



INSTITUTE FOR EMPLOYMENT
RESEARCH
The Research Institute of the Federal Employment Agency

GENDER DIFFERENCES IN NEGOTIATION BEHAVIOR AND THE ROLE OF INFORMATION: EVIDENCE FROM A RANDOMIZED FIELD EXPERIMENT

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Ipek Yükselen

Institute for Employment Research (IAB)



MOTIVATION

The gender wage gap

- persistent in economically advanced countries
- wider among highly educated individuals
- partly explained by the gender gap in negotiation (e.g. Card et al., 2016) especially among university graduates (e.g. Säve-Söderbergh, 2019)

WAGE NEGOTIATION IS BECOMING MORE RELEVANT

- Many countries shift to more decentralized wage settings (Eurofound, 2014)
 - 38 % of German employees negotiate for their wages during the hiring process (Brenzel et al., 2014).
- However, how to close the negotiation gap and how this would affect the gender wage gap remains unclear
 - The gender negotiation gap might be due to women being less informed about the gains from negotiation (e.g. Rigdon, 2012)

RESEARCH QUESTIONS

- Do negotiation intentions change with information provision, especially for female students?
- Does information provision affect wage negotiation behavior, especially for female graduates?

LITERATURE ON GENDER DIFFERENCES IN WAGE NEGOTIATION

- Propensity to negotiate: findings are mixed
 - Women tend to negotiate less than men (e.g. Babcock and Lashever, 2003)
 - No gender gap in negotiation propensity (e.g. Säve-Söderbergh, 2019)
- Conditional on negotiating: Women earn less from negotiating than men (e.g. Babcock et al., 2006)
- Providing information may reduce the gender negotiation gap:
 - Providing information regarding other individuals' requests (e.g. Schwieren, 2012)
→ mostly lab experiments
 - Displaying median wages in the job application platform (Rousille, 2024)

DATA

- Sample: 6,000 final-year master students from ca. 100 German universities
- Recruitment: 1. university e-mail lists, 2. social media, 3. student newspapers
- Incentives: 5€ voucher for participation in each survey: 1st wave (with intervention), 2nd wave and 3rd wave (25, 10 and 10 minutes respectively)
- Randomization within:
 - Field of study (4 categories), Gender, GPA (≤ 1.7 vs. > 1.7), Planned graduation month (before vs. after May 2021)
- Linkage to integrated employment biographies data: for 70% of the sample

