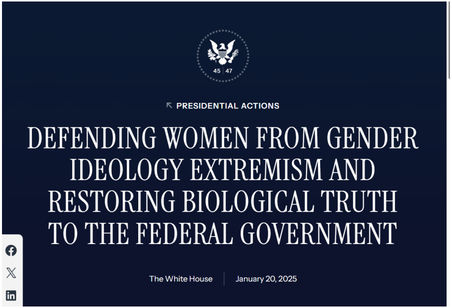
# Gender Inequality, Stereotypes and Identity

Marianne Bertrand
University of Chicago Booth School of Business

3rd Accelerating Growth for Women Entrepreneurs Conference
EBRD

October 28, 2025

# Talking about gender is vertoben under Trump 2.0

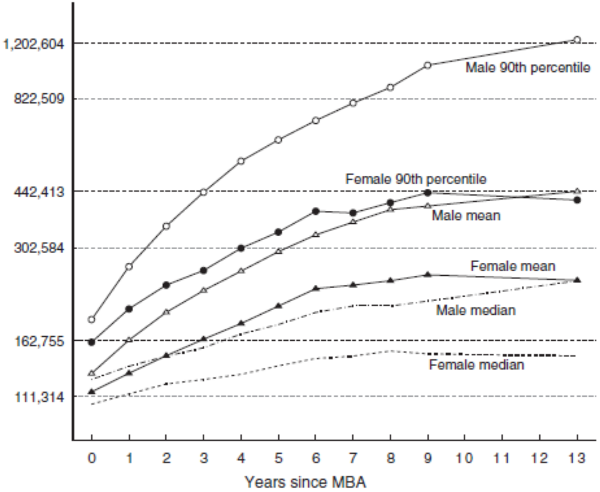



Section 2 (f) "*'Gender ideology' replaces the biological category of sex with an ever-shifting concept of self-assessed gender identity, permitting the false claim that males can identify as and thus become women and vice versa, and requiring all institutions of society to regard this false claim as true.* ***Gender ideology includes the idea that there is a vast spectrum of genders that are disconnected from one's sex.*** *Gender ideology is internally inconsistent, in that it diminishes sex as an identifiable or useful category but nevertheless maintains that it is possible for a person to be born in the wrong sexed body."*

Section 2 (g) "***'Gender identity' reflects a fully internal and subjective sense of self, disconnected from biological reality and sex and existing on an infinite continuum****, that does not provide a meaningful basis for identification and cannot be recognized as a replacement for sex."*

# My personal intellectual journey from sex to gender...

Gender gap in annual earnings among MBA graduates




Source: Bertrand et al., 2010

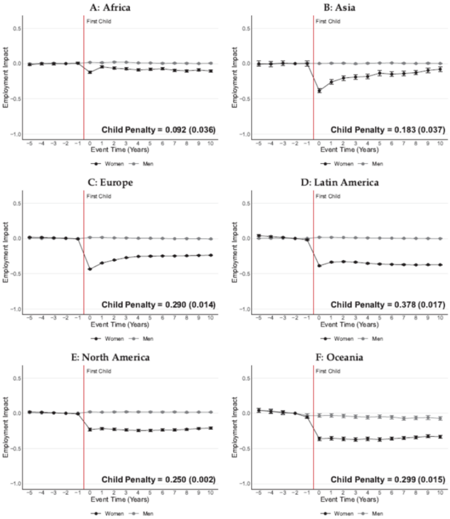
# My personal intellectual journey from sex to gender...

Gender gap in labor supply among MBA graduates

| | Not working | | Actual post-MBA experience | | Log (weekly hours worked) | |
|---|---|---|---|---|---|---|
| Dependent variable | (1) | (2) | (3) | (4) | (5) | (6) |
| Female | 0.084<br>[0.009]*** | | −0.286<br>[0.039]*** | | −0.089<br>[0.013]*** | |
| Female with child | | 0.200<br>[0.024]*** | | −0.660<br>[0.094]*** | | −0.238<br>[0.031]*** |
| Female without child | | 0.034<br>[0.007]*** | | −0.126<br>[0.031]*** | | −0.033<br>[0.012]*** |
| Pre-MBA characteristics | Yes | Yes | Yes | Yes | Yes | Yes |
| MBA performance | Yes | Yes | Yes | Yes | Yes | Yes |
| Cohort × year dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Constant | −0.175<br>[0.145] | −0.111<br>[0.126] | 5.929<br>[0.618]*** | 5.757<br>[0.550]*** | 3.951<br>[0.462]*** | 3.914<br>[0.426]*** |
| Observations | 19,366 | 19,286 | 19,366 | 19,286 | 18,611 | 18,535 |
| $R^2$ | 0.07 | 0.11 | 0.98 | 0.98 | 0.14 | 0.16 |

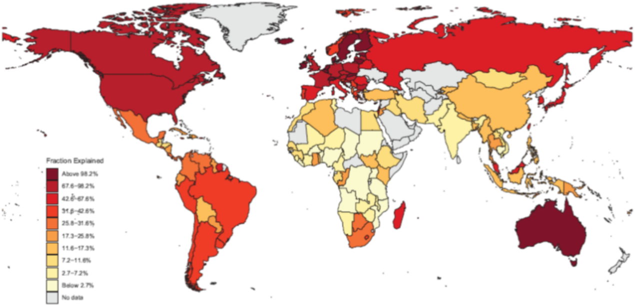
Source: Bertrand et al., 2010

# Since then, robust literature on measurement of "motherhood penalties" around the world...




Source: Kleven et al (2024)

# ...showing they account for much of the gender pay gap in advanced economies...




Source: Kleven et al (2024)

# ...and are a substantial contributor to the glass ceiling not just in business but also in law...

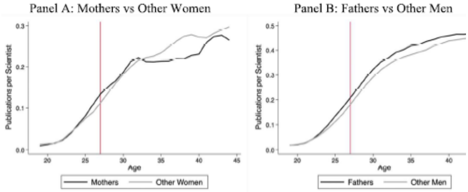
Determinant of the gender gap in hours billed among JD graduates

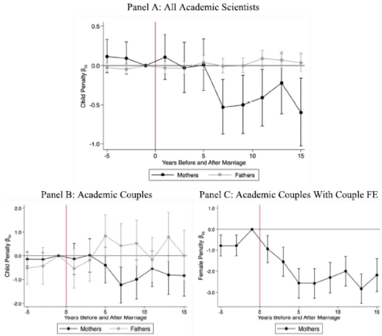
| | Hours Billed | |
|---|---|---|
| | (1) | (2) |
| Female | −.0971*** | −.0569 |
| | [.0319] | [.0449] |
| 1 child | .0001 | −.0305 |
| | [.0520] | [.0681] |
| 2 children | −.0169 | −.0643 |
| | [.0512] | [.0625] |
| 3+ children | −.0785 | −.0996 |
| | [.0635] | [.0731] |
| Child aged $<$ 4 | −.0164 | .069 |
| | [.0462] | [.0558] |
| Female × 1 child | | .0945 |
| | | [.101] |
| Female × 2 children | | .142 |
| | | [.0995] |
| Female × 3+ children | | .0022 |
| | | [.140] |
| Female × child aged $<$ 4 | | −.256*** |
| | | [.0896] |
| Constant | .584 | .635 |
| | [.487] | [.487] |
| Individual controls | Yes | Yes |
| Firm controls | Yes | Yes |
| Region fixed effects | Yes | Yes |
| Education controls | Yes | Yes |
| Observations | 974 | 974 |
| $R^2$ | .311 | .32 |

