

# Gender Inequality over the Life Cycle, Information Provi- sion and Policy Preferences

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## **Impressum:**

CESifo Working Papers

ISSN 2364-1428 (electronic version)

Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH

The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute

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Editor: Clemens Fuest

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# Gender Inequality over the Life Cycle, Information Provision and Policy Preferences

## Abstract

We conduct a survey experiment with four thousand German respondents and provide information on two measures of gender inequality, separately or jointly: the gender gap in earnings and the gender gap in pensions. We analyze the effect of information provision on respondents' views on the importance of reducing gender inequality and on their agreement with the adoption of policies targeted at different stages of the life cycle and aimed at reducing the gaps. We find that providing information on both gaps changes perceptions of the importance of reducing gender inequality and adopting policy measures to this end. Information on only one gap tends to have insignificant effects. By exploring the mechanisms behind our results, we provide insights into the importance of individual views on female disadvantages in the labor market, personal experience of inequality, and social norms as correlates of preferences for reducing gender inequality and policy interventions. We also show that information provision has larger effects on women and young respondents, while treatment effects do not differ by political leaning. These individual characteristics also relate to differences in identifying causes of gender inequality.

JEL-Codes: C900, D630, J160, J380.

Keywords: gender earnings, gap, gender pension gap, gender inequality, survey experiment, information provision, policy preferences.

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January 24, 2024

We thank Sonja Settele as well as participants at the annual conferences of Verein für Socialpolitik (VfS), Society of the Economics of the Household (SEHO), European Society for Population Economics (ESPE), Italian Public Economics Society (SIEP), at seminars at the Austrian Institute of Economic Research (WIFO), the University of Vienna and the University of Munich and at workshops in Bamberg, Berlin, Halle, and Luxembourg for helpful comments and discussions. Marvin Pappalettera provided excellent research assistance. IRB approval was obtained at the Friedrich Schiller University Jena. The experiment, including a pre-analysis plan, is pre-registered in the RCT registry of the American Economic Association under ID: AEARCTR-0008162. The authors have no conflict of interest.

# 1 Introduction

Gender inequality is a widespread phenomenon that touches different spheres and different stages of the life cycle, from education to labor market and retirement. While the gender gap in education, as measured by the share of male and female graduates, has narrowed and even reversed over time, gender gaps in the labor market are still widespread and persist into old age, with women receiving lower pensions than men and being at higher risk of poverty (OECD 2021).

Though the policy debate on strengthening female empowerment has grown in recent decades, progress has often been slow and heterogeneous across countries, as has the adoption of policy measures to achieve or get closer to gender equality. This is despite evidence on the benefits of reducing gender inequality, for instance on economic growth (Cuberes and Teignier 2016; Hsieh et al. 2019). Part of the limited policy action may depend on low demand for policy intervention. A growing literature shows that individual perceptions and beliefs about economic and social phenomena (e.g., inequality, social mobility, immigration) shape policy demand and policy support (Stantcheva 2021a; Haaland and Roth 2023). While such perceptions are partly malleable to information provision, policy views are harder to change. For instance, Kuziemko et al. (2015) show that providing respondents with information about income inequality has only a small effect on the agreement with policy measures that address it, whereas Settele (2022) provides evidence that informing respondents about measures of the gender wage gap has an impact on their assessment of some policy measures aimed at reducing it. Alesina et al. (2018) show that Americans and Europeans have different perceptions of social mobility, and that within individual countries there are partisan gaps in views of the role of government as part of the problem or the solution.

In this paper we investigate whether providing information about measures of gender inequality has an effect on respondents' perceptions of the importance of reducing it and on their preferences for adopting policies oriented towards this goal. Specifically, we conduct a representative online survey with about four thousand German respondents in which we provide information on two measures of gender inequality, separately or jointly: the gender gap in earnings and the gender gap in pensions. First, we explore whether being informed about gender inequality and its persistence over the life cycle determines changes in perceptions and policy views, where we distinguish between measures targeting education, the labor market, or retirement. In particular, the policy measures we present to respondents touch on occupational choice, labor market participation and hours worked, career advancement, care work, and savings. We explore mechanisms behind our baseline results, looking at the role of prior beliefs about the gender gaps, views on female disadvantages in the labor market, personal experience of wage inequality,

strength of gender stereotypes, to whom respondents attribute the main responsibility for gender inequality, and perceived effectiveness of government intervention. Second, we are interested in understanding whether there are heterogeneous effects of information provision focusing on gender, age, and political leaning.<sup>1</sup> We re-interview half of the respondents in a follow-up survey to examine how individual perceptions of gender inequality and policy views evolve over time. In addition, we dig deeper into the reasoning of respondents about the issues at hand by exploiting the text of open-ended responses to a question about the causes of gender inequality, and by investigating whether the topics mentioned differ according to gender, age, and political leaning.

We find that providing respondents with information on the gender earnings gap and the gender pension gap together increases by 10.7 percent of a standard deviation their agreement with the statement that it is important to reduce gender inequality. Being informed about both gaps has also the largest impact on agreement with policy goals and the adoption of measures targeted at reducing gender inequality. The effects of providing information on only one gender gap tend to be insignificant. Looking at the mechanisms behind treatment effects, we find that respondents who view women as disadvantaged in the labor market and who have personally experienced gender wage inequality are more likely to agree with the importance of reducing gender inequality and with policy measures to address it. We also show that the information treatment is more effective on women and younger respondents, while the treatment effects do not differ by political leaning. These individual characteristics matter also when freely reporting causes of gender inequality, with women focusing more on care work compared to men, the young stressing more the role of social norms and maternity, and the conservatives mentioning more often labor market participation.

Gender is a relevant dimension of horizontal inequality. While the gender gap in hourly wages is often used to capture differences in remuneration between men and women,<sup>2</sup> differences in earnings are a better measure of the level of economic resources men and women have access to. Since women's labor supply is lower than men's, the gender gap in earnings or labor income will generally be higher than that in hourly wages. Also, gender differences in labor income are critical for pension benefits. In pension systems where contributions are the main determinant of pension benefits, low labor market participation and low earnings will translate into low pensions, and will make gender inequality persistent over the life course. The provision of information on gender gaps in earnings and pensions makes differences in economic resources between men and women salient and may change

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<sup>1</sup>Andre et al. (2022) and Galasso et al. (2022) highlight the importance of political leaning for the analysis of the effects of information treatments.

<sup>2</sup>For cross-country evidence on gender gaps in wages, see, for example, Blau and Kahn (2003), Ponthieux and Meurs (2015) and Olivetti and Petrongolo (2016).

perceptions about the extent and relevance of gender inequality and the need to address it.

Whether changes in perceptions are accompanied by changes in policy views and demand is a question we explore. For given perceptions, policy demand may be low if respondents believe that this is an area where public policy should not interfere because gender differences in earnings and pensions result from different choices that men and women make freely. Or it may be high if people believe that men and women do not make choices in a vacuum, but are constrained by the cultural and policy environment in which they are embedded, long before they enter the labor market (Bertrand 2020; Lundberg 2022).

The survey was conducted in Germany in the Fall of 2021. Germany is a particularly interesting country for this study because of its large and rather persistent gender disparity. When Kleven et al. (2019) compare Scandinavian, German-speaking, and English-speaking countries with regard to the penalty women face after childbirth in terms of gross labour earnings, they find that there is a significant penalty in all the countries considered, with Germany standing out: while, for example, the penalty in Sweden is 26% ten years after the birth of the first child and 44% in the UK, German mothers face a penalty of 61%. Furthermore, compared to other countries in the European Union, not only the German gender gap in annual earnings is above average, but also the gender pension gap (Tinios et al. 2015). At the same time, the gender gap in employment is lower than the EU average (OECD 2021).

The remainder of the paper is organized as follows. Section 2 introduces the design of our information provision experiment and our hypotheses. Section 3 presents the results, including heterogeneity analysis by gender, age, and political leaning, and a discussion of potential mechanisms. In Section 4, we introduce the follow-up survey and discuss its results. Finally, Section 5 concludes.

## 2 Design and Hypotheses

### 2.1 Survey and Sample

We use data from a large representative online survey that we conducted in Fall 2021. The sample consists of 3,979 respondents from Germany over the age of 18 and is representative with respect to age, gender, secondary school education, and residence in East or West Germany.<sup>3</sup> The respondents are part of a pool of registered survey respondents of a professional survey provider that directly invites them to participate. They receive a small

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<sup>3</sup>The existing literature shows that online survey respondents are generally representative of the entire population when reweighted (Grewenig et al. 2023). For further support, we compare the characteristics of our survey respondents with the entire population in Table 1.

compensation for their participation, but they do not receive further incentives based on their responses.

The survey consists of two survey waves. The first was in September 2021, while the second wave took place around 5 to 8 weeks after the initial one and was conducted in October and November 2021. The second wave is a follow-up survey closely related to the main one and allows us to investigate changes in preferences and beliefs over time. For the follow-up survey wave we aimed at and obtained a 50% response rate from respondents of the main survey. The follow-up sample therefore consists of 1,983 respondents. The average duration for answering the main survey was 19 minutes and for the follow-up survey was 15.

For our analysis, we have to exclude 25 responses due to duplicates, which reduces the sample size to 3,954 respondents. Furthermore, we focus on responses from respondents for whom we have full information on all relevant variables. While most variables have less than 10 missings, there are 133 respondents who did not give an answer to the questions on prior beliefs and are therefore excluded as well. This reduces the sample size further to 3,783 observations and leaves us with 1,841 observations for the follow-up.

## 2.2 Experimental Design

The key feature of the survey is an information provision experiment, the setup of which is shown in Figure 1. Survey respondents are randomly assigned to one of four experimental groups. Each experimental group consists of roughly 1000 respondents. One group is the pure control group ( $C$ ) that does not receive any information, while the three treatment groups differ with respect to the information they receive.

### 2.2.1 Eliciting Prior Beliefs

In the first stage all groups, including the control group, are asked about their prior beliefs regarding the gender earnings gap and the gender pension gap in Germany. By this, we ensure that any treatment effect we may observe is due to information rather than priming.<sup>4</sup> Regarding the gender earnings gap, we ask respondents the following question:

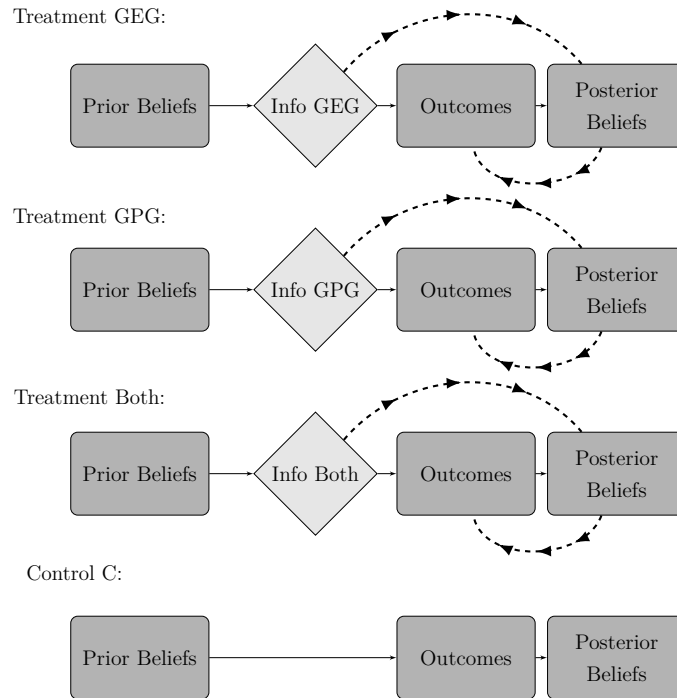
*Gender Earnings Gap:* We now talk about gross annual earnings (i.e. before deduction of taxes and social security contributions). Take an average man in Germany who is employed. Consider: For every 100 euro this man earns gross per year, how much does an average woman earn gross per year? Keep in mind that both men and women can be full-time, part-time, or marginally employed.<sup>5</sup>

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<sup>4</sup>We further discuss this point in Section 3.2.1.

<sup>5</sup>This way of eliciting prior beliefs is similar to Settele (2022), who focuses on wages.

Figure 1: Experimental Setup



For the gender pension gap, the question reads as follows:

*Gender Pension Gap:* Now a question on pension payments. Again, take an average man in Germany who has acquired entitlements in the statutory pension insurance. Consider: For every 100 euro this man receives in old-age pension per year, what pension does an average woman receive per year?

For our analysis, we winsorize the prior beliefs given in response to the above-mentioned questions to 200 euro to deal with outliers. Prior beliefs of 200 euro imply that a woman receives twice as much as a man. After winsorizing the prior beliefs, we subtract the prior beliefs from 100 euro to get an indicator of the gap rather than the relative earnings or pensions of men and women.

In addition to the questions about the gender earnings gap and the gender pension gap, we ask respondents whether, on an 11-point Likert scale from 0 “strongly disagree” to 10 “strongly agree”, they agree that women are disadvantaged in the labor market and that men are disadvantaged in the labor market. While these two questions do not ask about statistical facts, they do provide a sense of respondents’ perceptions of gender inequality.

### 2.2.2 Information Treatment

After eliciting prior beliefs in the first stage, respondents in the treatment groups receive information on the gaps. Respondents in the *GEG* and *Both* treatment group receive



information on the gender earnings gap, while respondents in the *GPG* and *Both* treatment group receive information on the gender pension gap. Therefore, treatment groups *GEG* and *GPG* are provided with information on only one gap, while treatment group *Both* is provided with information on both gaps. Treated respondents receive the information via text, where they are first reminded of their own estimate and then informed about the true value and the source of the information.<sup>6</sup> Additionally, they are asked to self-assess whether their estimate was too high, correct, or too low compared to the true value. We use this information for a robustness check (see Appendix C) to see if our results change when we exclude respondents who did not correctly assess their estimates.

Consistently with how we elicited beliefs, we provide information on how much a woman on average earns gross per year for every 100 euro a man earns. This measure captures both differences in hourly wages and differences in hours worked between men and women. It measures overall gender inequality in the labor market and the unequal economic opportunities men and women have. Respondents who are in group *GEG* and *Both* are thus informed that the correct answer for the question about the gender earnings gap is that women on average earn gross per year 66 euro per 100 euro earned by a man on average, with a corresponding gender earnings gap of 34% (Federal Statistical Office 2021b). This number is higher than the gender gap in hourly wages which is 18% in 2020 (Federal Statistical Office 2021a). For the gender pension gap, respondents in treatment groups *GPG* and *Both* are informed that the annual old-age pension a woman receives on average from the statutory pension insurance is 63 euro for every 100 euro a man receives on average, with a corresponding gender pension gap of 37% (German Pension Insurance 2021).<sup>7</sup>

Since we are interested in gender inequality over the life cycle and inequality during retirement is influenced by labor-market outcomes, we ask and give respondents information on the (unadjusted) gender earnings gap measured in terms of gross annual labor income rather than on the gender wage gap. Another feature of eliciting beliefs about the gender earnings gap is that it is a less widely used measure and therefore more difficult to find in a search engine. In addition, and related to both gap measures, we do not incentivize the estimates to further reduce the probability of respondents searching for the correct answers.

### 2.2.3 Outcomes

After the treatment, respondents from all groups are asked about their agreement with reducing gender inequality as well as about their agreement with several policy options

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<sup>6</sup>The wording of the treatment is shown in Appendix A.