EXPERIMENTAL OVERVIEW

1st Wave Survey

- Negotiation intentions at the first job after graduation

EXPERIMENTAL OVERVIEW

1st Wave Survey

- Negotiation intentions at the first job after graduation

Info Treatment

Role-Model Treatment

Control

EXPERIMENTAL OVERVIEW

1st Wave Survey

- Negotiation intentions at the first job after graduation

Info Treatment

Role-Model Treatment

Control

1st Follow-up Survey

- Negotiation intentions at the first job after graduation

EXPERIMENTAL OVERVIEW

1st Wave Survey

- Negotiation intentions at the first job after graduation

Info Treatment

Role-Model Treatment

Control

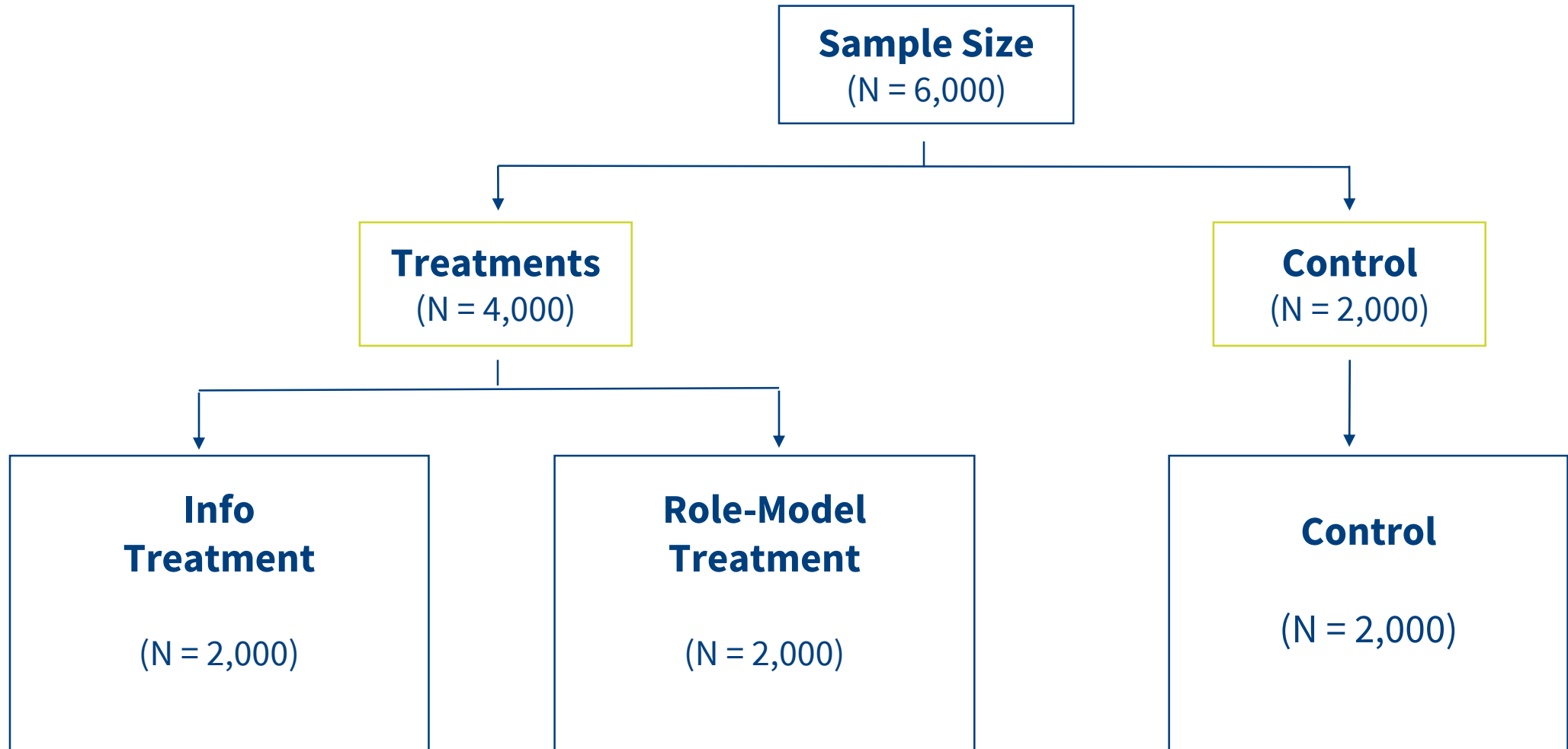
1st Follow-up Survey

- Negotiation intentions at the first job after graduation

2nd Follow-up Survey

- Salary negotiation experiences

EXPERIMENTAL DESIGN

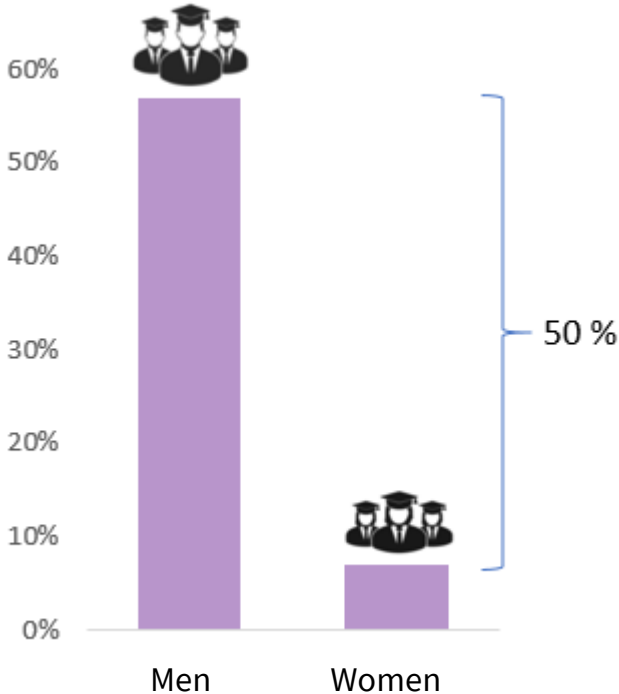


T1: INFORMATION TREATMENT

- Information on the gender gap in negotiation incidence and in starting salaries as a result of negotiation (taken from the study by Babcock and Lashever, 2009).
- Information on how much they can increase their wages as a result of negotiation.
- Illustrative example of how the gender wage gap develops over the career if a male graduate negotiates and the female graduate doesn't.

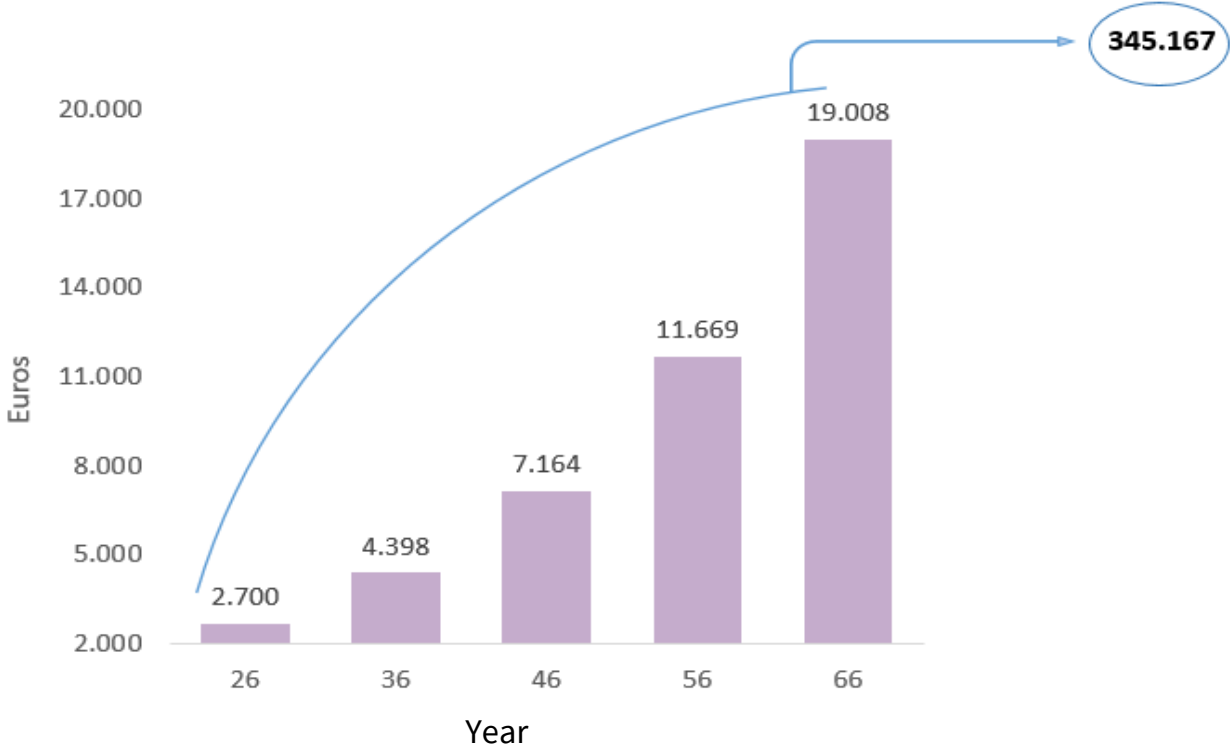
T1: INFORMATION TREATMENT: CONTENT EXAMPLES

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.

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.