Source: Azmat and Ferrer (2017)

# ...as well as in science

Life cycle of publications by scientists, baby boom period (1946-1964)




Source: Kim and Moser (2025)

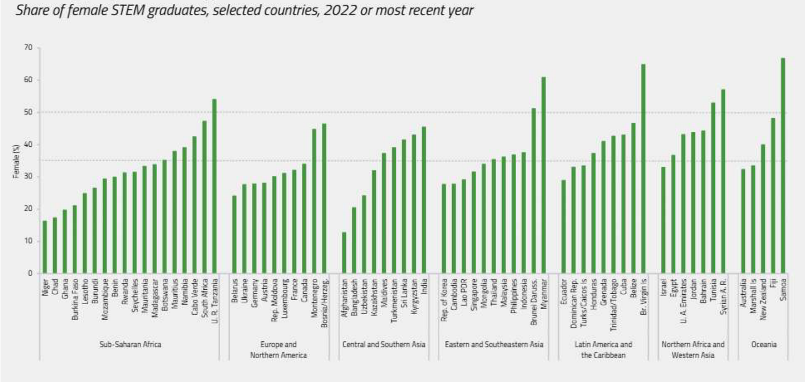
# Back to my personal intellectual journey from sex to gender...

- *Audience*: This confirms that women are not discriminated against.
- *Audience*: Rather, mothers *choose* to prioritize their children over their career, and that is why they cannot break the glass ceiling. What is the problem?
- *Me*: But do they really have a "choice"? Someone needs to take care of the kids.
- *Audience*: Women are just *better* at taking care of kids than men are.
- *Audience*: Women, unlike men, *prefer* allocating their time to childcare rather than to labor market work.
- *Me*:...

# In fact, women appear to make many *other choices* that hurt their labor market prospects

Women stay away from STEM fields...

Share of female STEM graduates, 2022 or the most recent year

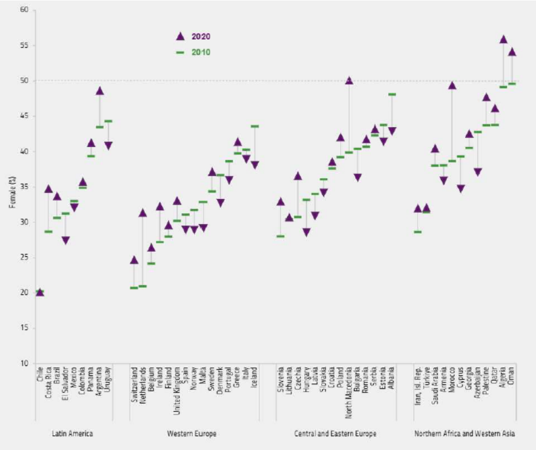



Source: UIS database, UNESCO

# In fact, women appear to make many *other choices* that hurt their labor market prospects

...with little to no progress over the last decade...

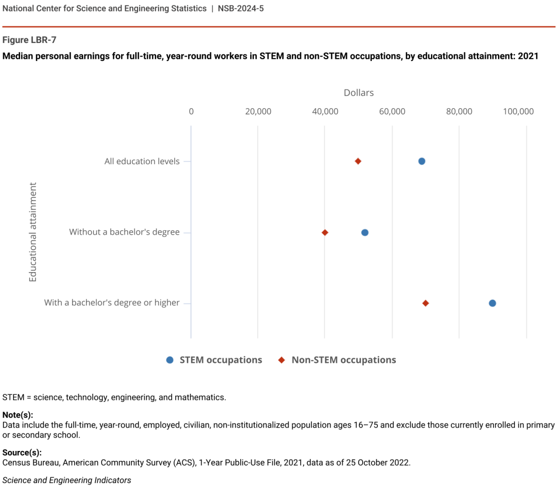
Share of females among STEM graduates, 2010-2011 and 2020-2021




Source: UIS database, UNESCO

# In fact, women appear to make many *other choices* that hurt their labor market prospects

...despite higher absolute (and higher relative?) earnings in STEM fields



# In fact, women appear to make many *other choices* that hurt their labor market prospects

Cottage industry of papers showing gender differences in a range of earnings-relevant decisions, such as:

- Staying away from higher-risk (and higher-reward) occupations because of greater risk aversion (e.g., Eckel and Grossman, 2008)
- Staying away from more competitive environments (e.g., Niederle and Vesterlund, 2007)
- Not bargaining (e.g., Babcock et al., 2003 ; Babcock and Laschever, 2006)
- Not asking (such for higher pay, as in Roussille, 2024)
- Taking on more non-promotable tasks (e.g., Babcock et al., 2017)

$\Rightarrow$ Economics' rationalization for differences in outcomes:

1. Individual utility maximization under different skills, traits and preferences
2. Household specialization due to comparative advantage
3. Statistical discrimination
   - E.g., even more competitive women don't get promoted because of average differences in attitudes towards competition and imperfect information about a *given* woman's attitude towards competition.

## Sex vs. Gender

- Oxley's "Sex, Gender and Society" (1972):
  - *"'Sex' is a word that refers to the biological differences between male and female: the visible difference in genitalia, the related difference in procreative function. 'Gender', however, is a matter of culture: it refers to the social classification into 'masculine' and 'feminine'."*
  - Internalization; gender as a fixed trait.

- West and Zimmerman's "Doing Gender" (1987):
  - *"Gender, in contrast, is the activity of managing situated conduct in light of normative conceptions of attitudes and activities appropriate for one's sex category."*
  - Ongoing practice of aligning one's views and behaviors with societal expectations based on one's sex **out of a need for belonging** (self-esteem and peer-esteem).

$\Rightarrow$ Can our understanding of gender differences in economically relevant domains be improved once we consider gender as a separate concept from sex?

# Social identity models in economics help formalize gender as distinct of sex

Building on social identity theory (Tajfel and Turner, 1979) and self-categorization theory (Turner et al., 1987), Akerlof and Kranton (2000, 2002, 2005) assume:

1. Individuals are divided into social categories, e.g. men and women, or working class and upper class, or white and non-white, etc.
2. Individuals derive utility from consumption and leisure, but also from their identity or self-image, which depends on:
3. The status of their social category relative to other category $\Rightarrow$ *in-group bias* (not unlike taste-based discrimination a la Becker).

   $\Rightarrow$ *Backlash* against lower-status group's progress
4. Aligning their behaviors and attitudes with what is *prescribed* for their social category with

   $\Rightarrow$ *Conformity* to in-group behavior/*Self-stereotyping*.
5. There are identity *externalities*: a group's member that does not behave in accordance with the prescriptions reduce the utility of other group members.

   $\Rightarrow$ Choices are further constrained by the threat of punishment/stigma for deviating from what is prescribed for the group.