<sup>7</sup>Of course, the information we provide on the gender pension gap is for today's retired generation and could be different when the younger age groups retire.

aimed at decreasing the gender gaps in earnings and pensions, targeting different stages of the life cycle. All answers are given on an 11-point Likert scale, with 0 indicating strong disagreement and 10 indicating strong agreement. We standardize (z-score) all outcome variables based on the mean and the standard deviation of the control group.

Specifically, our outcome variables in the regression analysis are the following.

**Importance to reduce gender inequality.** After the survey experiment, we first ask respondents about their agreement with the statement:

- It is important to reduce inequality between men and women.

**Policy measures.** We then ask respondents about their agreement with different policy goals. We always accompany the statement of a goal with examples of policies that can help achieving it, according to existing evidence (see e.g., Olivetti and Petrongolo 2017; Delfino 2021; Blundell et al. 2023). The combination of the goal and the exemplary policy measures aims at making the different alternatives more concrete and getting respondents to reflect on policies that can potentially reduce gender inequality over the life cycle. Specifically, we ask them whether they agree with the following:

- The labor market participation of women should be increased.  
For example, through the expansion of childcare facilities or a reform of the tax system (e.g., splitting the tax base for married couples).
- The career advancement of women in companies should be promoted.  
For example, by introducing gender quotas or transparent salaries.
- The choice of less gender-typical professions should be supported.  
For example, by helping girls to find their interest in mathematics and science (STEM) professions or by creating incentives for boys to choose typical female professions.
- It should be made more attractive for women to work more.  
For example, through more incentives for full-time work or more incentives for later retirement.
- Socially relevant activities outside the labor market should be taken into account more in the statutory pension insurance.  
For example, through more pension points for childcare, caring for relatives or voluntary work.
- Additional savings should be made more attractive for women.

For example, through greater promotion of private pension insurance or occupational pension schemes.

The first four statements refer to education and the labor market, while the last two target the pension period. For our analysis, we use indices, which combine answers to the different policy questions mentioned above. Specifically, we introduce a *Labor Index*, which captures answers to the first four options related to education and the labor market, and a *Pension Index*, which is based on the last two options which are related to retirement. We finally construct a *Policy Index*, which takes into account all six policy measures. To build these indices, we adopt the approach of Kling et al. (2007) by averaging the standardized responses to the respective questions and standardizing them again.<sup>8</sup>

#### 2.2.4 Posterior Beliefs

At the very end of the survey, respondents of all groups are asked about their posterior beliefs on both gaps. This allows us not only to analyze shifts in beliefs of treated respondents, but also to investigate whether cross-learning took place, i.e., whether being informed about the gender earnings gap makes respondents adjust their beliefs also on the gender pension gap, and vice versa.

Our underlying assumption is that respondents who receive the information update their beliefs immediately. Based on these updated beliefs, they answer the outcome questions. This is indicated by the arrows in Figure 1. While we cannot directly observe whether this is the case, we can check whether respondents update their beliefs in response to the information provided and whether the information treatment has an effect on the outcomes.

### 2.3 Balance

Table 1 shows the population means and the means for the full sample as well as for all subgroups. We see that half of the sample is female, married, and 50 years or older. About a third of our sample has at least finished 12 years of education and a quarter has a university degree. Almost half are employed and about a third are retired. These shares are very close to the population means. The biggest difference is in the share of individuals with high income: while the population mean is 35%, we have only 23% in our sample.

In addition, the table shows the results of pairwise comparisons between the experimental groups based on t-tests. Since there are only very few significant differences, we

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<sup>8</sup>We deviate from our pre-analysis by categorizing the fourth statement as related to the labor market rather than retirement. We decided to do this because the statement is about labor supply. Therefore, it seems more appropriate to group it this way.

Table 1: Tests for balance in covariates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Pop.	All	C	GEG	C/ GEG	GPG	C/ GPG	GEG/ GPG	Both	C/ Both	GEG/ Both	GPG/ Both
	mean	mean	mean	mean	diff	mean	diff	diff	mean	diff	diff	diff
Prior GEG	NA	15.58	17.25	14.75	2.50	14.86	2.39	-0.11	15.50	1.75	-0.75	-0.64
Prior GPG	NA	23.86	25.44	23.87	1.57	23.07	2.37	0.79	23.08	2.36	0.78	-0.01
Age: 18-29	0.16	0.16	0.14	0.16	-0.01	0.16	-0.02	-0.01	0.17	-0.03	-0.01	-0.00
Age: 30-39	0.15	0.16	0.16	0.18	-0.02	0.17	-0.01	0.01	0.16	0.00	0.02	0.01
Age: 40-49	0.14	0.15	0.16	0.15	0.00	0.14	0.02	0.01	0.17	-0.02	-0.02	-0.03*
Age: 50-65	0.26	0.29	0.30	0.27	0.03	0.30	0.00	-0.02	0.28	0.02	-0.01	0.01
Age: 65+	0.29	0.23	0.24	0.24	0.00	0.23	0.01	0.01	0.22	0.03	0.02	0.01
Female	0.51	0.51	0.51	0.50	0.01	0.51	0.00	-0.01	0.50	0.02	0.01	0.01
East	0.15	0.15	0.13	0.16	-0.03*	0.14	-0.01	0.02	0.16	-0.02	0.00	-0.02
Educ: 12th grade	0.37	0.34	0.33	0.34	-0.01	0.32	0.01	0.02	0.37	-0.04*	-0.03	-0.05**
Educ: uni	0.20	0.24	0.24	0.25	-0.00	0.23	0.01	0.01	0.26	-0.01	-0.01	-0.02
Employee	0.50	0.46	0.43	0.47	-0.03	0.47	-0.03	0.00	0.48	-0.04*	-0.01	-0.01
Self-employed	0.01	0.04	0.05	0.05	-0.00	0.04	0.00	0.00	0.03	0.02**	0.02**	0.02**
Civil servant	0.01	0.02	0.03	0.02	0.01	0.01	0.02**	0.01	0.02	0.01*	0.00	-0.00
Retiree	NA	0.31	0.33	0.31	0.03	0.30	0.03	0.00	0.30	0.03	0.00	0.00
Income: high	0.35	0.23	0.22	0.26	-0.03*	0.22	-0.00	0.03	0.22	-0.00	0.03	-0.00
Married	0.50	0.48	0.47	0.49	-0.02	0.48	-0.02	0.00	0.47	-0.00	0.02	0.01
Household size	2.02	2.16	2.16	2.24	-0.08	2.11	0.05	0.13**	2.13	0.03	0.11*	-0.02
Children	NA	0.57	0.58	0.56	0.02	0.56	0.02	-0.00	0.56	0.03	0.01	0.01
Redist. preference	NA	4.20	4.17	4.20	-0.03	4.14	0.04	0.07	4.31	-0.14	-0.10	-0.17
Conservative	0.31	0.29	0.30	0.28	0.01	0.27	0.02	0.01	0.32	-0.02	-0.04*	-0.04**
Observations	NA	3783	932	970	1902	961	1893	1931	920	1852	1890	1881

*Notes:* The table shows the population means and the means for the full sample, as well as for all subgroups. It also shows the mean differences and their significance based on t-tests between subgroups. The population means are calculated based on data from the Federal Statistical Office (2023a; 2023b; 2023c; 2023d; 2023e) and Bundeswahlleiterin (2021); \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

conclude that the randomization worked properly and our sample is therefore well balanced across experimental groups.

## 2.4 Hypotheses

We registered our main hypotheses before analyzing the data in a pre-analysis plan.<sup>9</sup> We describe below our full list of hypotheses.

First, we expect that respondents in the treatment groups compared to those in the control group agree more strongly with the importance of reducing gender inequality and with the adoption of policy measures to this end. Further, we expect that those who only receive information about the gender earnings gap have a stronger preference for policies targeted at early stages of the life cycle and that those who only receive information about the gender pension gap show stronger agreement with the adoption of policies targeted

<sup>9</sup>The pre-registered trial can be found here: <https://doi.org/10.1257/rct.8162-1.2000000000000002>

at retirement. We expect that respondents who receive information on both gaps react more strongly than respondents who receive information on only one gap, because they are made aware of the persistence of gender inequality over the life cycle. In addition, when considering policy alternatives, we expect them to support more those measures, which are focused on the labor market as they now realize that gender inequality is a life-cycle phenomenon that should be addressed as early as possible.

As to treatment heterogeneity, we expect that men and women will react differently to information provision, with women reacting more strongly for all outcomes. These hypotheses reflect the assumption that all individuals give more weight to their own utility: since women are on average at a disadvantage compared to men, we expect them to change their preferences more strongly.

In addition to analyzing heterogeneity by gender, we also analyze heterogeneity in treatment effects by age and political leaning. Although these dimensions were not included in our pre-analysis plan, we think it is important to consider them because they may influence preferences for reducing gender inequality and over policy adoption. To compare young and old, we split the sample at age 45 and conduct robustness checks with alternative thresholds. To classify conservative and non-conservative respondents, we use their answers to the question which party they would vote for if the federal election were held the coming Sunday. Respondents who would vote for CDU, AfD, dieBasis, Graue Panther, or NPD are classified as conservative.<sup>10</sup>

Besides the analysis of heterogeneities concerning gender, age, and political leaning we also explore the relevance of prior beliefs in influencing the impact of the treatment. In particular, we assume that respondents who underestimate both, the gender earnings gap and the gender pension gap, will react more strongly to the *Both* treatment than respondents who underestimate none or only one of the gaps.<sup>11</sup>

## 2.5 Empirical Strategy

For our main analysis, we estimate the causal impact of the information treatments as follows:

$$y_i = \beta_0 + \beta_1 T_{ij} + \gamma' X_i + \varepsilon_i \quad (1)$$

where  $y_i$  denotes the outcome variable, while  $T_{ij}$  with  $j = 1, 2, 3$  indicates whether respondent  $i$  belongs to treatment group  $j$ , with  $j = 1$  capturing the earnings gap

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<sup>10</sup>For an analysis of East/West differences as stated in the pre-analysis plan, see Appendix C for the hypotheses and the results. We refrain from a more detailed analysis of East/West differences because we address this question in more detail in Casarico et al. (2024). There we make use of an experiment where information on the gaps is provided separately for East and West Germany for a more detailed analysis as outlined in the pre-analysis plan.

<sup>11</sup>See Appendix C for the hypotheses and the results.

treatment (*GEG*),  $j = 2$  the pension gap treatment (*GPG*), and  $j = 3$  the treatment which includes information on both gaps (*Both*). Finally,  $X_i$  denotes the vector of individual control variables and  $\varepsilon_i$  denotes the error term. The individual control variables in  $X_i$  include age, gender, education, residence in East Germany, employment status, marital status, household size, children, income, redistribution preferences, and conservative. Although respondents are randomly selected into one of the four experimental groups and our balance test shows that the randomization was overall successful, we add controls to increase the precision of our estimates.

To analyze heterogeneous treatment effects, we estimate the following equation:

$$y_i = \beta_0 + \beta_1 T_{ij} + \beta_2 I_i + \beta_3 T_{ij} \times I_i + \gamma' X'_i + \varepsilon_i \quad (2)$$

In equation (2) the notation is the same as in equation (1) with the additional term  $I_i$ , which represents the indicator for the heterogeneity dimension of interest, i.e., gender, age, and political leaning and with  $X'_i$  being the strict subset of  $X_i$  that excludes the variable, which is part of the interaction, as this is now added separately to the estimation equation. As before, we estimate equation (2) including all individual controls.

## 3 Results

### 3.1 Beliefs about Gender Inequality

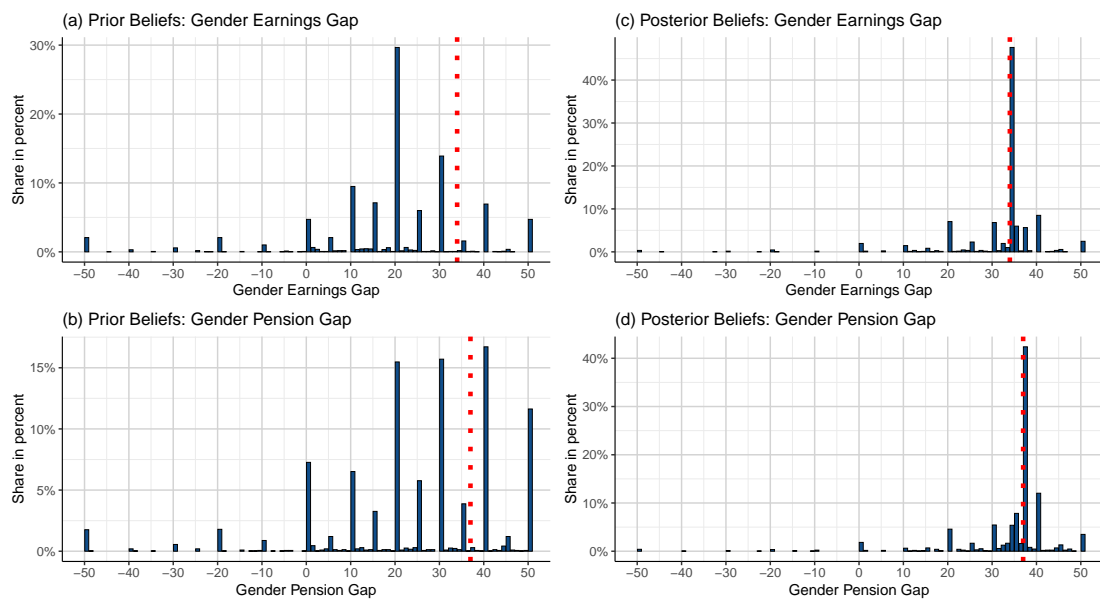
#### 3.1.1 Overview over prior and posterior beliefs

As described in Section 2.2.1, we elicit respondents' prior beliefs about the gender earnings gap and the gender pension gap. Figure 2, panels (a) and (b), shows the distribution of prior beliefs for all respondents. The mean estimate of the (winsorized) gender earnings gap is 15.58 euro and the median is 20 euro, while the mean estimate of the (winsorized) gender pension gap is 23.86 euro and the median is 30 euro.

If we compare the elicited beliefs with the actual values (see Section 2.2.2), we conclude that the median respondent underestimates the gender earnings gap by about 14 euro and the gender pension gap by about 7 euro. Figure 2 also shows that the share of respondents who underestimate the gender earnings gap is much larger than that of those who underestimate the gender pension gap. In particular, while the former is underestimated by 3051 respondents, the latter is underestimated by only 2328 respondents.

Figure 2, panels (c) and (d), show the distribution of posterior beliefs. Panel (c) focuses on those who received information about the gender earnings gap (*GEG* and *Both*), while panel (d) focuses on the posterior beliefs of those who received information about the gender pension gap (*GPG* and *Both*). There is a shift in beliefs for both gaps: for the

Figure 2: Prior and Posterior Beliefs



*Notes:* Panels (a) and (b) show the prior beliefs for the full sample; panels (c) and (d) show the posterior beliefs for the treated respondents. In particular, panel (c) shows the posterior beliefs about the gender earnings gap for treatment groups *GEG* and *Both*, while panel (d) shows the posterior beliefs about the gender pension gap for respondents in treatment groups *GPG* and *Both*. The dashed red lines in all panels indicate the true values, i.e., 34 euro for the gender earnings gap and 37 euro for the gender pension gap. Beliefs about gaps below -50 and above 50 euro are not shown in the figure.

gender earnings gap, we have a mean of 26.84 and a median of 34, and for the gender pension gap, the mean is 31.92 and the median is 37. This shows that people update their beliefs according to the new information they receive. In Section 3.1.2, we examine respondents' updating and cross-learning about the two gaps in more detail.