T2: ROLE-MODEL TREATMENT

- Short magazine-style interviews for participants to read
- Conducted with successful role-models in the labor market (4 female and 1 male role model)
- Selected answers from other role models

T2: ROLE-MODEL TREATMENT - EXAMPLE OF AN INTERVIEW



Name: Jeannine Koch

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?

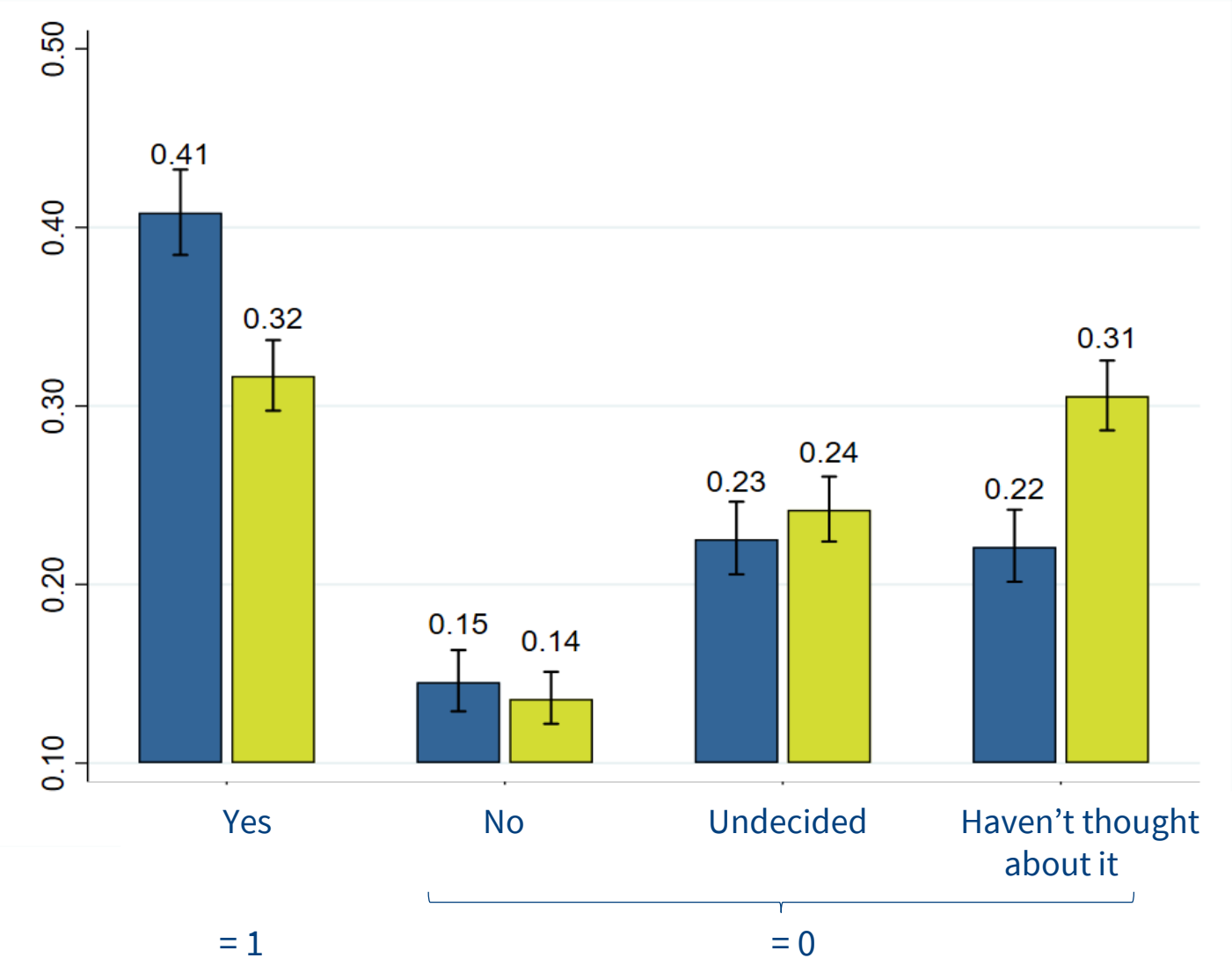
Inquire: What are the salaries currently in similar industries, for people in similar positions, with similar experience and skills? Make healthy self-assessments and develop healthy self-esteem. Adopt an attitude.