# Social identity models in economics help formalize gender as distinct of sex

Akerlof and Kranton leave many questions unanswered:

1. How do people choose among, or weight, multiple identities they could choose from, e.g., female or white or Belgian or economist?
   - Identities endogenously chosen to maximize utility?
     - E.g., Atkin et al. (2021) in the context of religious identities
   - Some identities inescapable because too salient/ingrained?
   - Strategic manipulation of identity in politics
2. What determines the range of attitudes and behaviors that are relevant to one's identity and how are they weighted?
   - E.g. beauty standards vs. occupational choice
3. For all these attitudes and behaviors that are relevant, *what is prescribed* and how do people know about it?
   - Belief-based model allow for errors in determining the prescribed behavior (e.g., Genaioli et Tabellini (2023) in the context of political identities)
4. What happens to identity choice and prescribed behaviors in a dynamic world?
   - E.g., increase female education and labor force participation; increase share of immigrants among lower class workers (Shayo, 2009 and 2020)

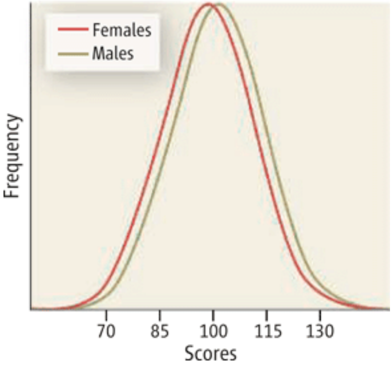
# Behavioral prescriptions for men and women

- **Vertical** - vertical stratification in society/norms regarding "gender roles."
  - E.g., men should be the breadwinners while women are expected to be the caregivers; men expected to fill in higher-status roles while women expected to occupy lower-status occupations.
  - Historical origins/path dependence:
    - Pre-industrial agricultural differences in the returns of female labor/men's greater physical strength as a historical source of male superiority (Boserup 1970; Alesina et al 2013; Carranza 2014)
    - Matrilinear vs. patrilinear kinship systems (e.g., Lowes 2020)
    - Religion (e.g. Guiso, Sapienza, and Zingales, 2003)

- **Horizontal** - horizontal segregation in society.
  - E.g., Women expected to be better with people while men expected to be better with things; women expected to be better with words while men expected to be better with numbers
  - Kernel of truth, *grounded in gender essentialism*:
    - Small innate differences that exist between the sexes (e.g. differences at the tails)
    - Those differences become cognitively exaggerated in group categorization and *stereotype* formation processes (Corneille and Judd 1999; Bordalo et al.'s 2016 "representativeness heuristics").
    - (Relevance beyond gender identity literature; e.g. (biased) belief-based discrimination, as in Bohren et al., 2019)

# Gender essentialism
## Men are from Mars; women are from Venus?

- Cohen's d statistic aims to measure gender differences in skills and psychological traits.
- N.B.: treacherous terrain.
- Mean for males minus the mean for females, divided by the pooled within-group standard deviation.
- *Assuming normal distributions and same variance*:
  - d = 0.10: 92.3% overlap; d = 0.20: 85.3%: d = 1, 44.6%
  - E.g. with small or moderate values of d, within-gender variance is much larger than between-gender variance.




Cohen'd = 0.20.

# Men are from Earth; women are from Earth

- Hyde (2005) reviews of 46 meta-analyses yielding 124 effect sizes for gender differences. $0<d<=.1$: 30%; $.1<d<.35$: 48 %.
- Hyde (2014) reviews gender differences in cognitive skills, personality and social psychological differences, well-being and psychopathology:
- *"Overall, based on the numerous meta-analyses reported here, there is much evidence in support of the gender similarities hypothesis."*

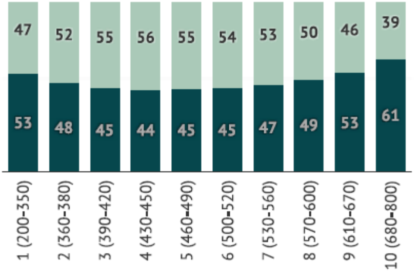
- *"Domains in which gender differences are small (around d = 0.20) or trivial (d <= 0.10) include mathematics performance, verbal skills, some personality dimensions such as gregariousness and conscientiousness, reward sensitivity, the temperament dimension of negative affectivity, relational aggression, tentative speech, some aspects of sexuality, leadership effectiveness, and academic self-concept."*

# Men are from Earth; women are from Earth - kind of

- Exceptions (d >=.5) include 3D mental rotation, the personality dimension of agreeableness/tender-mindedness, sensation seeking, interests in things versus people, physical aggression, some sexual behaviors, and attitudes about casual sex.

- Tail differences?

  Share of boys (dark) and girls in the distribution of the math SAT score by decile




Source: College Board, 2023 Graduates

- *Even small differences* can lead to persistently exaggerated beliefs about gender differences

# Does gender identity matter for economically-relevant behaviors?

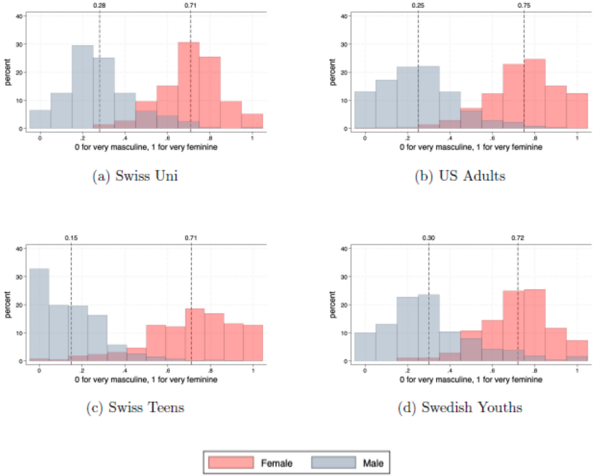
A range of empirical approaches:

1. Directly measuring gender (controlling for sex)
2. Experimental evidence of self-stereotyping
3. Epidemiological approaches
4. Documenting behavioral "puzzles" induced by gender identity/gender norms considerations
5. How information about what others believe (or prescribe) change behavior

# 1. Directly measuring gender

## Example: continuous gender identity

Continuous Gender Identity (CGI): *Where would you put yourself on this scale from 'Very masculine' to 'Very feminine'?*; 1-11 likert scale




(a) Swiss Uni

(b) US Adults

(c) Swiss Teens

(d) Swedish Youths

Source: Brenoe et al. (2024)

