Beliefs and Policy Views

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PhD course on Beliefs, Attention and Economic Behavior
March 15th-17th

(At least) three types of approaches...

... to studying the link between beliefs and policy views

1. Survey experiments
   - Clean experimental (short-run) variation in beliefs
   - Link to "real world" $\rightarrow$ potentially high external validity

2. Lab settings/Spectator designs
   - Abstract settings, very clean experimental variation in conditions
   - Insights into "fundamentals"/fairness principles

3. Naturally occurring variation in beliefs/experiences
   - For instance caused by different quasi-random life experiences
   - Very high external validity
   - Use surveys to study detailed outcomes and mechanisms

Beliefs and Policy Views: Survey Experiments

- Preferences for redistribution/equality of opportunity intervention
  - ▶ Relative income: Cruces et al. (2013); Karadja et al. (2017); Hvidberg et al. (2022)
  - ▶ Inequality, effects of taxation: Kuziemko et al. (2015)
  - ▶ Social mobility: Alesina et al. (2018)
  - ▶ Racial discrimination (Haaland and Roth, 2023)
  - ▶ **Gender wage gap (Settele, 2022)**
  - ▶ Others: Chen et al., 2016; Fehr et al., 2021, 2019; Gaertner et al., 2019; Hoy and Mager, 2018; ...

Beliefs and Policy Views: Survey Experiments

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  - ▶ Racial discrimination (Haaland and Roth, 2023)
  - ▶ **Gender wage gap (Settele, 2022)**
  - ▶ Others: Chen et al., 2016; Fehr et al., 2021, 2019; Gaertner et al., 2019; Hoy and Mager, 2018; ...

- Support for other types of policies:
  - ▶ Immigration: Alesina et al., 2018a; Bansak et al., 2016; Barrera et al., 2020; Facchini et al., 2016; Grigorieff et al., 2020; Haaland and Roth, 2020; Hopkins et al., 2019; Lergetporer et al., 2017
  - ▶ Education: Lergetporer et al., 2016, 2020
  - ▶ Market regulation: Elias et al. (2015)
  - ▶ Covid: Alsan et al. (forthcoming), **Settele and Shupe (2022)**
  - ▶ Many others... (see review by Haaland, Roth, Wohlfart (2023))

Plan for this lecture

1. Beliefs about the gender wage gap and policy views
   - Example of classical survey experiment with information treatment
   - Active control design, pre-analysis plan, "costly" outcomes, follow-up

2. Perceived trade-offs between health and economic activity and policy views (joint with Cortnie Shupe)
   - Another survey experiment
   - 2x2 design

- "Shallow Meritocracy" (by Peter Andre)
   - Recent (very cool) example of spectator design
   - Supplementary evidence based on survey with vignettes

Beliefs about the size of the gender wage gap and policy demand

Settele (2022)

Motivation

- Women on average receive lower wages than men.

Motivation

- Women on average receive lower wages than men.

- Discussion about policies designed to mitigate the GWG

Motivation

POLITICS

Obama Signs Equal-Pay Legislation

By SHERYL GAY STOLBERG   JAN. 29, 2009

President Obama signed his first bill into law on Thursday, approving the Lilly Ledbetter Fair Pay Act, a law named for Ms. Ledbetter, fourth from left, an Alabama woman who at the end of a 19-year career as a supervisor in a tire factory complained that she had been paid less than men.
Stephen Crowley/The New York Times

Regressing

Trump quietly revoked Fair Pay order, leaving women vulnerable to workplace abuse

BY WITW STAFF   04.04.17

PRESIDENT DONALD TRUMP LEAVES THE OVAL OFFICE ALONGSIDE VICE PRESIDENT MIKE PENCE. (SAUL LOEB/AFP/GETTY IMAGES)

Last week, just ahead of #EqualPayDay and a couple of days before declaring that women are central to his bid to "make America great again,"

Research questions

- What beliefs do people hold about gender differences in wages?

- Do beliefs about the gender wage gap causally affect individual support for policies designed to improve women's situation in the labor market?

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Why study views on gender-related inequality?

- Gender-based inequality is different from other types: No segregation, particular set of underlying reasons $\rightarrow$ High elasticity of policy demand?
- Potential role of self-interest in female subset of population $\rightarrow$ Heterogenous elasticity of policy demand?
- Role of choice, (inherent?) preferences $\rightarrow$ Low elasticity of policy demand?

This paper

- I collect **incentivized data** on people's beliefs about **gender differences in wages** via a large representative online survey in the U.S.

- I create **exogenous variation in beliefs** by providing respondents with **information** about the size of the GWG based on different household surveys.

- Subsequently, I measure people's **demand for equality of opportunity interventions** through the government.
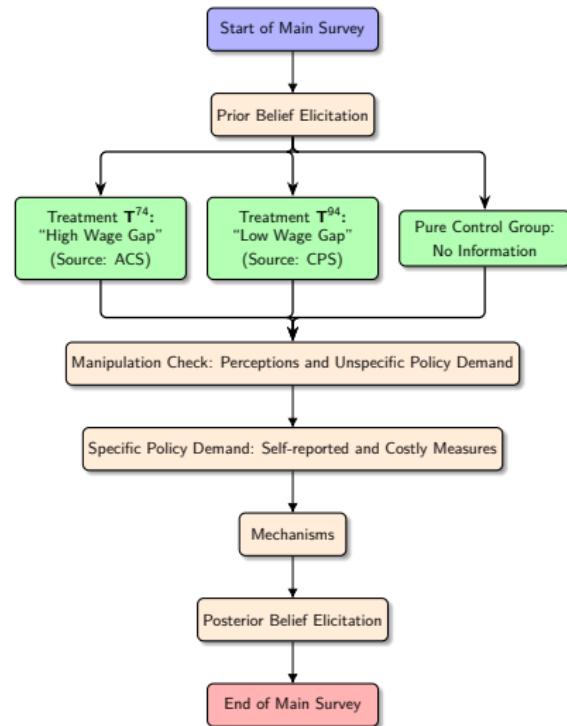
Contribution

- Literature on the role of **beliefs about relevant statistics** for the **demand** for **government intervention**:
  - Cruces et al. (2013), Karadja et al. (2017)
  - Kuziemko et al. (2015), Alesina et al. (2018), Roth and Haaland (2019)

- Literature on the link between **gender differences in labor market outcomes** and the **political gender gap**:
  - Edlund, Pande (2002), Fisman and O'Neill (2009), Iversen, Rosenbluth (2006), Newman (2016)

- Literature on **determinants of preferences for redistribution** (Alesina and Giuliano, 2010, Durante et al. 2014); **beliefs about inequality** (Piketty, 1995; Norton et al., 2011) and **fairness concerns** (Almas et al 2010, 2016; Cappelen et. al 2007, 2010, 2013, 2017)
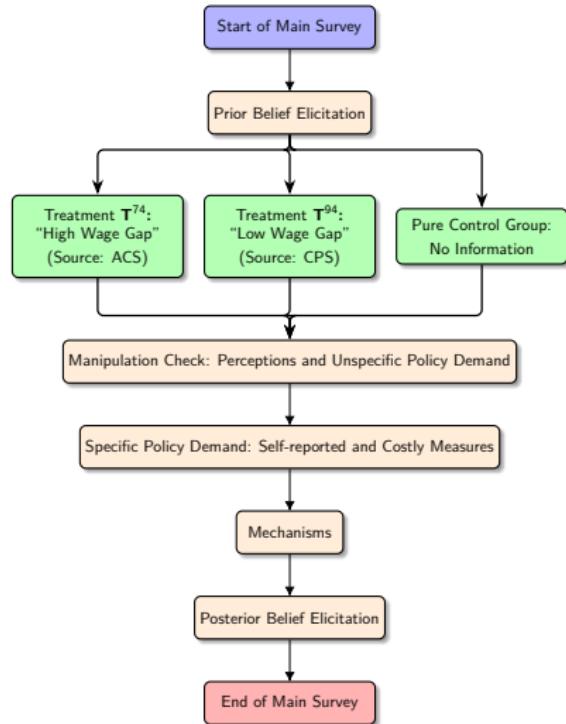
Outline of talk

Experimental Design

```
┌─────────────────────────┐
│   Start of Main Survey   │
└─────────────────────────┘
             │
┌─────────────────────────┐
│  Prior Belief Elicitation │
└─────────────────────────┘
```

Treatment $\mathbf{T}^{74}$:
"High Wage Gap"
(Source: ACS)

Treatment $\mathbf{T}^{94}$:
"Low Wage Gap"
(Source: CPS)

Pure Control Group:
No Information

Manipulation Check: Perceptions and Unspecific Policy Demand

Specific Policy Demand: Self-reported and Costly Measures

Mechanisms

Posterior Belief Elicitation

End of Main Survey

Experimental Design
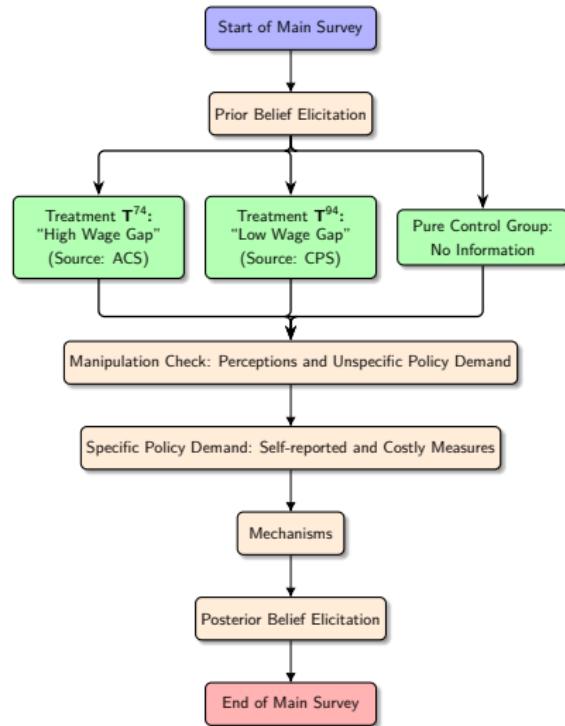
Relevant statistic: Men and women in the United States who

- are 45 years old,
- work 40 hours per week as employees
- and hold a Bachelor degree

Screenshot Belief Elicitation
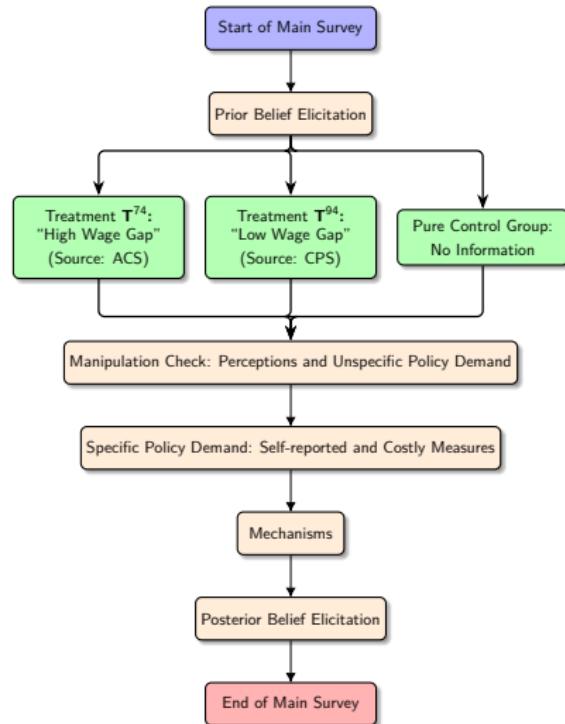
Experimental Design

Start of Main Survey

Prior Belief Elicitation

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Mechanisms

Posterior Belief Elicitation

End of Main Survey

Treatment Stage:

- T^{74}: Women receive 74\$ per 100\$ received by men. (ACS 2016)

- T^{94}: Women receive 94\$ per 100\$ received by men. (CPS October 2017)