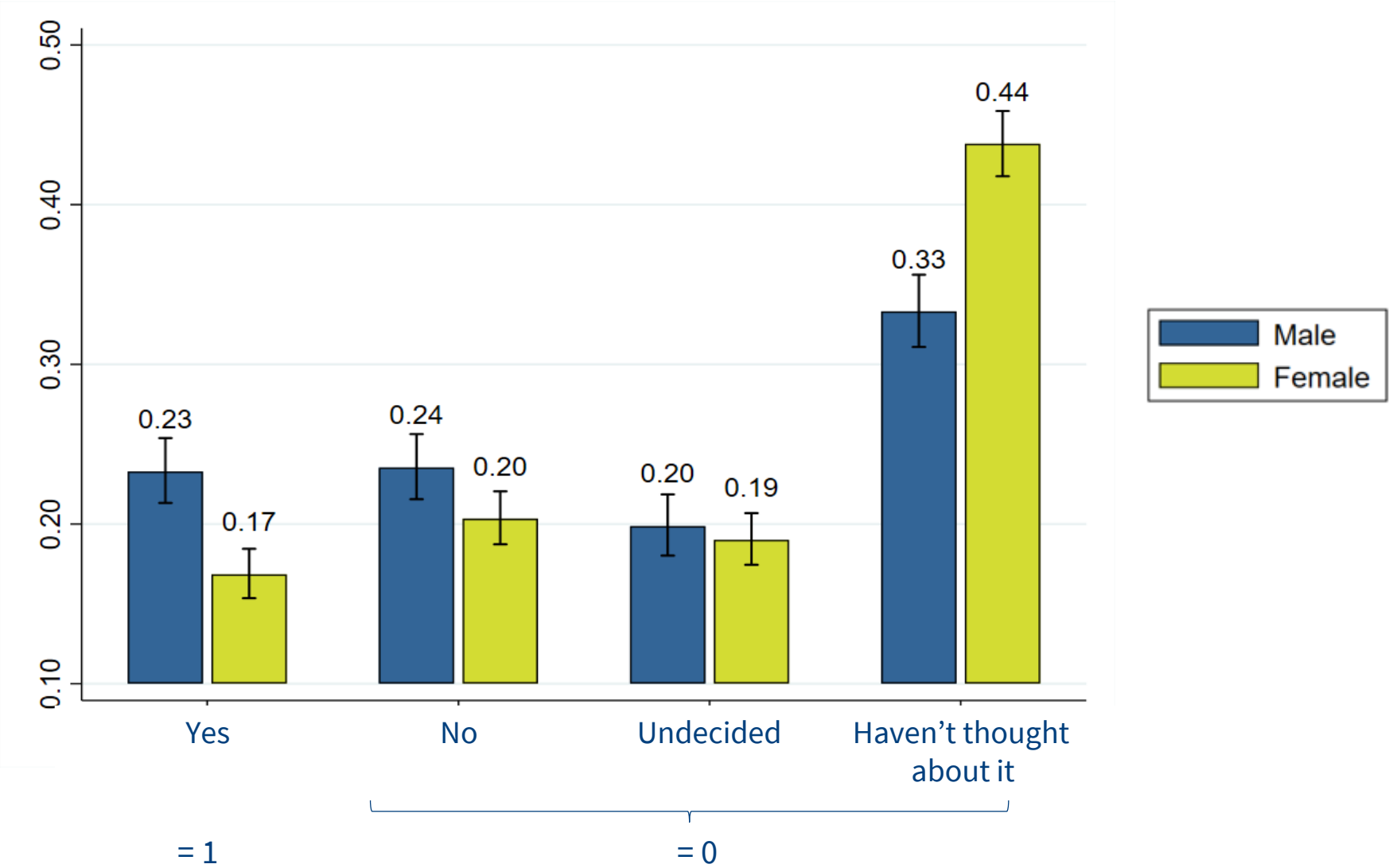
BASELINE: BALANCE IN COVARIATES

	C-T1	C-T2	T1-T2
	<i>p-value</i>	<i>p-value</i>	<i>p-value</i>
Female	0.456	0.816	0.336
German Citizenship	0.835	0.897	0.739
Parents with a College Degree	0.505	0.883	0.424
Field of Study			
Languages, Humanities and Social Sciences	0.574	0.491	0.892
Economics, Business and Law	0.333	0.181	0.702
Mathematics and Natural Sciences	0.715	0.957	0.680
Engineering and IT	0.561	0.667	0.887
Given Consent for Linkage	0.630	0.733	0.895
Started Applying for a Job	0.596	0.220	0.482
Reservation Wage	0.424	0.465	0.949
Expected Wage in First Job	0.235	0.646	0.457
Individuals	856	846	793

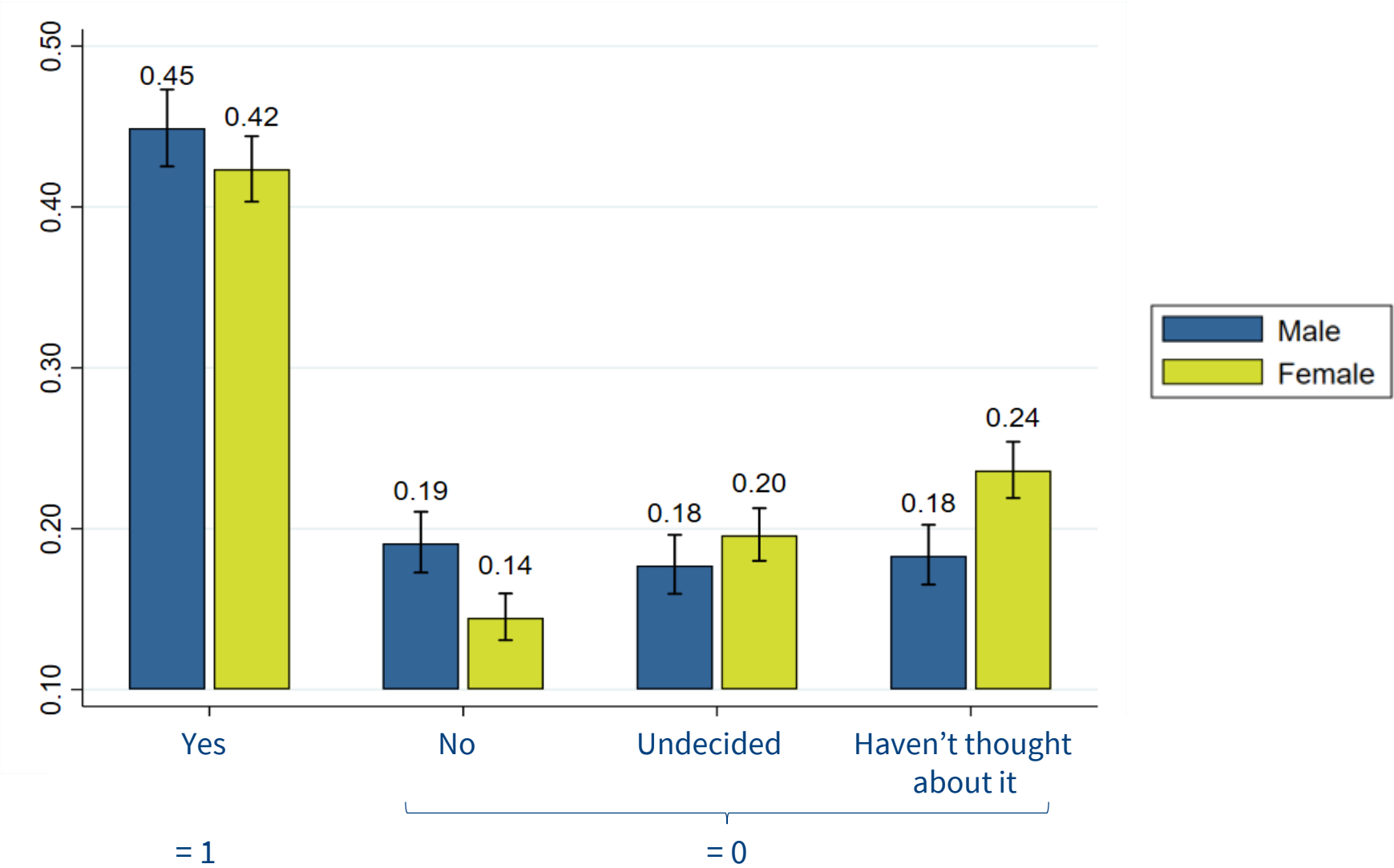
GENDER DIFFERENCES IN THE INTENTION TO NEGOTIATE FOR THE BASE SALARY (BASELINE SURVEY)