# 1. Directly measuring gender

## Example: continuous gender identity

Continuous Gender Identity (CGI): *Where would you put yourself on this scale from 'Very masculine' to 'Very feminine'?*; 1-11 likert scale

| Measure | Staircase Risk | Risk | | | | Financial Risk | Competitiveness | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample | Swiss Uni | Swiss Uni | U.S Adults | Swiss Teens | Swedish Youths | US Adults | Swiss Uni | U.S Adults | Swiss Teens | Swedish Youths |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| **Panel A. Binary gender** | | | | | | | | | | |
| Female | -0.211* | -0.444*** | -0.387*** | -0.285*** | -0.243*** | -0.268*** | -0.388*** | -0.405*** | -0.311*** | -0.153* |
| | (0.083) | (0.081) | (0.031) | (0.071) | (0.062) | (0.015) | (0.081) | (0.031) | (0.071) | (0.062) |
| $R^2$ | 0.011 | 0.049 | 0.038 | 0.020 | 0.015 | 0.075 | 0.038 | 0.041 | 0.024 | 0.006 |
| **Panel B. Gender identity** | | | | | | | | | | |
| CGI (feminine) | -0.137*** | -0.234*** | -0.206*** | -0.171*** | -0.109*** | -0.119*** | -0.194*** | -0.218*** | -0.181*** | -0.109*** |
| | (0.044) | (0.040) | (0.016) | (0.036) | (0.031) | (0.008) | (0.040) | (0.016) | (0.036) | (0.029) |
| $R^2$ | 0.019 | 0.055 | 0.042 | 0.029 | 0.012 | 0.059 | 0.038 | 0.048 | 0.033 | 0.012 |
| **Panel C. Binary gender and gender identity** | | | | | | | | | | |
| Female | 0.031 | -0.188 | -0.152*** | 0.124 | -0.182* | -0.224*** | -0.212 | -0.145** | 0.087 | 0.022 |
| | (0.148) | (0.148) | (0.056) | (0.166) | (0.103) | (0.027) | (0.138) | (0.057) | (0.168) | (0.101) |
| CGI (feminine) | -0.149* | -0.157* | -0.144*** | -0.227*** | -0.041 | -0.027* | -0.108 | -0.159*** | -0.220*** | -0.117** |
| | (0.078) | (0.073) | (0.029) | (0.085) | (0.051) | (0.013) | (0.068) | (0.029) | (0.085) | (0.048) |
| $R^2$ | 0.019 | 0.058 | 0.044 | 0.030 | 0.015 | 0.076 | 0.042 | 0.049 | 0.033 | 0.012 |

Source: Brenoe et al. (2024)

# 1. Directly measuring gender

## Example: masculinity differences among men

Conformity to Masculinity Norms Inventory (CMNI-5): importance of winning, violence, help avoidance, control over women, and disdain for homosexuals
E.g., *It is important to me that people think I am heterosexual*; 1 (str. disagree) -4 (str. agree) scale

| | Would Work More | | Masculine Sector | | Working | | Competitiveness | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| ***Panel A: Masculinity Norms*** | | | | | | | | |
| CMNI-5 Score | 0.047*** | 0.047*** | 0.022*** | 0.021*** | -0.005 | -0.004 | 0.091*** | 0.092*** |
| | (0.007) | (0.007) | (0.005) | (0.005) | (0.004) | (0.004) | (0.013) | (0.012) |
| Mean of outcome | 0.28 | 0.28 | 0.36 | 0.36 | 0.76 | 0.76 | -0.02 | -0.02 |
| R-squared | 0.14 | 0.14 | 0.06 | 0.09 | 0.19 | 0.21 | 0.20 | 0.21 |
| Observations | 31,320 | 31,320 | 31,338 | 31,338 | 41,170 | 41,170 | 41,170 | 41,170 |
| ***Panel B: Gender Roles Norms*** | | | | | | | | |
| TGRI Score | 0.032*** | 0.032*** | 0.032*** | 0.028*** | -0.004 | -0.002 | 0.023* | 0.029** |
| | (0.006) | (0.006) | (0.004) | (0.004) | (0.004) | (0.004) | (0.014) | (0.013) |
| Mean of outcome | 0.28 | 0.28 | 0.36 | 0.36 | 0.76 | 0.76 | -0.02 | -0.02 |
| R-squared | 0.13 | 0.13 | 0.06 | 0.09 | 0.19 | 0.21 | 0.19 | 0.20 |
| Observations | 31,613 | 31,613 | 31,631 | 31,631 | 41,671 | 41,671 | 41,671 | 41,671 |
| ***Panel C: Masculinity and Gender Roles Norms*** | | | | | | | | |
| CMNI-5 Score | 0.041*** | 0.041*** | 0.012*** | 0.013*** | -0.004 | -0.004 | 0.094*** | 0.093*** |
| | (0.007) | (0.007) | (0.004) | (0.004) | (0.004) | (0.004) | (0.012) | (0.011) |
| TGRI Score | 0.017*** | 0.017*** | 0.027*** | 0.022*** | -0.002 | 0.001 | -0.009 | -0.003 |
| | (0.005) | (0.005) | (0.004) | (0.004) | (0.004) | (0.004) | (0.011) | (0.011) |

Source: De Haas et al. (2025)

# 2. Experimental evidence of self-stereotyping

Willingness to contribute answer to question (from high -1 to low - 4)

Willingness to Contribute

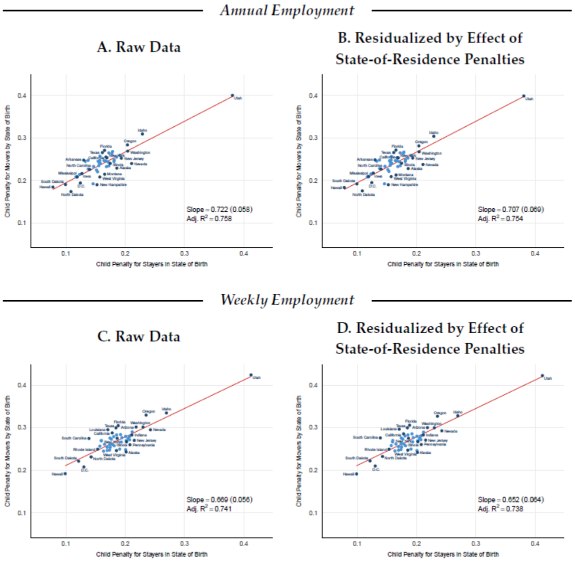
| OLS predicting position in line for question $i$ in Part C | | | | | | | |
|---|---|---|---|---|---|---|---|
| Category | Art | Pop | Env | Hist | Geo | Sports | Pooled |
| Maleness $z$-score | −1.18 | −1.01 | 0.13 | 0.23 | 0.27 | 1.56 | |
| Female dummy | −0.226**** | −0.090* | 0.217**** | 0.145** | 0.296**** | 0.383**** | 0.145*** |
| | (0.065) | (0.048) | (0.067) | (0.071) | (0.065) | (0.058) | (0.048) |
| Maleness of category | | | | | | | −0.120**** |
| | | | | | | | (0.013) |
| Female × maleness | | | | | | | 0.265**** |
| | | | | | | | (0.019) |
| Answered qn. $i$ correctly | −0.480**** | −0.977**** | −0.683**** | −0.415**** | −0.553**** | −1.003**** | −0.706**** |
| | (0.053) | (0.058) | (0.040) | (0.046) | (0.048) | (0.046) | (0.023) |
| Part B score in category | −0.081**** | −0.016 | −0.103*** | −0.119**** | −0.081*** | −0.067** | −0.024*** |
| | (0.025) | (0.025) | (0.034) | (0.026) | (0.031) | (0.031) | (0.009) |
| Constant | 3.53**** | 4.27**** | 2.26**** | 3.42**** | 2.80**** | 3.78**** | 3.33**** |
| | (0.226) | (0.175) | (0.294) | (0.273) | (0.252) | (0.255) | (0.193) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Clusters | 460 | 460 | 460 | 460 | 460 | 460 | 460 |
| Obs. | 2,299 | 2,300 | 2,300 | 2,298 | 2,298 | 2,298 | 13,793 |
| $R^2$ | 0.268 | 0.548 | 0.160 | 0.170 | 0.166 | 0.322 | 0.241 |

