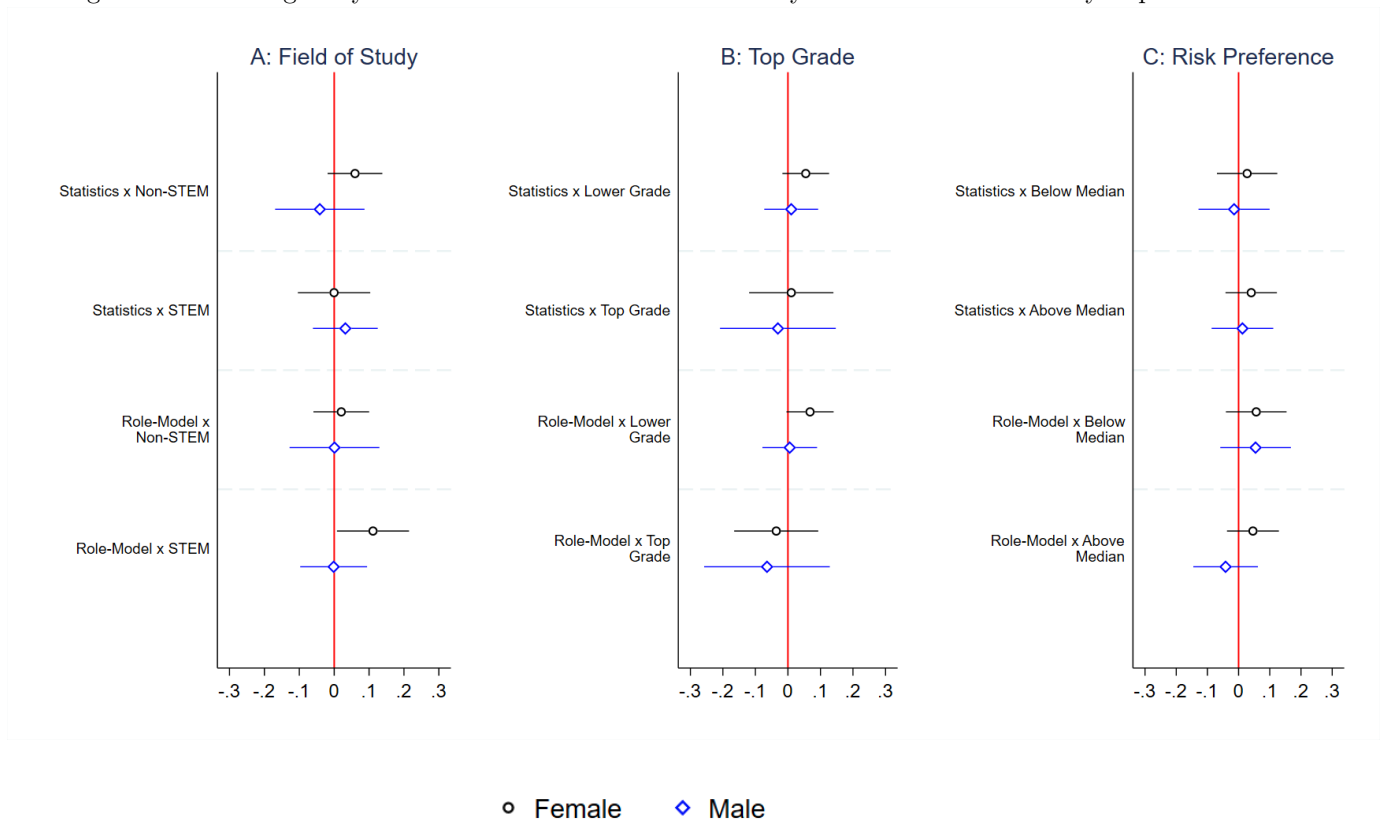
Note: Figure shows heterogeneous treatment effects on the negotiation intention for other non-monetary aspects. The effects of treatments are also shown in Columns (5) and (6) of Table A.6. The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up. For explanations of the variables of interest and controls, refer to Table 3.