Treatment screen

Experimental Design


```
Start of Main Survey
        |
Prior Belief Elicitation
        |
  +-----+-----+-----------+
  |           |           |
Treatment T^74:   Treatment T^94:   Pure Control Group:
"High Wage Gap"   "Low Wage Gap"    No Information
(Source: ACS)     (Source: CPS)
  |           |           |
  +-----+-----+-----------+
        |
Manipulation Check: Perceptions and Unspecific Policy Demand
        |
Specific Policy Demand: Self-reported and Costly Measures
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Mechanisms
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Posterior Belief Elicitation
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Treatment Stage:

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- T^{94}: Women receive 94\$ per 100\$ received by men. (CPS October 2017)

Treatment screen
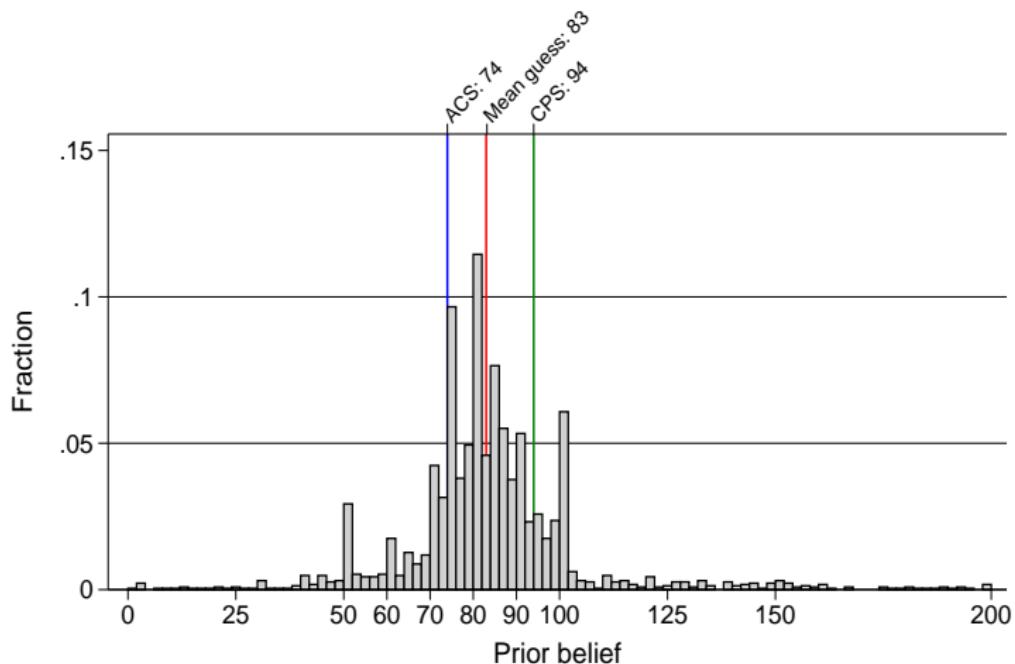
Data:

- Sample of N $\approx$ 4000
- Representative of the population in terms of observables

Outline of talk

Distribution of (incentivized) prior beliefs

Distribution of prior beliefs: mean:83,4; st.dev: 21.3; N=2294

Related Beliefs

Correlates of (incentivized) prior beliefs

	(Incentivized) prior belief		
	(1)	(2)	(3)
Female	-4.613***		-4.440***
	(0.886)		(0.884)
Democrat		-4.310***	-4.068***
		(1.018)	(1.014)
Independent		-1.633	-1.411
		(1.188)	(1.178)
Constant	85.619***	85.471***	87.604***
	(0.648)	(0.784)	(0.898)
Observations	2294	2294	2294

Sample: All observations with incentivized prior beliefs. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 No additional control variables.

More Correlates   Gender diff.   Partisan diff.

Outline of talk
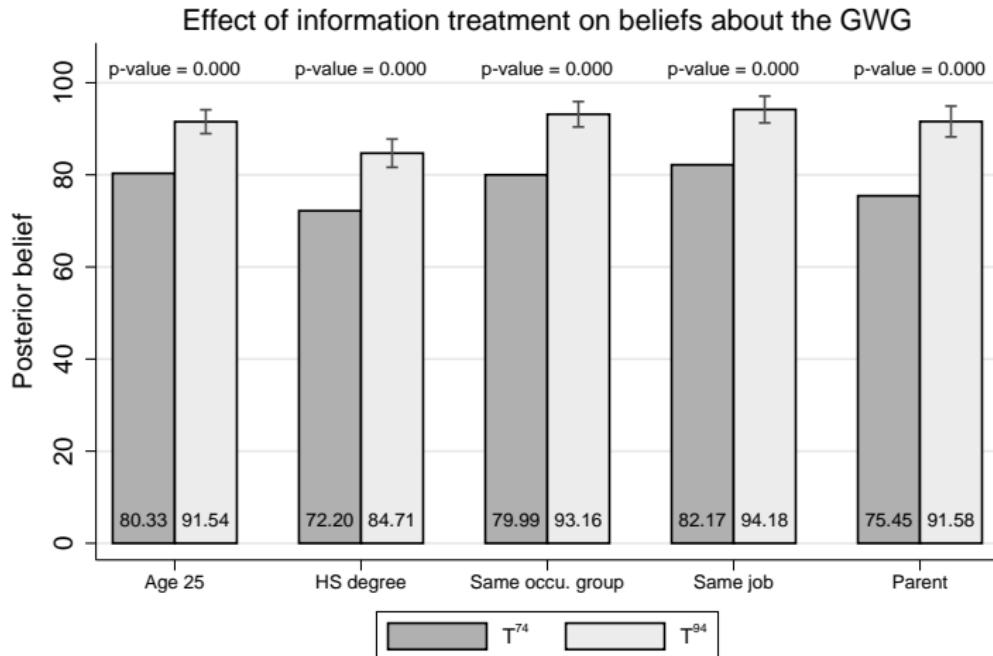
Empirical specification

$$y_i = \alpha_0 + \alpha_1 T_i^{74} + \boldsymbol{\Pi}^T \mathbf{X}_i + \varepsilon_i$$
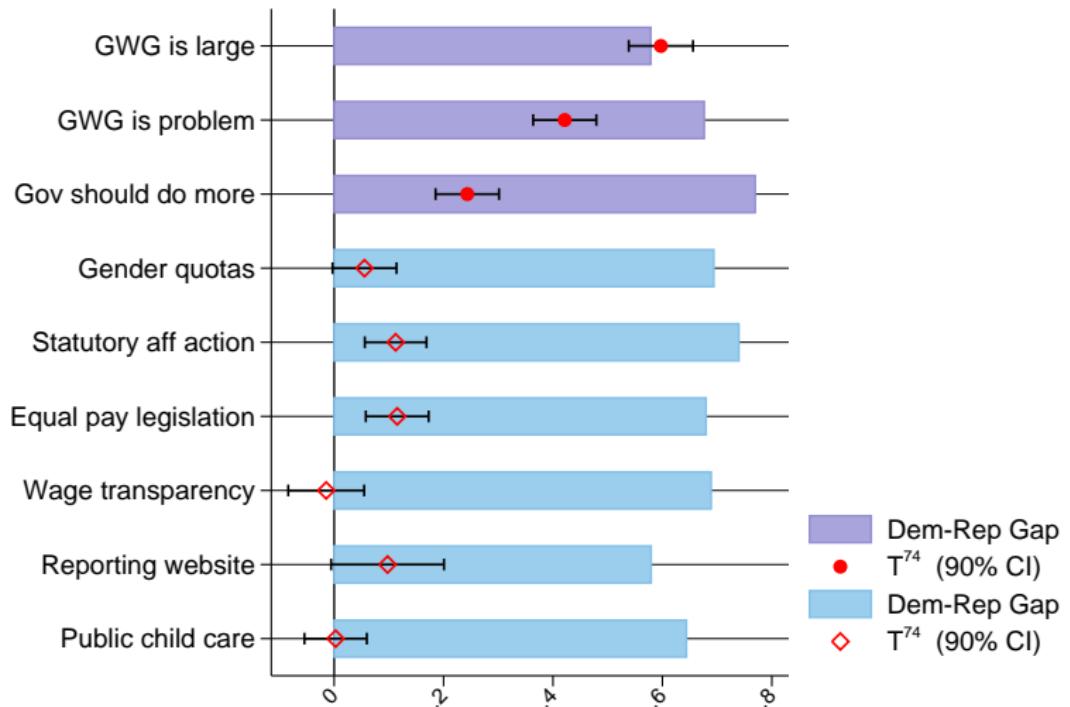
- y_i:
  - Posterior belief about the size of the GWG
  - Demand for government intervention

- T_i^{74}: High wage gap - treatment (omitted group: T^{94})

Treatment effect on posterior beliefs

Effect of information treatment on beliefs about the GWG

Notes: Posterior beliefs take on values between 0 and 200. Whiskers show the 95% confidence interval calculated from a regression of the outcome on an indicator for T^{94} using robust standard errors.

Belief Elast.   Het. Elast.   Upd. Gend.   Upd. Pol.

Treatment Effect

Outline of talk

Mechanism: Perceived personal/impersonal reasons

	External Factors				Personal Factors			
	(1) Discrimination	(2) Socialization	(3) Work-Family	(4) Index	(5) Ambitions	(6) Talent	(7) Preferences	(8) Index
T^{74}	0.227***	0.014	0.076*	0.111***	0.032	0.016	0.050	0.035
	(0.042)	(0.046)	(0.045)	(0.032)	(0.045)	(0.042)	(0.043)	(0.036)
Sharpened q-value	[0.001]	[0.973]	[0.311]		[0.917]	[0.973]	[0.490]	
Female	0.240***	0.268***	0.247***	0.251***	-0.467***	-0.419***	-0.378***	-0.418***
	(0.043)	(0.047)	(0.047)	(0.033)	(0.047)	(0.044)	(0.045)	(0.038)
Democrat	0.693***	0.413***	0.219***	0.442***	-0.276***	-0.281***	-0.431***	-0.340***
	(0.049)	(0.053)	(0.051)	(0.038)	(0.051)	(0.049)	(0.050)	(0.041)
Observations	2012	2012	2012	2012	2012	2012	2012	2012

Data source: Treatment groups, Wave A. Outcomes standardized. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Additional controls: Age group, census region, pol. orientation (Independent and "other"), has children, log hh income, has 2-year college degree or more, works full-time, part-time, self-employed, unemployed, student.

Survey items   Heterogeneity   Distribution control group
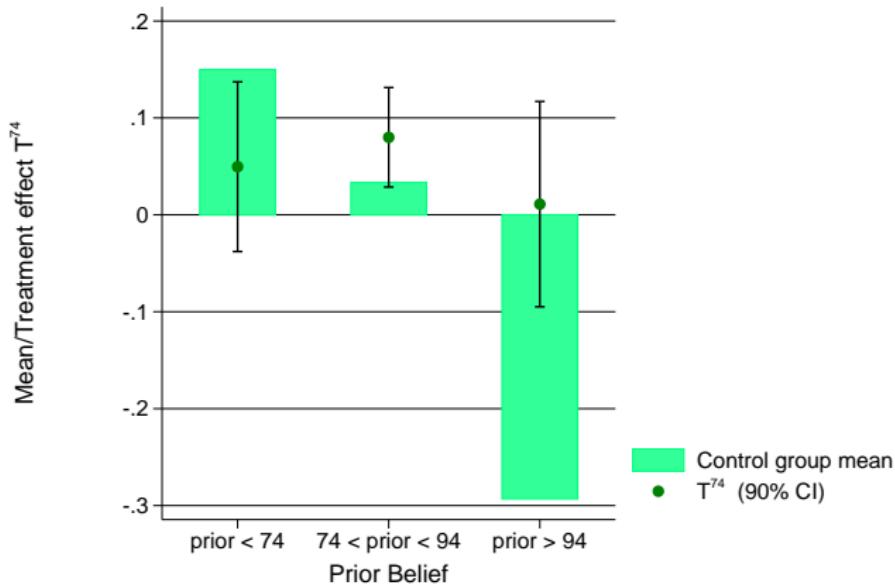
Mechanism: Perceived effectiveness of policy intervention

	Effectiveness of anti-disc. policy	Effectiveness of affirmative action	Effectiveness of work-family policy	Trust in government
	(1)	(2)	(3)	(4)
T^{74}	0.022	0.052	-0.014	0.019
	(0.063)	(0.069)	(0.067)	(0.072)
Sharpened q-value	[1.000]	[1.000]	[1.000]	[1.000]
Female	0.105	0.040	0.031	-0.179**
	(0.066)	(0.072)	(0.070)	(0.073)
Democrat	0.245***	0.217***	0.213***	-0.072
	(0.076)	(0.082)	(0.080)	(0.086)
Independent	-0.096	-0.067	-0.102	-0.227**
	(0.096)	(0.107)	(0.101)	(0.099)
Observations	1019	1019	1019	1019

Data source: Treatment groups, Wave B. Outcomes standardized. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Additional controls: Age group, census region, pol. orientation (Independent and "other"), has children, log hh income, has 2-year college degree or more, works full-time, part-time, self-employed, unemployed, student.

Heterogeneity in the treatment effect by prior belief

Summary so far:

The low average elasticity of policy demand to beliefs about the size of the wage gap is

- ...not due to respondents attributing the wage gap to "fair" reasons
- ...nor due to a zero or backfiring effect among men based on self-interest.

Summary so far:

The low average elasticity of policy demand to beliefs about the size of the wage gap is

- ...not due to respondents attributing the wage gap to "fair" reasons
- ...nor due to a zero or backfiring effect among men based on self-interest.

Instead, the elasticity of policy demand to beliefs is limited by
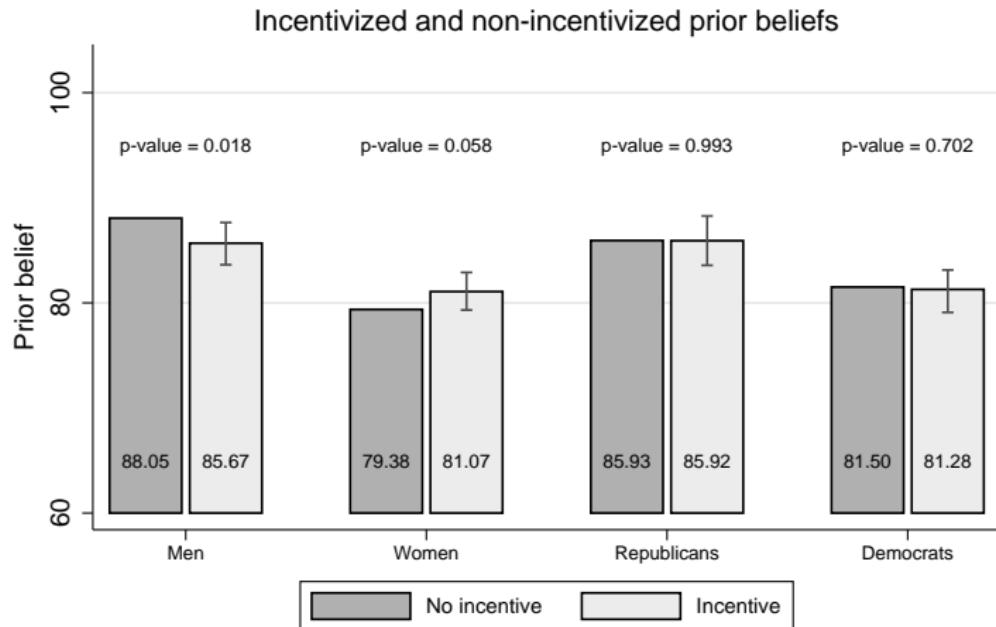
- Republicans,
- by a substantial subset of individuals who do not believe that policies can effectively lead to an increase in women's relative wages
- and by those with extreme beliefs to start with, who may be more "dogmatic" in their policy views.

Importance of other "world views"

| | Policy Demand (Index) | | | |
	(1)	(2)	(3)	(4)
Democrat	0.605***	0.584***	0.408***	0.211***
	(0.071)	(0.070)	(0.072)	(0.068)
Female	0.304***	0.273***	0.221***	0.142***
	(0.061)	(0.062)	(0.058)	(0.052)
Prior (z-scored)		-0.203***	-0.191***	-0.132**
		(0.067)	(0.063)	(0.058)
Perceived costs (z-scored index)			-0.255***	-0.047
			(0.037)	(0.043)
World views (z-scored index)				-0.364***
				(0.042)
R^2	0.21	0.23	0.33	0.44
Observations	474	474	474	474

Sample: Control group, Wave B, restricted to prior beliefs between the 5th and the 95th percentile. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Additional controls for political orientation "independent" and "other".

Evidence of motivated belief-reporting
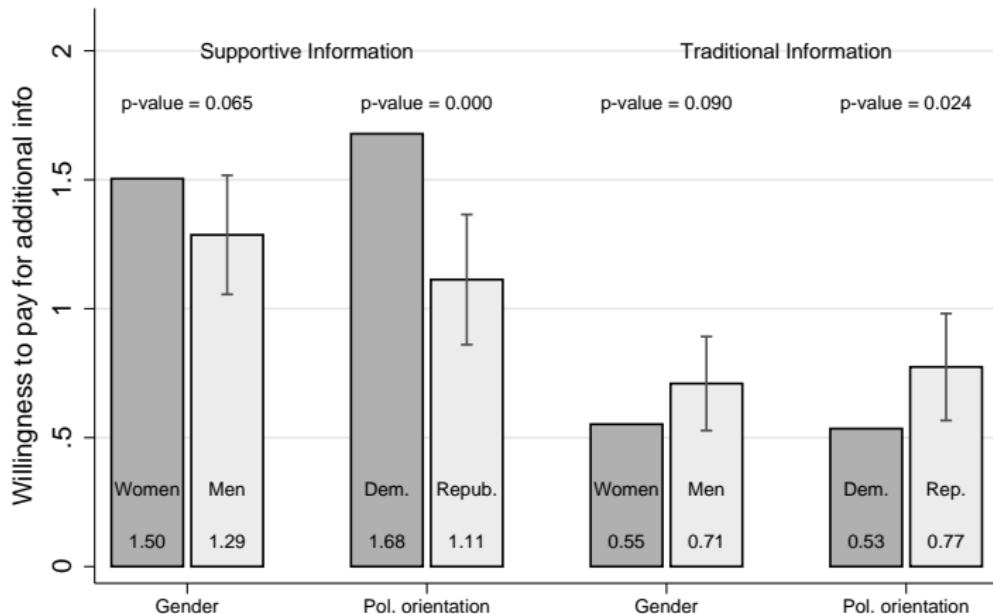
Incentivized and non-incentivized prior beliefs

Notes: All beliefs take on values between 0 and 200. Whiskers show the 95% confidence interval calculated from a regression of the outcome on an indicator for incentivized beliefs using robust standard errors and controlling for survey wave, census region, age group, parental status, log of household income, associate degree or more, full-time, part-time, self-, and unemployed, student, and, when applicable, gender and Democrat, Republican and other.

By gender X pol. orientation   Regressions

Evidence of motivated information acquisition

Notes: This graph based on control group observations only. Willingness to pay for new information takes on values between 0 and 3. Whiskers show the 95% confidence interval calculated from a regression of the outcome on an indicator for male/ Republican using robust standard errors. For the political orientation graphs only Republicans and Democrats are considered, including Independents leaning Republican or Democrat. Individuals who self-identify as Independents or are dropped.

Treatment effect

Outline of talk

Conclusion

- People's beliefs about gender differences in wages vary systematically by gender and by political orientation and are strongly correlated with policy demand.

- The causal effect of beliefs about the GWG is more nuanced and plays a limited role in explaining differences in policy demand.

- This is the case despite fairness concerns and updating about the importance of gender-based discrimination in labor markets.

- There is evidence consistent with politically motivated belief reporting and motivated information acquisition.

Praise and criticism of this project

- What do you think...?

Praise and criticism of this project

- What do you think...?

- $+$: State-of-the-art survey experiment:
  - Detailed pre-analysis plan
  - Highly-powered sample
  - costly outcome measures
  - Follow-up survey
- $+$: Active control design $\rightarrow$ "Clean" and detailed evidence (for example: pos. vs. neg. signals)

- $-$: Info provided is open to interpretation (no mechanism experiment)
- $-$: Method not new

Lives or Livelihoods? Perceived Trade-offs and Policy Views

Settele and Shupe (2022)

Motivation

Research questions

- Which individual characteristics explain the acceptance of non-pharmaceutical interventions (NPIs)?

- To what extent do cost-benefit considerations play a role in public support of NPIs?
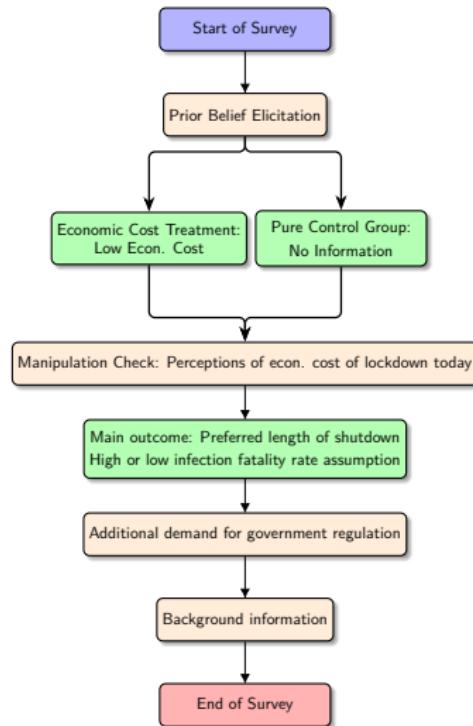
This paper

- We collect representative US data on people's perception of the **economic costs and the health benefits of a lockdown** through a large online survey

- We create **exogenous variation in perceptions** by providing respondents with **research evidence** about the economic costs of lockdowns in 1918 and by varying the assumed number of Covid-19 fatalities in the coming months

- Post-treatment, we measure people's **support of NPIs**

Preview of results

- As of mid-April 2020 support of government-mandated shutdown interventions is high in the US.

- Policy views vary systematically by individual exposure to financial and health risks, gender, age and political orientation.

- Beliefs about the costs and benefits play a strikingly large role, too.

- Causal evidence suggests that people do take cost-benefit considerations into account to a substantial extent and across the political spectrum

Experimental Design

Experimental design: prior belief elicitation

Based on Correia et al. (2020)
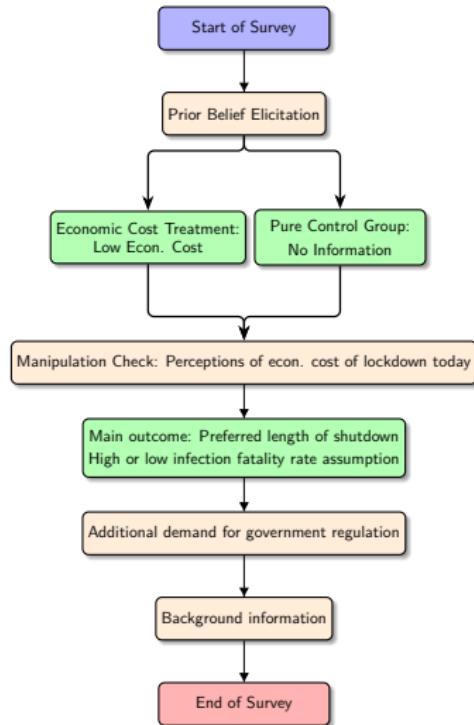
Think of two comparable cities, A and B, with the same unemployment rate at the beginning of the pandemic.

City A was shut down for <u>**1 month**</u> **during 1918**, and its unemployment rate was <u>**7%**</u> **by the end of the pandemic in 1919**.

City B was **shut down** for <u>**3 months**</u>, **60 days longer than City A**. What do you think was the **unemployment rate** in **City B** by the end of the pandemic in **1919**?

Unemployment rate in city B in 1919: [   ] percent

Experimental Design

Experimental design: Economic cost treatment

In fact, the researchers found that City B had an unemployment rate of only 6% by the end of the pandemic in 1919. More generally, the **longer the lockdown in 1918**, the **lower the unemployment rate one year later**.

Unemployment Rates
at the End of the Pandemic in 1919

Source: Correia, Luck, Verner (2020)

Experimental Design
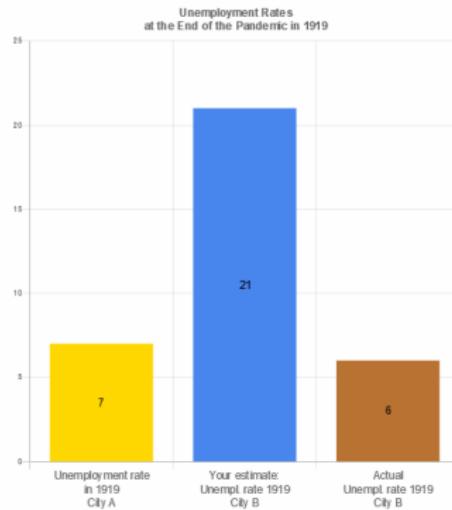
Randomized Economic Cost Info Treatment:

- Treatment Group: Longer shutdown in 1918 associated with lower unemployment in 1919 at the city level

- Control Group: No info

Randomized Mortality Condition:
- High mortality condition: Fatality projections based on infection fatality rate of 2.4%
- Low mortality condition: Fatality projections based on infection fatality rate of 0.4%

Experimental design: Mortality Conditions

Number of Deaths Projected depending on Shutdown Duration

0 days of shutdown	542,000 deaths
1 month of shutdown	269,000 deaths
2 months of shutdown	223,000 deaths
3 months of shutdown	72,000 deaths
4 months of shutdown	25,000 deaths
5 months of shutdown	18,000 deaths
6 months of shutdown	17,000 deaths

Number of Deaths Projected depending on Shutdown Duration

0 days of shutdown	3,253,000 deaths
1 month of shutdown	1,613,000 deaths
2 months of shutdown	1,337,000 deaths
3 months of shutdown	433,000 deaths
4 months of shutdown	148,000 deaths
5 months of shutdown	105,000 deaths
6 months of shutdown	100,000 deaths
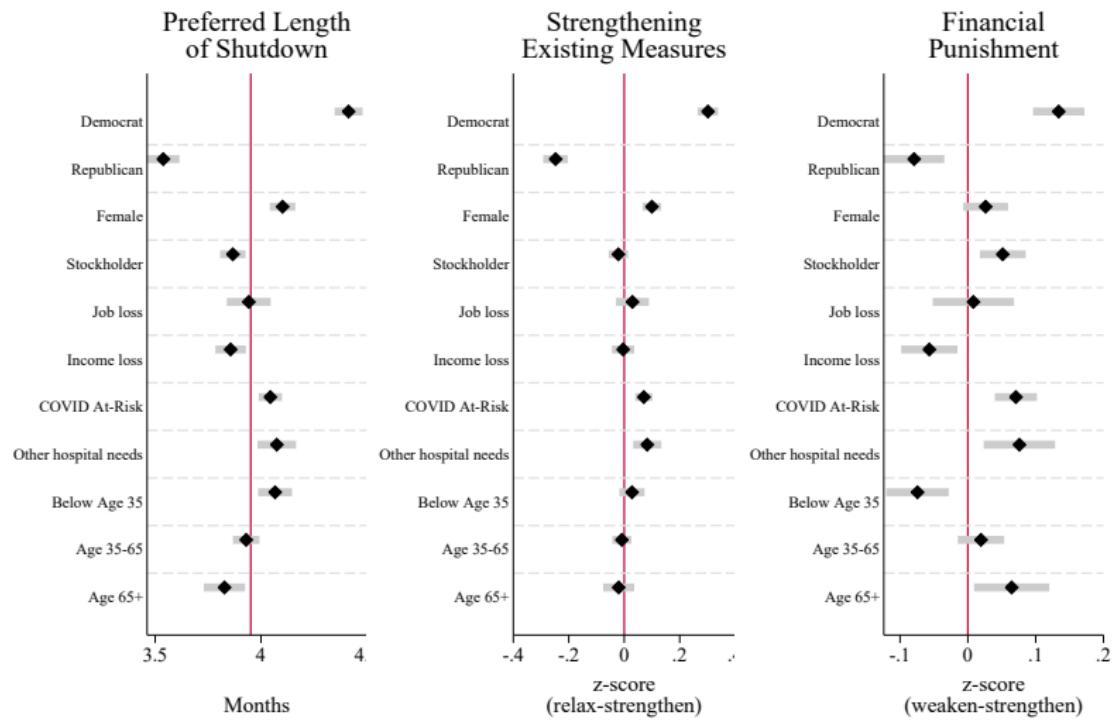
Data

- Total sample size: N = 8861
- Representative of the population in terms of observables

Table: Sample Characteristics compared to US population
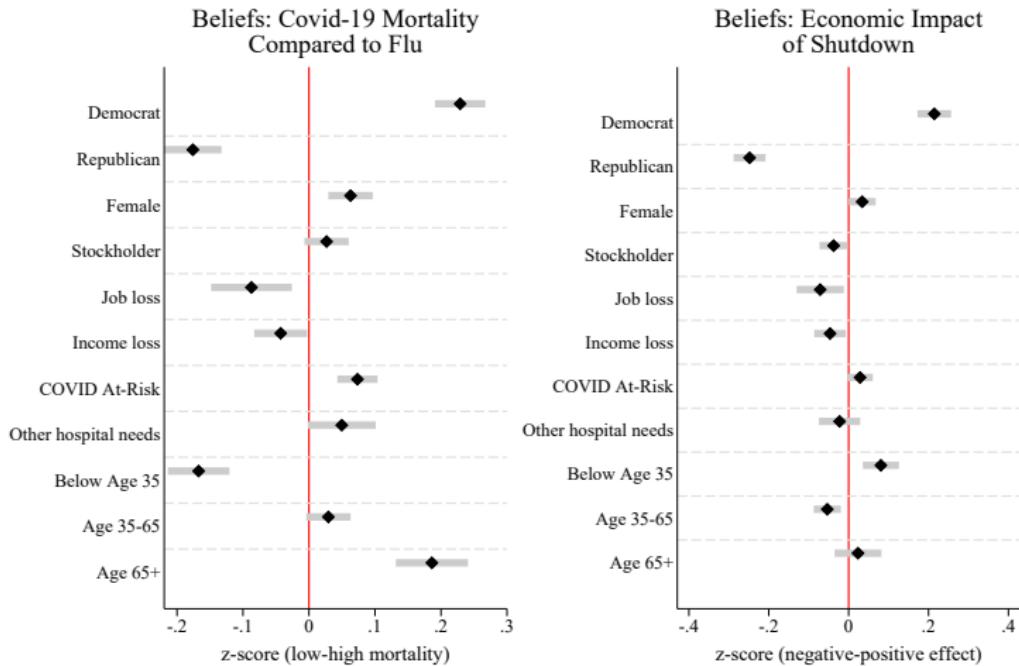
	Mean: Representative Sample	Mean: U.S. Adult Population
Northeast	0.18	0.17
Midwest	0.21	0.21
South	0.38	0.38
West	0.23	0.24
Age 18-24	0.12	0.12
Age 25-34	0.17	0.18
Age 35-44	0.19	0.16
Age 45-54	0.16	0.16
Age 55-64	0.18	0.18
Age 65+	0.18	0.19
Female	0.52	0.51
Male	0.48	0.49
Annual hh inc 2019 > $50,000	0.62	0.62
Annual hh inc 2019 <= $50,000	0.38	0.38

Policy views: Sample means by subgroups

Figures based on economic cost control group

Beliefs: Sample means by subgroups

Beliefs: Covid-19 Mortality Compared to Flu
z-score (low-high mortality)

Beliefs: Economic Impact of Shutdown
z-score (negative-positive effect)

Figures based on economic cost control group
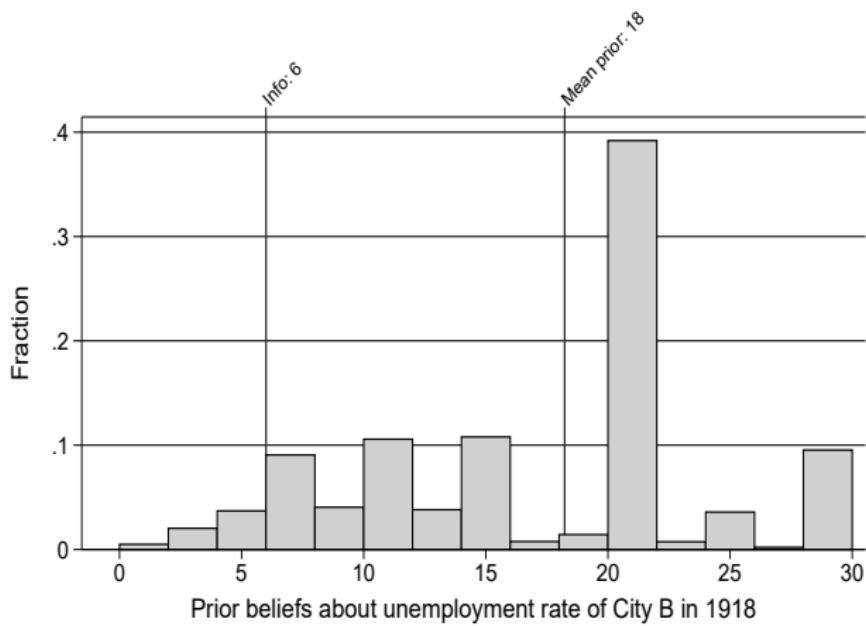
Empirical specification

$$Y_i = \beta_0 + \beta_1 T_i^{Cost} + \beta_2 T_i^{HighMort.} + \Theta' X_i + u_i$$

where

- Y_i: Outcome variable of interest:
  - ▶ Posterior belief about economic impact of shutdown
  - ▶ Perception of order of magnitude of mortality projections
  - ▶ Demand for NPIs

- T_i^{Cost}: Takes value 1 for respondents who learn that lockdowns in 1918 had positive economic net benefits

- $T_i^{HighMort.}$: Takes value 1 for respondents exposed to the high mortality condition

- $\mathbf{X}_i$: set of control variables.

Distribution of prior beliefs

Beliefs about impact today

Causal evidence: Strong "first stage"

	- Perceived Costs (z-scored)	Perceived mortality (z-scored)
	(1)	(2)
Cost Treatment	0.440***	0.020
	(0.021)	(0.021)
Mortality Treatment	-0.015	0.402***
	(0.021)	(0.021)
First-stage F-stat	29.27	18.88
Observations	8309	8309

Causal evidence: Reduced form effects

	Preferred length of shutdown (months)	Demand for stricter regulation (z-scored)	Demand for stricter punishment (z-scored)
	(1)	(2)	(3)
Cost Treatment	0.201***	0.095***	0.024
	(0.038)	(0.021)	(0.021)
Mortality Treatment	0.145***	0.014	-0.006
	(0.038)	(0.021)	(0.021)
Observations	8309	8309	8305

Notes: Data basis: Full sample. Outcomes are standardized based on the control group. Regressions include controls for Census region, age group, rural residence, log household income in 2019, educational attainment, political orientation, labor market status and prior beliefs about the economic impact of shutdown measures in 1918.

Magnitudes: 2SLS framework

	Preferred length of shutdown (months)	Demand for stricter regulation (z-scored)	Demand for stricter punishment (z-scored)
	(1)	(2)	(3)
- Perceived Costs	0.440***	0.213***	0.056
	(0.084)	(0.046)	(0.048)
Perceived mortality	0.377***	0.044	-0.013
	(0.091)	(0.050)	(0.053)
Observations	8309	8309	8305

Notes: Data basis: Full sample. Outcomes are standardized based on the control group. Regressions include controls for Census region, age group, rural residence, log household income in 2019, educational attainment, political orientation, labor market status and prior beliefs about the economic impact of shutdown measures in 1918.

Very large effects on policy demand corresponding to between 140 and 260% of the effect of having a pre-existing health condition in the family.

Heterogeneity in elasticity to cost-benefit considerations

- Those with a health risk in the family are less responsive
- Young people are less responsive (always want high levels of intervention)
- Personal financial exposure to economic repercussions of crisis plays a less systematic role
- Striking: High Levels of responsiveness across the political spectrum!

Treatment effects by pol. orientation

	Democrats	Independent	Republican
	(1)	(2)	(3)
Panel A: Preferred shutdown duration (months) ITT			
Cost Treatment	0.134**	0.177**	0.245***
	(0.056)	(0.074)	(0.066)
Mortality Treatment	0.216***	0.142*	0.111*
	(0.056)	(0.075)	(0.066)
Mean Outcome (econ control, low mort)	4.28	3.75	3.43
Observations	3221	2334	2936
Panel B: Preferred shutdown duration (months) LATE			
Beliefs about econ. costs	0.311**	0.371**	0.483***
(z-scored, reverse scale)	(0.139)	(0.158)	(0.133)
Beliefs about benefits	0.489***	0.310*	0.355**
(z-scored)	(0.125)	(0.166)	(0.172)
Observations	3221	2334	2936