Source: Coffman (2014)

See also Bordalo et al. (2019)

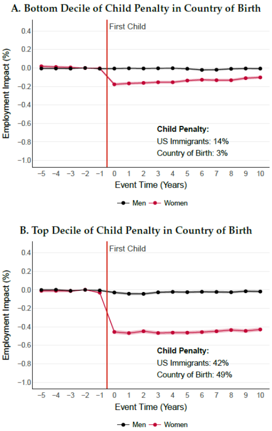
# 3. Epidemiological approaches

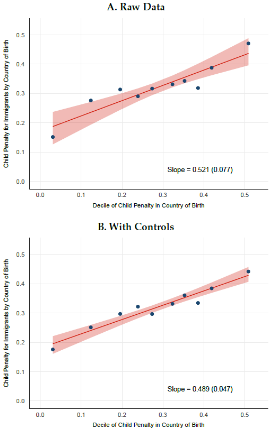
## Example: Variation in child penalty in the US by state of birth




Source: Kleven (2025)

# 3. Epidemiological approaches
## Example: Variation in child penalty in the US by country of birth

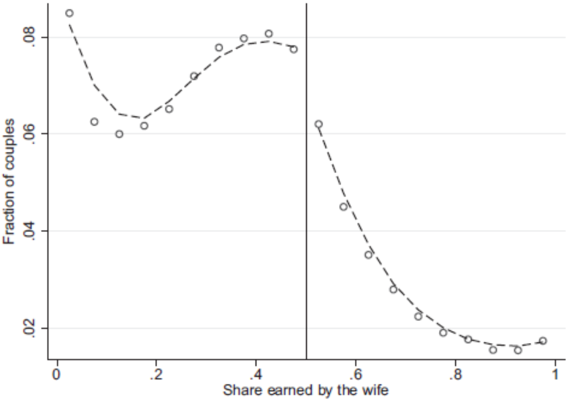



Source: Kleven (2025)

# 4. Behavioral "puzzles"

Distribution of wife share of couple income, U.S. 1990 to 2004




Source: Bertrand et al. (2015)

- Statistically sensitive to treatment of couples at exactly 0.5 (Sweden: Hederos and Stenberg, 2022; Finland: Zinovyeva and Tverdostup, 2021)
- Similar patterns in (former) West *but not* East Germany (Sprengholz et al., 2022)

# 4.Behavioral "puzzles"

- Marriage:
  - Marriage rate lower in marriage markets where potential wife likely to earn more than potential husband (US: Bertrand et al., 2015; UK: Gousse et al., 2017)
  - Decline in relative marriage rate of educated women in East Asian countries as educated women's earning potential increases (Bertrand et al., 2019)
- Work:
  - Women more likely to be out of the workforce/work fewer hours if their potential earnings exceed that of their husbands (US: Bertrand et al., 2015; Uruguay: Galvan, 2022; West Germany: Lippmann et al., 2020; Brazil: Codazzi et al., 2018)
- Marital stability:
  - Couples where the gender identity norm is violated (e.g. wife earns more than husband) associated with more marital unhappiness/more divorce (US: Bertrand et al., 2015; West Germany: Lippman et al., 2020)
- Housework:
  - Women who out-earn their husbands tend to do more housework, gender deviance neutralization hypothesis (US: Bertrand et al.; Uruguay: Galvan, 2022; West Germany: Lippmann et al., 2020)
  - "Beckerian" relationship for lesbian couples (Martell and Roncolato, 2020)

# 5.How information about what others prescribe change behavior

- Some people may conform to gender norms even if they privately reject them because of fear of social sanction if deviate from the prescribed behavior
- But what if beliefs about what is prescribed/what others find socially desirable are systematically wrong?
  - Lack of communication; outdated beliefs transmitted via (stale) vertical communication from parents to children; biased communication (e.g., loud minority voices; social media)
- Raises the possibility of information policy interventions to correct such misperceptions if/when they exist and drive behavior.

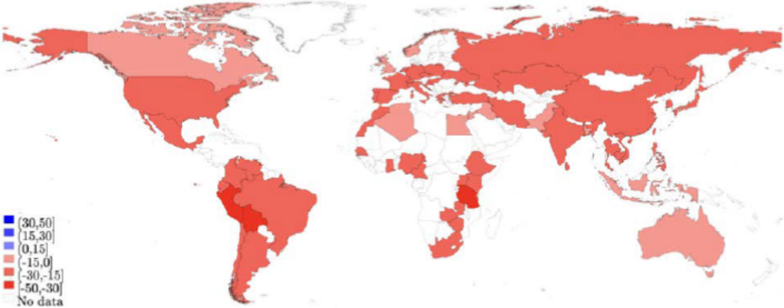
# 5.How information about what others prescribe change behavior

## Example: Misperception of gender norms around the world.

"Women should have the freedom to work outside of the home."

*Misperception* = perception of support *minus* actual support

**Figure 7:** Misperceptions about Support for Basic Freedom Across the World



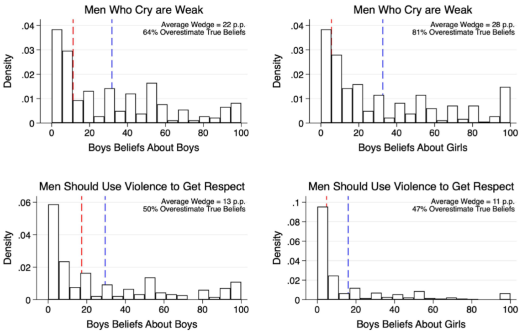

**Notes:** The map shows misperceptions about support (pp) for *basic freedom* in each country. Misperceptions are defined as the difference between a respondent's perception of the support for the policy in their country and the actual support in their country. A positive value (blue) indicates that support is overestimated. A negative value (red) indicates that support is underestimated. Genders are pooled. *Data:* Gallup World Poll 2020. Geo data from Belgiu (2015).