In addition to eliciting beliefs about the gender gap in earnings and pensions, we ask respondents – pre-treatment – to what extent they agree on the statement that women or men are disadvantaged in the labor market. We use an 11-point Likert scale from 0 “strongly disagree” to 10 “strongly agree”. The mean is 6.80 (median: 7) for the question whether women are disadvantaged and 2.51 (median: 2) for the question whether men are disadvantaged.

### **3.1.2 Updating and cross-learning**

Table 2 shows the prior and posterior beliefs of individuals in all groups, as well as comparisons between groups and between prior and posterior beliefs using t-tests. First, we focus on beliefs about the gender earnings gap (Panel A). We see that respondents in all groups hold similar prior beliefs, while respondents in all treatment groups hold posterior beliefs that are significantly higher than the posterior beliefs of respondents in the control group (Panel A, columns 4, 6, and 9). Furthermore, the comparison of prior and posterior beliefs shows that respondents in all groups hold posterior beliefs that are significantly higher than their prior beliefs, and thus closer to the actual gender earnings gap (Panel A, columns 2, 3, 5, and 8).



Table 2: Updating and Cross-Learning

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
All	C	GEG	C/ GEG	GPG	C/ GPG	GEG/ GPG	Both	C/ Both	GEG/ Both	GPG/ Both
mean	mean	mean	diff	mean	diff	diff	mean	diff	diff	diff
<b>Panel A: Beliefs about the Gender Earnings Gap</b>										
GEG (prior)	15.58	17.25	14.75	2.50	14.86	2.39	15.50	1.75	-0.75	-0.64
GEG (post)	26.84	20.19	29.12	-8.93***	27.05	-6.86***	30.95	-10.76***	-1.83*	-3.90***
Post vs. prior	11.28***	2.93***	14.37***	NA	12.23***	NA	15.49***	NA	NA	NA
<b>Panel B: Beliefs about the Gender Pension Gap</b>										
GPG (prior)	23.86	25.44	23.87	1.57	23.07	2.37	23.08	2.36	0.78	-0.01
GPG (post)	31.92	25.93	33.29	-7.37***	34.02	-8.10***	34.33	-8.41***	-1.04	-0.31
Post vs. prior	8.08***	0.46	9.52***	NA	10.95***	NA	11.28***	NA	NA	NA
Observations	3783	932	970	1902	961	1893	920	1852	1890	1881

*Notes:* The table shows mean values of prior and posterior beliefs for the gender earnings gap and gender pension gap for the full sample (column 1) as well as for all experimental groups (columns 2, 3, 5 and 8). In columns 4, 6, 7, 9, 10 and 11 we report the mean differences in beliefs across experimental groups and their significance based on a t-test. For each experimental group, we also report the difference in means between prior and posterior beliefs and their significance based on a t-test. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

This is true not only for respondents in the groups that receive information about the gender earnings gap (*GEG* and *Both*), but also for respondents in the other two groups that do not receive information about the gender earnings gap: the control group and the *GPG* group. However, respondents in the control group update their beliefs by less than 3 euro (Panel A, column 2), while all respondents on average update their beliefs by more than 11 euro (Panel A, column 1). Respondents in the *GPG* group hold posterior beliefs about the gender earnings gap that are significantly higher than their prior beliefs (Panel A, column 5). This implies that cross-learning is taking place. In addition, their posterior beliefs about the gender earnings gap are significantly different from those of respondents in the control group (Panel A, column 6), but only marginally significantly different from the posterior beliefs of respondents in the *GEG* group (Panel A, column 7). However, respondents who receive information about both the gender earnings gap and the gender pension gap hold significantly higher posterior beliefs about the gender earnings gap (which are thus closer to the true value) than respondents who receive information about the gender pension gap only (Panel A, column 11).

If we consider beliefs on the gender pension gap (Table 2, Panel B), a similar picture emerges: the prior beliefs of respondents in all groups are not significantly different. Focusing on the posterior beliefs, however, respondents in all treatment groups hold posterior beliefs that are significantly higher than those of respondents in the control group (Panel B, columns 4, 6, and 9). Furthermore, the posterior beliefs about the gender pension gap are not significantly different between respondents in the different treatment groups (Panel B, columns 7, 10, and 11), suggesting that respondents update their beliefs about the gender pension gap even when they only learn about the size of the gender earnings gap. Correspondingly, when comparing the prior and posterior beliefs of respondents in each of the treatment groups (Panel B, columns 3, 5, and 8), we see that respondents in all treatment groups update their beliefs significantly and that their posterior beliefs are closer to the true value of the gender pension gap than their prior beliefs. This is also the case for respondents in the *GEG* group, who receive no information about the gender pension gap, suggesting that cross-learning also takes place here. However, the beliefs about the gender pension gap of respondents in the control group remain unchanged.

This shows that respondents who receive information about one or both gaps update their beliefs about the respective gaps and it provides some evidence for cross-learning. This evidence will be relevant when we turn to analyze the effects of the treatments on the outcome variables of our interest.

### 3.1.3 Correlates of prior beliefs

We are interested in investigating what correlates with prior beliefs. In particular, we examine which individual characteristics are associated with prior beliefs about the gender earnings gap, the gender pension gap and beliefs about women or men being disadvantaged in the labor market.

Table 3 shows the results. Columns (1) and (2) indicate that young and conservative respondents are more likely to underestimate the two gaps compared to old and non-conservative respondents, while differences in gender, income, education, and place of residence are not related to beliefs on the gender earnings gap and the gender pension gap. Looking at columns (3) and (4), we see that female respondents are more likely to say that women are disadvantaged, while they are less likely to say that men are disadvantaged. Young and conservative respondents react the other way round: both are less likely to agree with the statement that women are disadvantaged and more likely to agree with the statement that men are disadvantaged than the old and the non-conservatives, respectively. Having a high income, a university degree or being employed also correlates with the view that men are disadvantaged. Furthermore, being employed also correlates with the view of women being disadvantaged. Table 3 provides support for using gender, age, and political leaning as key variables of interest in the heterogeneity analysis, which we will conduct in Section 3.3.

## 3.2 Baseline Results

### 3.2.1 Main Specifications

As a first step, we analyze whether the treatments affect respondents' agreement with the statement that it is important to reduce gender inequality. Table 4, column 1 reports the results. It shows that providing respondents with information on both the gender earnings gap and the gender pension gap (*Both*) significantly increases their agreement with the goal of reducing gender inequality by 10.7 percent of a standard deviation. A similar effect (8.8 percentage of a standard deviation) is observed when information is provided on the gender earnings gap only (*GEG*). Providing information on the gender pension gap (*GPG*) only, instead, has an insignificant effect. These results suggest that awareness of different indicators of gender inequality may increase the perceived need to reduce gender inequality. In particular, the effectiveness of the combined treatment speaks to the relevance of casting gender inequality as a persistent phenomenon. The results also suggest that providing information on the gap in the labor market only can have some impact on the views about the importance of gender inequality, which is in line with the findings of Settele (2022), while information on the gender pension gap only does not.

Table 3: Beliefs about Gender Inequality

	(1) GEG	(2) GPG	(3) Women disadv.	(4) Men disadv.
Female	-0.567 (1.216)	-0.590 (1.256)	1.071*** (0.082)	-1.045*** (0.074)
Young	-2.441* (1.327)	-5.984*** (1.377)	-0.837*** (0.091)	0.662*** (0.084)
East	1.027 (1.561)	-0.993 (1.567)	-0.185 (0.116)	-0.011 (0.102)
Income: high	0.750 (1.408)	2.562* (1.409)	-0.120 (0.103)	-0.217** (0.091)
Educ: uni	-1.049 (1.413)	0.685 (1.479)	0.072 (0.100)	0.261*** (0.090)
Employed	1.036 (1.305)	2.619** (1.328)	-0.332*** (0.089)	0.318*** (0.080)
Conservative	-5.613*** (1.365)	-3.293** (1.383)	-0.551*** (0.092)	0.410*** (0.082)
Constant	17.900*** (1.100)	25.592*** (1.150)	6.987*** (0.081)	2.465*** (0.071)
Observations	3783	3783	3783	3783

*Notes:* The table reports OLS estimation of beliefs about the gender earnings gap (1), beliefs about the gender pension gap (2), beliefs about women being disadvantaged in the labor market (3) and beliefs about men being disadvantaged in the labor market (4). Robust standard errors are reported in parentheses. To calculate the gender earnings gap (GEG) and the gender pension gap (GPG), we first consider the beliefs of the respondents on how much a woman earns/ receives for every 100 euro a man receives, and winsorize prior beliefs at 200 euro. We then subtract the prior beliefs from 100 euro to get an indicator of the gap (rather than relative earnings/ pensions). The disadvantage variables capture whether respondents think that women or men are disadvantaged in the labor market and are measured on an 11-point Likert scale. Young indicates whether a participant is 45 or less. High income is 3500+ euro. Conservative indicates a voting preference for one of the following: CDU/ CSU, AfD, dieBasis, Graue Panther, NPD. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 4: Treatment Effects on Reducing Gender Inequality and Policy Preferences

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Reduce Inequality		Labor Index		Pension Index		Policy Index	
GEG	0.088**	0.081**	0.041	0.040	-0.015	-0.012	0.023	0.024
	(0.043)	(0.034)	(0.044)	(0.036)	(0.044)	(0.040)	(0.043)	(0.036)
GPG	0.069	0.054	0.038	0.025	0.003	-0.003	0.028	0.017
	(0.044)	(0.036)	(0.043)	(0.036)	(0.044)	(0.041)	(0.043)	(0.036)
Both	0.107**	0.070*	0.141***	0.106***	0.105**	0.083**	0.140***	0.106***
	(0.044)	(0.036)	(0.044)	(0.037)	(0.044)	(0.040)	(0.043)	(0.036)
Female	0.417***	0.059**	0.496***	0.257***	0.457***	0.276***	0.525***	0.287***
	(0.031)	(0.028)	(0.031)	(0.028)	(0.032)	(0.031)	(0.031)	(0.028)
Young	-0.263***	-0.073**	-0.296***	-0.142***	-0.218***	-0.099***	-0.292***	-0.138***
	(0.042)	(0.037)	(0.041)	(0.035)	(0.041)	(0.038)	(0.040)	(0.035)
Conservative	-0.253***	-0.096***	-0.262***	-0.113***	-0.124***	-0.017	-0.232***	-0.086***
	(0.036)	(0.030)	(0.035)	(0.030)	(0.035)	(0.033)	(0.035)	(0.030)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783

*Notes:* The dependent variables are agreement with the statement that it is important to reduce gender inequality (columns 1 and 2), the labor index (columns 3 and 4), the pension index (columns 5 and 6), and the policy index (columns 7 and 8). The outcome variables are standardized using the mean and standard deviation of the control group. Robust standard errors are reported in parentheses. Individual controls include young (age 45 or less), gender, education, residence in East Germany, employment status, marital status, household size, children, income, redistribution preferences, and conservative. We only report the coefficients of female, young, and conservative. The variables included in mechanisms are described in Section 3.2.2; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

In addition to the effect of the treatments on agreement with the statement that it is important to reduce gender inequality, we are interested in whether the provision of information changes preferences for policy goals and related measures. In particular, we use the three indices introduced above (see Section 2.2.3), which capture preferences for policies: the labor index that focuses on education and the labor market (Table 4, column 3); the pension index, which looks at retirement (column 5); and the policy index, which combines the two (column 7).

Our results show that neither information on the gender earnings gap alone nor that on the gender pension gap have a significant effect on agreement with the adoption of policies to contrast gender inequality. Instead, receiving information on both gaps significantly increases respondents' agreement with the use of these policies. In particular, being informed about both the earnings gap and the pension gap increases agreement on policies as captured by the policy index by 14.0 percent of a standard deviation. When we focus on the sub-indices, the results are qualitatively the same. The size of the coefficient is smaller for the pension index, though, which is suggestive of the treatment causing a stronger

reaction on agreement with the adoption of policies targeting the education and labor market period, as hypothesized in the pre-analysis plan.

Inspired by Stantcheva (2021b), results in columns 1 and 7 of Table 4 are also graphically reported in Figures 3 and 4, top two panels, which show the coefficients of the treatment indicators and those of selected individual controls. We see that gender, age and political leaning are strongly correlated with views on the importance of reducing gender inequality and adopting policies to this end, with women strongly in favor, and the young and the conservatives against. Summarizing, providing information about both gaps has an impact on agreement with the importance of reducing gender inequality and adopting policies to this end. This is partially in line with the hypotheses presented in Section 2.4, since we find no evidence that receiving information on either the gender earnings gap or the gender pension gap has a significant effect on any of the policy indices, while the *GEG* treatment influences agreement with the relevance of reducing gender inequality.

Why do we only find treatment effects when we provide information about both gaps (with few exceptions)? At first glance, this may seem surprising, since we elicit prior beliefs of respondents in all groups (see Section 2.2.1) and find evidence of updating and cross-learning for all treated individuals. The effectiveness of the *Both* treatment compared to the other two treatments, even in the presence of updating and cross-learning on both dimensions of gender inequality, can be rationalized by thinking that only the treatment that provides information on both gaps removes uncertainty about the magnitude of the gaps and about the persistence of gender inequality over the life cycle, while cross-learning is nothing more than an updated guess. It is also consistent with respondents reacting more to a more intense treatment, which captures their attention for longer.

We conclude this section with a discussion of the results, which we interpret as evidence of an information effect. The updating of beliefs as shown in Section 3.1.2 is consistent with this interpretation. Priming or salience effects can also be at play. Note, though, that we elicit prior beliefs about both gaps from all respondents, including those in the control group, and yet, treated respondents react differently. This is in line with treatment groups receiving feedback about the true values of one or both gaps, which in some cases triggers changes in outcomes. Moreover, if experimenter demand effects are a concern, they can be expected to be equally relevant to all respondents. In particular, there is no reason to believe that they differ between treatment and control groups. Also, respondents are not incentivized, and the survey is anonymous. More generally, according to Haaland et al. (2023), experimenter demand effects may be less important in online experiments in domains that are not very sensitive.