Notes: Control variables in all panels: Age group, gender, education group, log household income, census region, employment status in January 2020 (employee, self-employed, unemployed, out of labor force).

Back-of-the-envelope calculation

What share of the partisan difference in demand for NPIs is explained by the causal effect of differences in beliefs about the economic impact of shutdown measures?

- Dem-Rep difference in beliefs about economic impact of a shutdown: .42 standard deviation
- Economic cost treatment effect on same beliefs: .44 standard deviation
- Dem-Rep difference in preferred shutdown length: 24 days
- Economic cost treatment effect on preferred shutdown length: 6 days

  $\Rightarrow$ Causal effect of diff. beliefs accounts for around **25% of partisan difference in policy demand**

Why are/were views on lockdown interventions so elastic?

Striking effect sizes, given highly morally charged debate!

Possible reasons for large role of perceived trade-off:

Why are/were views on lockdown interventions so elastic?

Striking effect sizes, given highly morally charged debate!

Possible reasons for large role of perceived trade-off:

- High degree of uncertainty around economic costs and health benefits of interventions
  - Unlikely (we account for first-stage updating)
- Minor role for ideological concerns
  - Possible, as political narratives were only starting to emerge
- High relevance of topic to a broad subset of individuals
  - Possible (compare to case of inequality along various dimensions)

Shallow Meritocracy

By Peter Andre

briq – Institute on Behavior & Inequality

Motivation

Meritocratic fairness is at the heart of Western political/economic culture.

Important distinction for merit
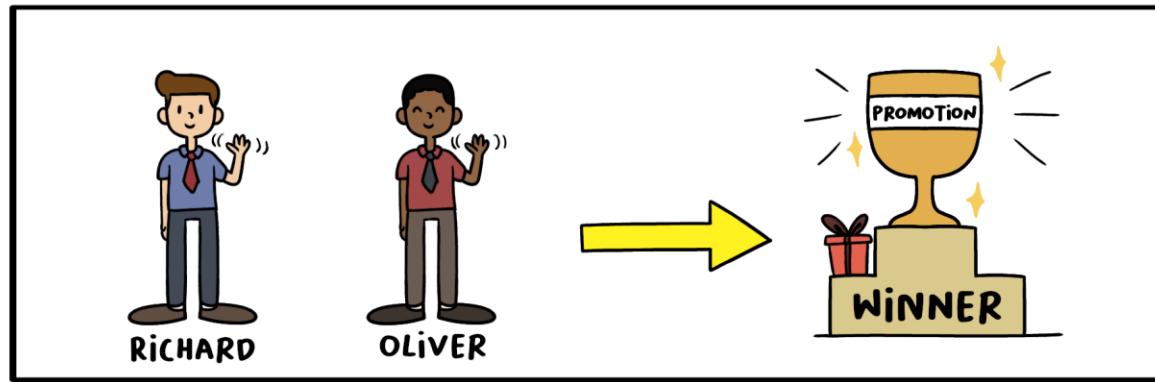
Meritorious: Effort / Hard work

Irrelevant: Circumstances
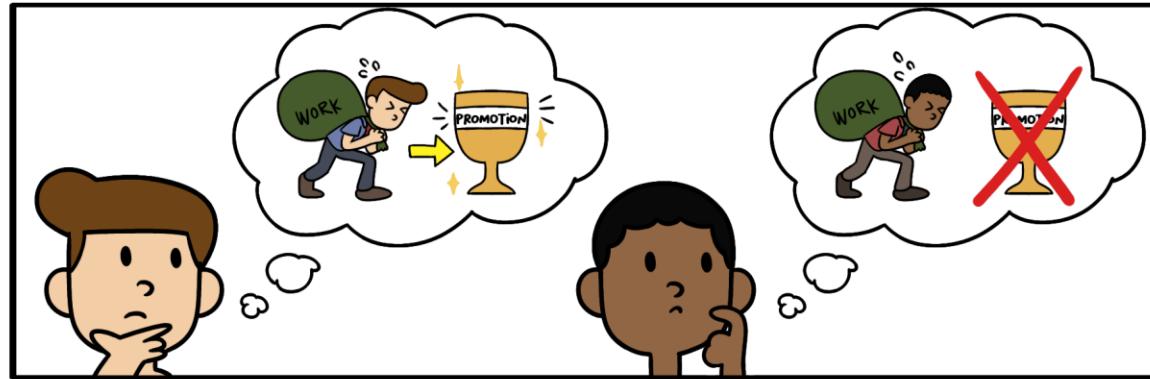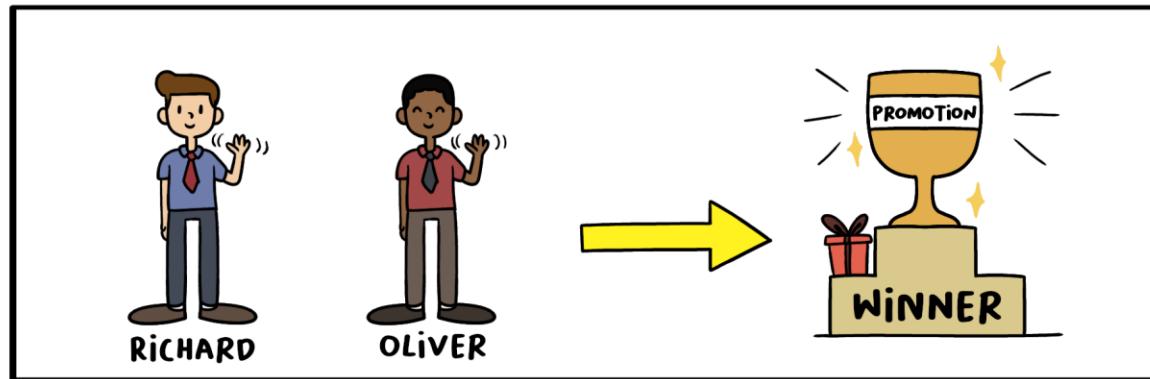
**But circumstances strongly shape (effort) choices.**

Racial discrimination in the labor market
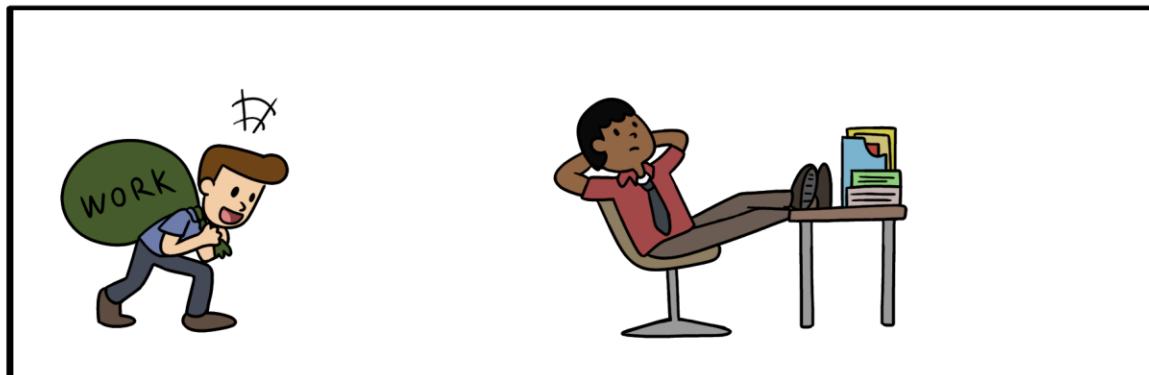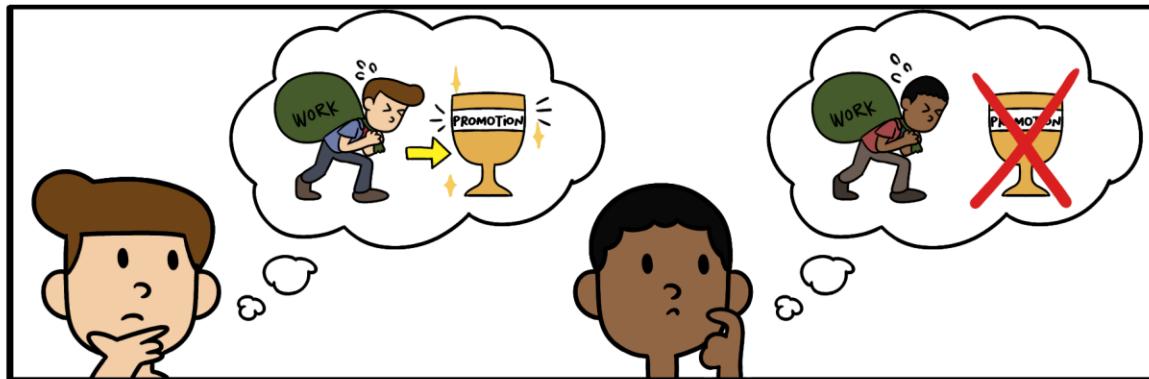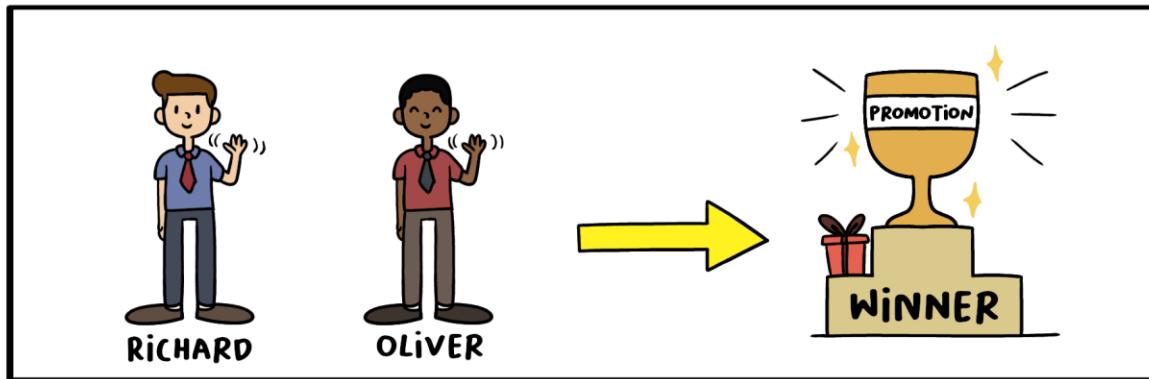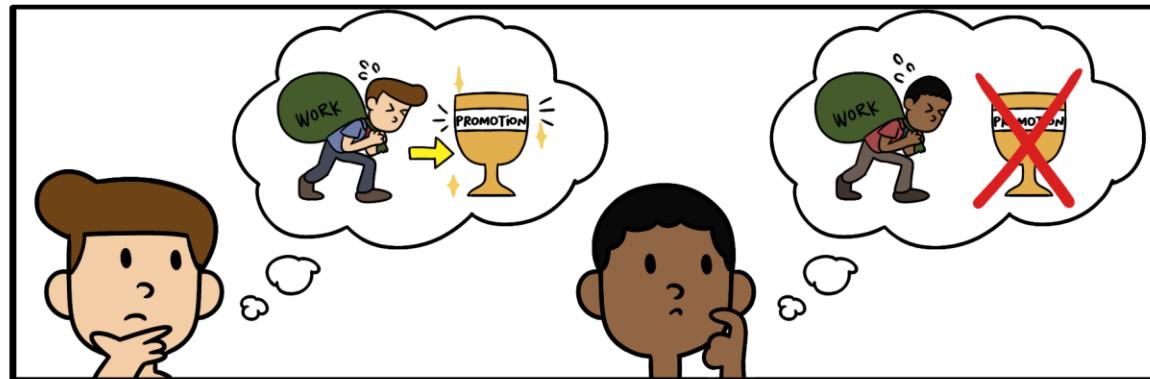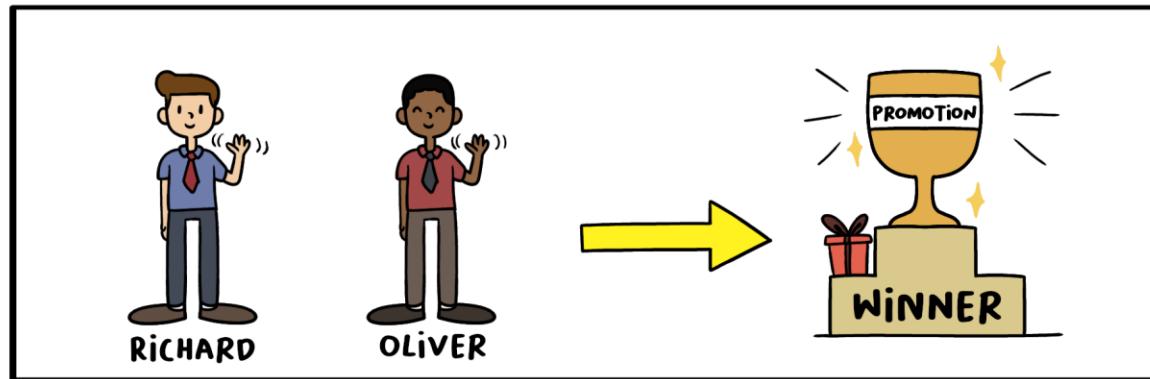
Racial discrimination in the labor market

# Racial discrimination in the labor market
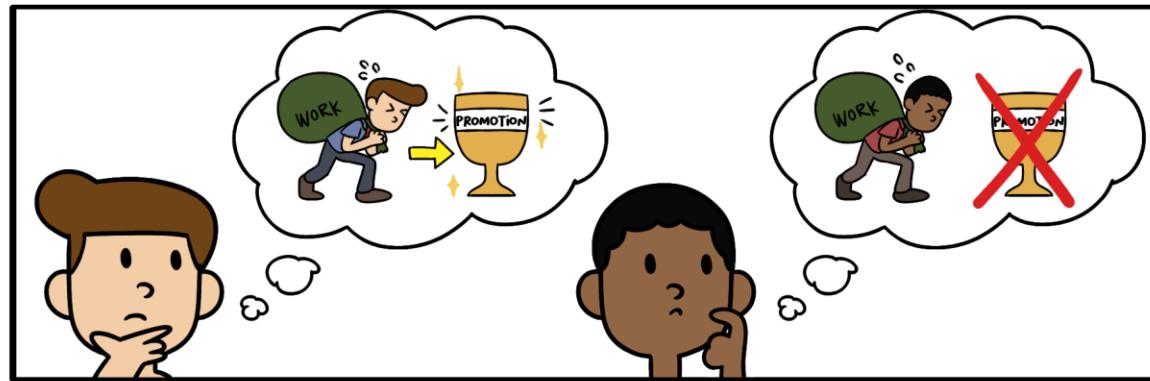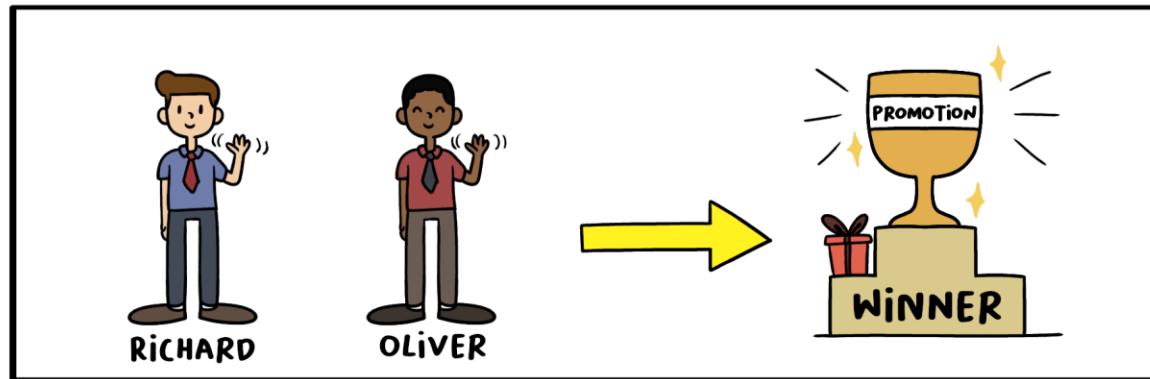
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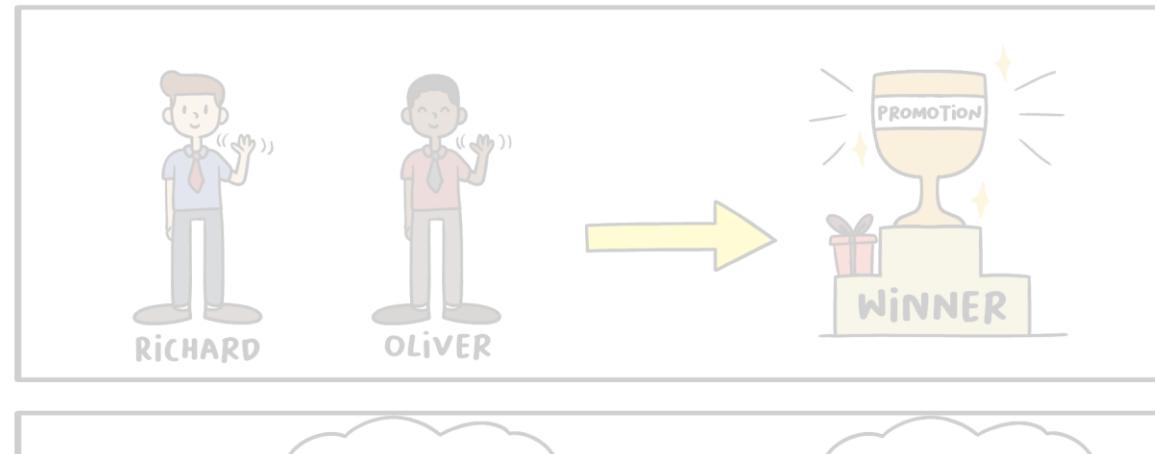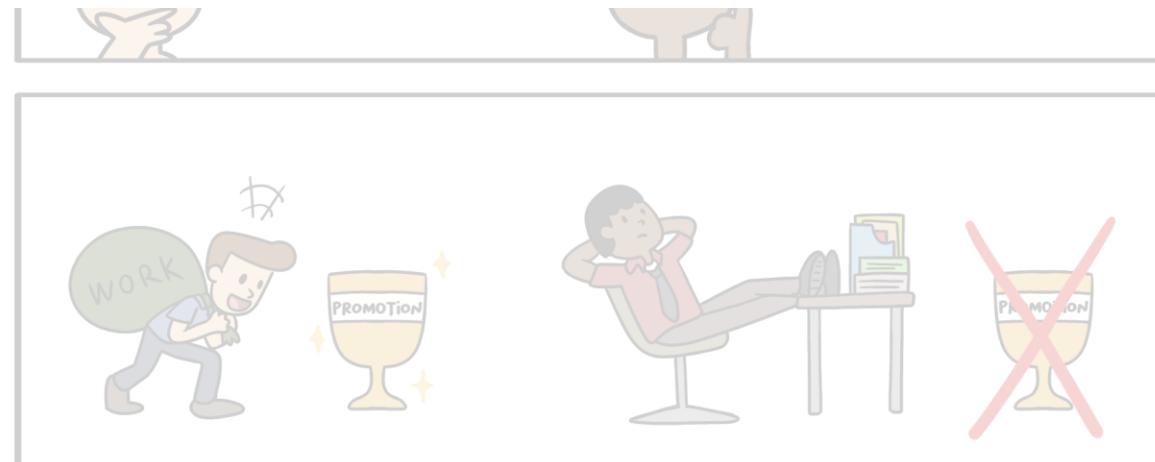
Racial discrimination in the labor market

Fair or unfair?

Do we hold others responsible for their choices even when these are shaped by circumstances?

Fair or unfair?

Related literature

Broad theme
Fairness views & attitudes towards inequality

(e.g., Alesina and Angeletos, 2005; Alesina and Fuchs-Schündeln, 2007; Alesina et al., 2018; Almås et al., 2010, 2020; Cappelen et al., 2007, 2013; Fehr and Schmidt, 1999; Fehr et al., 2022; Fisman et al., 2020; Giuliano and Spilimbergo, 2013; Hvidberg et al. 2022; Kuziemko et al., 2015, Stantcheva 2021)

Meritocratic fairness
Contribution: "Shallow Meritocracy"

(e.g., Almås et al., 2020; Bartling et al., 2018; Cappelen et al., 2007, 2010, 2013, 2020a; Krawczyk, 2010; Mollerstrom et al., 2015)

Moral luck and responsibility
Contribution: Circumstantial luck

(e.g., Baron and Hershey, 1988; Bartling and Fischbacher, 2012; Brownback and Kuhn, 2019; Falk et al., 2020, 2021; Gurdal et al., 2013; Nagel, 1979)
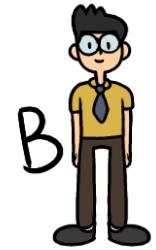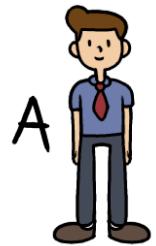
Inference
Contribution: Counterfactual reasoning

(**Economics**: Enke, 2020; Enke and Zimmermann, 2017; Esponda and Vespa, 2014, 2019; Graeber, 2021; Martínez-Marquina et al., 2019, Oprea, 2022)
**Psychology**: Byrne, 2002, 2016; Kahneman and Miller, 1986; Roese, 1997; Roese and Epstude, 2017)
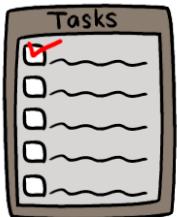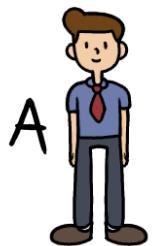
SETTING

Worker

Online crowd-working task (collect email addresses)
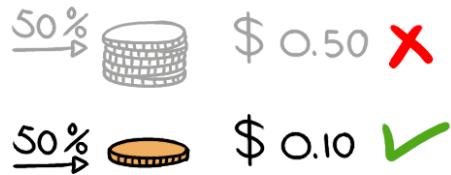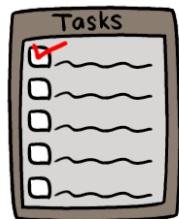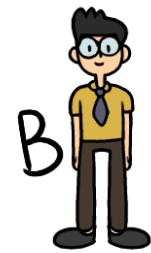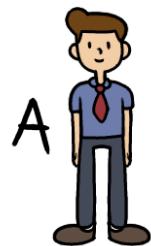
Worker

Online crowd-working task (collect email addresses)

Effort choice: number of tasks

SETTING

Worker
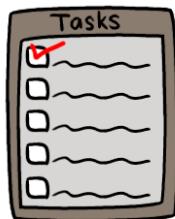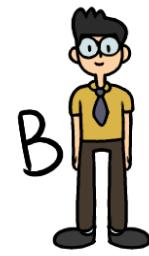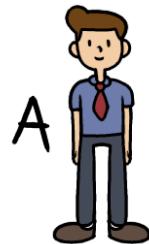
Online crowd-working task (collect email addresses)

Effort choice: number of tasks

Circumstance: random piece-rate
      A: $0.50   B: $0.10

SETTING

Worker

Online crowd-working task (collect email addresses)

Effort choice: number of tasks

Circumstance: random piece-rate
    A: $0.50   B: $0.10
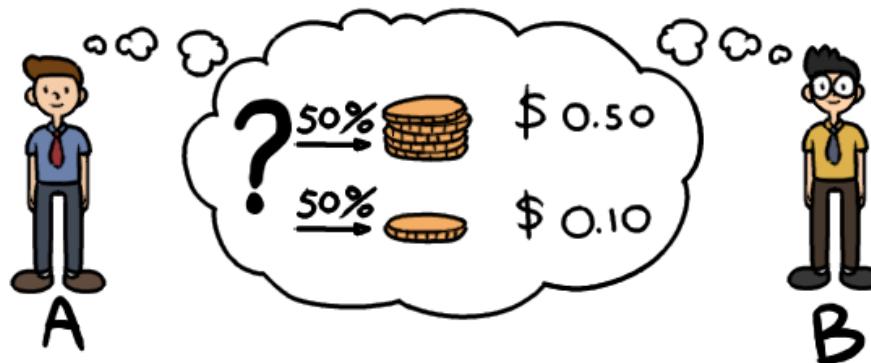
Spectator

Merit judgment: Reward effort choices.

1. **Observe** situation

2. **Redistribute** earnings (at no costs)

Control condition
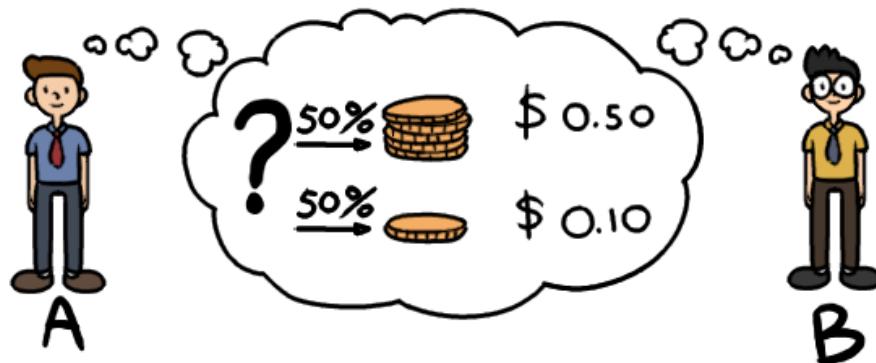
Both workers know: lottery.
Don't know their final rates.

Choices are comparable, made on level playing-field.

CONDITIONS

Control condition

Both workers know: lottery.
Don't know their final rates.

Choices are comparable, made on level playing-field.

Treatment condition

Worker A knows: $0.50.
Worker B knows: $0.10.

B's effort choice disadvantaged by circumstances.

CONTINGENT RESPONSE METHOD

Spectators make merit judgments in 8 scenarios:

For analysis

7 hypothetical scenarios
Constant across treatments

Effort share of worker B: e	0%	10%	30%	50%	70%	90%	100%
Effort of worker A	50	45	35	25	15	5	0
Effort of worker B	0	5	15	25	35	45	50

For incentives

1 real scenario
Varies across treatments

DECISION SCREEN

Control condition

	Rate prospects (known to worker)	Final rate (unknown to worker)		Completed tasks	Initial payment
Worker A	$0.10 or $0.50 50% chance for each	$0.50		**45 tasks** 90% of total work	**$22.50** 98% of total payment
Worker B	$0.10 or $0.50 50% chance for each	$0.10		**5 tasks** 10% of total work	**$0.50** 2% of total payment

Total payment: $23.00

Please split the total payment between both workers.
To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of **worker A**	0	%
Share of **worker B**	0	%
Total	0	%

PROCEDURES
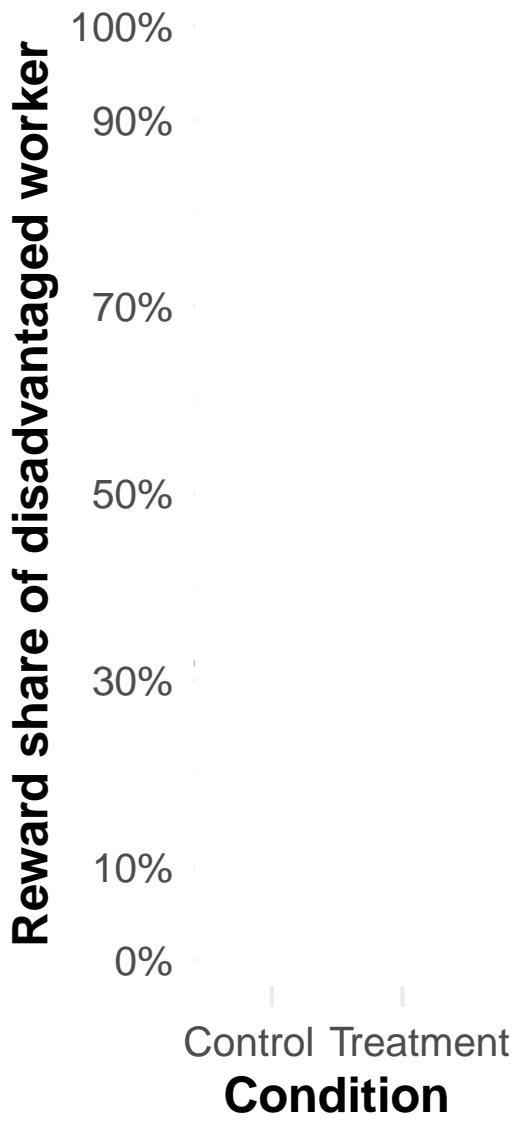
- **Between-subject manipulation**

- **Probabilistic incentivation**: 100 decisions implemented.

- **No deception**: Workers know that payoffs might change

- **Quiz** to ensure understanding of instructions

Spectator sample

- n=653

- **Representative for US**: gender, age, income, region

- Recruited via Lucid; June 2020

MAIN RESULT

(A) All scenarios

Reward share of disadvantaged worker (y-axis): 100%, 90%, 70%, 50%, 30%, 10%, 0%

Condition (x-axis): Control, Treatment
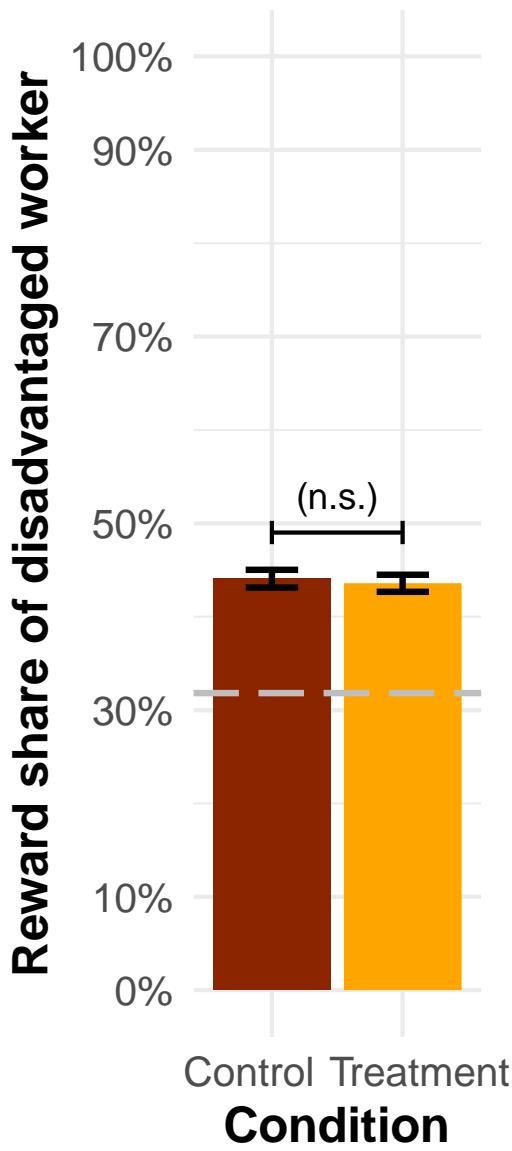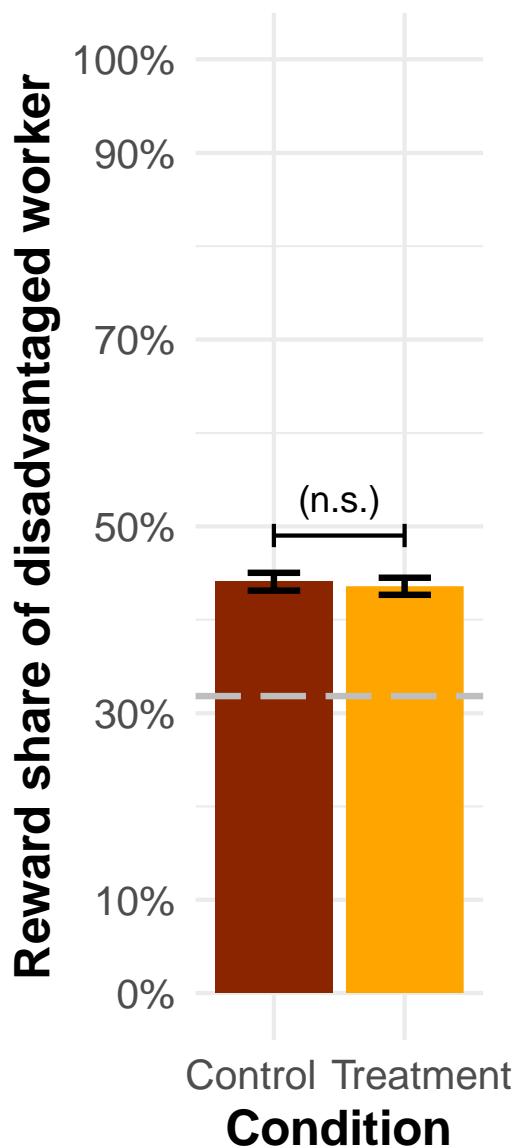
Main Result

(A) All scenarios

MAIN RESULT
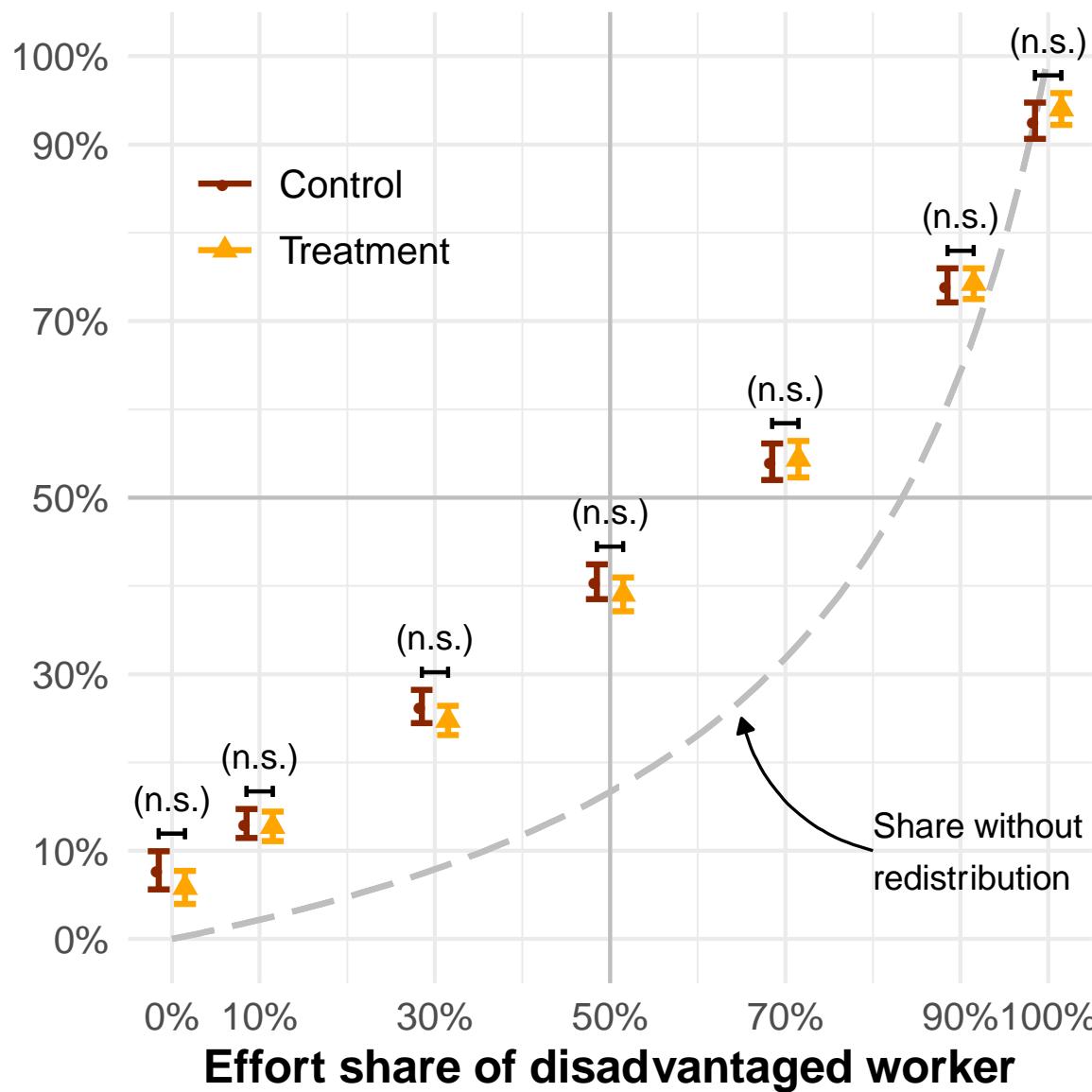
(A) All scenarios

(B) For each scenario

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

✗ No, their beliefs are accurate.

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

✘ No, their beliefs are accurate.

Lack of attention

Do spectators fail to pay attention?

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

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Do spectators fail to pay attention?

✗ No, same results in attention treatment (n=274).

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

✗ No, their beliefs are accurate.

Lack of attention

Do spectators fail to pay attention?

✗ No, same results in attention treatment (n=274).

Uncertainty of counterfactual

What would have happened on level playing field?
Counterfactual state is uncertain.

Behavioral mechanism

Fundamental attribution error

Do spectators underestimate the piece-rate effect?

✗ No, their beliefs are accurate.

Lack of attention

Do spectators fail to pay attention?

✗ No, same results in attention treatment (n=274).

Uncertainty of counterfactual

What would have happened on level playing field?
Counterfactual state is uncertain.

☑ People base merit on "hard" evidence: actual choices (n=945)

Counterfactual experiment (n=945)

Worker