Figure A.10: Percentage Chance of Increase of Base Salary, Conditional on Negotiation
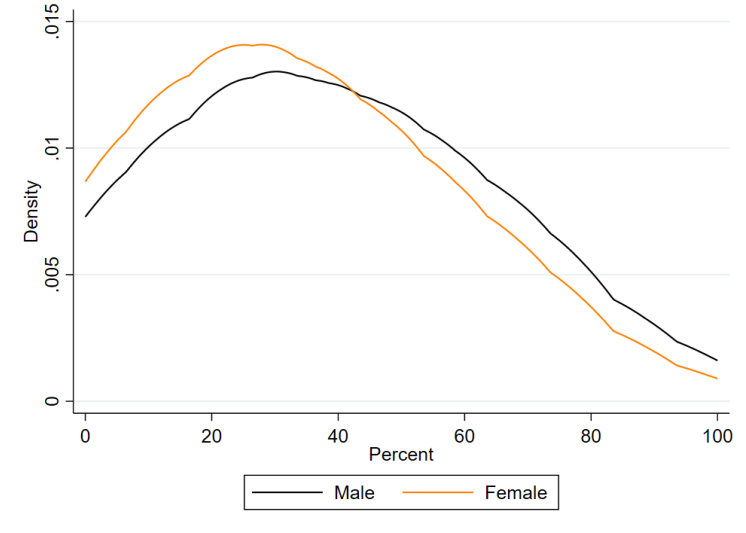
Note: This figure shows the distribution of the outcome variable by gender. The outcome variable is the percentage chance increase in the base salary. Gray (orange) line represents the distribution of male's (female's) answer. The outcomes are measured 2-4 months after the intervention at follow-up 1. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and have given an answer to the negotiation intention to all outcomes (base, other monetary and non-monetary aspects) in the first wave and first follow-up.

Figure A.11: The Months After the Intervention
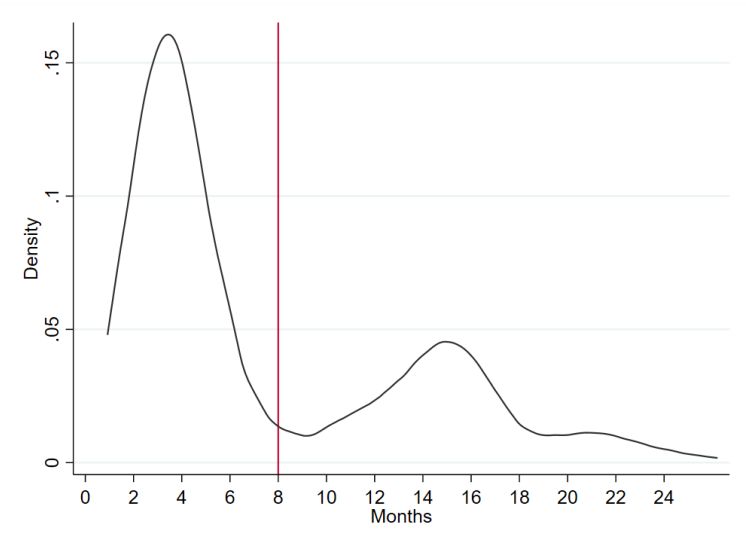
Note: This figure illustrates the density of the months between the intervention and the base salary negotiation question. To investigate the timing effect, I divided the individuals into two groups based on whether the time between the intervention and the question answered was less than 8 months or longer. The vertical red line represents this 8-month threshold.

Table A.1: Summary Statistics: Balance in Covariates - Sample Intention Negotiation Outcomes

