

# Rejection Communication and Women's Job Search Persistence

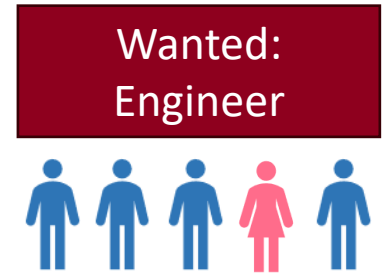
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# Motivation

- Women's labor force participation and income lags behind men
- Part of the gender gap is due to supply-side sorting effects, e.g. differences in job applications and talent pipelines
- We look at a very specific way to encourage reapplications for female applicants: emphasizing *fit* in job rejection messages
- Our paper fits into an emerging literature examining how application processes affect gender gaps in the labor market



# Why job rejections matter: Search costs

- Work has suggested the psychic costs of search depend on culture, age, sex, culture, and coping resources (Brands & Fernandez Mateo 2017, Jackson and Warr 1984, McKee-Ryan et al. 2005)
- Rejections could raise psychic search costs, leading to worse matches, lower pay, or labor market exit (the “disgruntled worker effect”)
- Public policies already aim to reduce search costs for disadvantaged groups



# Why job rejections matter: *Communication* matters

Recent studies have found changing the application process can affect the gender and racial composition of applicants:

- Women are less likely to apply for jobs using stereotypically agentic and masculine language like “competitive,” “dominant,” and emphasizing “leadership;” and more likely to apply for jobs described as “cooperative,” “community-oriented,” and emphasizing interpersonal skills (Flory et al. 2015, Samek 2019, Niederle and Vesterlund 2011)
- Women apply to job where the process is more transparent (Gee 2019)
- Women are more ambiguity-averse in a variety of contexts (Bertrand 2011, Croson & Gneezy 2009, Eckel and Grossman 2008, Garratt et al. 2013)



# Our research questions:

Does the language used to *reject* a job candidate affect the probability that they reapply for future positions?

Is the effect of job rejection language different for men and women?



# Setting

- Randomized controlled trial at a temporary staffing agency in India
- Over 26 weekly cohorts, rejection messages were sent to 8,653 candidates, each of whom was randomly assigned one of three SMS rejection messages
  - One third were rejected for “fit”
  - One third were rejected for “quality”
  - One third were provided no reason
- We choose these based on empirical evidence rejection messages most commonly differ in these dimensions, and in principle they have some economic content.
- We want to know  $\Pr(\text{Reapply} \mid \text{Gender of applicant, message})$



# Study design

1. Temporary help agency posts available positions in their web portal. The median placement spell is about three months but transition to regular employment is common (they pay the agency a fee)
2. Candidates create an account, search for open positions, and apply.
  - Candidates *must* provide: name, phone number, formal education.
  - Candidate *may* provide: gender, age, marital status, job preference, city preference, work experience.
3. Candidates apply for positions and are screened by the employer, typically at the job site.
4. Candidates rejected in week  $t-1$  are notified the end of week  $t$ .
5. We track job search behavior in weeks  $t+1$  and beyond, up to 26 weeks + 8 more tracking search outcomes.





New

Work from Home

470 Active Jobs



Accountant

3805 Active Jobs



BPO / Customer  
care

10279 Active Jobs



Data Entry / Back  
Office

7878 Active Jobs



Sales / Marketing

3777 Active Jobs



Receptionist / Front  
Office

1117 Active Jobs



Hospitality  
Executives

136 Active Jobs



Delivery

912 Active Jobs



Cook / Chef

573 Active Jobs



Driver

119 Active Jobs



Beauticians / Spa

276 Active Jobs



New

Mechanic

596 Active Jobs



New

IT Software-  
Engineer

5660 Active Jobs



New

Retail / Store  
Executive

678 Active Jobs



View All



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# Variables: Messages

- 1. Fit message:** Thank you for applying to the <role name> position <listing-url> at <Agile division name>. Candidates selected were closer matches for the position. We are sorry we cannot make you an offer at this time. Please apply to other positions by clicking <search-url>
- 2. Quality message:** Thank you for applying to the <role name> position <listing-url> at <Agile division name>. Candidates selected were better qualified for the position. We are sorry we cannot make you an offer at this time. Please apply to other positions by clicking <search-url>
- 3. No reason message:** Thank you for applying to the <role name> position <listing-url> at <Agile division name>. We are sorry we cannot make you an offer at this time. Please apply to other positions by clicking <search-url>.

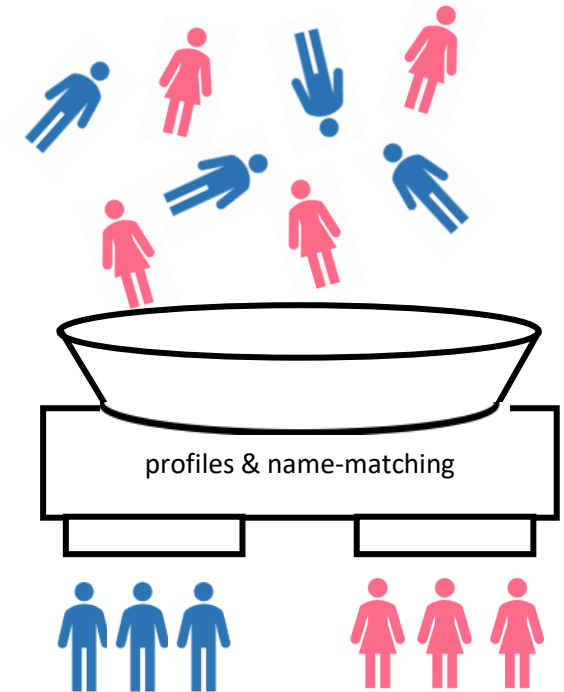


# Variables: Applicant gender

Applicant gender is part of a personal profile, and the platform *does not require* candidates to report gender.

- 32% of candidates report gender in their profiles.
- 58% of candidates' gender can be imputed from the name (we use genderize.io). This yields a >95% match with the subset that self-reports gender.
- 9.4% of candidates are omitted because their gender is not reported and cannot be coded with high confidence by genderize.io.

We are left with 6,387 male applicants, 1,450 female applicants, and 816 omitted gender unknown applicants.



## Variables: Outcomes

1.  $APPLIED_{it}$ , =1 if the candidate applied for another position within 8 weeks
2.  $LISTING_{it}$ , =1 if the candidate clicked the rejection message's job listing
3.  $SEARCH_{it}$ , =1 if the candidate clicked the rejection message's search URL

Table 1: Means of independent variables by message

	By treatment message			
	All	Quality	Fit	No reason
Female	0.185	0.183	0.183	0.189
Post-COVID lockdown	0.517	0.516	0.531	0.505
Age	26.284	26.071	26.378	26.398
Married	0.344	0.338	0.359	0.336
Top 6 metro	0.319	0.312	0.321	0.322
Lists job preference	0.869	0.862	0.878	0.865
Lists city preference	0.091	0.086	0.095	0.093
Lists skills	0.218	0.218	0.220	0.217
Experience: missing	0.541	0.531	0.563	0.532
Experience: none	0.192	0.205	0.183	0.190
Experience 1-35 months	0.135	0.129	0.127	0.149
Experience: $\geq 36$ months	0.130	0.135	0.125	0.129
Count	7,757	2,581	2,589	2,587

Note:  $p=0.083$  for the test that the true probability of treatment is equal across columns for applicants who have experience of 1-35 months. No other tests are significant at the 10% level.

Mostly male, mid-20s

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Randomization/balance check

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Table 2: Pairwise correlations

	a.	b.	c.	d.	e.	f.	g.
a. Applied	1.000						
b. Listing	0.081*	1.000					
c. Search	0.068*	0.415*	1.000				
d. Fit	0.003	0.014	0.009	1.000			
e. Quality	-0.007	0.020	-0.007	-0.501*	1.000		
f. No reason	0.004	-0.033*	-0.002	-0.499*	-0.500*	1.000	
g. Female	-0.051*	-0.022	-0.003	-0.004	-0.003	0.007	1.000
h. Post lockdown	0.011	0.004	-0.110*	0.002	0.014	-0.017	-0.118*
i. Age	0.019	0.022	0.019	-0.023	0.008	0.015	-0.101*
j. Married	-0.012	0.041	0.019	-0.008	0.021	-0.012	-0.056*
k. Top metro	0.004	0.005	-0.023*	-0.010	0.005	0.005	0.032*
l. Lists job preference	0.043*	-0.008	0.001	-0.008	0.020	-0.012	-0.038*
m. Lists city preference	0.069*	0.030*	0.036*	-0.012	0.008	0.004	-0.055*
n. Work experience	0.016	-0.001	-0.003	0.000	0.000	-0.001	-0.093*
o. Lists skills	0.052*	0.035*	0.033*	-0.004	0.002	0.002	0.011
	h.	i.	j.	k.	l.	m.	n.
i. Age	-0.001	1.000					
j. Married	0.053*	0.584*	1.000				
k. Top metro	0.118*	0.157*	0.035	1.000			
l. Lists job preference	0.003	-0.032	-0.002	0.006	1.000		
m. Lists city preference	0.011	0.092*	0.025	0.055*	0.116*	1.000	
n. Work experience	0.057*	0.622*	0.373*	0.113*	0.084*	0.168*	1.000
o. Lists skills	-0.094*	0.041	-0.015	0.050*	-0.124*	0.092*	0.034*

\* p&lt;0.05



Listing and search URL clicks are positively correlated with ultimate re-applications.

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\* p<0.05

# Estimation

$$APPLIED_{ft} = \beta_1 FIT_f + \beta_2 QUALITY_f + \beta_3 NOREASON_f + \mathbf{X}\beta + \epsilon_{ft} \quad (1)$$

$$LISTING_{ft} = \beta_1 FIT_f + \beta_2 QUALITY_f + \beta_3 NOREASON_f + \mathbf{X}\beta + \epsilon_{ft} \quad (2)$$

$$SEARCH_{ft} = \beta_1 FIT_f + \beta_2 QUALITY_f + \beta_3 NOREASON_f + \mathbf{X}\beta + \epsilon_{ft} \quad (3)$$

$$APPLIED_{mt} = \beta_1 FIT_m + \beta_2 QUALITY_m + \beta_3 NOREASON_m + \mathbf{X}\beta + \epsilon_{mt} \quad (4)$$

$$LISTING_{mt} = \beta_1 FIT_m + \beta_2 QUALITY_m + \beta_3 NOREASON_m + \mathbf{X}\beta + \epsilon_{mt} \quad (5)$$

$$SEARCH_{mt} = \beta_1 FIT_{mt} + \beta_2 QUALITY_m + \beta_3 NOREASON_m + \mathbf{X}\beta + \epsilon_{mt} \quad (6)$$

We run LPMs for men and women separately, for each of the three outcomes with cluster robust SE's.

# Results

Table 3: Search persistence by rejection message and sex, no controls

	Women			Men		
	(1) Applied	(2) Listing	(3) Search	(4) Applied	(5) Listing	(6) Search
1: Fit	0.108** (0.0143)	0.0275 (0.00753)	0.0571 (0.0107)	0.120 (0.00709)	0.0508* (0.00478)	0.0574 (0.00507)
2: Quality	0.0674 (0.0115)	0.0484** (0.00986)	0.0568 (0.0106)	0.125 (0.00720)	0.0464 (0.00457)	0.0516 (0.00481)
3: No Reason	0.0735 (0.0118)	0.0224* (0.00670)	0.0469 (0.00956)	0.129 (0.00732)	0.0348*** (0.00400)	0.0577 (0.00509)
Observations	1438	1438	1438	6319	6319	6319

Notes: Robust standard errors in parentheses. Significance tests compare the listed treatment with the other two jointly.

\*:  $p < 0.1$ , \*\*:  $p < 0.05$ , \*\*\*:  $p < 0.01$ .

# Results

Fit message gets women to reapply

Table 3: Search persistence by rejection message and sex, no controls

Message sent	Women			Men		
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# Results

... with no reduction in reapplications for men

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# Results

Fit message nearly closes the gender gap in reapp

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# Results

... whereas other messages associated with sharp gender differences

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# Mechanisms

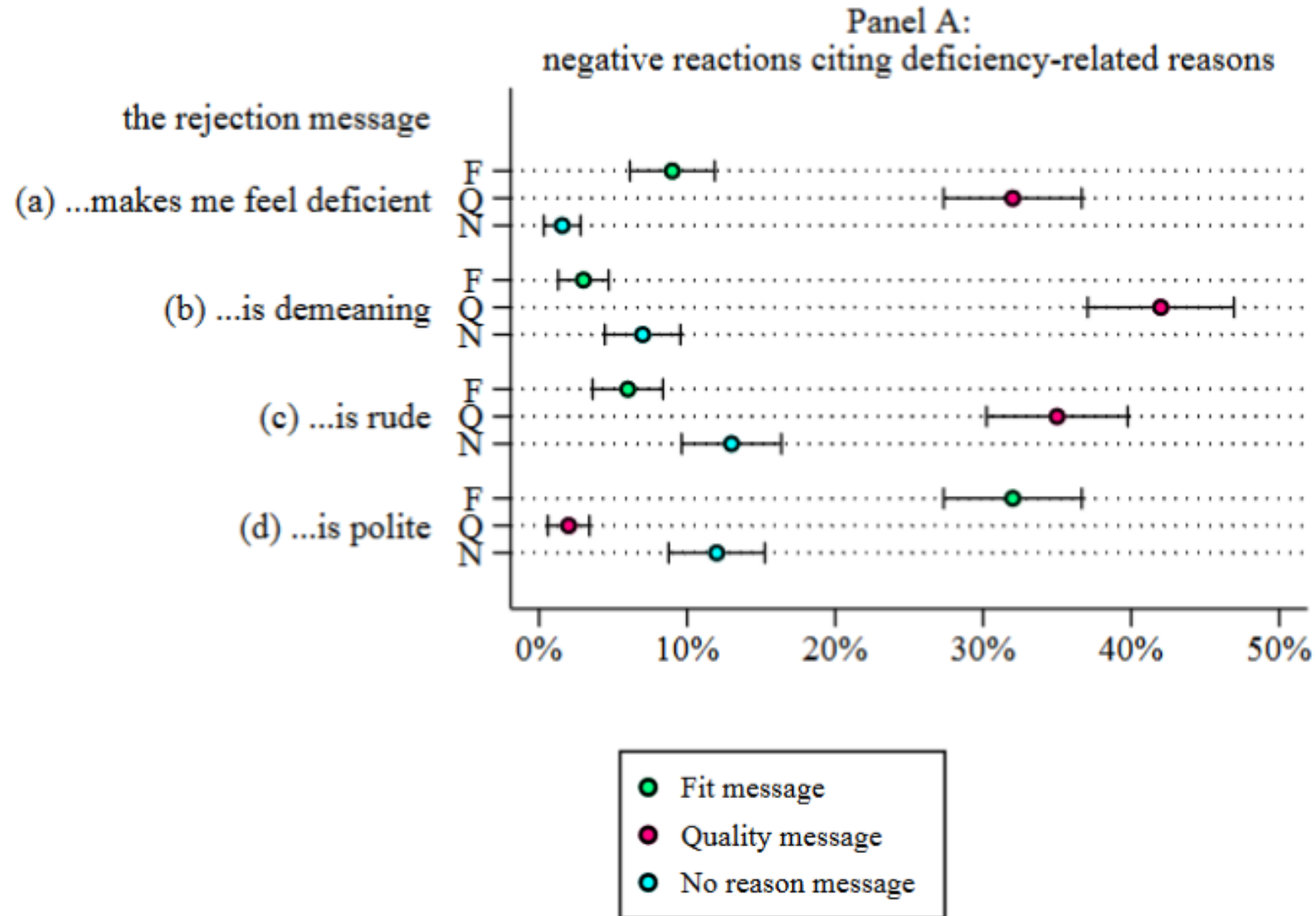
We do a follow up study on Amazon Mechanical Turk to understand how jobseekers may be interpreting the rejection messages. To do so:

1. 300 MTurk workers were presented with one of the three rejection messages (100 each), and asked to describe their sentiment toward the employer that would give this rejection message.
2. The 300 responses were scrambled and independently classified by three blind reviewers.
3. We examine how each of the three rejection messages are coded for sentiment.

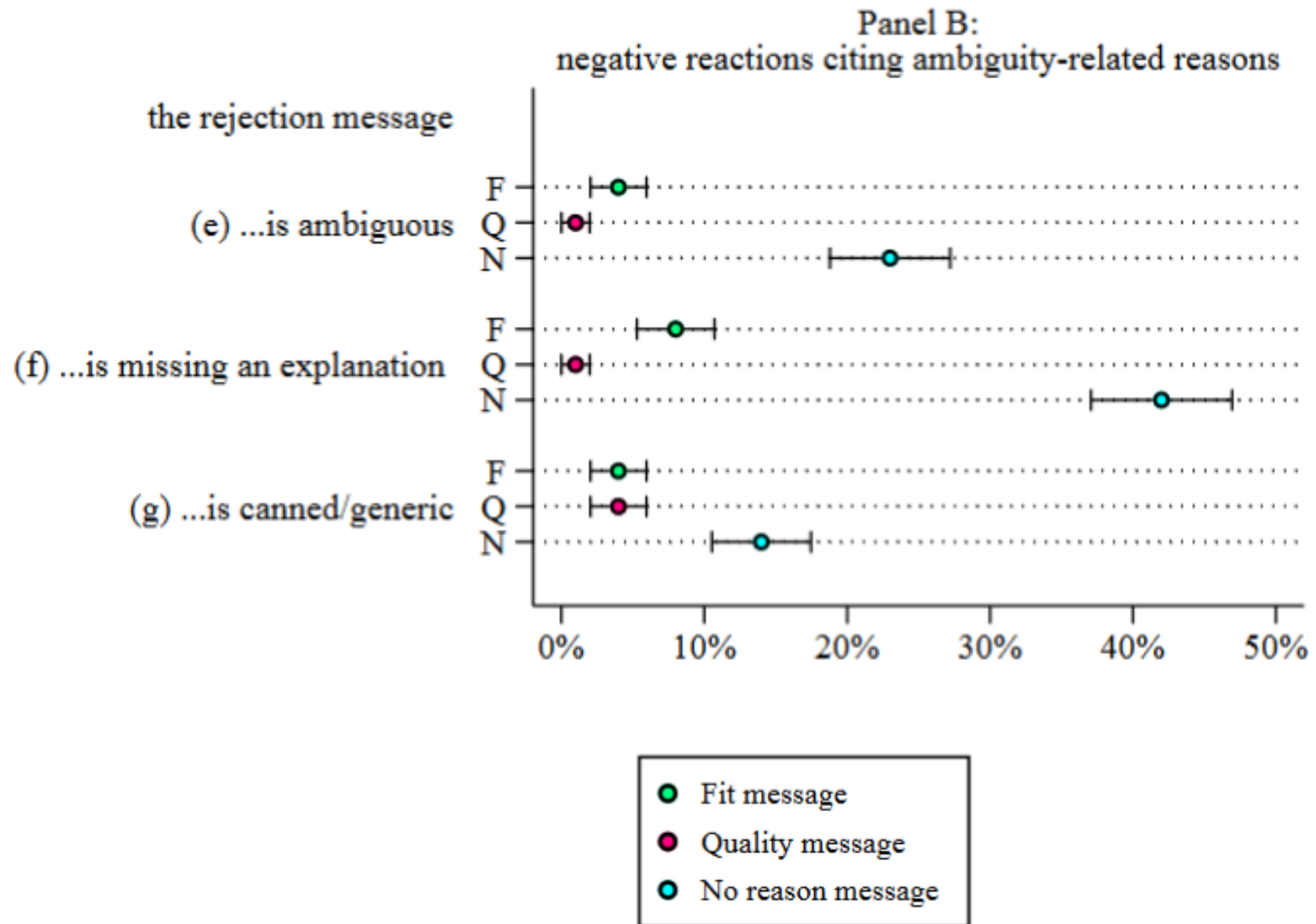




# Mechanisms

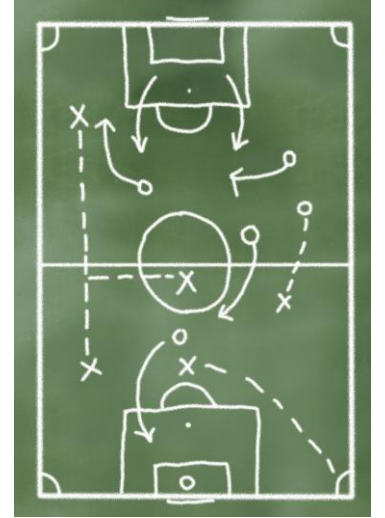


# Mechanisms



# Next step

1. Limitation of the mechanism study: men and women share the same assessments of the rejection messages, but we do not track reapplications (there is no job to reapply to)
2. We're doing a larger scale follow-up to jointly test the mechanisms and reapplications by embedding a survey in a job screening process



# Conclusions

Twitter-ready version: Emphasize match-quality in rejection decisions.

- It won't matter for men, but it will for women (at least in terms of reapplications)
- Saying other candidates were more qualified gives jobseekers a sense of self-deficiency and makes the employer come off as rude.
- Giving no reason makes jobseekers feel like the rejection message is canned, generic, insufficient, and possibly rude as well.



# Thanks!

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- Alan Benson: [bensona@umn.edu](mailto:bensona@umn.edu)
- Russell Funk: [rfunk@umn.edu](mailto:rfunk@umn.edu)
- João Sedoc: [jsedoc@stern.nyu.edu](mailto:jsedoc@stern.nyu.edu)