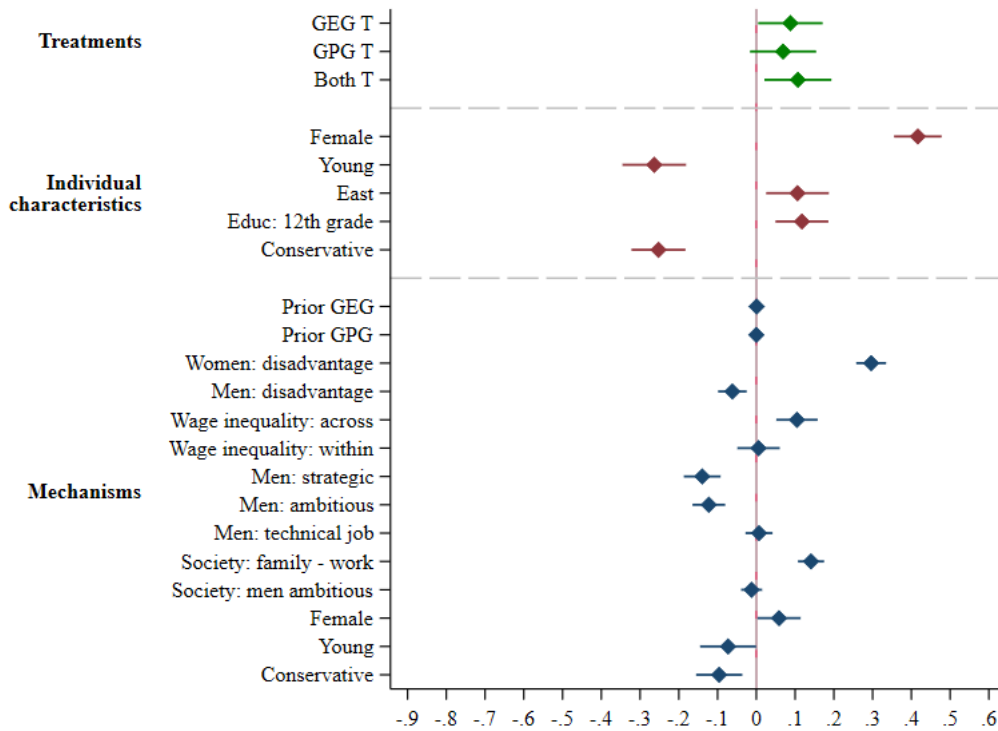


Figure 3: Importance to reduce gender inequality

*Notes:* The dependent variable is agreement with the statement that it is important to reduce gender inequality. In the first and second panels (“Treatments” and “Individual characteristics”) we report the coefficients from the regression of the outcome variable on the treatment indicators and on the full set of individual covariates (Table 4, column 1). Only selected coefficients of the individual controls are reported. In the third panel (“Mechanisms”), we report the coefficients of the regression of the outcome variable on the factors described in Section 3.2.2 and on the full set of individual covariates, as well as on the treatment indicators. Only the coefficients on the female, young, and conservative indicators are reported (Table 4, column 2). We report the 95% confidence interval.

### 3.2.2 Mechanisms

To gain a better understanding of the effects of our information treatments – their size and the potential mechanisms behind them – we analyze how individual views on issues closely related to gender inequality correlate with preferences for reducing it and for adopting policies to this end. In addition to providing a more comprehensive picture, this helps us assess the magnitude of our treatment effects relative to other related factors.

We characterize respondents according to: 1) Prior beliefs on gender inequality; 2) Experience of gender inequality in the labor market; 3) Gender stereotypes. In addition, we characterize them also according to their views on 4) Who is mainly responsible for gender inequality; 5) How effective the government is in reducing gender inequality. These last two factors are important in understanding support for policy. We expect that respondents

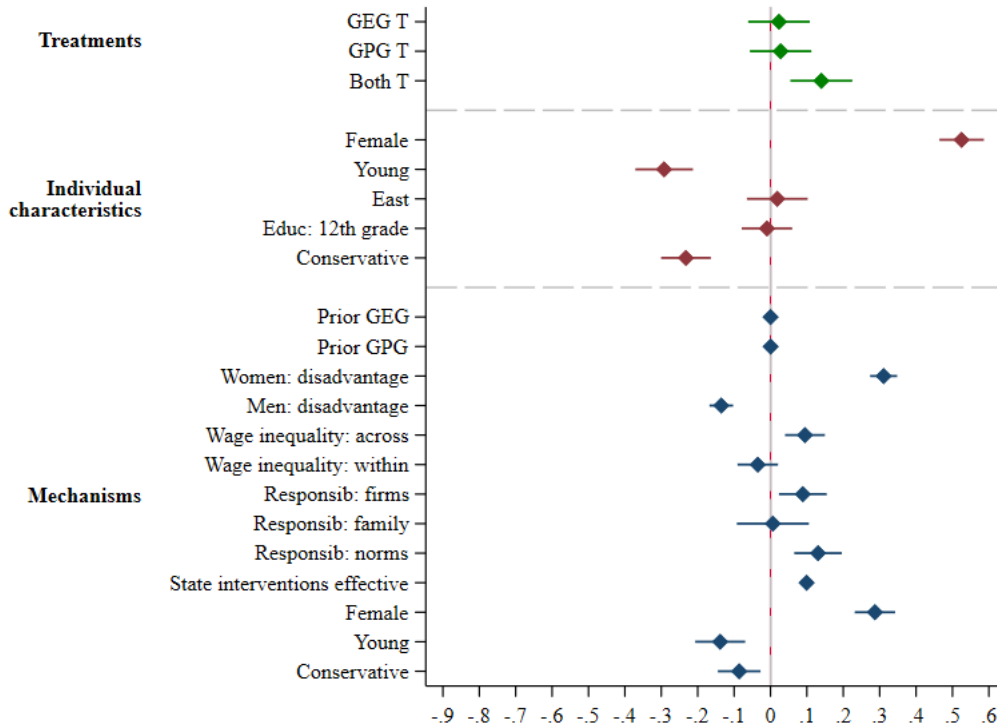


Figure 4: Policy Index

*Notes:* The dependent variable is the policy index. In the first and second panels (“Treatments” and “Individual characteristics”) we report the coefficients from the regression of the outcome variable on the treatment indicators and on the full set of individual covariates (Table 4, column 7). Only selected coefficients of the individual controls are reported. In the third panel (“Mechanisms”), we report the coefficients of the regression of the outcome variable on the factors described in Section 3.2.2, and on the full set of individual covariates, as well as the treatment indicators. Only the coefficients on the indicators for female, young, and conservatives are reported (Table 4, column 8). We report the 95% confidence interval.



who differ in these dimensions will also differ in the extent to which they agree with the statement that it is important to reduce gender inequality and with the proposed policy measures. Beliefs, views and experiences were all elicited prior to the treatment, and we use them to explore potential mechanisms behind our results, besides giving a benchmark against which to measure treatment effects. Empirically, we include the vector  $Z_i$  in equation (1), which captures individual-level responses to a battery of questions, capturing the five sets of characteristics described above.

In more detail, first, we include prior beliefs about the gender earnings gap (*Prior GEG*) and the gender pension gap (*Prior GPG*), as well as beliefs about women or men being disadvantaged in the labor market (*Women/Men: disadvantage*) as correlates of agreement with the goal of reducing gender inequality and the adoption of policies to achieve this goal.<sup>12</sup> Second, we consider whether individuals believe their earnings are adequate or not compared to their female or male colleagues. This allows us to capture both within-gender experiences of wage inequality, i.e., male-male and female-female (*Wage inequality: within*), and across-gender experiences of wage inequality, i.e., male-female and female-male (*Wage inequality: across*). Third, we consider stereotypical views about gender differences. Specifically, we include in our regression analysis whether respondents think that men are naturally more gifted for demanding and strategic tasks (*Men: strategic*), more ambitious about their careers (*Men: ambitious*), or interested in different (and, in terms of income, more rewarding) jobs (i.e., technical vs. care work, *Men: technical job*). We also take into account individuals' assessments of societal expectations that it is more difficult for women to combine work and family life (*Society: family-work*) and that men are more ambitious (*Society: men ambitious*). Fourth, we consider whom respondents see as responsible for existing gender inequalities: the state, the firm, the family, or norms (*Responsib: state/firms/family/norms*), with the state as the responsible actor serving as the reference group. Last, we include views on the effectiveness of government intervention (*State interventions effective*). We always control for treatment indicators because the outcome questions, i.e., the questions about preferences for reducing gender inequality and policy preferences, are asked post-treatment. In addition, as before, we include the full set of individual covariates.

We first discuss the outcome related to the reduction of gender inequality (see Figure 3, bottom panel, and Table 4, column 2). To examine the mechanisms behind this result, we consider three of the five sets of mechanisms mentioned above. In particular, we do not include here the questions about who is responsible for reducing gender inequality and the effectiveness of government intervention (sets 4 and 5), which we will include when examining the policy indices as outcomes. We find that those who believe that women

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<sup>12</sup>See Appendix Table B.1 for a description of all variables. All the variables that are elicited on a Likert scale are standardized for the analysis.

are disadvantaged in the labor market are more likely to agree that it is important to reduce gender inequality, while the opposite is true for those who believe that men are disadvantaged. Respondents with personal experience of wage inequality across gender are also more likely to agree that it is important to reduce gender inequality. Looking at the role of gender stereotypes, respondents who think that men are better at demanding and strategic tasks and are more ambitious see less of a need to reduce gender inequality. Interestingly, respondents who believe that society makes it harder for women to balance work and family life are more likely to support reducing gender inequality.

We expect that gender, age, political leaning and other individual characteristics are correlated with prior beliefs as well as with experiences of inequality and stereotypes held. This is clear when we compare the coefficients of female, young, and conservative in Figure 3, bottom panel (Table 4, column 2) with the corresponding coefficients in the middle panel of the figure (regression without the mechanisms, see Table 4, column 1). Their magnitude is much smaller when we add the mechanisms, although they are still significant at the 5% level.

As to the size of the treatment effects, looking at the top and bottom panels of Figure 3, we see that, in absolute terms, the effect of receiving the *Both* treatment is similar in magnitude to many of the coefficients of the mechanisms. Specifically, receiving it makes agreement with the importance of reducing gender inequality in line with that of respondents experiencing wage inequality across gender and holding the belief that society makes it harder for women to balance work and family. However, the belief that women are disadvantaged in the labor market clearly stands out with a coefficient that is more than twice as large as the treatment effect. Prior beliefs on the size of the gender earnings and pension gap, instead, do not correlate with the outcome.

We next discuss the role of mechanisms for respondents' policy preferences. Table 4, columns 4, 6 and 8 report results for the labor, pension and policy index, respectively. Figure 4, bottom panel, focuses on the *Policy Index* and explores the mechanisms. Along with prior beliefs about gender inequality and own experiences of wage inequality, we now consider views on who is responsible for gender inequality and the effectiveness of government intervention, but we do not include the set of questions on gender stereotypes, as they are already (partially) captured by the questions on who is responsible for gender inequality (especially by the norm category). We find that receiving the *Both* treatment makes respondents more similar to those who have experienced wage inequality across gender and who think that firms and norms have the main responsibility for gender inequality compared to the state. As before, we find that respondents who believe that women are disadvantaged in the labor market are more likely to agree with the adoption of the proposed policies, while the opposite is true for those who believe that men are disadvantaged. Again, the belief that women are disadvantaged in the labor market has a

coefficient that is more than twice as large as the treatment effect. Instead, prior beliefs on the size of the gender earning gap and the gender pension gap do not correlate with policy outcomes.

The pattern on individual characteristics is the same as the one in Figure 3. We still find significant coefficients for being female, young and conservative, although of a smaller magnitude than that estimated when we omit the mechanisms.

### **3.3 Heterogeneity in Treatment Effects**

#### **3.3.1 Heterogeneity: Results**

We are interested not only in the average treatment effect and how this compares in magnitude to other possible contributing factors, but also in treatment heterogeneity. We focus on three dimensions of heterogeneity, namely, gender, age, and political leaning. All of these individual characteristics are also strong indicators of agreement/disagreement with the importance of reducing gender inequality and with policy goals and related measures, as we saw in the previous section.

We begin by analyzing whether the treatments affect female respondents differently from male respondents. Table 5, Panel A shows the results. First, we focus on whether reducing gender inequality is important (column 1). We find that receiving information about one or both gaps increases the agreement of female respondents with the importance to reduce gender inequality significantly more than that of male respondents, who barely respond to any of the treatments. This is despite women's higher support for the goal of reducing gender inequality, even in the absence of any treatment.

Consistent with the findings on the importance of reducing gender inequality, women are also more likely than men to support the adoption of policies after receiving the treatment, though starting also in this case from a higher baseline support. Focusing on the policy index (column 7), we find that women who only receive information about the gender earnings gap or the gender pension gap are significantly more supportive of policy adoption than men. This result also holds for the labor index (column 3), while the evidence is less strong for the pension index (column 5). These results are consistent with our hypotheses, as women are indeed more responsive to the two single treatments than men. A possible explanation could be that they are more affected by these gender inequalities. Note, though, that there is no heterogeneous response to the combined treatment for the policy indices.

Since the different indicators of gender inequality refer to different stages of the life cycle, information about them could have different effects on people of different ages. Therefore, we are also interested in whether the treatment effects are heterogeneous between young respondents, i.e. those aged 45 years or younger, and old respondents, i.e.

Table 5: Heterogeneity in Treatment Effects on Reducing Gender Inequality and Policy Preferences

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Reduce Inequality		Labor Index		Pension Index		Policy Index	
<b>Panel A: Gender</b>								
GEG	-0.002 (0.066)	-0.022 (0.052)	-0.048 (0.066)	-0.028 (0.053)	-0.089 (0.065)	-0.070 (0.059)	-0.068 (0.065)	-0.047 (0.052)
GPG	-0.007 (0.066)	-0.006 (0.054)	-0.053 (0.064)	-0.047 (0.053)	-0.047 (0.067)	-0.035 (0.062)	-0.055 (0.064)	-0.046 (0.054)
Both	0.017 (0.067)	-0.013 (0.054)	0.075 (0.064)	0.054 (0.053)	0.081 (0.067)	0.071 (0.060)	0.084 (0.065)	0.065 (0.053)
Female	0.291*** (0.063)	-0.062 (0.051)	0.375*** (0.063)	0.163*** (0.053)	0.384*** (0.063)	0.226*** (0.058)	0.412*** (0.062)	0.201*** (0.052)
GEG × Female	0.176** (0.085)	0.202*** (0.068)	0.175** (0.088)	0.133* (0.073)	0.146* (0.087)	0.114 (0.080)	0.179** (0.086)	0.138* (0.072)
GPG × Female	0.148* (0.087)	0.117* (0.071)	0.177** (0.087)	0.141* (0.073)	0.097 (0.088)	0.062 (0.082)	0.162* (0.086)	0.123* (0.073)
Both × Female	0.178** (0.088)	0.161** (0.073)	0.130 (0.088)	0.101 (0.074)	0.045 (0.089)	0.022 (0.081)	0.109 (0.087)	0.079 (0.073)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783
<b>Panel B: Age</b>								
GEG	0.026 (0.052)	0.046 (0.043)	-0.004 (0.056)	0.002 (0.048)	-0.039 (0.056)	-0.031 (0.052)	-0.017 (0.055)	-0.011 (0.047)
GPG	0.016 (0.054)	0.024 (0.045)	0.017 (0.055)	-0.008 (0.047)	0.016 (0.056)	0.002 (0.052)	0.018 (0.055)	-0.005 (0.047)
Both	-0.003 (0.054)	-0.015 (0.045)	0.056 (0.056)	0.026 (0.047)	0.022 (0.058)	0.005 (0.053)	0.048 (0.055)	0.020 (0.046)
Young	-0.405*** (0.072)	-0.167*** (0.058)	-0.390*** (0.071)	-0.237*** (0.060)	-0.276*** (0.069)	-0.156** (0.063)	-0.381*** (0.070)	-0.227*** (0.059)
GEG × Young	0.156* (0.089)	0.089 (0.070)	0.112 (0.090)	0.097 (0.074)	0.061 (0.089)	0.049 (0.081)	0.102 (0.089)	0.087 (0.073)
GPG × Young	0.137 (0.090)	0.077 (0.073)	0.057 (0.089)	0.085 (0.074)	-0.027 (0.090)	-0.009 (0.083)	0.030 (0.089)	0.057 (0.075)
Both × Young	0.270*** (0.092)	0.207*** (0.076)	0.208** (0.090)	0.195*** (0.075)	0.197** (0.090)	0.186** (0.081)	0.222** (0.089)	0.209*** (0.074)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783
<b>Panel C: Political Leaning</b>								
GEG	0.105** (0.049)	0.086** (0.039)	0.060 (0.051)	0.064 (0.042)	-0.007 (0.050)	-0.004 (0.046)	0.040 (0.050)	0.044 (0.041)
GPG	0.087* (0.051)	0.063 (0.041)	0.057 (0.051)	0.056 (0.041)	0.019 (0.050)	0.021 (0.046)	0.047 (0.050)	0.048 (0.041)
Both	0.159*** (0.050)	0.119*** (0.041)	0.140*** (0.052)	0.097** (0.043)	0.072 (0.053)	0.044 (0.047)	0.127** (0.051)	0.085** (0.042)
Conservative	-0.181** (0.071)	-0.045 (0.057)	-0.229*** (0.071)	-0.071 (0.061)	-0.128* (0.072)	-0.018 (0.065)	-0.211*** (0.071)	-0.057 (0.060)
GEG × Conservative	-0.057 (0.098)	-0.014 (0.079)	-0.066 (0.099)	-0.082 (0.083)	-0.028 (0.101)	-0.031 (0.091)	-0.057 (0.099)	-0.070 (0.082)
GPG × Conservative	-0.059 (0.099)	-0.028 (0.083)	-0.064 (0.098)	-0.109 (0.085)	-0.061 (0.101)	-0.090 (0.095)	-0.069 (0.098)	-0.112 (0.085)
Both × Conservative	-0.167* (0.101)	-0.158* (0.086)	0.000 (0.098)	0.023 (0.083)	0.101 (0.097)	0.122 (0.090)	0.039 (0.097)	0.063 (0.082)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783