	Pooled		Control (C)	Statistics Treatment (T1)	Role-Model Treatment (T2)	C - T1	C - T2	T1 - T2
	Mean (1)	SD (2)	Mean (3)	Mean (4)	Mean (5)	*p*-value (6)	*p*-value (7)	*p*-value (8)
Female	0.595	0.578	0.595	0.578	0.594	0.479	0.970	0.512
Top Grade ($<=$ 1.7)	0.575	0.494	0.582	0.566	0.575	0.507	0.773	0.717
Planned Graduation before May	0.154	0.122	0.846	0.878	0.861	0.057	0.392	0.311
Field of Study								
Languages, Humanities and Social Sciences	0.326	0.310	0.326	0.310	0.306	0.503	0.393	0.845
Economics, Business and Law	0.190	0.211	0.190	0.211	0.220	0.287	0.134	0.656
Mathematics and Natural Sciences	0.180	0.185	0.180	0.185	0.176	0.784	0.833	0.632
Engineering and IT	0.305	0.294	0.305	0.294	0.298	0.630	0.784	0.842
Age	26.684	26.867	26.684	26.867	26.584	0.207	0.490	0.049
Born in Germany	0.881	0.882	0.881	0.882	0.876	0.973	0.762	0.738
College Family Background	0.392	0.488	0.405	0.382	0.389	0.324	0.520	0.744
Having Siblings	0.850	0.357	0.844	0.852	0.855	0.636	0.535	0.877
Worked During Studying								
No	0.098	0.298	0.110	0.091	0.094	0.206	0.276	0.877
Yes, entirely	0.444	0.497	0.438	0.456	0.437	0.470	0.978	0.462
Yes, occasionally	0.457	0.498	0.452	0.452	0.469	0.995	0.491	0.489
Risk Preferences	4.714	3.356	4.770	4.717	4.650	0.720	0.529	0.660
Started Applying For a Job	0.272	0.445	0.259	0.270	0.288	0.604	0.184	0.415
Reservation Wage	2948.348	902.458	2925.647	2961.400	2959.015	0.424	0.459	0.957
Expected Monthly Wage	3541.144	951.614	3511.793	3572.843	3539.184	0.199	0.565	0.472
Perceived Share of Women Who Negotiate the Wage of Their First Job	31.507	19.437	30.963	32.178	31.357	0.233	0.703	0.424
Perceived Share of Women Who Negotiate the Wage of Their First Job	31.507	19.437	57.915	58.124	57.825	0.847	0.935	0.783
Perceived Wage Increase after Women Negotiated Their Wage	57.959	20.759	9.437	10.069	10.048	0.274	0.310	0.973
Perceived Wage Increase after Men Negotiated Their Wage	14.687	12.945	14.028	15.053	14.996	0.158	0.203	0.942
Individuals	2,492		857	844	791			

This table shows summary statistics. The sample includes final-year master students who gave an answer to negotiation intention questions in waves 1 and 2. Columns (1) to (4) document mean values for all individuals who participated in the first wave and treatments, for the control group, for the statistics treatment group and for the role-model treatment group, respectively. Columns (5) to (8) show the p-value for t-tests of the difference in means for the control and statistics treatment groups, the control and role-model treatment groups, and the statistics and role-model treatment groups. All variables are measured prior to treatment. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.2: Summary Statistics: Balance in Covariates - Sample Realized Negotiation Outcomes

	Pooled		Control (C)	Statistics Treatment (T1)	Role-Model Treatment (T2)	C - T1	C - T2	T1 - T2
	Mean (1)	SD (2)	Mean (3)	Mean (4)	Mean (5)	*p*-value (6)	*p*-value (7)	*p*-value (8)
Female	0.536	0.499	0.547	0.522	0.541	0.356	0.486	0.814
Top Grade ($<= 1.7$)	0.603	0.489	0.590	0.602	0.614	0.669	0.644	0.378
Planned Graduation before May	0.325	0.469	0.333	0.324	0.319	0.742	0.856	0.612
Field of Study								
Languages, Humanities and Social Sciences	0.240	0.427	0.234	0.253	0.233	0.408	0.397	0.994
Economics, Business and Law	0.229	0.420	0.237	0.228	0.221	0.709	0.772	0.511
Mathematics and Natural Sciences	0.176	0.367	0.173	0.180	0.173	0.723	0.733	0.985
Engineering and IT	0.356	0.479	0.357	0.338	0.372	0.485	0.199	0.572
Age	26.852	2.667	26.731	26.998	26.821	0.087	0.257	0.243
Born in Germany	0.908	0.290	0.907	0.915	0.901	0.620	0.362	0.688
College Family Background	0.396	0.489	0.400	0.395	0.393	0.852	0.945	0.800
Having Siblings	0.855	0.353	0.845	0.849	0.869	0.819	0.306	0.215
University Type								
University	0.689	0.463	0.686	0.705	0.676	0.469	0.257	0.695
University of Applied Sciences	0.288	0.453	0.291	0.270	0.304	0.390	0.164	0.610
Worked During Studying								
No	0.059	0.235	0.059	0.061	0.056	0.886	0.675	0.789
Yes, Entirely	0.533	0.499	0.544	0.525	0.530	0.484	0.840	0.618
Yes, Occasionally	0.381	0.486	0.371	0.383	0.389	0.661	0.835	0.522
Risk Preferences	4.688	2.963	4.696	4.766	4.602	0.706	0.366	0.410
Started Applying For a Job	0.534	0.499	0.534	0.529	0.539	0.848	0.712	0.864
Reservation Wage	3163.512	857.494	3162.453	3160.785	3167.242	0.973	0.890	0.921
Expected Monthly Wage	3736.118	911.871	3711.889	3759.982	3734.923	0.360	0.610	0.653
Perceived Share of Women Who Negotiate the Wage of Their First Job	34.946	21.465	35.223	35.012	34.608	0.868	0.745	0.632
Perceived Share of Men Who Negotiate the Wage of Their First Job	60.371	20.823	60.943	60.209	59.993	0.547	0.859	0.439
Perceived Wage Increase after Women Negotiated Their Wage	9.245	10.061	9.649	9.110	8.985	0.394	0.841	0.326
Perceived Wage Increase after Men Negotiated Their Wage	13.930	13.406	14.277	13.622	13.914	0.431	0.729	0.687
Individuals	1,958		625	671	664			