Measure counterfactual effort choices.

Spectator
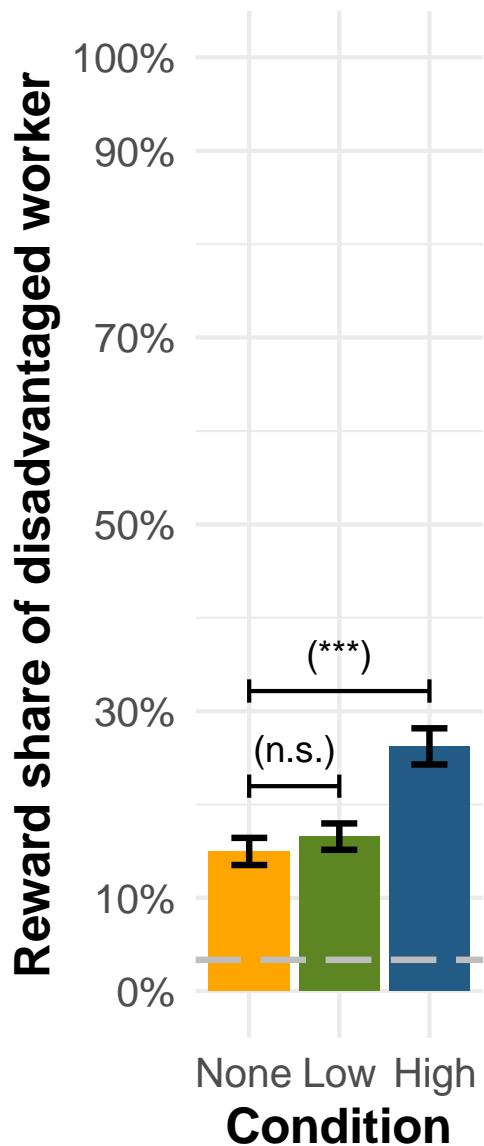
Between-subject manipulation.

Provide info: What if worker B had earned high rate?
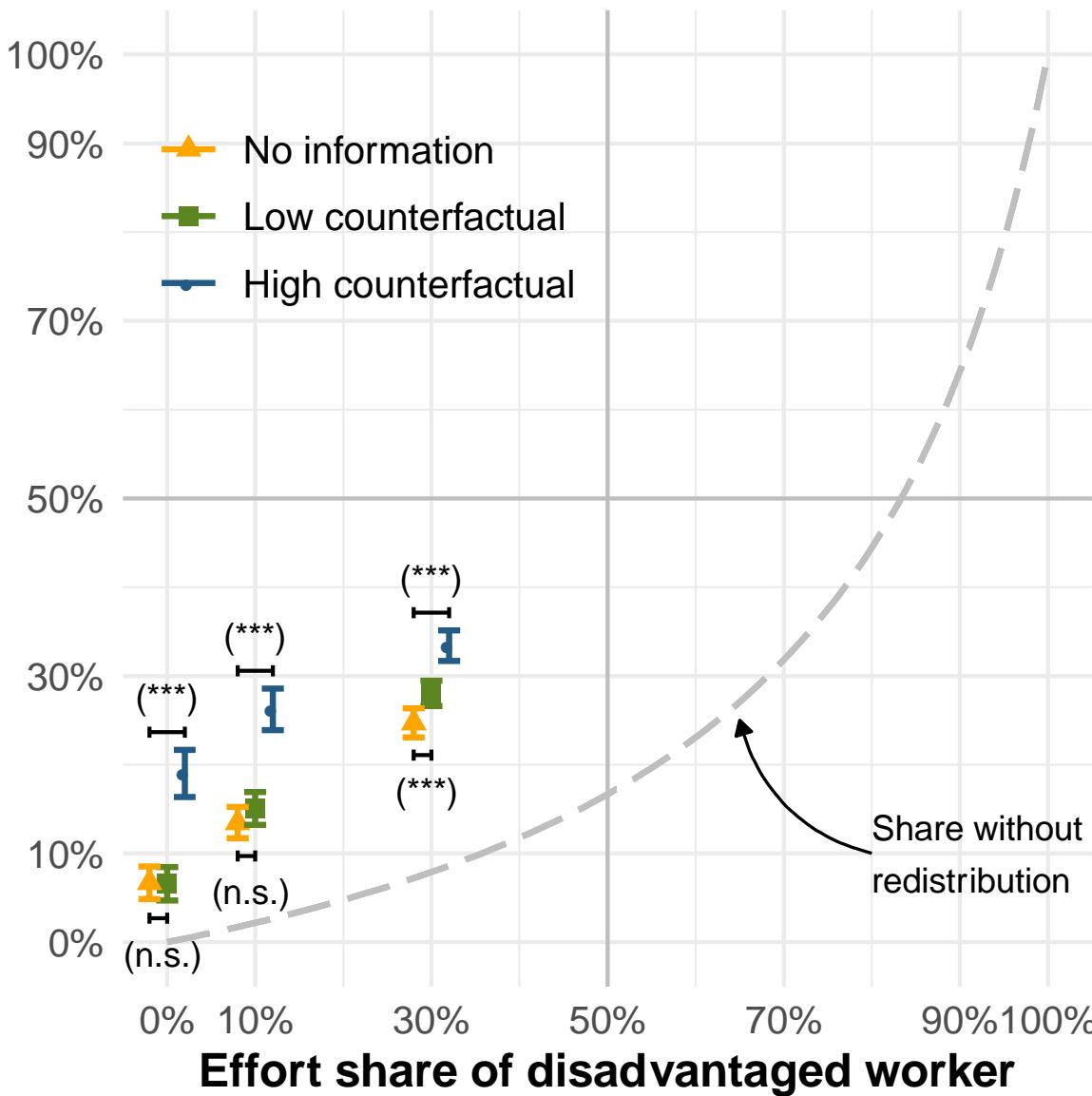
1. **Baseline**: No information.
2. **Low**: B would still be lazy.
3. **High**: B would work has hard as A.

COUNTERFACTUAL EXPERIMENT

(A) All scenarios

(B) For each scenario

Discussion

Meritocracy's promise: circumstances don't matter.

Study shows: full responsibility for choices that are strongly shaped by circumstances.

"Shallow" meritocracy: Choices launder circumstances.

Thank you!

sonja.settele@econ.ku.dk

Experimental design: prior belief elicitation

Experimental design: information treatment (T^{74})

Summary Statistics: Representativeness of the sample

	Mean: Representative Sample	Mean: U.S. population age 18-65
Northeast	0.18	0.18
Midwest	0.21	0.21
South	0.37	0.38
West	0.24	0.24
Age	42.03	41.05
Female	0.50	0.50
Male	0.50	0.50
Employed (full- or part-time or self-emp.)	0.71	0.71
Not employed (unempl., student, out of labor force)	0.29	0.29
Household inc < $50,000	0.39	0.39
Household inc. > $50,000	0.61	0.61
Democrat	0.33	0.33
Republican	0.27	0.26
Independent (including Indep. leaning Dem. or Rep.)	0.39	0.37

Representative sample: N=4,065
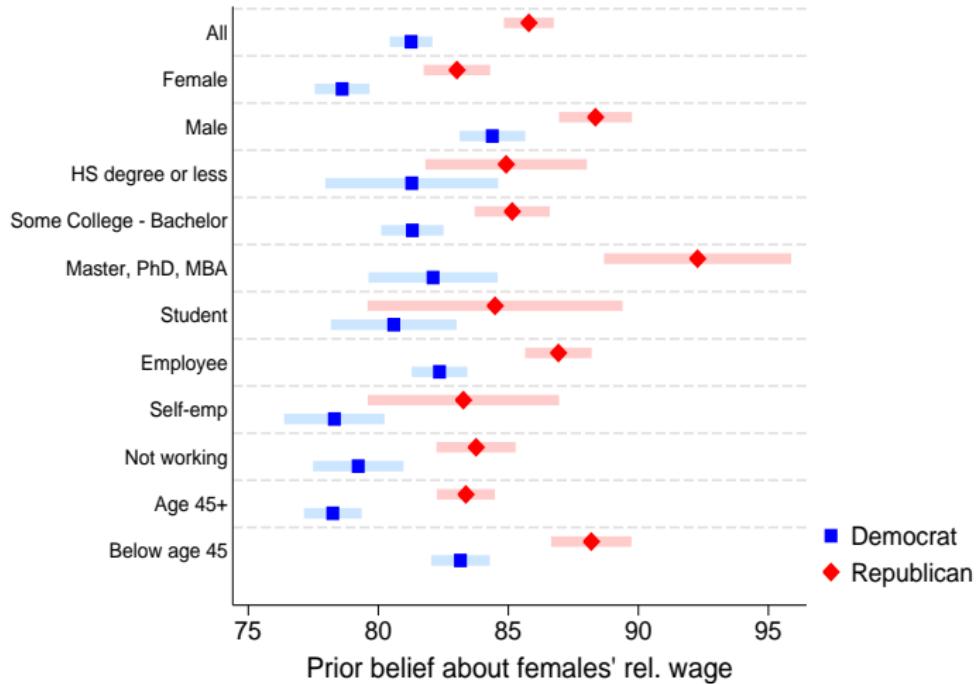
◄ Back

Gender differences in prior beliefs across groups

Partisan differences in prior beliefs across groups

Prior belief about females' rel. wage

Causal evidence: Manipulation Check

	Gender diff. in wages are large	Gender diff. in wages are a problem	Government should promote gender wage equality	Perception Index
	(1)	(2)	(3)	(4)
T^{74}	0.604***	0.425***	0.245***	0.421***
	(0.036)	(0.036)	(0.036)	(0.033)
Sharpened q-value	[0.001]	[0.001]	[0.001]	
Female	0.238***	0.301***	0.311***	0.280***
	(0.037)	(0.036)	(0.036)	(0.033)
Democrat	0.532***	0.664***	0.810***	0.672***
	(0.041)	(0.041)	(0.041)	(0.037)
Observations	3031	3031	3031	3031

Sample: Treatment groups. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: Age group, census region, pol. orientation (Independent and "other"), has children, log hh income, has 2-year college degree or more, works full-time, part-time, self-employed, unemployed, student, survey wave.

◂ Back

Causal evidence: Demand for specific policies

	Introduce gender quotas	Statutory affirmative action	Stricter equal pay legislation	Wage transpareny within companies	Introduce reporting website	Increase subsidies to child care	Index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
T[74]	0.056	0.112***	0.115***	-0.015	0.098	0.003	0.056**
	(0.036)	(0.034)	(0.035)	(0.042)	(0.063)	(0.035)	(0.025)
Sharpened q-value	[0.136]	[0.003]	[0.003]	[0.413]	[0.136]	[0.455]	
Female	0.254***	0.179***	0.237***	0.197***	0.310***	0.112***	0.203***
	(0.037)	(0.035)	(0.036)	(0.044)	(0.063)	(0.036)	(0.026)
Democrat	0.559***	0.669***	0.618***	0.565***	0.596***	0.578***	0.594***
	(0.041)	(0.040)	(0.040)	(0.048)	(0.074)	(0.040)	(0.029)
Observations	3031	3031	3031	2012	1019	3031	3031
Corr. prior belief (lower bound)	0.064*	0.141***	0.098***	0.172***	0.098**	0.120***	0.109***
Corr. prior belief (upper bound)	0.113*	0.247***	0.172***	0.301***	0.171**	0.210***	0.191***

Sample: Treatment groups. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: Survey wave, age group, census region, pol. orientation (Independent and "other"), has children, log hh income, has 2-year college degree or more, works full-time, part-time, self-employed, unemployed, student.

◂ Back

Beliefs about the GWG and related perceptions

	Gender diff. in wages are large	Gender diff. in wages are a problem	Government should promote gender wage equality	Perception Index
	(1)	(2)	(3)	(4)
Prior (z-scored)	-0.739***	-0.760***	-0.509***	-0.647***
	(0.069)	(0.067)	(0.069)	(0.062)
Democrat	0.513***	0.600***	0.730***	0.620***
	(0.069)	(0.068)	(0.072)	(0.063)
Female	0.115*	0.209***	0.115*	0.132**
	(0.060)	(0.059)	(0.061)	(0.053)
Observations	921	921	921	921

Sample: Pure control group with prior beliefs between the 5th and the 95th percentile of the distribution. All outcomes and the variable "prior" are z-scored based on the full control group-sample. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: Pol. orientation (Independent and "other"), survey wave, census region, age group, parent, log of total household income, at least two-year college degree, full-time employee, part-time employee, self-employed, unemployed, student.

◄ Back

Beliefs about the GWG and policy demand

	Introduce gender quotas	Statutory affirmative action	Stricter equal pay legislation	Wage transpareny within companies	Introduce reporting website	Increase subsidies to child care	Index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Prior (z-scored)	-0.122*	-0.266***	-0.185***	-0.324***	-0.184**	-0.226***	-0.205***
	(0.067)	(0.069)	(0.068)	(0.097)	(0.092)	(0.069)	(0.049)
Democrat	0.659***	0.699***	0.671***	0.645***	0.476***	0.574***	0.627***
	(0.073)	(0.075)	(0.072)	(0.104)	(0.102)	(0.074)	(0.051)
Female	0.239***	0.142**	0.324***	0.359***	0.460***	0.199***	0.270***
	(0.065)	(0.065)	(0.064)	(0.088)	(0.087)	(0.066)	(0.045)
Observations	921	921	921	443	478	921	921

Sample: Pure control group with prior beliefs between the 5th and the 95th percentile of the distribution. All outcomes and the variable "prior" are z-scored based on the full control group-sample. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: Pol. orientation (Independent and "other"), survey wave, census region, age group, parent, log of total household income, at least two-year college degree, full-time employee, part-time employee, self-employed, unemployed, student.

◂ Back

Posterior Beliefs

	High school Degree	Age 25	Same Occupation	Parent	Same job	Posterior (pooled)
	(1)	(2)	(3)	(4)	(5)	(6)
T^{74}	-12.993***	-11.386***	-13.699***	-15.380***	-11.995***	-12.951***
	(1.404)	(1.148)	(1.148)	(1.320)	(1.487)	(0.579)
Female	-1.787	-2.046*	0.451	-4.169***	-1.439	-1.598***
	(1.533)	(1.207)	(1.278)	(1.322)	(1.411)	(0.606)
Democrat	-0.076	0.534	0.824	-1.042	-0.629	0.022
	(1.725)	(1.411)	(1.292)	(1.725)	(1.594)	(0.688)
Prior	0.414***	0.379***	0.439***	0.412***	0.224***	0.379***
	(0.062)	(0.062)	(0.066)	(0.062)	(0.063)	(0.029)
Observations	676	670	657	496	523	3022

Notes: Sample: Treatment groups. Columns 1 - 3 (4 - 5) are based on wave A (wave B). All outcomes are measured on a scale between 0 and 200. Column 6 pools the outcomes from columns 1-5 and controls for 5 dummies representing the specific outcomes. Robust standard errors are in parenthesis. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct. level. Additional controls included.

◄ Back

Posterior Beliefs: Heterogenous treatment effect

	High school Degree	Age 25	Same Occupation	Parent	Same job	Posterior (pooled)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Het. by gender						
T^{74}	-12.951***	-9.746***	-14.276***	-14.774***	-9.880***	-12.152***
	(1.945)	(1.711)	(1.717)	(2.397)	(2.148)	(0.871)
T^{74} x Female	-0.085	-3.366	1.118	-1.119	-4.021	-1.554
	(2.804)	(2.329)	(2.461)	(2.970)	(2.833)	(1.185)
p-value $[T^{74} + T^{74} \times \text{Female}]$	0.000	0.000	0.000	0.000	0.000	0.000
Female	-1.744	-0.300	-0.071	-3.603*	0.630	-0.819
	(1.912)	(1.472)	(1.554)	(1.986)	(1.979)	(0.788)
Democrat	-0.075	0.562	0.791	-1.016	-0.761	0.035
	(1.727)	(1.410)	(1.297)	(1.728)	(1.602)	(0.688)
Prior	0.414***	0.379***	0.439***	0.412***	0.223***	0.379***
	(0.063)	(0.062)	(0.066)	(0.062)	(0.062)	(0.029)
Observations	676	670	657	496	523	3022
Panel B: Het. by pol. orientation						
T^{74}	-14.182***	-10.803***	-17.548***	-16.506***	-9.948***	-13.910***
	(2.380)	(1.828)	(1.812)	(2.758)	(1.996)	(0.960)
T^{74} x Democrat	3.129	0.480	5.978**	0.978	-4.624	1.715
	(3.183)	(2.649)	(2.410)	(3.406)	(3.075)	(1.304)
p-value $[T^{74} + T^{74} \times \text{Democrat}]$	0.000	0.000	0.000	0.000	0.000	0.000
T^{74} x Independent	-1.472	-4.626	8.617**	2.500	0.673	1.458
	(4.284)	(3.141)	(3.597)	(3.831)	(3.903)	(1.629)
p-value $[T^{74} + T^{74} \times \text{Indep.}]$	0.000	0.000	0.003	0.000	0.007	0.000