*Notes:* The dependent variables are the agreement with the statement that it is important to reduce gender inequality (columns 1 and 2), the labor index (columns 3 and 4), the pension index (columns 5 and 6) and the policy index (columns 7 and 8). The outcome variables are standardized using mean and standard deviation of the control group. Robust standard errors are displayed in parentheses. Individual controls include young (age 45 or lower), gender, education, residence in East Germany, employment status, marital status, household size, presence of children, income, redistribution preferences, and conservative. Even columns report results of regressions, which include the mechanisms described in Section 3.2.2. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

those over 45. Table 5, Panel B examines heterogeneity by age. While young respondents are generally less supportive of reducing gender inequality than old respondents, they show a significantly stronger response to the treatment that informs them about both gaps compared to old respondents (column 1). The finding is consistent with the observation that young respondents are more likely to underestimate existing gender gaps compared to old respondents. In addition, the information about the persistence of gender inequality over the life cycle may be more valuable for the young, since they still have some room to adjust their behavior and reduce the probability of experiencing gender inequality in old age.

A similar picture emerges when we focus on the policy indices (columns 3, 5 and 7): young respondents increase their agreement with the proposed policy goals and measures significantly more than old respondents when they are informed about both gaps.

Finally, we examine heterogeneity by political leaning. This is shown in Table 5, Panel C. We find no evidence of treatment heterogeneity based on voting intentions for all of our outcomes (columns 1, 3, 5 and 7). While conservatives are less likely to be in favor of reducing gender inequality or adopting policies to this end, information about the extent of gender inequality does not affect their preferences differently from non-conservatives. This may be because the political divide in Germany is not as strong as, for example, in the United States, where most studies which show the relevance of political leaning are conducted.

Overall, three distinct patterns emerge: women are more supportive of reducing gender inequality and of the proposed policy goals and measures than men, even without treatment, and yet they respond more strongly to the treatment than men. The young are less supportive in the absence of treatment, but then respond more strongly to the treatment than the old when given information about both gaps. Finally, conservatives are also less supportive than non-conservatives in the absence of treatment. But unlike the young, they do not show a different response to the treatment from the non-conservatives. In the following, we want to examine what might explain these different patterns by taking a closer look at the mechanisms.

### **3.3.2 Heterogeneity: Mechanisms**

In addition to providing evidence on the (lack of) heterogeneity in treatment response, in this section we further explore heterogeneous responses by relating them to our five sets of mechanisms.

First, we focus on heterogeneous treatment effects by gender. When we compare male and female respondents in their answers to the pre-treatment questions (Table 6, columns 2 to 4), we do not observe significant differences in their prior beliefs about the size of the

Table 6: Comparison of Mechanisms by Group

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	All	Male	Fem.		Old	Young		Non- C.	Cons.	
	mean	mean	mean	diff	mean	mean	diff	mean	mean	diff
Prior GEG	15.58	15.83	15.33	0.50	16.41	14.40	2.01*	17.14	11.81	5.33***
Prior GPG	23.86	24.49	23.25	1.24	25.75	21.21	4.53***	24.69	21.86	2.83**
Women: disadvantage	6.80	6.31	7.28	-0.97***	7.13	6.35	0.78***	6.99	6.37	0.62***
Men: disadvantage	2.51	3.00	2.04	0.96***	2.25	2.88	-0.63***	2.38	2.84	-0.46***
Wage inequality: across	0.45	0.36	0.53	-0.17***	0.49	0.39	0.11***	0.46	0.43	0.03
Wage inequality: within	0.35	0.37	0.34	0.03*	0.38	0.31	0.07***	0.35	0.35	-0.00
Men: Strategic	2.54	3.26	1.84	1.42***	2.41	2.71	-0.30***	2.29	3.13	-0.84***
Men: Ambitious	2.61	3.25	1.99	1.26***	2.55	2.71	-0.16*	2.43	3.06	-0.64***
Men: Technical job	4.48	5.22	3.75	1.47***	4.50	4.44	0.06	4.22	5.09	-0.87***
Society: Family - Work	6.88	6.43	7.32	-0.88***	6.96	6.77	0.19**	6.99	6.62	0.37***
Society: Men ambitious	4.60	4.81	4.40	0.40***	4.58	4.64	-0.06	4.63	4.54	0.09
Responsib: Firms	0.26	0.28	0.25	0.03*	0.29	0.23	0.06***	0.26	0.26	-0.00
Responsib: Family	0.10	0.11	0.10	0.01	0.09	0.13	-0.04***	0.09	0.13	-0.04***
Responsib: Norms	0.31	0.30	0.33	-0.03**	0.29	0.34	-0.05***	0.33	0.27	0.06***
Responsib: State	0.32	0.32	0.32	-0.00	0.33	0.30	0.03**	0.32	0.33	-0.02
State interv. effective	5.46	5.29	5.62	-0.33***	5.46	5.46	-0.00	5.63	5.04	0.59***
Observations	3783	1866	1917	3783	2210	1573	3783	2675	1108	3783

*Notes:* The table shows mean values of all variables used as mechanisms, as described in Section 3.2.2. We conduct t-tests to compare whether characteristics differ between the subgroups of interest. For each comparison, we report the mean for the relevant groups, the difference in means, and its significance based on a t-test; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

gender earnings gap and the gender pension gap. However, we find that women are more likely to agree that they are disadvantaged in the labor market and less likely to agree that men are. We also find that they are more likely to believe that they are affected by wage inequality across gender. Male respondents, on the other hand, are more stereotyped and see state interventions as less effective. The gender differences in stereotypes suggest one further explanation for the heterogeneity in treatment effects: fewer stereotypes held by women make them more responsive to the treatments.

Focusing on age (Table 6, columns 5 to 7), we find that young respondents know significantly less about gender inequality and also have less experience with wage inequality both within and across gender. Therefore, the information about the persistence of gender inequality that we provide when informing respondents about both the gender earnings gap and the gender pension gap may be more valuable to the young than to the old. Note also that while old and young respondents are relatively similar in the stereotypes they hold, old respondents attribute gender inequality more to the firm or the state, while young respondents attribute it more to the family and norms.

Finally, we compare conservative and non-conservative respondents (Table 6, columns

8 to 10) and find that conservative respondents are less informed about gender inequality and have more stereotypes. They are also more likely to attribute gender inequality to the family, while non-conservative respondents are more likely to attribute gender inequality to social norms. In addition, non-conservative respondents see government intervention as more effective. The observed lack of heterogeneity in treatment response between conservative and non-conservative respondents may therefore be explained by the fact that the information provided is potentially more useful to conservative respondents, but due to their stronger stereotypes and lower trust in government intervention, their treatment response is similar to that of non-conservative respondents.

## 4 Follow-up Survey

In addition to the main survey, we conduct a follow-up survey in which we ask respondents most of the questions from the main survey a second time. We do not re-ask questions about sociodemographic characteristics that are unlikely to change. In addition, respondents are not provided with information in the follow-up survey, i.e. there is no additional experiment. The follow-up survey took place approximately 1.5 months after the initial one. The shortest interval between participation in the main survey and participation in the follow-up survey is 34 days, while the longest is 55 days. On average, respondents participate in the follow-up survey 43 days after having participated in the main survey.

### 4.1 Main Sample vs. Follow-up Sample

The follow-up sample is 50% of the main sample. All participants in the main sample received an email inviting them to participate in the survey. There was no indication that it was a follow-up to the main survey. The first 50% of respondents who completed the follow-up survey ended up in the follow-up sample.<sup>13</sup> This means that the follow-up sample, which includes 1841 respondents, is not necessarily quota-representative. In Table D.1 we compare the sample of those who are in the follow-up sample with those who are not in the follow-up sample based on their responses in the main survey. This comparison shows that respondents in the follow-up sample are older, more often male and retired and less often employed. They also live in smaller households and are more likely to have children. Importantly, they do not differ in their prior beliefs.

In Table D.2, we show the results of the balance test for the respondents in the follow-up survey based on their responses in the main survey, i.e. before any information intervention. Despite the selectivity of the follow-up sample, we observe very few differences between

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<sup>13</sup>However, we drop all observations for which we do not have complete information on all outcomes and beliefs questions.

the groups. We conclude that the random assignment to the different groups is maintained in the follow-up and that the results can be interpreted causally.

Furthermore, Table D.3 compares the follow-up and non-follow-up samples with respect to the outcomes and mechanisms from the main survey. For the outcomes, we only compare the responses of the control groups in the two samples as they are elicited post-treatment. For the mechanisms, which are elicited pre-treatment, we compare the two full samples. The comparison suggests that the two samples do not differ in their response to our outcomes, but they do differ in their stereotypes. More specifically, we observe that respondents who participate in the follow-up survey hold more conservative gender attitudes. They are also less likely to believe that norms are the factor mostly responsible for gender inequality. The reasons for some of the differences in mechanisms may come from the composition of respondents in the follow-up sample, who are older and more often male than the overall sample. From Table 6 we know that some views and experiences differ by gender and age (and political leaning).

## 4.2 Results

Table D.4 shows the beliefs respondents from the follow-up sample hold about the gender earnings gap (Panel A) and the gender pension gap (Panel B) in both the main survey and the follow-up survey. When only considering prior and posterior beliefs, the patterns of the follow-up sample are very similar to the one of the full sample (compare Table 2). Focusing on the means of the follow-up beliefs of the different treatment groups (columns 3, 5, and 8), we see that in all cases the follow-up beliefs are lower, and thus more biased, than the posterior beliefs elicited at the end of the main survey. In almost all treated groups, however, they exceed the prior beliefs and are thus closer to the true values in terms of their mean, though these differences are not always significant. Interestingly, providing information about the gender pension gap (column 5) seems to have a relatively persistent effect on beliefs about both the gender earnings gap and the gender pension gap.

For the treatment effects, the comparison between treated and control groups is important. Therefore, in a second step, we compare beliefs at follow-up across groups. We see that respondents who receive information about both gaps continue to hold significantly higher beliefs about both the gender earnings gap and the gender pension gap than respondents in the control group (column 9). Furthermore, respondents in the *GPG* group hold significantly higher follow-up beliefs about the gender pension gap than respondents in both the control group and the *GEG* group (Panel B, columns 6 and 7). These findings suggest that the provision of information has a persistent effect in some cases, but not all.



Table 7: Follow-up: Treatment Effects on Reducing Gender Inequality and Policy Preferences

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Reduce Inequality		Labor Index		Pension Index		Policy Index	
GEG	-0.120*	-0.118*	-0.110*	-0.105*	-0.090	-0.085	-0.112*	-0.107*
	(0.067)	(0.063)	(0.064)	(0.060)	(0.063)	(0.061)	(0.064)	(0.060)
GPG	-0.018	-0.039	0.000	-0.010	0.013	0.007	0.005	-0.005
	(0.067)	(0.064)	(0.067)	(0.063)	(0.065)	(0.064)	(0.066)	(0.062)
Both	0.079	0.054	0.039	0.001	0.001	-0.020	0.028	-0.007
	(0.066)	(0.060)	(0.064)	(0.060)	(0.065)	(0.063)	(0.064)	(0.060)
Female	0.341***	0.113**	0.362***	0.197***	0.349***	0.239***	0.390***	0.231***
	(0.048)	(0.050)	(0.047)	(0.046)	(0.047)	(0.050)	(0.047)	(0.047)
Young	-0.198***	-0.051	-0.236***	-0.116*	-0.171***	-0.090	-0.233***	-0.117**
	(0.064)	(0.062)	(0.062)	(0.060)	(0.060)	(0.060)	(0.061)	(0.059)
Conservative	-0.203***	-0.102**	-0.191***	-0.090*	-0.130**	-0.063	-0.185***	-0.088*
	(0.053)	(0.051)	(0.050)	(0.048)	(0.051)	(0.049)	(0.051)	(0.048)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1841	1841	1841	1841	1841	1841	1841	1841

*Notes:* The table shows treatment effects for the follow-up sample. The dependent variables are: agreement with the statement that it is important to reduce gender inequality (columns 1 and 2), the labor index (columns 3 and 4), the pension index (columns 5 and 6), and the policy index (columns 7 and 8). The outcome variables are standardized using the mean and standard deviation of the control group. Robust standard errors are reported in parentheses. Individual controls include young (age 45 or less), gender, education, residence in East Germany, employment status, marital status, household size, children, income, redistribution preferences, and conservative. We only report the coefficients of female, young, and conservative. The variables included in mechanisms are described in Section 3.2.2; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

As mentioned above, our underlying assumption is that respondents who receive the information immediately update their beliefs and answer the outcome questions based on these updated beliefs. Given the mixed results for the persistence of updated beliefs in the follow-up survey, we do not expect strong evidence for the persistence of treatment effects.

Table 7 shows the effects of the treatment from the main survey on the outcomes elicited in the follow-up survey. The results for respondents' agreement with the statement that it is important to reduce gender inequality are shown in column 1. The treatment effects do not persist 5 to 8 weeks after the treatment. The results are similar for the labor and pension indices and the joint policy index (columns 3, 5 and 7). They do not change if we include the mechanisms (see columns 2, 4, 6 and 8). This is what we expected from the comparison of beliefs. The result of limited persistence of the treatment effect on policy preferences has also been found in other contexts such as public debt (see the follow-up survey four weeks after the intervention in Roth et al. 2022) or gender inequality in the labor market (see Settele 2022, with a follow-up survey two weeks after the main survey).

If at all, persistence is observed only for some policy measures, not for all, and in settings with often much shorter periods between main and follow-up surveys.