This table shows summary statistics. The sample includes final-year master students who gave an answer to realized negotiation questions in wave 2 or 3. Columns (1) to (4) document mean values for all individuals who participated in the first wave and treatments, for the control group, for the statistics treatment group and for the role-model treatment group, respectively. Columns (5) to (8) show the p-value for t-tests of the difference in means for the control and statistics treatment groups, the control and role-model treatment groups, and the statistics and role-model treatment groups. All variables are measured prior to treatment. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.3: Summary Statistics: Gender Differences

	Female (1)	Male (2)	Diff. (Female-Male) (3)	s.e. (4)
Top Grade ($<=$ 1.7)	0.602	0.493	0.109***	0.013
Planned Graduation before May	0.238	0.248	-0.010	0.011
Field of Study				
Languages, Humanities and Social Sciences	0.395	0.136	0.259***	0.011
Economics, Business and Law	0.234	0.213	0.022**	0.011
Mathematics and Natural Sciences	0.173	0.144	0.030***	0.009
Engineering and IT	0.197	0.508	-0.311***	0.012
Age	26.875	27.256	-0.380***	0.083
Born in Germany	0.873	0.807	0.066***	0.009
College Family Background	0.378	0.388	-0.010	0.013
Having Siblings	0.838	0.837	0.001	0.010
University Type				
University	0.706	0.645	0.060***	0.012
University of Applied Sciences	0.265	0.331	-0.065***	0.012
Worked During Studying				
No	0.069	0.101	-0.033***	0.007
Yes, Entirely	0.529	0.436	0.093***	0.013
Yes, Occasionally	0.366	0.443	-0.077***	0.013
General Risk Attitude	4.505	5.404	-0.899***	0.088
Started Applying for a Job During the Survey	0.431	0.450	-0.018	0.013
Reservation Wage	2835.501	3358.775	-523.275***	22.595
Expected Monthly Wage	3386.980	3972.491	-585.511***	23.724
Individuals	3,338	2,705		

Note: This table shows summary statistics of female and male participants. The sample includes final-year master students who participated in the main survey (wave 1). Column (1) and (2) document mean values for females and males, respectively. Column (3) shows the difference in means by gender. Column (4) shows the p-value for t-tests of the difference in means for females and males. All variables are measured prior to treatment. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.4: The Treatment Effects by Baseline Intention

	Base Salary				Other Monetary Aspects				Other Non-Monetary Aspects			
	Not Intent in Baseline		Intent in Baseline		Not Intent in Baseline		Intent in Baseline		Not Intent in Baseline		Intent in Baseline	
	Female (1)	Male (2)	Female (3)	Male (4)	Female (5)	Male (6)	Female (7)	Male (8)	Female (9)	Male (10)	Female (11)	Male (12)
Statistics Treatment	0.089***	0.047	0.054	0.039	0.047*	0.058	0.051	0.053	-0.000	-0.006	0.085*	0.008
	(0.032)	(0.045)	(0.055)	(0.045)	(0.028)	(0.037)	(0.088)	(0.077)	(0.038)	(0.049)	(0.044)	(0.050)
Role-Model Treatment	0.091***	0.132***	0.052	0.060	0.056**	0.059	0.150*	0.096	0.061	0.013	0.042	0.042
	(0.033)	(0.048)	(0.054)	(0.047)	(0.028)	(0.037)	(0.085)	(0.075)	(0.040)	(0.049)	(0.046)	(0.051)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.178	0.250	0.712	0.786	0.175	0.178	0.629	0.671	0.276	0.294	0.687	0.745
Individuals	1,034	612	434	412	1,227	793	241	231	837	573	631	451