Female	-1.715	-1.846	-0.003	-4.038***	-1.610	-1.628***
	(1.581)	(1.214)	(1.251)	(1.344)	(1.440)	(0.609)
Democrat	-1.730	0.318	-1.867	-1.664	1.867	-0.830
	(2.081)	(1.725)	(1.515)	(2.514)	(2.436)	(0.886)
Independent	1.805	2.460	-3.613**	-0.846	0.708	-0.310
	(3.206)	(2.360)	(1.803)	(2.780)	(2.584)	(1.131)
Prior	0.411***	0.378***	0.415***	0.410***	0.227***	0.372***
	(0.063)	(0.063)	(0.066)	(0.063)	(0.062)	(0.029)
Observations	662	660	643	487	513	2965

◂ Back

Het. Belief Updating by Gender (T^{74}-T^{94}-C)

	High school Degree	Age 25	Same Occupation	Parent	Same job	Posterior (pooled)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Avg. Treatment Effect						
T^{74}	-6.637***	-1.999	-3.406**	-6.856***	-5.830***	-5.152***
	(2.150)	(1.837)	(1.454)	(1.418)	(1.420)	(0.720)
T^{94}	6.581***	9.397***	10.315***	8.192***	5.566***	7.808***
	(2.035)	(1.778)	(1.374)	(1.402)	(1.497)	(0.698)
Panel B: Het by Gender						
T^{74}	-6.398**	0.343	-4.912**	-3.988*	-4.347*	-4.135***
	(3.236)	(2.898)	(2.181)	(2.366)	(2.246)	(1.094)
T^{74} x Female	-0.518	-4.564	3.005	-5.670**	-2.874	-2.014
	(4.226)	(3.679)	(2.952)	(2.857)	(2.839)	(1.419)
T^{94}	6.821**	9.777***	9.276***	10.574***	5.103**	8.035***
	(3.055)	(2.637)	(2.141)	(2.344)	(2.134)	(1.034)
T^{94} x Female	-0.529	-0.534	2.084	-4.578	1.067	-0.446
	(4.082)	(3.404)	(2.737)	(2.818)	(3.057)	(1.364)
Female	-0.838	0.743	-2.119	1.100	0.748	0.020
	(3.571)	(3.083)	(2.215)	(2.039)	(2.120)	(1.107)
Prior	0.470***	0.392***	0.443***	0.523***	0.404***	0.447***
	(0.061)	(0.059)	(0.057)	(0.053)	(0.062)	(0.027)
Observations	825	834	838	765	790	4052
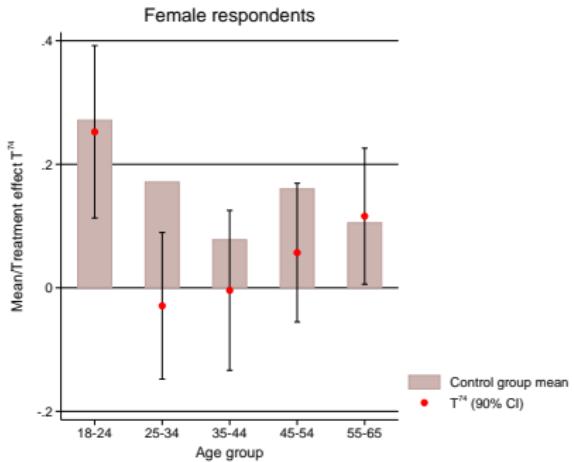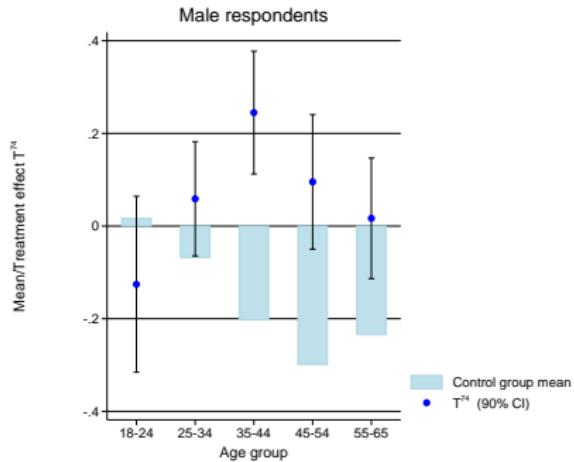
◂ Back

Het. Belief Updating Dem.-Rep. (T^{74}-T^{94}-C)

	High school Degree	Age 25	Same Occupation	Parent	Same job	Posterior (pooled)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Avg. Treatment Effect						
T^{74}	-7.073***	-0.517	-3.390**	-6.793***	-5.485***	-4.793***
	(2.499)	(1.917)	(1.678)	(1.670)	(1.542)	(0.812)
T^{94}	5.528**	9.959***	10.926***	9.289***	6.688***	8.161***
	(2.359)	(1.874)	(1.578)	(1.658)	(1.653)	(0.786)
Panel B: Het by pol. attitude						
T^{74}	-4.810	0.207	-1.173	-5.936***	-5.430***	-3.373***
	(3.660)	(2.427)	(2.190)	(2.218)	(2.055)	(1.103)
T^{74} * Republican	-4.765	-1.815	-4.842	-1.882	-0.249	-3.206**
	(4.833)	(3.881)	(3.338)	(3.475)	(2.896)	(1.612)
T^{94}	6.582*	10.616***	10.247***	9.976***	8.543***	8.882***
	(3.580)	(2.294)	(1.993)	(2.121)	(2.639)	(1.065)
T^{94} x Republican	-2.035	-1.643	1.625	-1.489	-4.081	-1.654
	(4.592)	(3.734)	(3.083)	(3.370)	(3.176)	(1.525)
Republican	3.319	1.223	0.384	2.953	1.636	2.145*
	(4.228)	(3.331)	(2.741)	(2.509)	(2.050)	(1.272)
Prior	0.465***	0.393***	0.426***	0.493***	0.427***	0.441***
	(0.067)	(0.064)	(0.064)	(0.062)	(0.072)	(0.030)
Observations	675	674	678	601	629	3257

◄ Back

Heterogeneity in the treatment effect by gender x age

Outcome variable for both graphs: Index of self-reported policy demand

◀ Back to treat. effect

Heterogeneity in the treatment effect

	Introduce gender quotas	Statutory affirmative action	Stricter equal pay legislation	Wage transparency within companies	Introduce reporting website	Increase subsidies to child care	Index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Het. by gender							
T^{74}	0.109**	0.113**	0.114**	-0.004	0.109	-0.007	0.068*
	(0.053)	(0.052)	(0.052)	(0.063)	(0.097)	(0.050)	(0.038)
T^{74} x Female	-0.106	0.010	0.020	-0.016	0.021	0.038	-0.009
	(0.071)	(0.068)	(0.070)	(0.085)	(0.123)	(0.069)	(0.050)
p-value $[T^{74} + T^{74} \times female]$	0.949	0.006	0.004	0.721	0.087	0.505	0.074
Female	0.310***	0.174***	0.227***	0.201***	0.294***	0.092*	0.207***
	(0.051)	(0.050)	(0.049)	(0.060)	(0.050)	(0.050)	(0.036)
Democrat	0.547***	0.658***	0.596***	0.559***	0.578***	0.570***	0.581***
	(0.040)	(0.039)	(0.040)	(0.048)	(0.070)	(0.039)	(0.028)
Observations	3031	3031	3031	2012	1019	3031	3031
Panel B: Het. by pol. orientation							
T^{74}	0.113*	0.084	-0.023	-0.028	0.140	-0.106*	0.015
	(0.061)	(0.061)	(0.060)	(0.074)	(0.111)	(0.061)	(0.045)
T^{74} x Democrat	-0.071	0.037	0.253***	-0.005	-0.017	0.146*	0.070
	(0.079)	(0.077)	(0.078)	(0.095)	(0.137)	(0.078)	(0.056)
p-value $[T^{74} + T^{74} \times Dem.]$	0.404	0.011	0.000	0.580	0.127	0.405	0.012
T^{74} x Independent	-0.124	0.083	0.213**	0.097	0.009	0.298***	0.107
	(0.106)	(0.103)	(0.099)	(0.126)	(0.184)	(0.103)	(0.075)
p-value $[T^{74} + T^{74} \times Indep.]$	0.894	0.043	0.018	0.502	0.312	0.020	0.043
Female	0.253***	0.174***	0.232***	0.195***	0.296***	0.105***	0.199***
	(0.037)	(0.035)	(0.036)	(0.044)	(0.063)	(0.036)	(0.026)
Democrat	0.592***	0.647***	0.495***	0.570***	0.604***	0.510***	0.560***
	(0.057)	(0.055)	(0.054)	(0.054)	(0.064)	(0.056)	(0.040)
Independent	0.221***	0.208***	0.126*	0.191**	0.231*	-0.047	0.135**
	(0.078)	(0.076)	(0.073)	(0.094)	(0.133)	(0.075)	(0.056)
Observations	2974	2974	2974	1974	1000	2974	2974

Other Heterogeneity in the treatment effect

|	Demand for government intervention (index)					
	(1)	(2)	(3)	(4)	(5)	(6)
T^{74} (a)	0.058	0.054	0.027	0.039	0.044	0.049
	(0.037)	(0.038)	(0.034)	(0.036)	(0.028)	(0.036)
$T^{74} \times$ (b) Age < 45	0.006 (0.050)					
$T^{74} \times$ (b) Associate +		0.013 (0.050)				
$T^{74} \times$ (b) Bachelor +			0.070 (0.050)			
$T^{74} \times$ (b) Full-time working				0.043 (0.050)		
$T^{74} \times$ (b) Labor inc. above 75th pctl.					0.069 (0.059)	
$T^{74} \times$ (b) Any children						0.024 (0.050)
Pr(a+b)=0	0.054	0.039	0.007	0.018	0.028	0.033
Effect of (b)	0.087*	-0.002	-0.098**	0.001	0.025	0.096**
	(0.048)	(0.038)	(0.048)	(0.047)	(0.046)	(0.038)
Observations	3031	3031	3031	3031	3031	3031

◂ Back

Persistence of the treatment effect

	Posterior belief about size of GWG	GWG is a problem	Women's wages are fair	Demand for more gvmt. intervention	Demand for more anti-disc. policy	Demand for more supportive policy
	(1)	(2)	(3)	(4)	(5)	(6)
T[74]	-10.734***	0.188***	-0.128**	0.180***	0.092	0.148***
	(1.182)	(0.057)	(0.055)	(0.056)	(0.057)	(0.056)
Sharpened q-value	[0.001]	[0.002]	[0.011]	[0.002]	[0.024]	[0.006]
Female	-2.368*	0.273***	-0.162***	0.173***	0.219***	0.186***
	(1.244)	(0.060)	(0.057)	(0.058)	(0.059)	(0.059)
Democrat	0.513	0.550***	-0.476***	0.687***	0.681***	0.671***
	(1.331)	(0.064)	(0.063)	(0.063)	(0.063)	(0.063)
Independent	1087	1102	1102	1102	1102	1102

Sample: Follow-up sample (treatment groups). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: Age group, census region, pol. orientation (Independent and "other"), has children, log hh income, has 2-year college degree or more, works full-time, part-time, self-employed, unemployed, student, prior belief about GWG, survey wave.

◂ Back

Petition I on White House petition website

Costly outcome measures

Signatures Petition I (increase reporting)

Notes: This graph is based on the number of actual signatures made by respondents in either of the two treatment groups. The height of the bars represents the fraction of respondents per group that signed petition I in favor of increasing reporting requirements for companies. Whiskers show the 95% confidence intervals around the estimated mean fractions. The bars for the full sample (N=3,031) for men (N=1,467) and for women (N=1,564) are based on wave A and wave B. The bars on Democrats (N=897) and Non-Democrats (N=1,115) are based on wave A only.

◀ Back

Petition II on White House petition website

Costly outcome measures

Signatures Petition II (abolish reporting)

Notes: This graph is based on the number of actual signatures made by respondents in either of the two treatment groups. The height of the bars represents the fraction of respondents per group that signed petition II in favor of abolishing reporting requirements for companies. Whiskers show the 95% confidence intervals around the estimated mean fractions. The bars for the full sample (N=3,031) for men (N=1,467) and for women (N=1,564) are based on wave A and wave B. The bars on Democrats (N=897) and Non-Democrats (N=1,115) are based on wave A only.

◄ Back

Behavioral Measures: Donation AAUW