GENDER DIFFERENCES IN THE INTENTION TO NEGOTIATE FOR OTHER MONETARY ASPECTS (BASELINE SURVEY)



GENDER DIFFERENCES IN THE INTENTION TO NEGOTIATE FOR OTHER NON-MONETARY ASPECTS (BASELINE SURVEY)



OUTCOMES

1. Negotiation Intention (1=yes/0=otherwise)

- Base salary
- Other monetary aspects (e.g. bonuses)

2. Realized Negotiation Outcomes (1=yes/0=no)

IMPACT ON NEGOTIATION INTENTION FOR BASE SALARY

	Female	Male
Information Treatment	0.076** (0.031)	0.026 (0.038)
Role-Model Treatment	0.092*** (0.031)	0.091** (0.038)
Basic Controls	Yes	Yes
Mean Control Group	0.33	0.48
Individuals	1,468	1,024

Controls: Strata FE (field of study, grades, the planned graduation date), being born in Germany, having parents with a college degree, having siblings, days since the intervention, participated in the negotiation training, and university FE

IMPACT ON NEGOTIATION INTENTION FOR OTHER MONETARY ASPECTS

	Female	Male
Information Treatment	0.047 (0.029)	0.051 (0.036)
Role-Model Treatment	0.083*** (0.029)	0.060 (0.037)
Basic Controls	Yes	Yes
Mean Control Group	0.24	0.30
Individuals	1,468	1,024

Controls: Strata FE (field of study, grades, the planned graduation date), being born in Germany, having parents with a college degree, having siblings, days since the intervention, participated in the negotiation training, and university FE

IMPACT ON REALIZED NEGOTIATION OUTCOME

	Base Salary		Other Monetary Aspects	
	Female (1)	Male (2)	Female (3)	Male (4)
Information Treatment	-0.006 (0.037)	0.001 (0.040)	0.029 (0.037)	-0.010 (0.032)
Role-Model Treatment	-0.003 (0.027)	0.004 (0.032)	-0.003 (0.027)	0.004 (0.032)
Mean of Control Group Individuals	0.403 1,051	0.470 909	0.147 1,051	0.192 909

Controls: Field of study, Current grade, Age, Having German citizenship, Planned Graduation Date

TIMING EFFECT

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

	2. Wave		3. Wave	
	Female (1)	Male (2)	Female (1)	Male (2)
Information Treatment	0.037 (0.027)	0.038 (0.035)	-0.039 (0.030)	-0.012 (0.036)
Role-Model Treatment	0.060** (0.028)	0.052 (0.035)	-0.047 (0.030)	0.022 (0.037)
Strata FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Individuals	1,306	1,025	1,379	1,057

REASONS FOR NOT NEGOTIATING FOR BASE SALARY

	Female			Male		
	Control	Treated	Control-Treated	Control	Treated	Control-Treated
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	0.028
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***
Would Not Want to Be Perceived as Too Aggressive	0.105	0.040	0.065*	0.057	0.041	0.016
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	0.029	0.041	-0.013
Individuals	110	252		67	172	

CONCLUSION

- The information treatment significantly increases negotiation intentions (for base salary) 2-4 months after the intervention for women but not for men.
 - The role-model treatment increases negotiation intentions (for base salary) significantly for both men and women 2-4 months after the intervention.
 - Both treatments do not significantly impact actual negotiation behavior.
- This study shows that even brief information can influence negotiation intentions in high-stakes situations, however, it is not enough to change actual behavior.

THANK YOU FOR YOUR ATTENTION

Ipek Yükselen:

ipek.yuekselen@iab.de

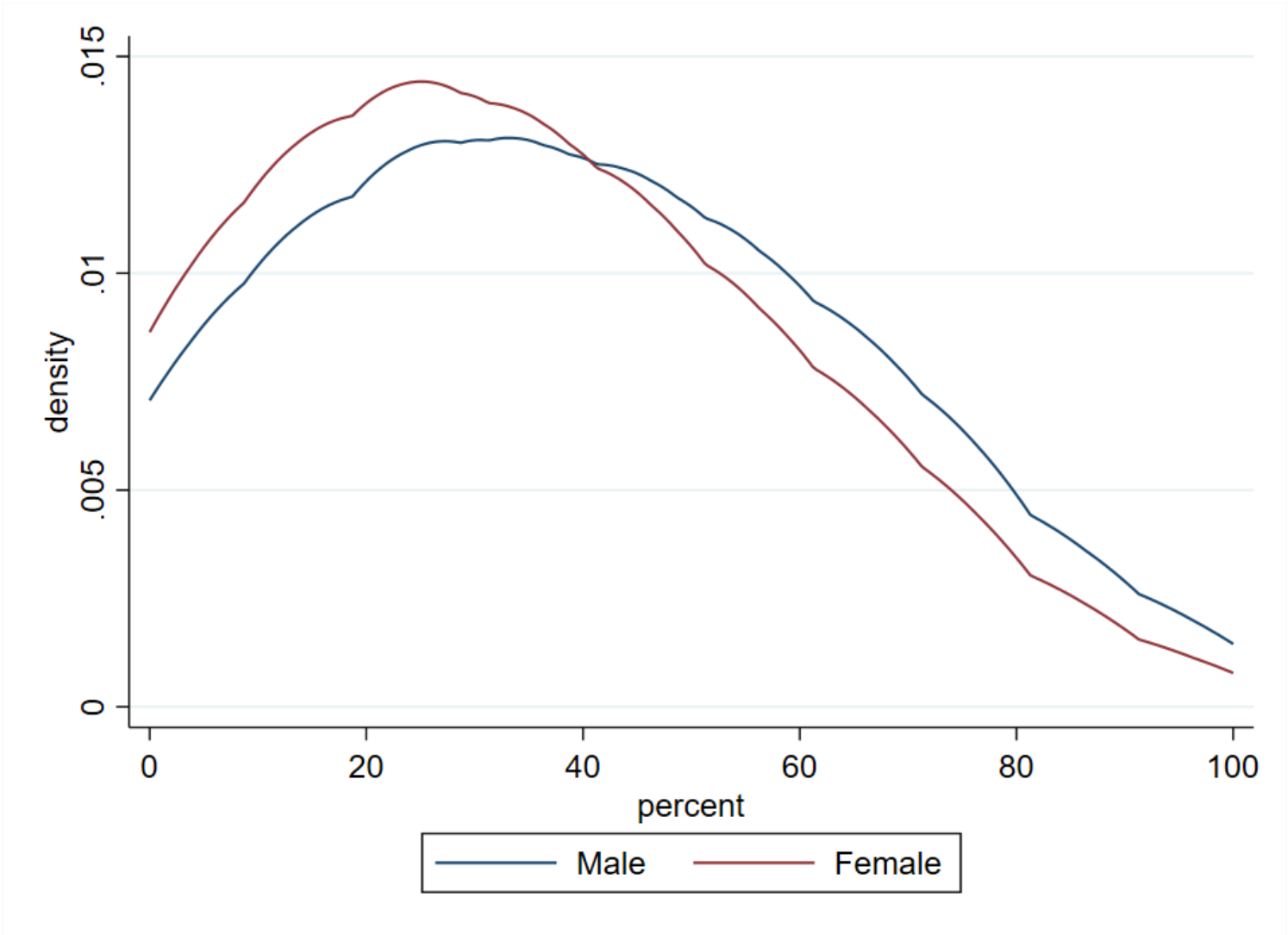
APPENDIX

PERCENTAGE CHANCE OF INCREASE OF BASE SALARY

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?**

Expected increase in base salary	Female	Male
Information Treatment	4.464*** (1.444)	3.661* (1.882)
Role-Model Treatment	6.750*** (1.468)	3.790* (1.957)
Mean Control Group	28.64	35.04
Individuals	1,410	1,002

PERCENTAGE CHANCE OF INCREASE OF BASE SALARY



IMPACT ON NEGOTIATION INTENTION FOR OTHER ASPECTS

	Female	Male
Information Treatment	0.037 (0.032)	0.006 (0.038)
Role-Model Treatment	0.051 (0.032)	-0.002 (0.039)
Basic Controls	Yes	Yes
Mean Control Group	0.45	0.49
Individuals	1,468	1,024

Controls: Strata FE (field of study, grades, the planned graduation date), being born in Germany, having parents with a college degree, having siblings, days since the intervention, participated in the negotiation training, and university FE

RESPONSE RATE

Back



	Sample Size 1st Wave	Sample Size 1st Follow-up	Response Rate %	Sample Size 2nd Followup	Response Rate %
Control	1,987	1,305	66%	944	48%
Information Treatment	2,022	1,315	65%	999	49%
Role-Model Treatment	1,997	1,287	64%	937	47%
Total	6,006	3,907	65%	2,880	48%

IMPACT ON NEGOTIATION INTENTION FOR BASE SALARY BY FIELD

		Female	Male
History, Language & Social Sciences	Information Treatment	0.027 (0.043)	0.104 (0.087)
	Role-Model Treatment	0.071 (0.045)	0.170** (0.085)
	N	693	185
Economics, Business & Law	Information Treatment	0.144** (0.067)	-0.090 (0.079)
	Role-Model Treatment	0.187*** (0.066)	0.127 (0.077)
	N	349	225
Mathematics & Natural Sciences	Information Treatment	0.065 (0.068)	-0.054 (0.091)
	Role-Model Treatment	0.047 (0.067)	0.035 (0.102)
	N	301	167
Engineering & IT	Information Treatment	0.190** (0.075)	0.091* (0.052)
	Role-Model Treatment	0.111 (0.075)	0.082 (0.055)
	N	262	529
	Controls	Yes	Yes

IMPACT ON NEGOTIATION INTENTION FOR BASE SALARY BY GRADE

	Grades < 1.7		Grades => 1.7	
	Female	Male	Female	Male
Information Treatment	0.089** (0.037)	-0.019 (0.051)	0.076 (0.049)	0.076 (0.051)
Role-Model Treatment	0.106*** (0.037)	0.083 (0.053)	0.080 (0.049)	0.104** (0.051)
N	999	544	606	562
R2	0.04	0.05	0.02	0.05

IMPACT ON NEGOTIATION INTENTION FOR BASE SALARY

	At least one parent has a college degree		Parents do not have college degrees	
	Female	Male	Female	Male
Information Treatment	0.097** (0.038)	0.003 (0.049)	0.075 (0.047)	0.062 (0.054)
Role-Model Treatment	0.120*** (0.040)	0.076 (0.050)	0.067 (0.045)	0.115** (0.056)
N	891	592	687	493
R2	0.05	0.04	0.04	0.04