In the next section, we explore views on the causes of gender inequality. To do this, we use text analysis on open-ended responses in the follow-up sample. This will shed light on how individuals with different characteristics may reason about gender inequality and may reveal further relevant causes of inequality beyond those emerging from closed questions.

### 4.3 Individual reasoning about the causes of the gender gaps

The follow-up survey includes an additional question where we ask respondents with an open-ended question: “What do you think are the causes of the differences between men and women in gross annual earnings and retirement pensions?”. This question provides us with additional insights into respondents’ way of reasoning about gender inequalities in earnings and pensions. We use simple bag of words methods and keyness analysis to detect the most salient topics and investigate whether they differ depending on individual characteristics.

As Figure E.1 shows, the majority of respondents give very short answers with only a few words. The length of the answers ranges from one word to 136 words. 92 respondents did not answer the question (real missings, excluded from the figure). This leaves us with 1891 responses.<sup>14</sup> The mean answer length excluding real missings is 9, while the median answer length is 5. We proceed by cleaning our data, converting all answers to lowercase, and removing punctuation, excess spaces, numbers, and stop words that do not add information. We then perform part-of-speech tagging to extract nouns from the answers. We finally lemmatize the nouns to their root forms. In doing so we follow the procedure described, for instance, by Ash and Hansen (2023). We define uni-grams as the basic unit of our analysis. The most frequently mentioned words are child (Kind), pension (Rente), job (Beruf), work (Arbeit), and raising children (Kindererziehung) as shown in Figure E.2.

Based on the extracted uni-grams, we plot word clouds. To do so, we use a guided approach to group words that have a very similar meaning. We consider all words that are mentioned at least twice in the entire corpus of answers (over 300 words). Two researchers independently went through the words to group them. All disagreements were resolved through discussion. The full list of keywords that were grouped into topics is shown in Table E.1. Frequencies for topics are calculated as the sum of frequencies of all uni-grams included in the topic. This approach allows us to see the importance of topics for which a variety of words with a similar meaning is utilized. The word cloud for the

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<sup>14</sup>Compared to the previous analysis, here we do not exclude respondents for whom we do not have complete information on all outcomes.



Figure 5: Word-cloud for the full follow-up sample (with grouping)

full follow-up sample in Figure 5 shows that many respondents consider topics related to parenting (Kind) as well as occupation (Job), earnings (Gehalt), and working hours (i.e., part-time vs. full-time; Arbeitszeit) as important causes of gender inequality. In addition, they also mention factors such as family (Familie), social norms (Normen), and society (Gesellschaft).

Word clouds for subsamples by gender, age and political leaning are shown in Figure E.3. By visual inspection, we do not observe large differences across group pairs. To further explore heterogeneities across groups, we follow Ferrario and Stantcheva (2022) and conduct a keyness analysis. The comparison uses a  $\chi^2$  test to understand whether each of the pairs we are comparing uses a particular uni-gram more or less often. A word (uni-gram) has a high keyness score if it is used often by one group, but not by the other group. The results are shown in Figure E.4. They reveal that female respondents focus more on factors related to parenting and care work. Meanwhile, male respondents focus more on work. Young respondents stress more topics related to norms and maternity than old respondents. Finally, non-conservative respondents use more frequently words related to gender roles, while conservative respondents focus more on years of work.

Overall, the analysis of responses to the open-ended question shows that respondents of our follow-up survey attribute gender differences in earnings and pensions primarily to factors such as parenthood, occupation, salary, and working hours. They also consider factors such as social norms and society, but to a lesser extent.

## 5 Conclusion

We have conducted a survey experiment to study whether being informed about two measures of gender inequality over the life cycle, separately or jointly, affects people's views on the importance of tackling gender disparities. Although there have been changes over time, the economic resources women have access to still lag behind those of men. While this may be partly the result of individual choices, also stereotypes, lack of policy effort, and the behavior of firms and the family may contribute to shaping these choices. Limited information about the extent of gender inequality in the labor market and its persistence through old age can decrease awareness and prevent a response.

Our results show that providing respondents with information about the existing gender gaps in earnings and pensions significantly increases their preference to reduce gender inequality. In particular, receiving information about both gender gaps makes respondents more likely to agree with various measures targeting education, the labor market, or retirement. When we explore potential mechanisms to better understand the observed treatment effects, we find that receiving information about both gaps increases agreement with the importance of reducing gender inequality by the same magnitude as when respondents experience gender wage inequality or when they hold the belief that society makes it harder for women to balance work and family. However, the belief that women are disadvantaged in the labor market clearly stands out as the most important correlate of agreement with reducing gender inequality, with a coefficient that is more than twice as large as the treatment effect. Similarly, when focusing on the policy index, receiving information about both gaps makes respondents more similar to those who have experienced wage inequality across gender and who think that firms and norms have the main responsibility for gender inequality.

When analyzing treatment heterogeneity, we find that the impact on preferences for reducing gender inequality and on the agreement with the proposed policy goals and measures is more sizable for women. In terms of heterogeneity by age, the young respond more strongly to the treatment than the old when given information about both gaps. We do not observe significant differences by political leaning, indicating that political divides are less relevant in the German context. Some heterogeneity is also visible in the text analysis, which reveals that women mention more often issues related to care work and parenting compared to men, who mention jobs more frequently. Young respondents stress more maternity and norms as the main causes for gender inequality compared to old respondents, and the non-conservatives use more words connected to gender roles, while conservatives concentrate on years of work.

Overall, we can conclude that increasing awareness on existing gender gaps both in earnings and in pensions has a significant impact on the preference for decreasing gender

inequality in general, as well as on the preference for the adoption of specific measures targeting either the education and labor market period, or the retirement period. However, the effects of the treatment do not last over the course of 5 to 8 weeks: while respondents in the follow-up hold beliefs about the gender earnings gap and gender pension gap, which in some cases differ from their prior beliefs and are closer to the true values, there are no significant differences across treatment and control groups on views about the importance of reducing gender inequality and adopting policy measures to address it. The result of limited persistence of the treatment effect on policy preferences has also been found in other research. The short-lived treatment effects open a new avenue for future research that could analyze the best method and frequency of information provision to achieve long-lasting effects.

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## Appendix A Information Provision

This section provides the wording for the information treatment.

### Gender Earnings Gap

We will briefly look at your estimate of the difference in gross annual earnings in Germany:

Assuming that the average man in Germany earns 100 euro gross, how much does the average woman in Germany earn?

Your estimate was: [their estimate] Euro

The correct value is: 66 Euro

Source: Federal Statistical Office; data for 2020.

### Gender Pension Gap

We will briefly look at your estimate of the difference in old-age pension payments in Germany:

Assuming that an average man in Germany receives 100 euro in old-age pensions, how much does an average woman in Germany receive?

Your estimate was: [their estimate] Euro

The correct value is: 63 Euro

Source: German Pension Insurance; data for the year 2020.

### Gender Earnings Gap and Gender Pension Gap

Respondents receiving information on both gaps, see the wording above, but the introductory statement reads as follows:

We will briefly look at your estimate of the difference in gross annual earnings and old-age pension payments in Germany: ...

### Assessment of Beliefs

For each information provided we ask respondents to assess their beliefs (see also Section C) as follows:

Please select the correct answer.

My estimate was: too low / correct / too high

## Appendix B Relevant Variables

Table B.1: Description of variables

Variable name	Type	Description
<b>Treatment Groups</b>		
<i>GEG</i> (Gender Earnings Gap)		Indicates treatment group, which receives information on the <i>GEG</i> (66 euro for every 100 euro a man earns)
<i>GPG</i> (Gender Pension Gap)		Indicates treatment group, which receives information on the <i>GPG</i> (63 euro for every 100 euro a man receives)
<i>Both</i>		Indicates treatment group which receives information on the <i>GEG</i> (66 euro) and the <i>GPG</i> (63 euro)
<b>Outcome Variables</b>		
Reduce Inequality	Numerical (0 – 10)	<i>“It is important to reduce inequality between men and women.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
Particip	Numerical (0 – 10)	<i>“The labor market participation of women should be increased. For example, through the expansion of childcare facilities or a reform of the tax system (e.g. splitting the tax rate for married couples).”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
Career	Numerical (0 – 10)	<i>“The career advancement of women in companies should be promoted. For example, by introducing gender quotas or transparent salaries.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
Profession	Numerical (0 – 10)	<i>“The choice of less gender-typical professions should be supported. For example, by helping girls to find their interest in mathematics and science (STEM) professions or by creating incentives for men to choose typical female professions.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
More work	Numerical (0 – 10)	<i>“It should be made more attractive for women to work more. For example, through more incentives for full-time work or more incentives for later retirement.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
Social	Numerical (0 – 10)	<i>“Socially relevant activities outside the labor market should be taken more into account in the statutory pension insurance. For example, through more pension points for childcare, caring for relatives or voluntary work.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”
Savings	Numerical (0 – 10)	<i>“Additional savings should be made more attractive for women. For example, through greater promotion of private pension insurance or occupational pension schemes.”</i> Answer options from 0 “strongly disagree” to 10 “strongly agree”

Variable name	Type	Description
<b>Individual Characteristics</b>		
Age: 18 - 29	Dummy	=1, if respondents' age is between 18 and 29
Age: 30 - 39	Dummy	=1, if respondents' age is between 30 and 39
Age: 40 - 49	Dummy	=1, if respondents' age is between 40 and 49
Age: 50 - 65	Dummy	=1, if respondents' age is between 50 and 65
Age: 65+	Dummy	=1, if respondents' age is above 65
Young	Dummy	=1, if respondents' age is 45 or below
Female	Dummy	=1, if respondents' gender is female
Educ: 12th grade	Dummy	=1, if highest degree is school degree after 12th grade
Educ: uni	Dummy	=1, if highest degree is degree from university
East	Dummy	=1, if living in East Germany (excluding Berlin)
Employee	Dummy	=1, if respondent is an employee
Self-employed	Dummy	=1, if respondent is a self-employed
Civil servant	Dummy	=1, if respondent is a civil servant
Retiree	Dummy	=1, if respondent is a retiree
Employed	Dummy	=1, if respondent is employed (employed, self-employed, civil servant, in vocational training)
Married	Dummy	=1, if respondent is married or in a registered same sex partnership (independent of whether they live together or separately)
Household size	Numerical (continuous)	number of people per household (including respondent)
Children	Dummy	=1, if respondent has children
Income: high	Dummy	=1, if household income is above 3500 euro
Redistrib. preference	Numerical (0 - 10)	Based on the question <i>“Some people think that someone who has earned a lot in their working life should also receive a high pension in old age. Others think that everyone should receive the same pension from the statutory pension insurance, regardless of what they earned during their working life. What do you think?”</i> Answers range from 0 “Those who have earned a lot should receive a higher pension.” to 10 “Everyone should receive the same pension”.
Conservative	Dummy	=1, if respondent has a voting preference for one of the following: CDU/ CSU, AfD, dieBasis, Graue Panther, NPD
<b>Mechanisms</b>		
Prior GEG	Numerical (continuous)	Respondents' prior beliefs regarding the GEG based on the question: <i>“We now talk about gross annual earnings (i.e. before deduction of taxes and social security contributions) – taking into account full-time, part-time and marginally employed people. Consider an average man in Germany who is employed. Consider: For every 100 euro this man earns gross per year, how much does an average woman earn gross per year?”</i> We recalculate the variable as explained in Section 2.2.1 such that it displays the gap rather than the relative earnings.

Variable name	Type	Description
Prior GPG	Numerical (continuous)	Respondents' prior beliefs regarding the GPG based on the question: <i>"It is now a question of pension payments. Again, consider an average man in Germany who has acquired entitlements in the statutory pension insurance. Consider: For every 100 euro this man receives in old-age pension per year, how much pension does an average woman receive per year?"</i> We recalculate the variable as explained in Section 2.2.1 such that it displays the gap rather than the relative pensions.
Women: disadvantage	Numerical (0 – 10)	Based on the question <i>"Women are disadvantaged in the labor market."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".
Men: disadvantage	Numerical (0 – 10)	Based on the question <i>"Men are disadvantaged in the labor market."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".
Wage inequality: across	Dummy	=1 if respondent experienced wage inequality across genders. The variable is based on the question <i>"If you compare yourself with female/ male employees: Would you say your gross earnings are lower than adequate, adequate or higher than adequate?"</i> . All respondents who answered that their wage is lower or much lower than adequate compared to the wages of the employees of the opposite gender are coded as one.
Wage inequality: within	Dummy	=1 if respondent experienced wage inequality within gender. The variable is based on the question <i>"If you compare yourself with female/ male employees: Would you say your gross earnings are lower than adequate, adequate, or higher than adequate?"</i> . All respondents who answered that their wage is lower or much lower than adequate compared to the wages of employees of their own gender are coded as one.
Men: strategic	Numerical (0 – 10)	Based on the question <i>"Men are naturally more gifted at challenging tasks such as strategic decision making, working under pressure and leading others."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".
Men: ambitious	Numerical (0 – 10)	Based on the question <i>"Men are naturally more ambitious in their careers than women."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".
Men: technical job	Numerical (0 – 10)	Based on the question <i>"Women and men are naturally interested in different areas of work, e.g. on average women are more interested in social work and men in technical work."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".
Society: family - work	Numerical (0 – 10)	Based on the question <i>"Society's expectations mean that it is more difficult for women than for men to reconcile work and family commitments."</i> Answers range from 0 "Strongly disagree" to 10 "Strongly agree".

Variable name	Type	Description
Society: men ambitious	Numerical (0 – 10)	Based on the question “ <i>Society’s expectations mean that men are more ambitious in their careers than women.</i> ” Answers range from 0 “Strongly disagree” to 10 “Strongly agree”.
Responsib: Firms	Dummy	=1 if respondents answered firms to the question “ <i>Where do you think the main responsibility for the inequality between men and women lies? Is it the state, firms, the family or social norms?</i> ”
Responsib: Family	Dummy	=1 if respondents answered family to the question “ <i>Where do you think the main responsibility for the inequality between men and women lies? Is it the state, firms, the family or social norms?</i> ”
Responsib: Norms	Dummy	=1 if respondents answered social norms to the question “ <i>Where do you think the main responsibility for the inequality between men and women lies? Is it the state, firms, the family or social norms?</i> ”
Responsib: State	Dummy	=1 if respondents answered state to the question “ <i>Where do you think the main responsibility for the inequality between men and women lies? Is it the state, firms, the family or social norms?</i> ”
State interv. effective	Numerical (0 – 10)	Based on the question “ <i>Do you think that state intervention is generally an effective way of reducing inequality between men and women?</i> ” Answers range from 0 “Not an effective tool at all” to 10 “A very effective tool”.

## Appendix C Further Heterogeneity Analysis

In addition to the heterogeneity analysis by gender, age, and political leaning, we analyze whether respondents react differently to the treatment depending on: 1) whether they live in East or West Germany; 2) their prior beliefs; 3) the outcome of an attention check.