Source: Burzstyn et al., 2024

# 5.How information about what others prescribe change behavior
## Example: Masculinity norms in Brazil

Adolescent boys overestimate share of peers with traditional masculinity views

Figure 2: Distribution of Guesses About Peers' Masculinity Beliefs




(a) Boys

Source: Matavelli, 2024

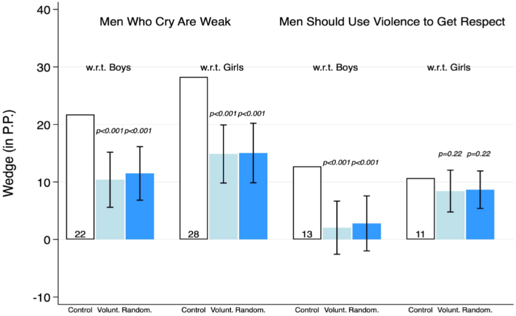
[Adolescent girls also overestimate share of male and female peers with traditional masculinity views]

## 5.How information about what others prescribe change behavior
### Example: Masculinity norms in Brazil

Interventions: focus-group like masculinity discussions, either *volunteer speakers* or *randomized pre-selected speakers*

Immediately After

(a) Boys




Source: Matavelli, 2024

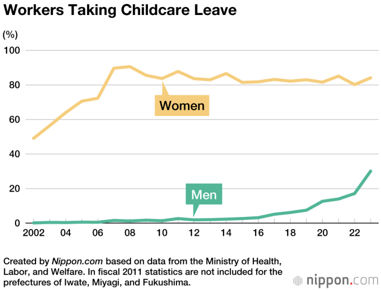
Corrections persist up to 3 weeks later

## 5.How information about what others prescribe change behavior
### Example: Take-up of paternity leave by Japanese men
### (Bertrand, Cortes, Pan, Shigeoka and Yagasaki, 2025)

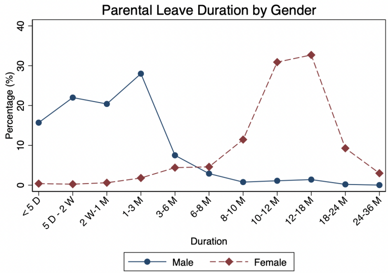
- Japan has one of the most generous paternity leave provisions in the world.
  - Up to 4 weeks of flexible paid paternity leave within 8 weeks of child's birth, and up to one year of leave until the child turns one.
  - Wage replacement rate: 67% of pre-tax salary for first 6 months and 50% for the next 6 months. Benefits are not taxable.
- Government has set ambitious targets to increase the rate of paternity leave-taking to 50% by 2025, and 85% by 2030.
  - Mandatory disclosure for firms with $> 1,000$ employees from April 2023, and expanded to include those with $> 100$ employees from April 2025.
- Recent surveys indicate a large increase in paternity leave-taking, especially in large firms, but duration of leave still remains quite low.

# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

A. Take-up rate by gender




B. Duration by gender in 2023



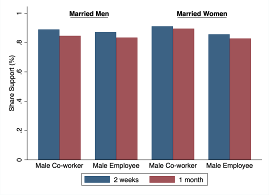

In 2023, among the men who took paternity leave:
38% take $\leq$ 2 weeks, 58% take $\leq$ 1 month

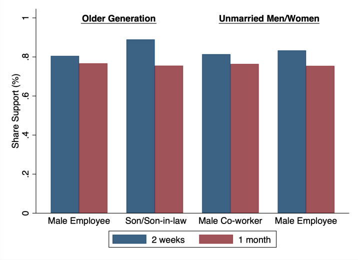
# 5.How information about what others prescribe change behavior

## Example: Take-up of paternity leave by Japanese men

Support for paternity leave-taking is high

- *"Are you supportive of a male employee expecting a child soon taking [2 weeks/1 month] of paternity/childcare leave to care for his child?"*
  - *I am supportive/ No, I am not supportive/ I don't know*

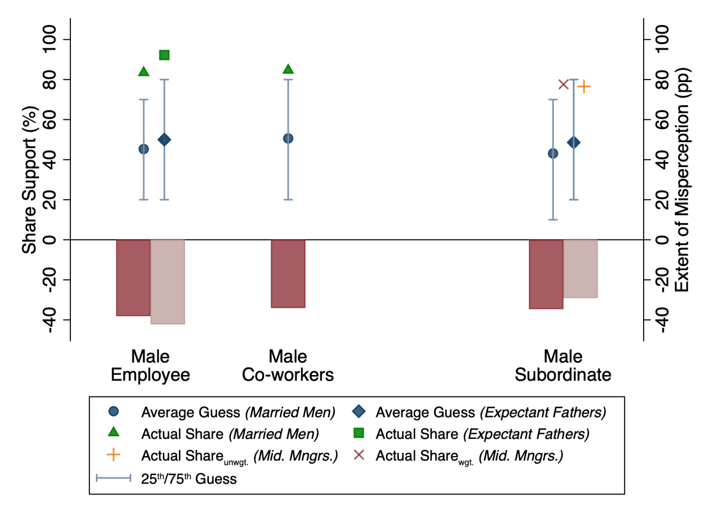


# 5.How information about what others prescribe change behavior

## Example: Take-up of paternity leave by Japanese men

### Misperceptions in the Extent of Support – 1 Month Leave



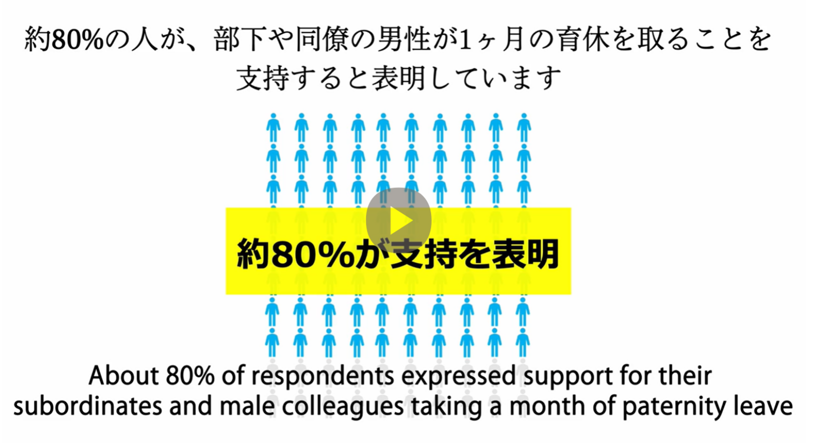
# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

Four information treatments:

1. **Full video** (Main Treatment): Animated video on pluralistic ignorance around paternity leave. ▸ full video
   - Graeber, Roth, and Zimmermann (2025) show that qualitative features (e.g., stories) are more effective at enhancing memory retention than simple statistics.
   - Also tests whether qualitative features can also change attributes like **credibility**, **relevance**, and **usefulness** to the information provided.
2. **"Boring" Video** (Partial treatment): Simple video with info on paternity leave support (no animation, short) ▸ info only
3. **Control Video**: Animated video on how to choose baby names ▸ placebo video
   - Isolates the effect of receiving information via animation from the effect of simply watching any video.
4. **Pure Control**: Nothing