IMPACT ON NEGOTIATION INTENTION FOR BASE SALARY

	Not Intent to Negotiate in Baseline		Intent to Negotiate in Baseline	
	Female	Male	Female	Male
Information Treatment	0.094*** (0.032)	0.070 (0.044)	0.063 (0.052)	0.040 (0.045)
Role-Model Treatment	0.089*** (0.032)	0.138*** (0.047)	0.041 (0.052)	0.057 (0.045)
Basic Controls	Yes	Yes	Yes	Yes
Mean Control Group	0.24	0.32	0.75	0.85
Individuals	1035	611	438	411

Controls: Field of study, Current grade, Age, Having German citizenship, Planned Graduation Date

BALANCE IN COVARIATES (FOLLOW-UP I)

	Statistics			Role-Model		
	Control (C) Mean (1)	Treatment (T1) Mean (2)	Treatment (T2) Mean (3)	C - T1 <i>p</i> -value (4)	C - T2 <i>p</i> -value (5)	T1 - T2 <i>p</i> -value (6)
Female	0.595	0.578	0.594	0.479	0.970	0.512
Top Grade (≤ 1.7)	0.582	0.566	0.575	0.507	0.773	0.717
Planned Graduation before May	0.846	0.878	0.861	0.057	0.392	0.311
Field of Study						
Languages, Humanities and Social Sciences	0.326	0.310	0.306	0.503	0.393	0.845
Economics, Business and Law	0.190	0.211	0.220	0.287	0.134	0.656
Mathematics and Natural Sciences	0.180	0.185	0.176	0.784	0.833	0.632
Engineering and IT	0.305	0.294	0.298	0.630	0.784	0.842
Age	26.684	26.867	26.584	0.207	0.490	0.049
Born in Germany	0.881	0.882	0.876	0.973	0.762	0.738
College Family Background	0.405	0.382	0.389	0.324	0.520	0.744
Having Siblings	0.844	0.852	0.855	0.636	0.535	0.877
Worked During Studying						
No	0.110	0.091	0.094	0.206	0.276	0.877
Yes, entirely	0.438	0.456	0.437	0.470	0.978	0.462
Yes, occasionally	0.452	0.452	0.469	0.995	0.491	0.489
Risk Preferences	4.770	4.717	4.650	0.720	0.529	0.660
Started Applying For a Job	0.259	0.270	0.288	0.604	0.184	0.415
Reservation Wage	2925.647	2961.400	2959.015	0.424	0.459	0.957
Expected Monthly Wage	3511.793	3572.843	3539.184	0.199	0.565	0.472
Baseline Negotiation Intention for Base Salary	0.344	0.325	0.350	0.392	0.800	0.275
Baseline Negotiation Intention for Other Monetary Aspects	0.186	0.178	0.206	0.677	0.294	0.146
Baseline Negotiation Intention for Other Non-Monetary Aspects	0.432	0.447	0.424	0.535	0.736	0.345
Individuals	857	844	791			

BALANCE IN COVARIATES (FOLLOW-UP II)

	Statistics			Role-Model		
	Control (C) Mean (3)	Treatment (T1) Mean (4)	Treatment (T2) Mean (5)	C - T1 <i>p</i> -value (6)	C - T2 <i>p</i> -value (7)	T1 - T2 <i>p</i> -value (8)
Female	0.547	0.522	0.541	0.356	0.486	0.814
Top Grade (≤ 1.7)	0.590	0.602	0.614	0.669	0.644	0.378
Planned Graduation before May	0.333	0.324	0.319	0.742	0.856	0.612
Field of Study						
Languages, Humanities and Social Sciences	0.234	0.253	0.233	0.408	0.397	0.994
Economics, Business and Law	0.237	0.228	0.221	0.709	0.772	0.511
Mathematics and Natural Sciences	0.173	0.180	0.173	0.723	0.733	0.985
Engineering and IT	0.357	0.338	0.372	0.485	0.199	0.572
Age	26.731	26.998	26.821	0.087	0.257	0.243
Born in Germany	0.907	0.915	0.901	0.620	0.362	0.688
College Family Background	0.400	0.395	0.393	0.852	0.945	0.800
Having Siblings	0.845	0.849	0.869	0.819	0.306	0.215
University Type						
University	0.686	0.705	0.676	0.469	0.257	0.695
University of Applied Sciences	0.291	0.270	0.304	0.390	0.164	0.610
Worked During Studying						
No	0.059	0.061	0.056	0.886	0.675	0.789
Yes, Entirely	0.544	0.525	0.530	0.484	0.840	0.618
Yes, Occasionally	0.371	0.383	0.389	0.661	0.835	0.522
Risk Preferences	4.696	4.766	4.602	0.706	0.366	0.410
Started Applying For a Job	0.534	0.529	0.539	0.848	0.712	0.864
Reservation Wage	3162.453	3160.785	3167.242	0.973	0.890	0.921
Expected Monthly Wage	3711.889	3759.982	3734.923	0.360	0.610	0.653
Individuals	625	671	664			

QUESTIONS

Expected negotiation behavior

- Are you planning to negotiate for the base salary/other salary components (e.g. bonuses)/other aspects besides your salary of your first regular job after completing your master's degree?
- What is the percentage chance that your salary will increase, decrease or stay the same?
- What percentage salary increase compared to the salary offered at the beginning do you expect after a successful negotiation?

Beliefs about negotiation behavior and wages

- In your opinion, what percentage of women (men) negotiate the salary of the first full-time job after graduation?
- In your opinion, what is the probability that women (men) are successful in a salary negotiation for their first full-time job after graduation?
- How much do you think the average salary increases (in percent) after women (men) negotiate?

QUESTIONS

Salary negotiation experiences

- Have you negotiated with your employer for the base salary/other salary components (e.g. bonuses)/ other aspects besides your salary of your first regular job after graduation?
- What was the gross monthly salary of your first regular job after graduation that you asked for at the beginning of the negotiation and what was the gross monthly salary that was offered to you by the employer and finally agreed upon?
- How many times in total did you enter salary negotiations after your graduation?