**Residence in East / West Germany:** For respondents living in East or West Germany our pre-registered hypothesis is as follows: *(H1d) We expect that treated individuals are more in favor of the reform measures than untreated individuals are. When comparing residents of East and West Germany, we expect that information provision does not have a smaller effect for those residing in West Germany than for those residing in East Germany. We expect a larger effect for West German residents if the treatment effect on policy preferences is mediated by prior knowledge of differences in gender inequality between East and West Germany, with the East being more equal than the West. If participants do not have prior knowledge, we expect the same effect for residents of West and East Germany.*

Focusing on the interaction with the indicator for East Germany, the results show that there are no significant differences between respondents from East Germany and respondents from West Germany (see Table C.1, Panel A). This is true not only for the agreement with the importance of reducing inequality but also for the policy indices. We examine the differences between respondents living in East and West Germany in more detail in a companion paper based on an experiment where information on gaps is provided separately for East and West Germany (see Casarico et al. 2024).

**Prior beliefs:** For prior beliefs, our pre-registered hypothesis is: *We expect that a greater extent of underestimation of the true values of the gaps will lead to larger effects of information provision.*

For this analysis, we include prior beliefs as continuous variables. Table C.1, Panel B shows the interaction of the treatment with the bias in prior beliefs, which is calculated as the difference between the true values, i.e. 34 for the gender earnings gap and 37 for the gender pension gap, and the winsorized prior beliefs about the gap. Columns (1) and (2) display the results for reducing inequality. We find some evidence (when including the mechanisms) that respondents who have a larger bias about the gender earnings gap (underestimate the gap more) react marginally significantly more to the treatments where we provide information on the gender earnings gap (*GEG*) and both gaps (*Both*). This finding is in line with our hypothesis since it implies that once respondents learn that the gap is larger than expected, they find it more necessary to reduce gender inequality. When focusing on the interaction with the prior beliefs about the gender pension gap, however, the results indicate that people who have a larger bias regarding the gender pension gap (underestimate the gap more) react significantly less to the *Both* treatment. This finding

is not in line with our hypothesis. Columns (7) and (8) show the results for the Policy Index. Respondents who have a larger bias in prior beliefs about the gender earnings gap react marginally significantly more to the treatment when receiving information about the gender pension gap. Respondents who hold higher prior beliefs about the gender pension gap, however, react significantly less to that treatment. Again, this finding is not in line with our hypothesis.

**Additional attention check:** Before answering the main questions of our survey, respondents had to pass a standard attention screener as in Haaland et al. (2023).<sup>15</sup> We also included an additional attention check as part of the treatment. After receiving the information about the gender earnings gap and the gender pension gap, respondents were asked to assess their estimates. More specifically, they had to indicate whether they overestimated, correctly estimated, or underestimated the gap. To do this, they had to compare the information we provided on the true values with their estimates (see Appendix A for the wording). 248 respondents (6.6% of our sample) did not assess their estimates correctly.<sup>16</sup> As a robustness check, we exclude all these respondents from the treatment groups. The results for the analysis of our main outcomes based on this restricted sample are shown in Table C.2. Our results are robust to this restriction.

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<sup>15</sup>The attention screener reads as follows: “The next question relates to the following problem: In questionnaires like ours, there are sometimes participants who do not read the questions carefully and simply click through the survey quickly. This means that a lot of random answers are produced, which affects the results of research studies. To show that you read our questions carefully, please indicate the following answer to the next question: Please select the colour white.” Following this, a list of colors was provided.

<sup>16</sup>Because respondents may view an estimate that is close to but not exactly at the true value as “correct”, we consider estimates within a  $\pm 5$  euro window as correctly assessed when a respondent classifies them as “correct”. Respondents in the *Both* treatment group have to assess both estimates correctly to be kept in the sample.

Table C.1: Heterogeneity by Residence and Bias in Prior Beliefs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Reduce Inequality		Labor Index		Pension Index		Policy Index	
<b>Panel A: Residence in East/ West Germany</b>								
GEG	0.096**	0.082**	0.058	0.041	0.001	-0.009	0.041	0.026
	(0.046)	(0.037)	(0.047)	(0.039)	(0.047)	(0.043)	(0.047)	(0.039)
GPG	0.058	0.040	0.048	0.029	0.007	-0.004	0.037	0.019
	(0.047)	(0.038)	(0.047)	(0.039)	(0.047)	(0.043)	(0.046)	(0.039)
Both	0.098**	0.060	0.145***	0.098**	0.107**	0.076*	0.143***	0.099**
	(0.048)	(0.040)	(0.047)	(0.040)	(0.048)	(0.043)	(0.047)	(0.040)
East	0.082	0.074	0.102	0.066	0.011	-0.017	0.076	0.040
	(0.096)	(0.073)	(0.094)	(0.074)	(0.093)	(0.087)	(0.088)	(0.070)
GEG × East	-0.045	0.007	-0.117	-0.006	-0.106	-0.022	-0.123	-0.013
	(0.122)	(0.099)	(0.127)	(0.101)	(0.126)	(0.115)	(0.121)	(0.097)
GPG × East	0.083	0.107	-0.074	-0.024	-0.035	0.003	-0.066	-0.016
	(0.123)	(0.102)	(0.128)	(0.109)	(0.134)	(0.129)	(0.124)	(0.108)
Both × East	0.065	0.068	-0.034	0.048	-0.019	0.040	-0.032	0.049
	(0.125)	(0.098)	(0.125)	(0.102)	(0.124)	(0.118)	(0.119)	(0.098)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783
<b>Panel B: Prior Beliefs</b>								
GEG	0.090*	0.066*	0.040	0.039	-0.011	-0.010	0.024	0.024
	(0.047)	(0.037)	(0.049)	(0.040)	(0.048)	(0.044)	(0.048)	(0.040)
GPG	0.068	0.041	0.030	0.013	0.000	-0.009	0.021	0.005
	(0.048)	(0.040)	(0.048)	(0.040)	(0.049)	(0.045)	(0.047)	(0.040)
Both	0.121**	0.064	0.156***	0.109***	0.098**	0.068	0.148***	0.103**
	(0.048)	(0.040)	(0.048)	(0.041)	(0.049)	(0.045)	(0.048)	(0.040)
GEG Bias	-0.002*	-0.002**	-0.002**	-0.001	-0.002	-0.001	-0.002**	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GEG × GEG Bias	0.001	0.002*	0.002	0.001	0.001	0.000	0.001	0.001
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
GPG × GEG Bias	0.001	0.002	0.003*	0.003**	0.001	0.001	0.002	0.003*
	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
Both × GEG Bias	0.001	0.002*	0.000	0.001	0.001	0.001	0.000	0.001
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
GPG Bias	-0.000	0.001*	0.001	0.001	-0.001	0.000	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GEG × GPG Bias	-0.001	-0.002	-0.002	-0.002	-0.001	-0.001	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GPG × GPG Bias	-0.002	-0.002	-0.003*	-0.003**	-0.001	-0.001	-0.003*	-0.003**
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Both × GPG Bias	-0.002	-0.003**	-0.001	-0.002	-0.000	-0.000	-0.001	-0.002
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3783	3783	3783	3783	3783	3783	3783	3783

*Notes:* The dependent variables are the agreement with the statement that it is important to reduce gender inequality (columns 1 and 2), the labor index (columns 3 and 4), the pension index (columns 5 and 6) and the policy index (columns 7 and 8). The outcome variables are standardized using mean and standard deviation of the control group. Robust standard errors are displayed in parentheses. Individual controls include young (age 45 or lower), gender, education, residence in East Germany (Panel B), employment status, marital status, household size, presence of children, income, redistribution preferences, and conservative. Even columns report results of regressions which include the mechanisms described in Section 3.2.2. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table C.2: Robustness Check Based on an Attention Check

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Reduce Inequality		Labor Index		Pension Index		Policy Index	
GEG	0.089** (0.043)	0.076** (0.035)	0.046 (0.044)	0.036 (0.037)	-0.012 (0.044)	-0.016 (0.041)	0.028 (0.044)	0.020 (0.036)
GPG	0.086* (0.044)	0.054 (0.036)	0.063 (0.044)	0.036 (0.037)	0.019 (0.044)	0.001 (0.041)	0.052 (0.043)	0.026 (0.037)
Both	0.118*** (0.045)	0.081** (0.037)	0.149*** (0.045)	0.109*** (0.037)	0.114** (0.045)	0.090** (0.041)	0.149*** (0.044)	0.111*** (0.037)
Female	0.443*** (0.032)	0.070** (0.029)	0.510*** (0.032)	0.260*** (0.029)	0.466*** (0.033)	0.281*** (0.032)	0.538*** (0.032)	0.291*** (0.029)
Young	-0.277*** (0.043)	-0.085** (0.038)	-0.308*** (0.042)	-0.156*** (0.036)	-0.220*** (0.042)	-0.104*** (0.039)	-0.301*** (0.041)	-0.150*** (0.036)
Conservative	-0.259*** (0.037)	-0.095*** (0.031)	-0.284*** (0.036)	-0.125*** (0.031)	-0.145*** (0.037)	-0.033 (0.034)	-0.256*** (0.036)	-0.101*** (0.031)
Ind. Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanisms	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3535	3535	3535	3535	3535	3535	3535	3535

*Notes:* The dependent variables are agreement with the statement that it is important to reduce gender inequality (columns 1 and 2), the labor index (columns 3 and 4), the pension index (columns 5 and 6), and the policy index (columns 7 and 8). The outcome variable is standardized using the mean and standard deviation of the control group. Robust standard errors are reported in parentheses. Individual controls include young (age 45 or less), gender, education, residence in East Germany, employment status, marital status, household size, children, income, redistribution preferences, and conservative. We only report the coefficients of female, young, and conservative. The variables included in mechanisms are described in Section 3.2.2. The sample includes only those respondents who correctly assessed whether their prior beliefs were too low, too high, or correct; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## Appendix D Follow-up Survey

Table D.1: Balance: Follow-up Sample vs. Non-follow-up Sample

	(1)	(2)	(3)	(4)
	All	Follow-up	Non-follow-up	FU/ Non-FU
	mean	mean	mean	diff
Prior GEG	15.62	16.38	14.87	1.52
Prior GPG	23.93	24.41	23.47	0.94
Age: 18-29	0.16	0.12	0.19	-0.07***
Age: 30-39	0.16	0.15	0.18	-0.04***
Age: 40-49	0.16	0.14	0.17	-0.02*
Age: 50-65	0.29	0.31	0.27	0.04***
Age: 65+	0.23	0.28	0.19	0.09***
Female	0.51	0.46	0.55	-0.08***
East	0.15	0.15	0.14	0.00
Educ: 12th grade	0.34	0.34	0.34	0.00
Educ: uni	0.25	0.24	0.25	-0.01
Employee	0.46	0.42	0.50	-0.08***
Self-employed	0.04	0.04	0.04	-0.00
Civil servant	0.02	0.02	0.01	0.01**
Retiree	0.31	0.36	0.26	0.10***
Income: high	0.23	0.22	0.24	-0.02
Married	0.48	0.49	0.46	0.03*
Household size	2.16	2.11	2.22	-0.11**
Children	0.56	0.58	0.55	0.03**
Redist. preference	4.19	4.13	4.25	-0.12
Conservative	0.29	0.29	0.29	0.00
Observations	3725	1841	1884	3725

*Notes:* The table shows the means of the main survey responses for the full sample, for the sample of respondents who participated in the follow-up survey, and the sample of respondents who did not participate in the follow-up survey. It also shows the differences between the follow-up and the non-follow-up samples and their significance based on a t-test; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table D.2: Balance: Follow-up

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	All	C	GEG	C/ GEG	GPG	C/ GPG	GEG/ GPG	Both	C/ Both	GEG/ Both	GPG/ Both
	mean	mean	mean	diff	mean	diff	diff	mean	diff	diff	diff
Age: 18-29	0.12	0.12	0.13	-0.00	0.13	-0.01	-0.00	0.12	0.01	0.01	0.01
Age: 30-39	0.15	0.14	0.15	-0.01	0.13	0.01	0.02	0.15	-0.01	0.00	-0.02
Age: 40-49	0.14	0.13	0.14	-0.01	0.13	-0.00	0.01	0.18	-0.05*	-0.04	-0.04*
Age: 50-65	0.31	0.32	0.29	0.03	0.32	0.00	-0.03	0.30	0.02	-0.01	0.01
Age: 65+	0.28	0.28	0.29	-0.01	0.29	-0.01	0.00	0.25	0.03	0.04	0.04
Female	0.46	0.50	0.45	0.05*	0.48	0.02	-0.03	0.42	0.08**	0.03	0.06*
East	0.15	0.13	0.17	-0.03	0.14	-0.00	0.03	0.15	-0.02	0.02	-0.01
Educ: 12th grade	0.34	0.31	0.34	-0.03	0.32	-0.01	0.02	0.38	-0.07**	-0.04	-0.06*
Educ: uni	0.24	0.22	0.26	-0.04	0.22	-0.00	0.03	0.26	-0.04	-0.00	-0.04
Employee	0.42	0.41	0.42	-0.02	0.42	-0.01	0.00	0.44	-0.04	-0.02	-0.02
Self-employed	0.04	0.05	0.04	0.01	0.04	0.01	0.00	0.03	0.02	0.01	0.01
Civil servant	0.02	0.03	0.03	0.00	0.02	0.02	0.01	0.02	0.01	0.00	-0.01
Retiree	0.36	0.38	0.36	0.02	0.35	0.03	0.01	0.35	0.03	0.01	0.00
Income: high	0.22	0.23	0.22	0.01	0.23	-0.00	-0.01	0.21	0.02	0.01	0.02
Married	0.49	0.48	0.49	-0.01	0.50	-0.02	-0.01	0.48	-0.00	0.01	0.02
Household size	2.11	2.13	2.14	-0.00	2.04	0.10	0.10	2.12	0.02	0.02	-0.08
Children	0.58	0.60	0.57	0.03	0.59	0.01	-0.02	0.57	0.02	-0.00	0.01
Prior GEG	16.38	16.76	17.73	-0.97	13.69	3.07	4.04*	17.30	-0.54	0.43	-3.61
Prior GPG	24.41	25.41	25.57	-0.17	22.96	2.45	2.61	23.65	1.75	1.92	-0.69
Redist. preference	4.13	4.13	4.11	0.02	4.10	0.03	0.01	4.18	-0.05	-0.07	-0.08
Conservative	0.29	0.30	0.29	0.01	0.27	0.03	0.02	0.32	-0.02	-0.03	-0.05
Observations	1841	446	482	928	459	905	941	454	900	936	913

*Notes:* The table shows the means for the follow-up sample as well as for all subgroups. In addition, it shows the differences between relevant groups and their significance based on a t-test. See also the notes to Table 1. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table D.3: Comparison Follow-up and Non-follow-up Sample (Outcomes + Mechanisms)

	(1) All mean	(2) Follow-up mean	(3) Non-follow-up mean	(4) FU/ Non-FU p
<b>Outcomes</b>				
Reduce Inequality	7.88	7.86	7.90	-0.04
Policy index	0.00	0.00	-0.00	0.01
<b>Mechanisms</b>				
Prior GEG	15.58	16.38	14.87	1.52
Prior GPG	23.86	24.41	23.47	0.94
Women: disadvantage	6.80	6.77	6.85	-0.08
Men: disadvantage	2.51	2.52	2.50	0.02
Wage inequality: across	0.45	0.44	0.46	-0.03*
Wage inequality: within	0.35	0.35	0.35	-0.00
Men: strategic	2.54	2.64	2.41	0.23***
Men: ambitious	2.61	2.73	2.49	0.24***
Men: technical job	4.48	4.63	4.31	0.32***
Society: family - work	6.88	6.85	6.92	-0.07
Society: men ambitious	4.60	4.69	4.52	0.17*
Responsib: firms	0.26	0.27	0.25	0.01
Responsib: family	0.10	0.10	0.11	-0.01
Responsib: norms	0.31	0.30	0.33	-0.03**
State interventions effective	5.46	5.47	5.45	0.02
Observations	3783	1841	1884	3725