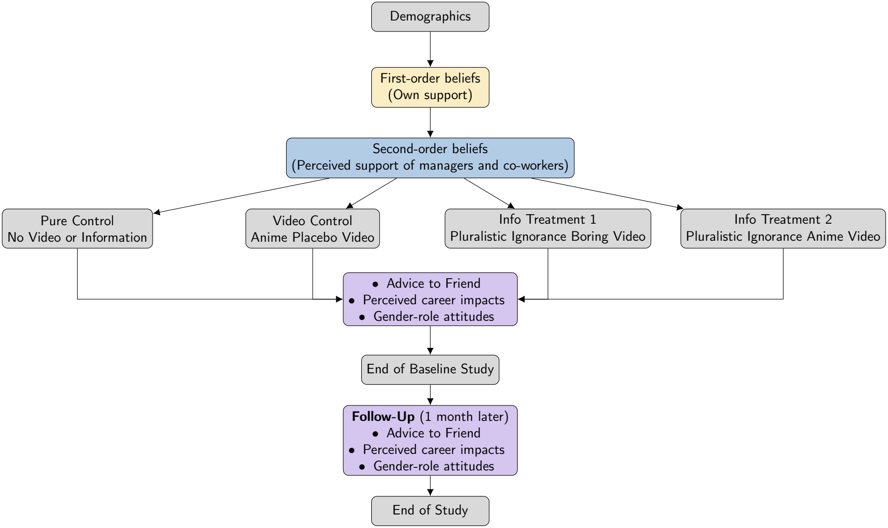
## 5.How information about what others prescribe change behavior
### Example: Take-up of paternity leave by Japanese men

# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men



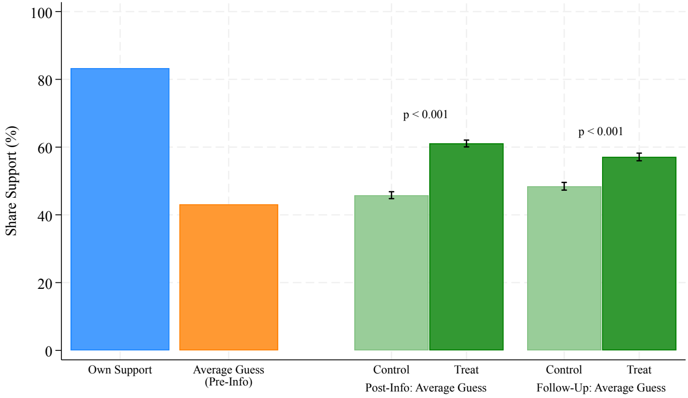
# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

Experimental design - Married men, 25-49 (N= 5,000)



# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

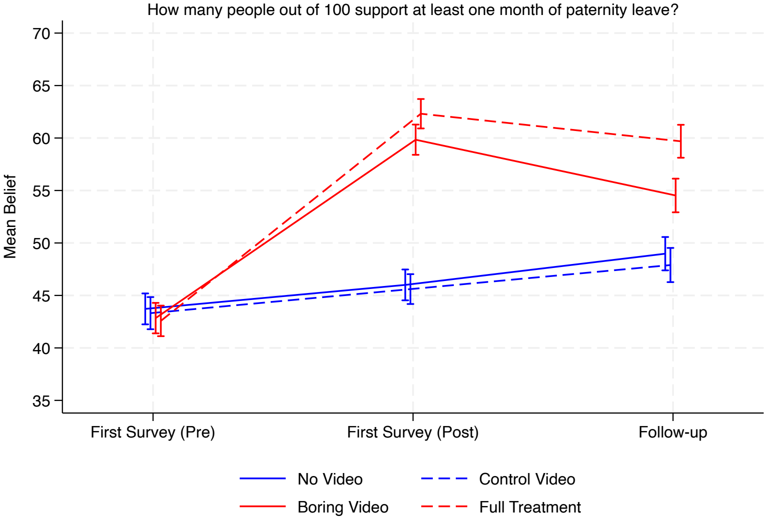
### First-order and second-order beliefs



# 5.How information about what others prescribe change behavior

## Example: Take-up of paternity leave by Japanese men

### Belief updating



# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

Outcome: advice to friend

- **Scenario:** Suppose that a male co-worker (i.e., a colleague who works with you directly in your section) is expecting a child soon. Suppose that this co-worker is deciding whether to take paternity leave to care for his newborn child.

- What advice would you give your co-worker? Specifically, what is the percent chance (or chances out of 100) that you would encourage him to take: 0 days, $<$ 2 weeks, 2 to 4 weeks, 1 to 3 months, $\geq$ 3 months of paternity leave?

## 5.How information about what others prescribe change behavior
### Example: Take-up of paternity leave by Japanese men

Impact of information on advice to friends

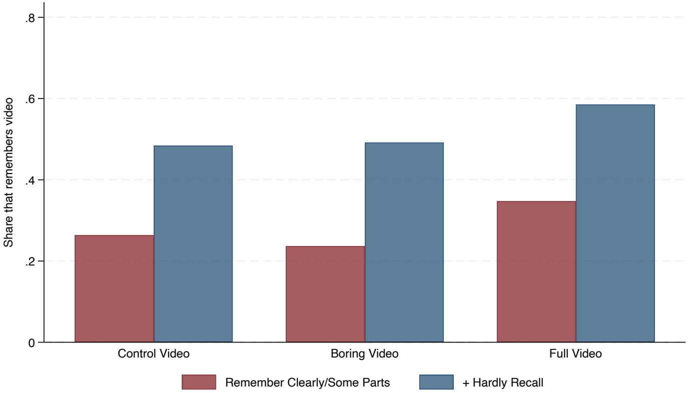
| | Dep. Var: Pct Chance $\geq$ 1 Month Leave | | | |
|---|---|---|---|---|
| | Baseline | Baseline | Follow-Up | Follow-Up |
| Control Video | 2.072 | 2.613$^{*}$ | 1.300 | 2.016 |
| | (1.618) | (1.505) | (1.687) | (1.598) |
| Boring Video | 4.136$^{**}$ | 4.622$^{***}$ | 0.856 | 1.337 |
| | (1.618) | (1.510) | (1.703) | (1.626) |
| Full Video | 6.824$^{***}$ | 7.482$^{***}$ | 3.122$^{*}$ | 3.806$^{**}$ |
| | (1.639) | (1.539) | (1.699) | (1.623) |
| Constant | 46.92$^{***}$ | 40.68$^{***}$ | 45.08$^{***}$ | 34.81$^{***}$ |
| | (1.140) | (4.635) | (1.200) | (4.934) |
| Controls | | X | | X |
| $R^2$ | 0.004 | 0.131 | 0.001 | 0.091 |
| Observations | 4,292 | 4,292 | 4,292 | 4,292 |

Controls: Pre-beliefs, own support, age, college dummy, no. of child, expecting to have another child

$^{*}$ $p < 0.10$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$

# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

Do respondents remember the video?