✱By taking this survey, you are automatically enrolled in a **lottery to win $300**. In a few days you will know whether you won the $300.

You now get to decide how much of the $300 you want to **donate** to the **American Association of University Women** and how much to **keep** in case you win the lottery.

The **American Association of University Women** (AAUW) is an NGO that advocates public policy in order to advance **equity of women and men in the labor market**. Moreover, it **supports girls' and women's education financially and intellectually** and provides **case support** to women facing **discrimination at the workplace**.

For every Dollar you donate to AAUW, **we will donate another $0.5** in addition. If you are the winner of the lottery, you will be notified and you will **receive $300 minus the amount you donated** via the survey platform. No further action is required on your part. You will also receive a **proof of the donation** made to AAUW. (This proof will be sent by the survey platform provider, so we will never know your identity.)

Please let us know how much you would like to **donate to AAUW** by filling in your **preferred donation amount** in the following field. (Please note, your answer must be a **whole number** between 0 and 300.):
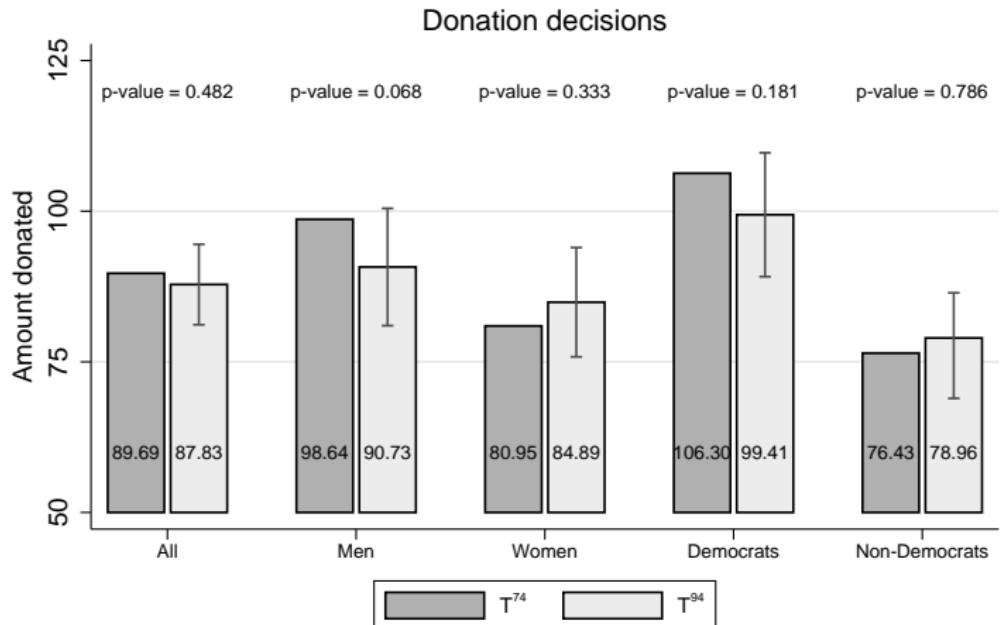
50|

You decided to **donate $50** to AAUW and to have the remaining **$250 added to your payoff**. Together with our subsidy the **total amount donated** will be **$75** in case you win the lottery.

You can still adjust your donation decision above. Click "next" in order to confirm your decision and continue.

◀ Back

Donation Decisions

Donation decisions

Notes: Donations take on values between 0 and 300. Whiskers show the 95% confidence interval calculated from a regression of the outcome on an indicator for T94 using robust standard errors and controlling for survey wave, prior belief, census region, age group, parental status, log of household income, associate degree or more, full-time, part-time, self-, and unemployed, student, and, when applicable, gender and political orientation.

◂ Back

Accounting for the partisan difference in policy demand

- Treatment effect ($T^{74} - T^{94}$) on policy demand: 0.12 s.d.

- Treatment effect on posterior beliefs $\approx$ \$13

- Partisan difference in beliefs about the GWG: 4\$

- 4/13 * 0.12 s.d. = 0.04 s.d., corresponding to approximately **6%** of the partisan difference (0.06 s.d.) in policy demand

‹ Back

The role of beliefs about the GWG in explaining gender differences in policy demand

- How much of the difference in policy preferences between men and women (0.3 s.d.), can the causal effect of beliefs about the GWG account for?

    - Difference in prior beliefs between men and women: 1.8$

    - 1.8/13 * 0.12 = 0.016, corresponding to approximately **5%** of the gender difference in policy preferences

‹ Back

Evidence of motivated information acquisition

	Willingness to pay for progressive info				Willingness to pay for traditional info		
	(1)	(2)	(3)		(1)	(2)	(3)
T^{94}	-0.001 (0.036)	-0.050 (0.050)	-0.015 (0.048)	T^{74}	-0.083** (0.036)	-0.111** (0.048)	-0.114*** (0.043)
T^{94} x female		0.098 (0.071)		T^{74} x male		0.056 (0.071)	
T^{94} x Democrat			0.032 (0.072)	T^{74} x Republican			0.084 (0.076)
Female	0.036 (0.037)	-0.013 (0.051)	0.036 (0.037)	Male	0.219*** (0.037)	0.191*** (0.053)	0.218*** (0.037)
Democrat	0.407*** (0.037)	0.407*** (0.037)	0.391*** (0.051)	Republican	0.167*** (0.039)	0.166*** (0.039)	0.124** (0.056)
Observations	3024	3024	3024	Observations	3024	3024	3024

Notes: The outcome variables are standardized using the mean and standard deviation from the control group. Robust standard errors are in parenthesis. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct. level. Those with other political orientation are included in the omitted group (Republican in the case of Columns (1)-(3) and Democrat in the case of Columns (4)-(6)). Additional controls: census region, age group, has children, log household income, has at least 2-year college degree, full-time, part-time employment, self-employed and unemployed, prior belief.

◀ Back

Order of magnitude of the causal effect

	age 25	HS degree	same occu.	same job	parent	average
			Outcome: (Incentivized) beliefs about the size of the GWG			
Panel A: Correlations						
Female	-0.973	-0.202	-5.134*	0.144	-0.899	1.413
	(3.531)	(4.710)	(2.748)	(2.591)	(2.734)	
Democrat	-5.015	-5.894	-3.106	-1.969	-4.017	4.000
	(3.609)	(5.394)	(3.363)	(2.803)	(3.137)	
Observations	164	149	181	267	269	1030
Panel B: Treatment effect						
T^{74}	-11.386***	-12.993***	-13.699***	-11.882***	-15.354***	13.063
	(1.148)	(1.404)	(1.148)	(1.535)	(1.341)	
Observations	670	676	657	523	496	3022

Sample for Panel A: Pure control group. Sample for Panel B: Treatment groups. Robust standard errors are in parenthesis. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct. level. Additional controls in Panel A: Independent and "other" pol. orientation. Additional controls in Panel B: Independent and "other" pol. orientation, Democrat, census region of residence, age group, has children, log household income, has at least 2-year college degree, full-time, part-time employment, self-employed, unemployed, student, prior belief.

◄ Back

Order of magnitude of the causal effect

|	Affirmative Action	Equal Pay Legislation	Public Website	Average
Treatment effect T^{74}	0.118	0.126	0.118	0.12
Dem. - Rep. difference in policy demand	0.703	0.641	0.536	0.63
Predicted causal effect of Dem. - Rep. difference in prior belief about the GWG	4/13 * 0.118= 0.036	4/13 * 0.126= 0.039	4/13 * 0.118 = 0.036	0.037
Share of Dem. - Rep. difference in policy demand that is explained by causal effect of Dem. - Rep. diff. in prior	0.036 / 0.703 = 0.05	0.039/0.641 = 0.06	0.036/0.536= 0.07	0.06
Gender difference in policy demand	0.179	0.311	0.404	0.30
Predicted causal effect of gender difference in prior belief about the GWG	1.4/13 * 0.118= 0.013	1.4/13 * 0.126= 0.014	1.4/13 * 0.118= 0.013	0.013
Share of gender difference in policy demand that is explained by causal effect of gender diff. in prior belief	0.013/0.179= 0.07	0.014/0.311= 0.05	0.013/0.404= 0.03	0.05
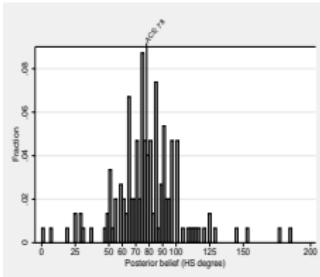
◂ Back

# Correlation between prior beliefs about the GWG and related perceptions
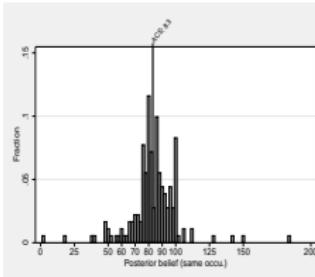
	Gender diff. in wages are large	Gender diff. in wages are a problem	Government should promote gender wage equality	Perception Index
	(1)	(2)	(3)	(4)
Panel A: Priors only				
Prior	-0.166***	-0.188***	-0.117***	-0.150***
	(0.041)	(0.041)	(0.036)	(0.036)
Observations	1034	1034	1034	1034
Panel B: Additional controls				
Prior	-0.137***	-0.154***	-0.082**	-0.117***
	(0.039)	(0.039)	(0.034)	(0.034)
Female	0.162***	0.233***	0.175***	0.181***
	(0.059)	(0.058)	(0.059)	(0.053)
Democrat	0.532***	0.618***	0.729***	0.630***
	(0.068)	(0.068)	(0.068)	(0.061)
Independent	0.061	0.140	0.248***	0.154*
	(0.093)	(0.092)	(0.093)	(0.084)
Observations	1034	1034	1034	1034

Sample: Pure control group. Outcomes are z-scored. Additional controls: dummies for census regions, age group, parent, log total households income, dummy for at least two-year College degree, full-time employee, part-time employee, self-employed, unemployed, student, "other" political orientation, survey wave. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$
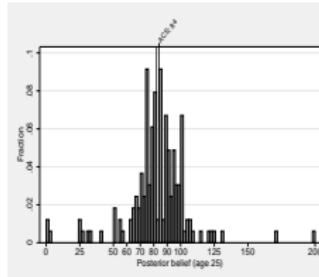
Beliefs about related statistics

High School degree

Same occupation group

Age 25

	Mean (control group)	SD (control group)	Number of obs.	Mean value in ACS
Belief: age 45, Bachelor's degree	83.29	21.54	1031	74.00
Belief: age 45, High school degree	78.26	25.98	149	78.00
Belief: age 25, Bachelor's degree	82.02	23.36	164	84.00
Belief: age 45, parent	83.51	22.24	267	71.00
Belief: age 45, Bachelor's, same occu	83.07	18.44	181	83.00
Belief: age 45, same job	88.20	20.32	266	

◂ Back
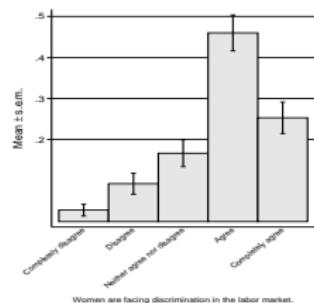
More predictors of (incentivized) prior beliefs