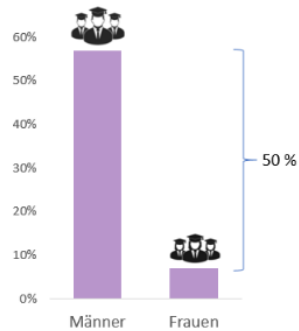
INFORMATION TREATMENT: SCREENSHOTS

BerInA_Berufseinstieg von AkademikerInnen

Fortschritt 70%

Das Verhandlungsverhalten von HochschulabsolventInnen

Frauen verhandeln ihr Gehalt in Vorstellungsgesprächen deutlich seltener als Männer. Dies ist nicht nur in Deutschland, sondern auch in vielen anderen Ländern der Fall und trägt zur bestehenden Einkommensungleichheit zwischen Frauen und Männern bei (Gender Wage Gap).



Eine US-Studie der Carnegie Mellon University zeigt, dass unter Master-AbsolventInnen nur **7 Prozent der Frauen** beim Berufseinstieg ihr Gehalt verhandeln. Dagegen verhandeln **57 Prozent der Männer** in ihren ersten Vorstellungsgesprächen: die geschlechtsspezifische Differenz beträgt also 50 Prozentpunkte, männliche Absolventen verhandeln achtmal häufiger als Absolventinnen.

Die durchschnittlichen Einstiegsgehälter der Männer in dieser Studie waren fast **4.000 US Dollar** pro Jahr und damit fast 8 Prozent höher als die Einstiegsgehälter der Frauen. Die durchgeführten Gehaltsverhandlungen führten bei den männlichen Absolventen zu einer Einkommenssteigerung um durchschnittlich 7,4 Prozent.

Dieser Unterschied erklärt fast den gesamten Gender Wage Gap unter Berufseinsteigern mit Hochschulabschluss.

... zurück weiler ...

BerInA_Berufseinstieg von AkademikerInnen

Fortschritt 71%

Gender Wage Gap unter Berufseinsteigern

Stellen Sie sich vor, dass ein männlicher Hochschulabsolvent (Felix) und eine weibliche Hochschulabsolventin (Anna) zu einem Vorstellungsgespräch für eine Stelle eingeladen werden. Beide sind gleich alt und haben einen identischen Master-Abschluss. Die Stelle wird monatlich mit 3.000 Euro brutto vergütet und garantiert eine jährliche Lohnerhöhung von 5 Prozent. Nach dem Vorstellungsgespräch erhalten Felix und Anna beide ein Angebot.



Anna verhandelt ihr Gehalt nicht und nimmt das Angebot an. Sie verdient damit 3.000 Euro brutto im Monat. Dies ergibt ein Jahresgehalt von **36.000 Euro** brutto, mit einer garantierten Gehaltserhöhung von 5 Prozent jährlich.



Felix verhandelt sein Gehalt und erreicht so, dass sein Einstiegsgehalt von den ursprünglich angebotenen 3.000 Euro um fast 8 Prozent auf 3.225 Euro brutto monatlich angehoben wird. Damit beträgt sein Jahresgehalt ungefähr **38.700 Euro** brutto mit einer garantierten Gehaltserhöhung von 5 Prozent jährlich.

... zurück

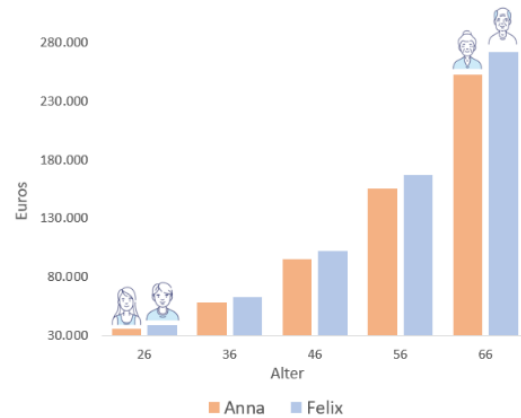
weiler ...

INFORMATION TREATMENT: SCREENSHOTS

BerInA_Berufseinstieg von AkademikerInnen

Fortschritt 71%

Durch das **Verhandeln** von Felix und das **Nicht-Verhandeln** von Anna entstehen geschlechtsspezifische Lohnunterschiede über das gesamte Berufsleben.



Jahresgehalt von Anna und Felix nach Alter

Im Alter von 26 Jahren beträgt der Unterschied zwischen Felix und Anna 2.700 Euro jährlich. **Wenn beide 66 Jahre alt sind, ist diese Lohndifferenz auf 19.008 Euro pro Jahr angestiegen.**

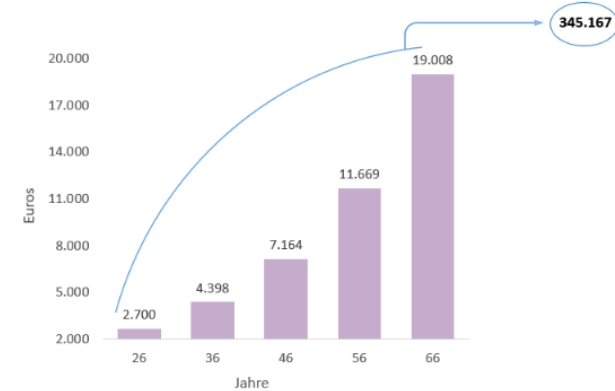
Wenn die Grafiken auf Ihrem mobilen Gerät nicht richtig angezeigt werden, dann drehen Sie bitte den Bildschirm.

... zurück weiter ...

BerInA_Berufseinstieg von AkademikerInnen

Fortschritt 72%

Die jährlichen Lohnunterschiede durch die Gehaltverhandlung vergrößern sich über das Berufsleben.



Jährliche Lohnunterschiede zwischen Anna und Felix nach Alter

Über den gesamten Zeitraum hinweg verdient Felix bis zum Alter von 66 Jahren insgesamt **345.167 Euro mehr als Anna.**

Wenn die Grafiken auf Ihrem mobilen Gerät nicht richtig angezeigt werden, dann drehen Sie bitte den Bildschirm.

... zurück weiter ...