Note: The table reports the treatment effects on the negotiation intention outcomes by baseline intention (reported in wave 1) 2-4 months after the intervention. The outcome variables are binary and equal to 1 if respondents intend to negotiate for base salary (Columns (1) and (4)), for other monetary aspects (Columns (5) and (8)), and other non-monetary aspects (Columns (9) and (12)), and equal to 0 otherwise. For explanations of the variables of interest and controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.5: The Effect of Training Treatment on Negotiation Intention

	First Stage		2SLS					
	Impact of Receiving		Impact of Training					
	an Invitation on Attending		Treatment on					
	the Training Treatment		Negotiation Intention					
			for Base		for Other		for Other	
			Salary		Monetary Aspects		Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Negotiation Training Participation			0.093 (0.028)	0.202 (0.034)	-0.051 (0.031)	0.241* (0.031)	0.076 (0.145)	0.305** (0.145)
Invitation Receipt	0.179*** (0.014)	0.217*** (0.018)						
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individuals	1,468	1,024	1,468	1,024	1,468	1,024	1,468	1,024

Note: The table reports the effects of the effect of training treatment on the negotiation intention outcomes 2-4 months after the intervention, based on the estimation of Equation 1. Columns (1) to (2) shows the first stage results for females and males, respectively. The Local Average Treatment Effect (LATE) results are shown Columns (3) to (8). The outcome variables for the 2SLS are binary and equal to 1 if respondents intend to negotiate for base salary (Columns (3) and (4)), for other monetary aspects (Columns (5) and (6)), and other non-monetary aspects (Columns (7) and (8)), and equal to 0 otherwise. The training treatment is represented by dummy variables with a value of 1 if the respondent received the corresponding treatment and 0 for those in the control group. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and who responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. For explanations of the controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.6: Heterogeneity in the Treatment Effects on Negotiation Intention by Field of Study, Top Grade and Risk Preferences

	Base Salary		Other Monetary Aspects		Other Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: By Field of Study						
Non-STEM	0.398***	0.522***	0.283***	0.305***	0.404***	0.588***
	(0.089)	(0.119)	(0.083)	(0.115)	(0.091)	(0.121)
Statistics x Non-STEM	0.048	-0.055	0.057	0.022	0.060	-0.041
	(0.039)	(0.064)	(0.036)	(0.062)	(0.040)	(0.065)
Role-Model x Non-STEM	0.103***	0.088	0.087**	0.027	0.020	0.001
	(0.040)	(0.065)	(0.037)	(0.062)	(0.041)	(0.066)
STEM	0.364***	0.504***	0.271***	0.218**	0.380***	0.512***
	(0.090)	(0.115)	(0.084)	(0.111)	(0.092)	(0.117)
Statistics x STEM	0.133***	0.066	0.036	0.062	-0.000	0.032
	(0.052)	(0.047)	(0.048)	(0.045)	(0.053)	(0.047)
Role-Model x STEM	0.079	0.092*	0.080*	0.074	0.111**	-0.001
	(0.051)	(0.048)	(0.048)	(0.046)	(0.053)	(0.049)
Panel B: By Top Grade						
Lower Grade	0.337***	0.433***	0.251***	0.299***	0.437***	0.624***
	(0.089)	(0.065)	(0.044)	(0.062)	(0.049)	(0.065)
Statistics x Lower Grade	0.098***	0.032	0.039	0.053	0.055	0.010
	(0.036)	(0.042)	(0.033)	(0.040)	(0.037)	(0.042)
Role-Model x Lower Grade	0.090**	0.087**	0.087***	0.068*	0.068*	0.006
	(0.036)	(0.042)	(0.033)	(0.041)	(0.037)	(0.043)
Top Grade	0.334***	0.388***	0.265***	0.311***	0.490***	0.637***
	(0.098)	(0.084)	(0.055)	(0.080)	(0.061)	(0.085)
Statistics x Top Grade	0.017	-0.026	0.061	0.038	0.010	-0.031
	(0.064)	(0.090)	(0.060)	(0.086)	(0.066)	(0.091)
Role-Model x Top Grade	0.098	0.072	0.044	-0.015	-0.036	-0.064
	(0.064)	(0.097)	(0.060)	(0.093)	(0.066)	(0.098)
Panel C: Risk Preferences						
Below Median	0.274***	0.345***	0.172**	0.102	0.341***	0.543***
	(0.094)	(0.120)	(0.087)	(0.116)	(0.097)	(0.124)
Statistics x Below Median	0.081*	0.001	0.077*	0.103*	0.027	-0.014
	(0.048)	(0.056)	(0.045)	(0.054)	(0.049)	(0.058)
Role-Model x Below Median	0.072	0.183***	0.126***	0.132**	0.057	0.054
	(0.048)	(0.056)	(0.045)	(0.054)	(0.050)	(0.058)
Above Median	0.394***	0.569***	0.290***	0.343***	0.397***	0.681***
	(0.090)	(0.119)	(0.084)	(0.114)	(0.093)	(0.122)
Statistics x Above Median	0.065	0.032	0.023	0.001	0.039	0.012
	(0.041)	(0.049)	(0.038)	(0.047)	(0.042)	(0.050)
Role-Model x Above Median	0.099**	0.028	0.049	0.014	0.043	-0.042
	(0.041)	(0.051)	(0.038)	(0.050)	(0.042)	(0.053)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: The table reports the effects of the treatments on the negotiation intention outcomes 2-4 months after the intervention, based on the estimation of Equation 1. For explanations of the outcome variables, the sample, the variables of interest, and the controls, refer to Table 3.