- **5-point scale: Remember clearly, recall some parts, hardly recall, vaguely remember but almost forgot, do not remember**

## Treatment effects by memory of video

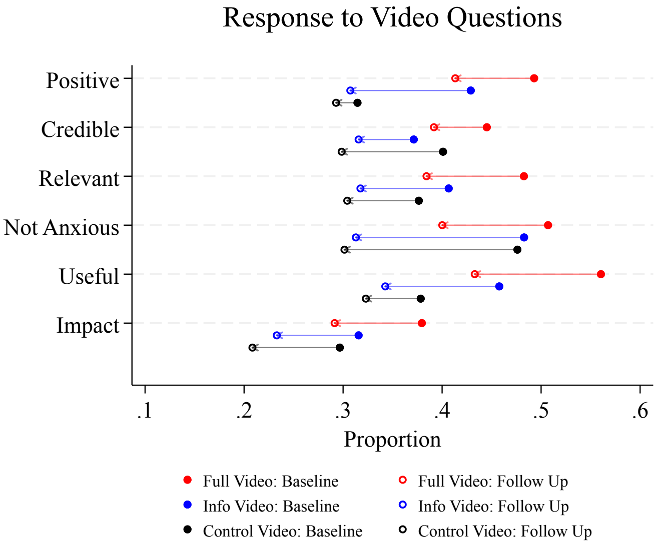
| | Dep. Var: Pct Chance $\geq$ 1 Month Leave | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Baseline | | | | Follow-Up | | | |
| | Remember Video | | Forgot Video | | Remember Video | | Forgot Video | |
| Control Video | 1.922 | 0.721 | 2.126 | 3.364** | -1.005 | -2.048 | 2.126 | 3.511** |
| | (2.444) | (2.305) | (1.769) | (1.641) | (2.512) | (2.375) | (1.846) | (1.748) |
| Boring Video | 3.870 | 2.800 | 4.218** | 5.167*** | 4.191 | 2.931 | -0.179 | 0.837 |
| | (2.572) | (2.443) | (1.747) | (1.628) | (2.744) | (2.645) | (1.833) | (1.754) |
| Full Video | 9.139*** | 8.079*** | 5.591*** | 7.067*** | 8.768*** | 7.747*** | 0.113 | 1.723 |
| | (2.258) | (2.194) | (1.864) | (1.741) | (2.294) | (2.221) | (1.928) | (1.849) |
| Constant | 46.92*** | 42.22*** | 46.92*** | 41.53*** | 45.08*** | 29.48*** | 45.08*** | 36.90*** |
| | (1.141) | (6.644) | (1.140) | (5.185) | (1.201) | (7.002) | (1.201) | (5.607) |
| Controls | | X | | X | | X | | X |
| $R^2$ | 0.009 | 0.121 | 0.003 | 0.142 | 0.008 | 0.103 | 0.001 | 0.092 |
| Observations | 1,990 | 1,990 | 3,385 | 3,385 | 1,990 | 1,990 | 3,385 | 3,385 |

Standard errors in parentheses

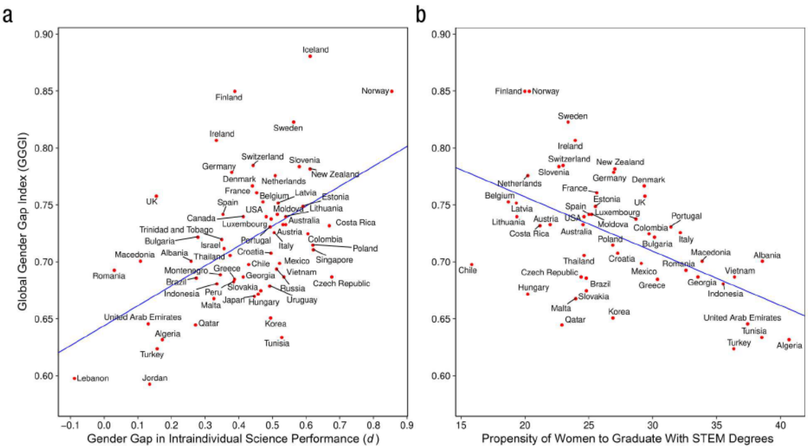
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

# 5.How information about what others prescribe change behavior
## Example: Take-up of paternity leave by Japanese men

What does animation add?



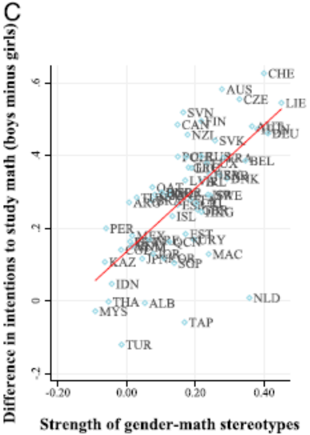
Relationship between gender equality and a) intra-individual math performance or b) propensity of women vs. men to graduate with STEM degrees



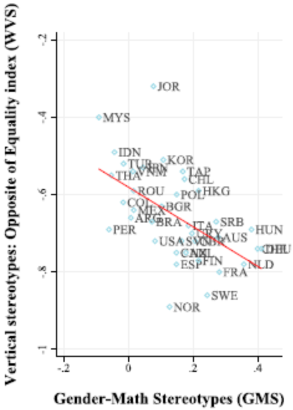

Source: Stoet and Geary (2018)

## The gender equality paradox: from vertical to horizontal prescriptions?

Gender-math stereotype and gender under-representation in math




Gender (in)equality and gender-math stereotype




Source: Breda et al, 2020

# The gender equality paradox: from vertical to horizontal prescriptions?

Gender-math stereotypes and gender gap in math intentions, controlling for math ability

| | Dependent variable is standardized intentions to study math or pursue a math career | | | |
|---|---|---|---|---|
| Girl | −0.269*** | −0.253*** | −0.191*** | −0.198*** |
| SE | (0.0152) | (0.0147) | (0.0138) | (0.0147) |
| Girl*GDP | −0.000134 | −1.06e−05 | 0.0173 | 0.0259* |
| SE | (0.0127) | (0.0127) | (0.0129) | (0.0136) |
| Girl*GMS | −0.101*** | −0.0969*** | −0.0811*** | −0.0828*** |
| SE | (0.0157) | (0.0155) | (0.0147) | (0.0158) |
| No. of observations | 293,782 | 293,782 | 292,395 | 133,808 |
| Country fixed effects | Yes | Yes | Yes | Yes |
| Control for math ability | No | Yes | Yes | Yes |
| Control for math preferences | No | No | Yes | Yes |
| Other individual controls | No | No | No | Yes |

Source: Breda et al, 2020

## The gender equality paradox: from vertical to horizontal prescriptions?

Why would the gender-math stereotype be stronger in more gender-equal countries?

- Weakening of vertical prescriptions (e.g., prescriptions related to traditional roles) may encourage emergence of horizontal gender stereotypes as social groups (need to?) continue to distinguish themselves.
- Small innate differences between the genders more likely to manifest themselves:
  - in more gender-equal environments where men and women have similar educational opportunities.
  - as math difficulty increases, as it likely does in more developed/more gender equal countries (c.f., tail differences).

$\Rightarrow$ These small differences become exaggerated in group categorization and stereotype formation.

# Some directions for future work

- A sharper focus on men
  - Masculinity (and femininity) norms in light of women's increased prominence in education and (somewhat) in labor market
  - Lots of "Girls who code"-type efforts; much less "Boys who read"-type efforts
  - Gender identity and politics ("Real men burn stuff"): tariffs will be bring back manly jobs; coal is manly while wind is girly.
  - Is a social identity lens useful to understand the nature of boys' current educational and mental health setbacks?
- Endogenous identity choices
  - From (working) class identity to gender identity (and/or national and/or religious) in light of growing income inequality?
- Correcting biased stereotypes
  - Going beyond information treatments for belief correction.
- Recasting peer effects and role models' literature in light of social identity models

THANK YOU!

Extra Slides