*Notes:* The table shows the mean for the full sample, the respondents who participated in the follow-up survey, and the respondents who did not participate in the follow-up survey. For the outcomes, we only compare the responses of the control groups in the two samples as they are elicited post-treatment. The number of observations for these two variables is 477 in the non-follow-up sample and 446 in the follow-up sample. The policy index is calculated by averaging the standardized responses to the policy questions and standardizing it again. Therefore, it takes a value close to zero. The table also reports the differences between the follow-up and the non-follow-up sample and their significance based on a t-test; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table D.4: Updating and Cross-learning: Only Follow-up Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
All	C	GEG	C/ GEG	C/ GPG	C/ GPG	C/ GPG	GEG/ GPG	Both	C/ Both	GEG/ Both	GPG/ Both
mean	mean	mean	diff	mean	mean	diff	diff	mean	diff	diff	diff
<b>Panel A: Beliefs about the Gender Earnings Gap</b>											
GEG (prior)	16.38	16.76	17.73	-0.97	13.69	3.07	4.04*	17.30	-0.54	0.43	-3.61
GEG (post)	27.22	19.31	29.98	-10.67***	27.84	-8.53***	2.13	31.44	-12.14***	-1.47	-3.60**
GEG (FU)	18.42	15.94	17.68	-1.74	19.53	-3.58	-1.85	20.52	-4.58**	-2.84	-0.99
Post vs. prior	10.85***	2.54*	12.24***	NA	14.15***	NA	NA	14.21***	NA	NA	NA
FU vs. prior	2.03*	-0.82	-0.06	NA	5.83***	NA	NA	3.22	NA	NA	NA
<b>Panel B: Beliefs about the Gender Pension Gap</b>											
GPG (prior)	24.41	25.41	25.57	-0.17	22.96	2.45	2.61	23.65	1.75	1.92	-0.69
GPG (post)	31.90	25.42	33.75	-8.33***	34.05	-8.63***	-0.30	34.17	-8.75***	-0.42	-0.12
GPG (FU)	27.64	24.67	25.91	-1.24	30.21	-5.54**	-4.30**	29.82	-5.15**	-3.91*	0.39
Post vs. prior	7.52***	0.01	8.22***	NA	11.08***	NA	NA	10.57***	NA	NA	NA
FU vs. prior	3.24***	-0.74	0.33	NA	7.25***	NA	NA	6.17***	NA	NA	NA
Observations	1841	446	482	928	459	905	941	454	900	936	913

*Notes:* The table shows mean values of prior, posterior and follow-up beliefs for the gender earnings gap and gender pension gap for the follow-up sample (column 1) as well as for all experimental groups (columns 2, 3, 5 and 8). In columns 4, 6, 7, 9, 10 and 11 we report the mean differences in beliefs across experimental groups and their significance based on a t-test. For each experimental group, we also report the difference in means between prior and posterior beliefs and prior and follow-up beliefs and their significance based on a t-test. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## Appendix E Text analysis

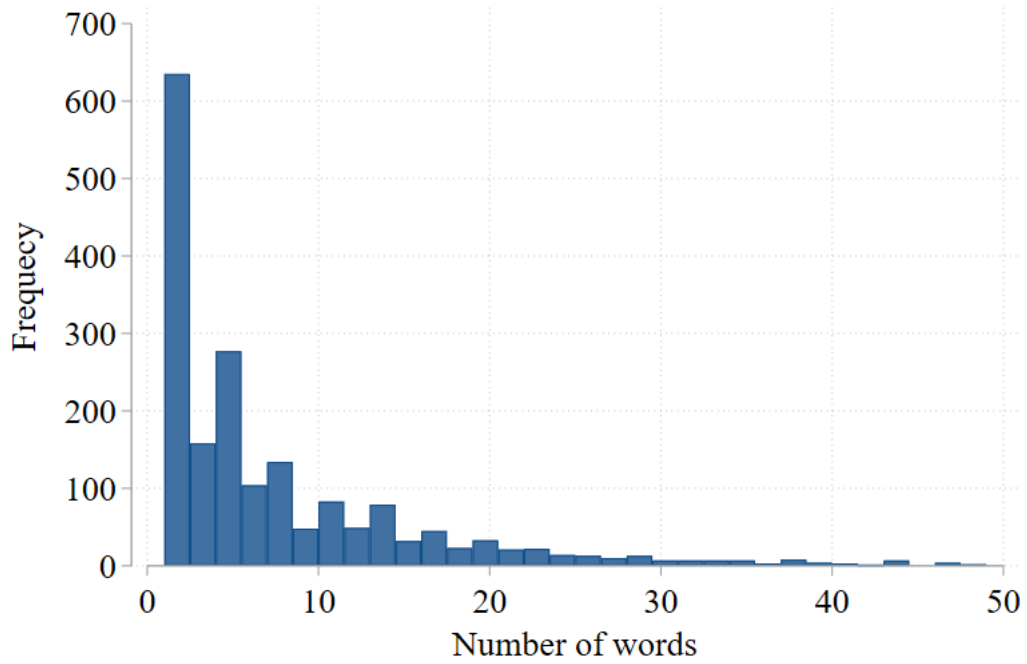


Figure E.1: Distribution of number of words per answer

*Notes:* Only answers with a length between 0 and 50 words are displayed.

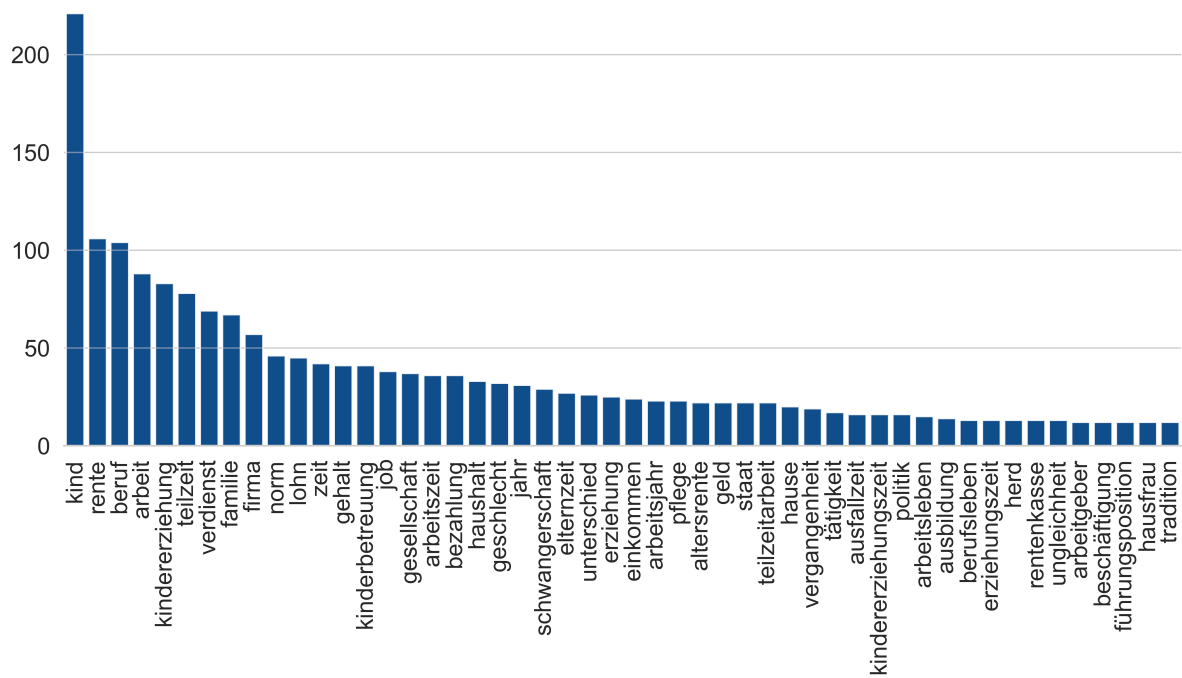


Figure E.2: Most frequent words

Notes: Only the 50 most frequent words are displayed.

Table E.1: Grouping of Words into Topics

Topic	Words
Parenting:	<u>kind</u> , kindererziehung, erziehung, kinderbetreuung, kindererziehung, kindeserziehung.
Occupation:	<u>job</u> , beruf, arbeit, tätigkeit, anstellung, beschäftigung, stelle, frauenberuf, minijob, männerberufe, berufsangebot, berufsausübung, berufseinstieg, berufsgruppe, berufswahl, erwerbs tätigkeit, mini.
Earnings:	<u>gehalt</u> , verdienst, lohn, einkommen, bezahlung, entlohnung, bruttojahresverdienst, bruttoverdienst, jahresverdienst, verdienstmöglichkeiten, niedriglohnbereich, gehaltsunterschied, lohnguppe, gehältern, jahresbrutto, mindestlohn, brutto.
Work Life:	<u>arbeitsleben</u> , berufsleben.
Working Hours:	<u>arbeitszeit</u> , teilzeit, teilzeitarbeit, teilzeitbeschäftigung, voll zeit, halbtagsbeschäftigung, halbtagsjob, stundenwoche, teilzeitquote.
Parental Leave:	<u>erziehungszeit</u> , kindererziehungszeit, elternzeit, kinderzeit, kinderbetreuungszeit, familienzeit.
Relatives:	<u>angehörige</u> , familienmitglied.
Work Place:	<u>arbeitsplatz</u> , arbeitsstelle.
Norms:	<u>norm</u> , tradition, gewohnheit, konvention, gesellschaftssystem.
Firm:	<u>firma</u> , arbeitgeber, unternehmen, chef, betrieb, firmenpolitik, personalchef.
State:	<u>staat</u> , politik, regierung, politiker.
Pension:	<u>rente</u> , rentenkasse, altersrente, rentenpunkt, rentenversicherung, beitragsjahr, rentenbeitrag, rentenberechnung, renteneinzahlung, rentenhöhe, altersrent, rentensystem, beitrage.
Inequality:	<u>ungleichheit</u> , benachteiligung, diskriminierung, ungleichbehandlung, ungerechtigkeit, diskreminierung.
History:	<u>geschichte</u> , historie, vergangenheit.
Household:	<u>haushalt</u> , haus, hause, hausfrau, herd, hausarbeit, hausfrauen-tätigkeit, haushaltführung.
Qualification:	<u>qualifikation</u> , ausbildung, qualifizierung.
Role:	<u>rolle</u> , rollenverteilung, geschlechterrolle, klischee, rollenbild, frauenbild, rollenverständnis, stereotyp.
Equality:	<u>gleichstellung</u> , gleichberechtigung.
Interruption:	<u>unterbrechung</u> , pause, auszeit, ausfall, ausfallzeit, arbeitsausfall, krankheitsfall, verdienstausfall.

*Notes:* The table shows all uni-grams grouped into topics. The underlined noun is in the word clouds.





Figure E.3: Word-clouds by Subgroups

Notes: The figure shows word-clouds by gender (panels a and b), age (panels c and d) and political leaning (panels e and f) based on the grouping of words into topics (see Table E.1).

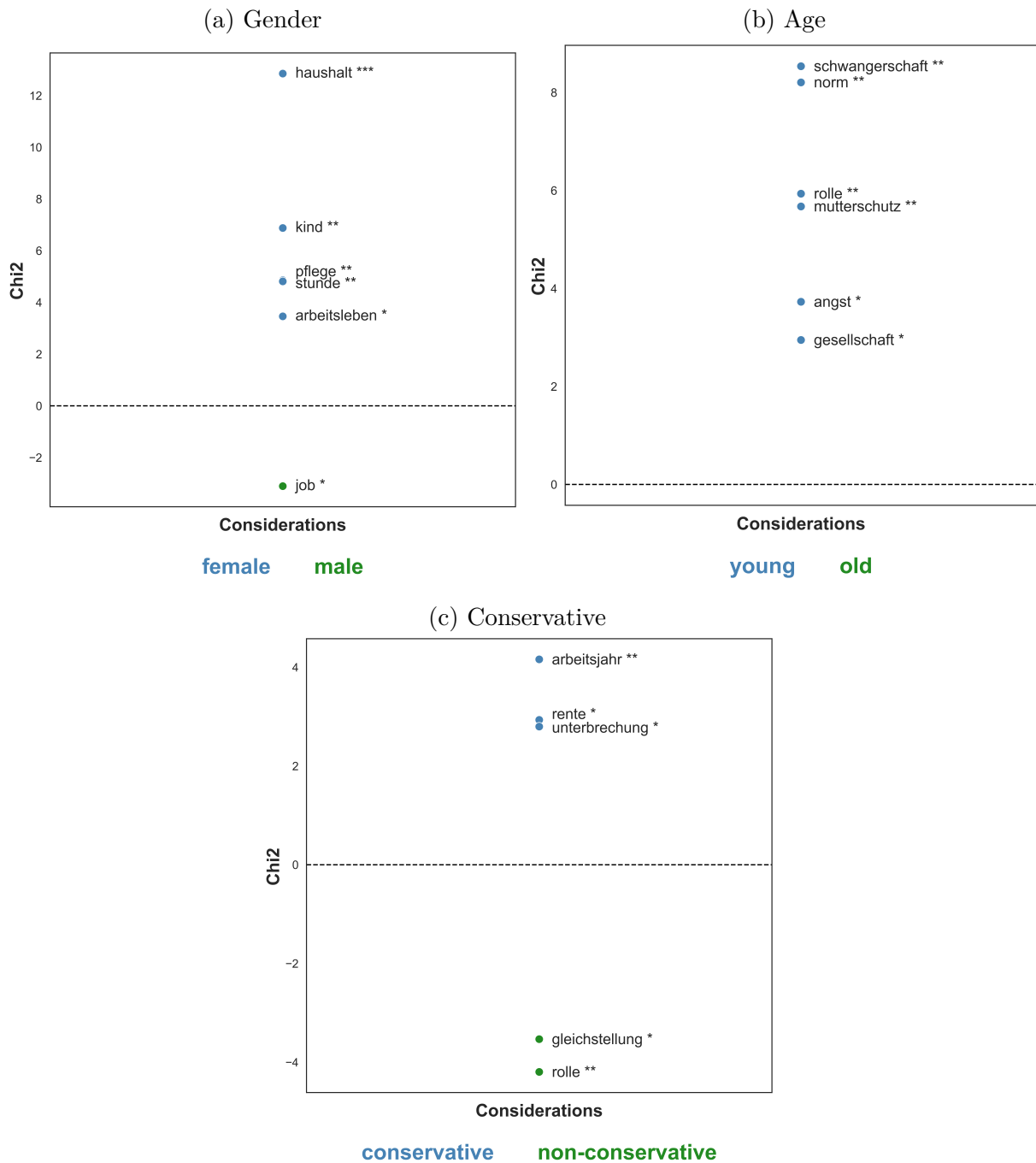


Figure E.4: Keyness Analysis

Notes: The figure shows keywords among female and male (panel a), young and old (panel b) and conservative and non-conservative (panel c) respondents in answers to the question about reasons for gender inequality. The score reported is the  $\chi^2$ - test statistic, testing the null hypothesis for each panel that the occurrence of the given keywords is the same among each of the two groups considered; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .