Who ya gonna call?: Gender inequality in demand for parental involvement

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Introduction

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- ▶ Important contributor is women's tendency to concentrate in more flexible jobs (Price & Wasserman, 2022; Goldin, 2014; Flabbi & Moro, 2012)

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- ► Important contributor is women's tendency to concentrate in more flexible jobs (Price & Wasserman, 2022; Goldin, 2014; Flabbi & Moro, 2012)
 - ► Especially true for mothers (Price & Wasserman, 2022; Wiswall & Zafar, 2018; Mas & Palais, 2017; Goldin & Katz, 2011)

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- ▶ Develop a theoretical model to inform our field experiment



Theory Sketch

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Decision Maker's Utility

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ightharpoonup call female first (j = f), male first (j = m), OR neither parent (j = n)

$$U_{ij} = \underbrace{\mathbb{E}(r_{ij})}_{ ext{Utility of i}} - \underbrace{c_i}_{ ext{cost of calling}} - \underbrace{\delta_{ij}}_{ ext{other deterrents}}$$

We assume no benefit or cost when calling neither parent, so $U_{in} = 0$

Who ya gonna call?

- ▶ If utility from calling both parents < 0 ($U_{in} = 0$), principal calls neither parent
 - $ightharpoonup U_{if} < 0 ext{ and } U_{im} < 0$
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 - ▶ female parent when $U_{if} \geqslant U_{im}$
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Signals & Updating

- ▶ Signal to DM *i* about responsiveness of either female (r_{if}) or male parent (r_{im})
- ▶ DM i's posterior mean \tilde{r}_{ij} for the responsiveness of j is

$$\underbrace{\widetilde{r}_{ij}}_{\text{posterior}} = \underbrace{\lambda_j \overline{r}_j}_{\lambda_j \text{*Expectation of benefit of response from parent j}} + \underbrace{(1 - \lambda_j) x_{ij}}_{(1 - \lambda_j) \text{*signal about parent type j}}, \quad \underbrace{\lambda_j}_{\text{weighting}} = \frac{1}{1/\omega_j}$$

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- Assumptions
 - ► Risk neutrality ⇒ only marginal means impact decisions
 - ► All priors and signals are normally distributed

$$ar{r}_j \sim \mathcal{N}(r_j, \omega_j^2), \quad x_{ij} \sim \mathcal{N}(r_j, \sigma^2), \quad j \in \{f, m\}$$

- ightharpoonup Priors for r_{if} and r_{im} are independent of each other & cost & distaste distributions
 - A signal about one belief shifts only that belief (this can be relaxed)
 - Signals do not impact δ_{if} , δ_{im} or c_i



Updating Utility After A Signal

$$U_{ij} = \mathbb{E}(r_{ij}) - \delta_{ij} - c_i$$

becomes

$$U_{ij} = \bar{r}_j \qquad -(1-\lambda_j)\bar{r}_jw_{ij} + (1-\lambda_j)w_{ij}x_{ij} - \delta_{ij} \qquad -c_i$$
Updated utility Avg. beliefs of Δ in beliefs from any responsiveness of signal being sent signal (high/low) about parent type j about parent type j discrimination due to beliefs about responsiveness discrimination due to beliefs about responsiveness

- $ightharpoonup w_{ij}$ is indicator for sending i a signal about parent $j \in \{f, m\}$
- ▶ Recall $U_{in} = 0$ (no response, no distaste, no cost of calling)

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Field Experiment

- ► Emails to school principals from a fictitious family ask to contact one parent Details
 - ▶ 40% US households (\approx 50 million) have school-aged children (NCES, 2021)
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- ► Main Treatments:
 - ► Baseline: no signal
 - ► Treatment 1: Male high availability signal
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 - ► Treatment 3: Female high availability signal
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- ► Each principal is sent 1 email (between-subjects design)
- ► About 2 weeks later, send "no longer need to speak" email



School Inquiry

roy@miller-family.net <roy@miller-family.net>

To: laura.k.gee@gmail.com

Cc: erica@miller-family.net

Dear Principal Gee,

We are searching for schools for our child. Can you call one of us to discuss?

I have [a lot of][limited] availability to chat, but you can call either me or Erica.

Roy (727) 855-3143 or Erica (727) 855-3100.

School Inquiry

erica@miller-family.net <erica@miller-family.net>

To: laura.k.gee@gmail.com Cc: rov@miller-family.net

Dear Principal Gee,

We are searching for schools for our child. Can you call one of us to discuss?

I have [a lot of][limited] availability to chat, but you can call either me or Roy.

Erica (727) 855-3125 or Roy (727) 855-3157.

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roy@miller-family.net <roy@miller-family.net>

To: laura.k.gee@gmail.com Cc: erica@miller-family.net

Dear Principal Gee,

We are searching for schools for our child. Can you call one of us to dicuss?

Roy (727) 361-8474 or Erica (727) 380-2761.

▶ More Details

▶ Robustness: email language



Results

- ► Main Variation
 - \blacktriangleright Sent approximately equal number of emails from 5 "Main" treatments; N=30,471
 - ► Random sample of all US
 - ▶ 21% of principals called at least 1 parent
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- ▶ Other variations of these 5 treatments to explore alternative mechanisms

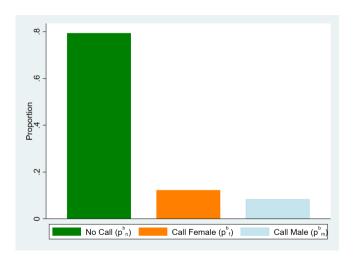
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 - ▶ Variation 2 "Full-time" (N = 9,472): Shut down labor force participation "We both work full time"

May - August 2022 Data Collection (N=80,071)

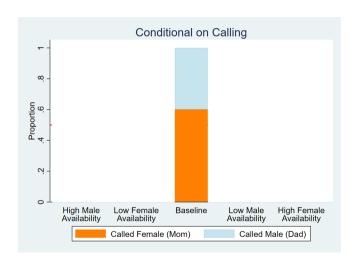
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 - ▶ Variation 3 "Male domain" (N = 9,808):
 "We are especially interested in discussing school fees and other expenses."

Descriptive: H1 Is there an external demand gender gap? YES

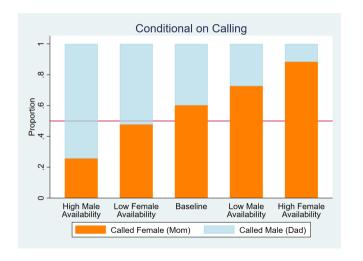


 $lackbox{$lackbox{\mathbb{P}}[f|b]=12\%>\mathbb{P}[m|b]=8\%$} \ N=5,612 \ ext{emails sent in Main} \ ext{Baseline} \ Pr(\,T>t\,)=0.00$

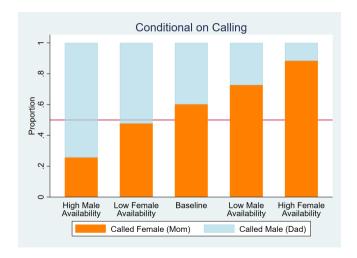
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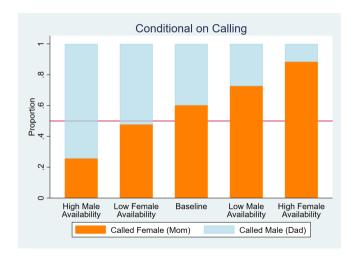
- ▶ $\mathbb{P}[f|b] = 12\% > \mathbb{P}[m|b] = 8\%$ N = 5,612 emails sent in Main Baseline Pr(T > t) = 0.00
- ► Conditional on calling, female is called 59% vs. male 41% Pr(T > t) = 0.00



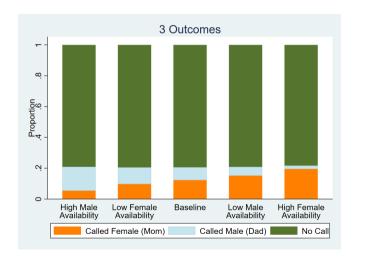
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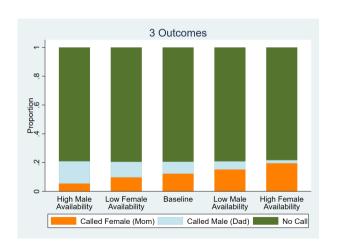


- ► Messages change who is called
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- ► Female still called 26% when male "very available" (Male called only 10% when female "very available")
- ► Across all treatments, women are called 58% vs. men 42%



- Messages generally change who is called as expected (N = 30,471 emails sent)
- ► NoCall rate not statistically different treatments vs. Baseline

Mechanisms: H2 & H3 What drives decision makers to call mom in Baseline?



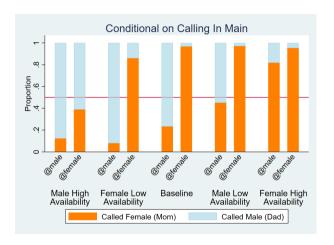
- ► Using info from figure & model, more calls to female parent in Baseline because:
 - Decision-makers believe women are marginally more responsive than men:

$$ar{r}_f = -0.34$$
 and $ar{r}_m = -0.42$ $Prob > chi2 = 0.64$

Decision-makers have different "deltas" for male/female parent: $\bar{\delta}_m - \bar{\delta}_f = 0.33$

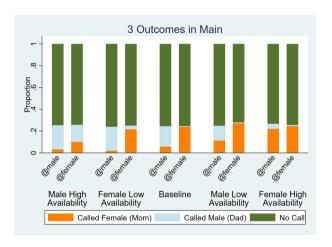
$$Prob > chi2 = 0.02$$

Solutions: Who emails & who calls mom?



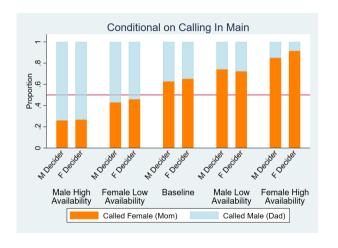
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- ► Sending emails from men does not change "No Call" (pooling across 5 treatments)

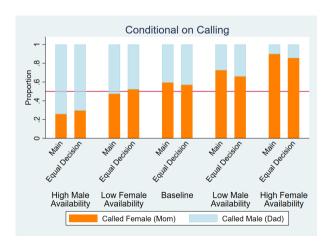
Solutions: Attributes of decision makers & who calls mom?



- ► Female decision-makers call mom 59% vs. male decision-makers 57% across all 5 treatments
- ► Later: link to attributes of school, geographic area (gender norms, labor force participation, etc.)

Alternative Mechanisms

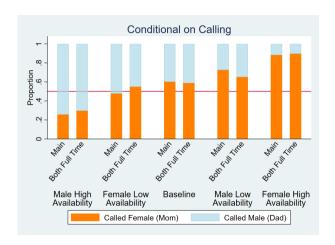
Expertise



▶ "Equal Decision" Variation

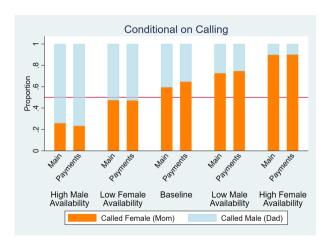
- "We are searching for schools for our child. Can you call one of us to discuss?"
- + "This is the type of decision we both want to be involved in equally."
- ► If mother's implied expertise is driving results, expect fewer calls to mothers in "Equal Decision" variation
- ► Find small opposite expected diff 58% Main vs. 60% Equal Decision

Availability & Labor Force Participation



- ► "Full-time" Variation
 - "We are searching for schools for our child. Can you call one of us to discuss?"
 - ► + "We both work full-time."
- ► If mother's implied labor force participation is driving results, expect fewer calls to mothers in "FT Work" variation
- Find opposite 58% Main vs. 62% Full-time p = 0.05

Male Domain



- ► "Payments" Variation
 - "We are searching for schools for our child."
 - + "and we are especially interested in discussing school fees and other expenses."
- ightharpoonup Survey of pprox 140 educators indicated "Payments" as more male domain
- ► Find same calls to mom in Main 58.1% vs. 58.0% in Payments

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 - ► Baseline call-back rates for religious/public+private (non religious) schools: 23% /11-14% calls to moms vs. 7% /7-8% to dads

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 - Our survey: mothers wish to be contacted less
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 - ► Children
 - Benefit from having both parents involved (Peck, 2007).
 - ► Parents' employers & Economic efficiency
 - Most efficient for the parent who signals availability to be contacted

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 - ► Sending the email from the father's account
- ► Robustness across domains

Thank you! olga.stoddard@byu.edu

Appendix

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Details of Email Design

- ▶ Names from top 200 names social security admin. 1980s
 - ► School age child 5 to 18, avg = 11.5, born 2009
 - ► Avg. age parent 29.4
 - \triangleright 2009-29.4 = 1979.6
 - ► Chose names with Erica, Roy for May 2022 (Audrey & Curtis later) no strong signal of a specific race/ethnicity
 - ▶ Last name Miller May 2022 (Johnson later) from list of most popular last names
- ► Survey of Educators
 - ▶ 238 Educators in April 2022
 - ► Three-fourths being emailed by parent very common (at least once a week) or somewhat common (at least once a month)
 - ▶ 42% being emailed by 1 parent & CC other very common (at least once a week) or somewhat common (at least once a month)
- ▶ Back



Callback Rate

- ► Studies which email schools and receive emails back
 - ▶ 40% to 63% (Bergman and McFarlin Jr, 2018; Ahmed et al., 2020; Oberfield and Incantalupo, 2021)
 - ► Expect phone calls less than emails
- ▶ Principals response to other emailed tasks
 - ▶ 14% of principals respond in the first month after an email request to take a survey (Neal et. al., 2020)
- ► Traditional job audit studies
 - ► Combined email/phone response rates between 8% to 11% (see Agan and Starr, 2018 for a summary)
- ► Back



Baseline: no signal

School Inquiry

roy@miller-family.net <roy@miller-family.net>
To: laura.k.gee@gmail.com
Cc: erica@miller-family.net

Dear Principal Gee,

We are searching for schools for our child. Can you call one of us to dicuss?

Roy (727) 361-8474 or Erica (727) 380-2761.

School Inquiry

erica@miller-family.net <erica@miller-family.net>

To: laura.k.gee@gmail.com

Cc: roy@miller-family.net

Dear Principal Gee,

We are searching for schools for our child. Can you call one of us to dicuss?

Erica (727) 361-8505 or Roy (727) 361-8470.

All versions mostly balanced on being sent from male or female parent (results similar if re-weighted for balance on email sender) • Back

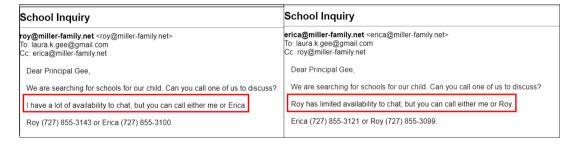
Robustness

Variation & Treatment	Body Text	
Main Baseline (Used In Study)	We are searching for schools for our child. Can you call one of us to	
	discuss?	
Main Baseline (Longer Alter-	I'm Curtis[Audrey] Johnson. I'm writing to request information about	
native)	your school because we are searching for schools for our child, Riley.	
	Riley is a well behaved student, and loves most subjects. We're not	
	totally sure when we will be needing to enroll, but we are looking	
	forward to hearing more from you at your earliest convenience. Could	
	you call one of us to discuss? Thank you very much,	
Equal Decision (Used In	We are searching for schools for our child. Can you call one of us to	
Study)	discuss? This is the type of decision we both want to be involved in	
	equally.	
Equal Decision (Longer Alter-	We are searching for schools for our child. Could you call one of us to	
native)	discuss? You can call either me or my wife, Audrey [husband, Curtis].	
	Since we make these kinds of decisions together, whoever you call will	
	convey the information to the other parent. Thank you very much,	





Treatments 1 & 2: Male high vs. low availability signals



All versions mostly balanced on being sent from male or female parent (results similar if re-weighted for balance on email sender) • Back

Treatments 3 & 4: Female high vs. low availability signals

School Inquiry	School Inquiry
roy@miller-family.net <roy@miller-family.net> To: laura k.gee@gmail.com Cc: erica@miller-family.net</roy@miller-family.net>	erica@miller-family.net <erica@miller-family.net> To: laura.k gee@gmail.com Cc: roy@miller-family.net</erica@miller-family.net>
Dear Principal Gee,	Dear Principal Gee,
We are searching for schools for our child. Can you call one of us to discuss?	We are searching for schools for our child. Can you call one of us to discuss?
Erica has a lot of availability to chat, but you can call either me or Erica.	I have limited availability to chat, but you can call either me or Roy.
Roy (727) 855-3147 or Erica (727) 855-3137.	Erica (727) 855-3125 or Roy (727) 855-3157.

All versions mostly balanced on being sent from male or female parent (results similar if re-weighted for balance on email sender) •Back