Table A.7: The Role of Belief in the Treatment Effect

	Perceived Gender Gap in Negotiation				Perceived Wage Increases as a Result of Negotiation			
	Gender Gap in Belief		Negotiation Intention		Gender Gap in Belief		Negotiation Intention	
	Female	Male	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Statistics Treatment	3.538***	5.663***	0.106***	0.086	-0.556	-0.232	0.095**	0.001
	(1.026)	(2.137)	(0.035)	(0.075)	(0.554)	(0.748)	(0.040)	(0.048)
Role-Model Treatment					0.525	-0.246	0.088**	0.134***
					(0.553)	(0.777)	(0.040)	(0.050)
Error	0.457***	0.401***	0.002	0.003*				
	(0.036)	(0.051)	(0.001)	(0.002)				
Statistics x Error	-0.184***	-0.090	0.002	0.003				
	(0.051)	(0.076)	(0.002)	(0.003)				
Error-Female					0.283***		0.004	
					(0.046)		(0.003)	
Statistics x Error-Female					-0.009		0.000	
					(0.062)		(0.004)	
Role-Model x Error-Female					0.064		-0.002	
					(0.063)		(0.005)	
Error-Male						0.316***		0.001
						(0.044)		(0.003)
Statistics x Error-Male						-0.071		0.001
						(0.063)		(0.004)
Role-Model x Error-Male						-0.016		-0.002
						(0.060)		(0.004)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	29.174	17.210	0.329	0.478	9.135	11.413	0.329	0.478
Individuals	927	558	927	558	995	734	995	734

Note: This table reports the treatment effects on the perceived gender gap, based on the estimation of Equation 2 and on the perceived wage increase based on the estimation of Equation 3. The statistics treatment is represented by a dummy variable equal to 1 if respondents received the statistics treatment and 0 for those in the control group. The sample includes individuals who participated in wave 1 and follow-up 1 (wave 2) and responded to the negotiation intention questions for all outcomes (base salary, other monetary aspects, non-monetary aspects) in wave 1 and follow-up 1. For explanations of the controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.8: The Treatment Effects on Realized Negotiation Behavior: Excluding Inconsistent Answers Across Waves

	Base Salary		Other Monetary Aspects		Other Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)
Statistics Treatment	-0.022	-0.005	0.033	-0.027	-0.050	-0.040
	(0.040)	(0.043)	(0.029)	(0.035)	(0.032)	(0.033)
Role-Model Treatment	-0.023	0.021	0.005	-0.025	-0.022	0.005
	(0.039)	(0.044)	(0.027)	(0.036)	(0.032)	(0.034)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.406	0.465	0.132	0.200	0.228	0.181
Individuals	928	799	928	799	928	799

Note: This table shows the treatment effects on realized negotiation outcomes, excluding individual answers this question in both waves (wave 2 and wave 3), and who give different answers. For explanations of the outcome variables and the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3.

Table A.9: The Treatment Effects on Negotiation During the Search for the First Job

	Base Salary	
	Female	Male
	(1)	(2)
Statistics Treatment	-0.035	-0.019
	(0.038)	(0.040)
Role-Model Treatment	-0.021	-0.012
	(0.037)	(0.041)
Strata FE	Yes	Yes
Controls	Yes	Yes
Mean of Control Group	0.470	0.547
Individuals	1,051	909

Note: This table shows the treatment effects on the realized negotiation for a base salary during the job search period for the first job. For explanations of the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3.