	Outcome variable: (Incentivized) prior belief						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-4.600***		-4.433***	-4.196***	-3.306**	-5.188***	-3.018**
	(0.891)		(0.888)	(0.889)	(1.301)	(1.275)	(1.424)
Democrat		-4.344***	-4.115***	-4.173***	-4.148***	-3.928***	-4.103***
		(1.028)	(1.023)	(1.022)	(1.020)	(1.046)	(1.025)
Independent		-1.700	-1.505	-1.452	-1.430	-1.495	-1.338
		(1.184)	(1.173)	(1.173)	(1.170)	(1.200)	(1.179)
Employee				1.989**	2.733**		
				(0.877)	(1.264)		
Female × Employee					-1.399		
					(1.752)		
Married						0.397	
						(1.319)	
Female × Married						1.193	
						(1.829)	
Associate Degree +							2.201*
							(1.315)
Female × Ass. Degree +							-2.194
							(1.820)
Constant	85.675***	85.627***	87.697***	86.336***	85.806***	87.488***	86.243***
	(0.644)	(0.790)	(0.902)	(1.041)	(1.139)	(1.078)	(1.224)
Observations	2294	2294	2294	2294	2294	2294	2294
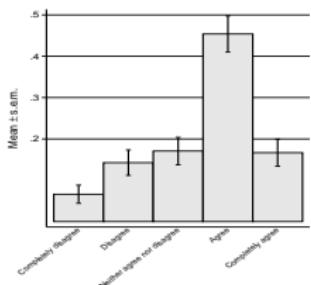
Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$
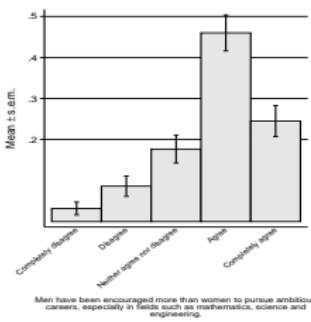
Perceived factors potentially contributing to the GWG
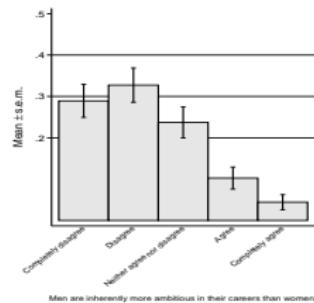
Discrimination
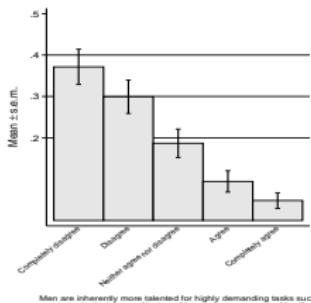
Gender roles
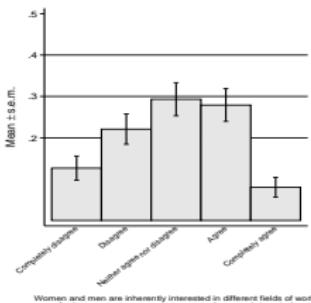
Education

Ambitions
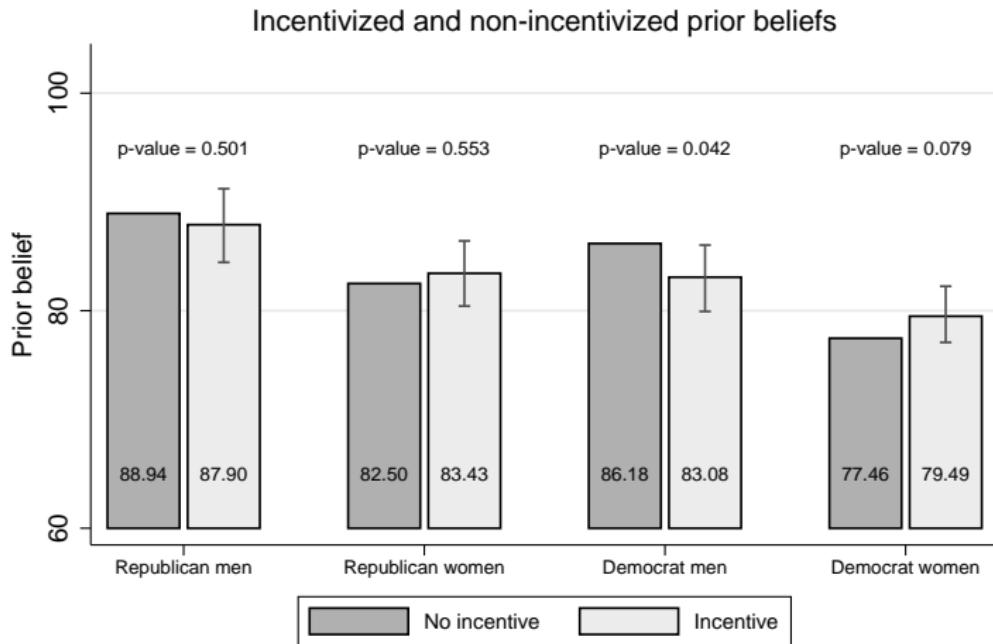
Talent

Preferences

Evidence of motivated beliefs

Incentivized and non-incentivized prior beliefs

Notes: All beliefs take on values between 0 and 200. Whiskers show the 95% confidence interval calculated from a regression of the outcome on an indicator for incentivized beliefs using robust standard errors and controlling for survey wave, census region, age group, parental status, log of household income, associate degree or more, student, full-time, part-time, self-, and unemployed.

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Evidence of motivated beliefs

	Outcome variable: Prior belief about gender wage gap					
	(1)	(2)	(3)	(4)	(5)	(6)
Incentive	-0.384	1.596*	-0.505	1.853*	1.648*	1.904*
	(0.689)	(0.908)	(1.010)	(1.111)	(0.910)	(1.112)
Incentive x male		-3.974***		-5.107***	-3.970***	-5.094***
		(1.357)		(1.660)	(1.357)	(1.659)
Incentive x Republican			0.478	-0.762		-0.759
			(1.549)	(1.902)		(1.903)
Inc. x male x Republican				3.034		3.011
				(2.868)		(2.868)
Male	6.615***	8.847***	5.510***	9.487***	8.825***	9.461***
	(0.815)	(1.142)	(0.981)	(1.281)	(1.141)	(1.280)
Republican (incl. indep leaning Repub.)	5.335***	5.330***	4.468***	5.754***	5.311***	5.733***
	(1.020)	(1.019)	(1.328)	(1.396)	(1.020)	(1.397)
Male x Republican	-1.660	-1.659	-0.548	-3.383	-1.642	-3.353
	(1.431)	(1.431)	(1.547)	(2.153)	(1.431)	(2.154)
Constant	66.569***	65.404***	67.309***	65.244***	65.812***	65.650***
	(5.383)	(5.399)	(6.197)	(5.424)	(5.413)	(5.438)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Control for response time	No	No	No	No	Yes	Yes
Observations	4065	4065	4065	4065	4065	4065

Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

◂ Back

Survey items: Demand for government policies

- **Gender quotas**: Many countries currently have gender quotas in place in order to increase the representation of women in leading positions. Are you in favor or against the introduction of similar statutory gender quotas in the United States? [Decrease strongly - Increase strongly]

- **Affirmative action**: Large public contractors are legally required to have so-called "Affirmative Action Plans", i.e. they have to support women and minorities at all levels of the hierarchy through measures such as training programs and outreach efforts. Do you think the government should strengthen or soften this requirement in terms of strictness and the set of companies that have to comply? [Soften a lot - Strengthen a lot]

- **Equal pay legislation**: Currently, federal law requires that men and women get equal pay for work that is comparable in terms of skill, effort, responsibility and working conditions in the same establishment. In case of suspected discrimination employees may file a lawsuit against their employers. If they win the case, then they are to be compensated by their employers. Should the government give more freedom in wage setting to companies by making legislation less strict or would you like to see stricter enforcement of the existing legislation? [A lot less strict - A lot stricter]

- **Wage transparency** within firms provides a basis for wage negotiations and may discipline companies by making discriminatory wages visible. Currently, wage transparency is not legally required. Are you in favor or against the government making wage transparency within firms obligatory? [Strongly against - Strongly in favor]

- **Public website:** In the U.K. large companies have to report their gender pay gap and the information is made publicly available on a website. Are you in favor or against the introduction of a similar website in the U.S.?

- **Subsidies to child care:** Child day care may enable mothers as well as fathers to work full-time if they want to. Should the government increase or decrease the amount of public resources spent on making child care available and affordable? [Decrease strongly - Increase strongly]

◂ Back to causal

Survey elicitation of perceived underlying factors

Now we would like to learn to what extent you agree with the following statements:

- **Different interests/preferences:** Women and men are inherently interested in different fields of work, for instance women on average may be more interested in "'social"' work and men in "'technical"' work.

- **Different ambitions:** Men are inherently more ambitious in their careers than women.

- **Diff. talents:** Men are inherently more talented for highly demanding tasks such as strategic decision-making, working under pressure and leading others.

- **Different socialization:** Men have been encouraged more than women to pursue ambitious careers, especially in fields such as mathematics, science and engineering.

- **Gender role attitudes:** It is more difficult for women than for men to combine work and family responsibilities in today's society. This leads to career interruptions and less steep careers of women in general.

- **Discrimination:** Women are facing discrimination in the labor market.

◀ Back

Heterogeneity in causal effect on perceived reasons

	External Factors				Personal Factors			
	(1) Discrimination	(2) Socialization	(3) Work-Family	(4) Index	(5) Ambitions	(6) Talent	(7) Preferences	(8) Index
Panel A Het by Gender								
T^{74}	0.240***	0.017	-0.023	0.081*	0.001	-0.010	0.010	0.002
	(0.064)	(0.065)	(0.064)	(0.047)	(0.067)	(0.062)	(0.061)	(0.053)
T^{74} * Female	-0.024	-0.006	0.198**	0.060	0.060	0.053	0.080	0.066
	(0.084)	(0.091)	(0.090)	(0.064)	(0.089)	(0.084)	(0.087)	(0.072)
p-value $[T^{74} + T^{74} \times$ Female$]$	0.000	0.862	0.006	0.001	0.294	0.460	0.147	0.167
Female	0.252***	0.271***	0.148**	0.221***	-0.497***	-0.445***	-0.418***	-0.451***
	(0.061)	(0.064)	(0.065)	(0.046)	(0.064)	(0.060)	(0.062)	(0.052)
Observations	2012	2012	2012	2012	2012	2012	2012	2012
Panel B: Het by pol. attitude								
T^{74}	0.307***	-0.013	0.059	0.125**	0.053	0.068	0.138*	0.092
	(0.080)	(0.080)	(0.075)	(0.059)	(0.074)	(0.071)	(0.071)	(0.058)
T^{74} * Democrat	-0.132	-0.022	-0.027	-0.062	-0.049	-0.089	-0.155	-0.103
	(0.095)	(0.103)	(0.101)	(0.073)	(0.100)	(0.095)	(0.097)	(0.081)
p-value $[T^{74} + T^{74} \times$ Democrat$]$	0.001	0.583	0.626	0.152	0.955	0.736	0.806	0.841
T^{74} * Independent	-0.060	0.180	0.085	0.062	-0.010	-0.070	-0.141	-0.080
	(0.129)	(0.137)	(0.131)	(0.097)	(0.131)	(0.126)	(0.126)	(0.105)
p-value $[T^{74} + T^{74} \times$ Independent$]$	0.014	0.134	0.180	0.015	0.692	0.980	0.981	0.890
Democrat	0.758***	0.423***	0.234***	0.473***	-0.249***	-0.234***	-0.354***	-0.288***
	(0.069)	(0.071)	(0.070)	(0.052)	(0.069)	(0.064)	(0.068)	(0.055)
Independent	0.437***	0.087	-0.058	0.158**	0.014	-0.012	-0.121	-0.048
	(0.096)	(0.102)	(0.099)	(0.072)	(0.094)	(0.091)	(0.091)	(0.075)
Observations	1974	1974	1974	1974	1974	1974	1974	1974

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References