Table A.10: The Treatment Effects on Realized Negotiation Behavior: An Analysis with an Alternative Sample

	Base Salary		Other Monetary Aspects		Other Non-Monetary Aspects	
	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)
Statistics Treatment	0.003	0.016	0.028	-0.009	-0.031	-0.006
	(0.023)	(0.029)	(0.028)	(0.034)	(0.031)	(0.031)
Role-Model Treatment	0.022	0.032	0.033	-0.021	0.004	0.032
	(0.024)	(0.030)	(0.027)	(0.033)	(0.031)	(0.033)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.240	0.308	0.147	0.192	0.236	0.176
Individuals	1,949	1,513	1,053	911	1,051	909

Note: This table shows the treatment effects on realized negotiation outcomes, excluding individual answers this question in both waves (wave 2 and wave 3), and who give different answers. For explanations of the outcome variables and the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3.

Table A.11: The Treatment Effects on Realized Negotiation by Field of Study, Top Grade and Risk Preferences

| | Base Salary | | Other Monetary Aspects | | Other Non-Monetary Aspects | |
| | Female | Male | Female | Male | Female | Male |
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: By Field of Study						
Non-STEM	0.653***	0.596***	0.273***	0.296**	0.389***	0.278**
	(0.107)	(0.143)	(0.082)	(0.117)	(0.089)	(0.112)
Statistics x Non-STEM	-0.079	0.053	0.005	-0.019	-0.035	-0.048
	(0.049)	(0.069)	(0.037)	(0.056)	(0.041)	(0.054)
Role-Model x Non-STEM	-0.023	-0.046	0.010	-0.017	0.015	0.068
	(0.049)	(0.072)	(0.038)	(0.059)	(0.041)	(0.057)
STEM	0.538***	0.622***	0.236***	0.276**	0.347***	0.231**
	(0.108)	(0.136)	(0.083)	(0.111)	(0.090)	(0.107)
Statistics x STEM	0.094	-0.038	0.063	-0.005	-0.026	0.019
	(0.058)	(0.050)	(0.045)	(0.041)	(0.048)	(0.040)
Role-Model x STEM	0.022	0.028	0.067	-0.025	-0.013	0.018
	(0.057)	(0.050)	(0.044)	(0.041)	(0.047)	(0.039)
Panel B: By Top Grade						
Low Grade	0.598***	0.519***	0.224***	0.278**	0.420***	0.301***
	(0.106)	(0.142)	(0.081)	(0.117)	(0.089)	(0.113)
Statistics x Low Grade	-0.012	0.022	0.032	0.002	-0.041	0.010
	(0.043)	(0.045)	(0.033)	(0.037)	(0.036)	(0.036)
Role-Model x Low Grade	-0.014	0.053	0.051	0.009	-0.005	0.038
	(0.042)	(0.046)	(0.033)	(0.038)	(0.035)	(0.036)
High Grade	0.574***	0.565***	0.261***	0.294**	0.424***	0.280**
	(0.120)	(0.153)	(0.092)	(0.126)	(0.100)	(0.122)
Statistics x High Grade	0.013	-0.073	0.020	-0.046	0.006	-0.062
	(0.077)	(0.087)	(0.059)	(0.072)	(0.065)	(0.069)
Role-Model x High Grade	0.012	-0.167*	-0.022	-0.166**	0.031	-0.004
	(0.075)	(0.093)	(0.057)	(0.077)	(0.062)	(0.074)
Panel C: By Risk Preferences						
Below Median	0.544***	0.567***	0.267**	0.183**	0.247**	0.344***
	(0.146)	(0.112)	(0.120)	(0.085)	(0.116)	(0.093)
Statistics x Below Median	-0.049	0.020	0.029	0.046	0.044	0.040
	(0.060)	(0.056)	(0.050)	(0.043)	(0.048)	(0.047)
Role-Model x Below Median	-0.014	-0.020	-0.043	0.039	0.065	0.075
	(0.061)	(0.056)	(0.050)	(0.043)	(0.048)	(0.046)
Above Median	0.577***	0.607***	0.330***	0.249***	0.331***	0.459***
	(0.142)	(0.107)	(0.117)	(0.082)	(0.113)	(0.089)
Statistics x Above Median	0.043	-0.026	-0.040	0.018	-0.044	-0.085**
	(0.054)	(0.050)	(0.044)	(0.038)	(0.043)	(0.042)
Role-Model x Above Median	0.036	0.003	-0.000	0.028	0.008	-0.051
	(0.055)	(0.049)	(0.045)	(0.038)	(0.044)	(0.041)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table reports the treatment effects on realized negotiation outcomes, based on the estimation of Equation 1. For explanations of the outcome variables and the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3.

Table A.12: Reasons for Not Negotiating: A Comparison of Female and Male

	Female	Male	Female-Male
	(1)	(2)	(3)
Base Salary Was Fixed	0.668	0.531	0.136***
Salary Did Not Matter	0.049	0.074	-0.026
Fear of Not Getting the Job	0.204	0.130	0.074**
Fear of Having Proposal Rejected	0.092	0.051	0.041
Unsure What Amount to Propose	0.194	0.098	0.097***
Unsure How to Negotiate	0.194	0.116	0.078**
Thought the Salary Was Fixed	0.049	0.033	0.016
Salary Was Not Discussed	0.286	0.256	0.031
Would Not Want to Be Perceived as Too Aggressive	0.058	0.047	0.012
Already Negotiated Other Aspects	0.029	0.056	-0.027
Concern about Negative Relationship with Employer	0.092	0.056	0.036
Salary Offer Was Reasonable	0.388	0.488	-0.100**
I Don't Know	0.005	0.037	-0.032**
Other Reason	0.228	0.233	-0.004
Individuals	352	238	

Note: This table shows reasons for not negotiating by gender by pooling the control and treatment groups, which presented in Table 6. Specifically, the question "What were the main reasons for not negotiating the base salary of your first regular job after your master's degree?" was asked only of participants who reported not negotiating the salary of their first job. Column (1) shows the response of females, Columns (2) show the response of males, and Column (3) compares the response of the control and treatment groups. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.13: The Treatment Effect by the Months After the Intervention

	Base Salary			
	Months After the Intervention			
	Less than 8 Months		Longer than 8 Months	
	Female	Male	Female	Male
	(1)	(2)	(3)	(4)
Statistics Treatment	0.036	0.038	-0.053	-0.039
	(0.028)	(0.035)	(0.044)	(0.056)
Role-Model Treatment	0.059**	0.054	-0.046	-0.034
	(0.028)	(0.035)	(0.044)	(0.060)
Strata FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Mean of Control Group	0.148	0.182	0.120	0.182
Individuals	1,305	1,027	644	486

Note: This table reports the treatment effects by two groups: those who answered the negotiation questions within less than 8 months after the intervention, and those who answered more than 8 months after the intervention. For explanations of the outcome variables and the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.

Table A.14: The Treatment Effect by the Waves in Which Questions Were Answered

	Base Salary				Other Monetary Aspects				Other Non-Monetary Aspects			
	2. Wave		3. Wave		2. Wave		3. Wave		2. Wave		3. Wave	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Statistics Treatment	0.037	0.038	-0.039	-0.012	-0.005	0.051	0.013	-0.025	0.003	0.009	-0.063**	0.030
	(0.027)	(0.035)	(0.030)	(0.036)	(0.038)	(0.045)	(0.024)	(0.032)	(0.044)	(0.041)	(0.029)	(0.032)
Role-Model Treatment	0.060**	0.052	-0.047	-0.022	0.086**	-0.009	-0.008	-0.029	0.060**	0.052	-0.036	0.007
	(0.028)	(0.035)	(0.030)	(0.037)	(0.039)	(0.042)	(0.024)	(0.033)	(0.044)	(0.042)	(0.029)	(0.032)
Strata FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Control Group	0.198	0.273	0.319	0.388	0.148	0.182	0.120	0.182	0.245	0.155	0.223	0.161
Individuals	1306	1025	1379	1057	568	536	1146	889	566	535	1146	888

Note: This table reports the treatment effects by two groups: those who answered the negotiation questions during the second wave (2-4 months after the intervention), and those who answered during the third wave (6-8 months after the planned graduation date). For explanations of the outcome variables and the sample, see Table 5. For explanations of the variables of interest and the controls, refer to Table 3. *Mean of Control Group* is the respective mean outcome in the control group at follow-up 1. Robust standard errors in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels.