Cooking Up Equality

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Is There Gender Bias in Food Services Hiring?

Research Question

Is gender implicit bias present in the food service industry's hiring practices?

73%

Male Line Cooks

26.9% of line cooks are women and 73.1% of line cooks are men

61%

Male Restaurant workers

38.7% of all restaurant workers are women, while 61.3% are men

32%

Male Servers

68% of all servers are women, while 32% are men

Source: Zippia.com

Primary Hypothesis

We anticipate that despite the shifting cultural landscape promoting diversity, that gender implicit bias persists, leading to men receiving more requests to interview for back-of-house positions, while women will be favored for front-of-house positions.

Secondary Hypothesis

Though there is not a lot of data on non-binary people in the restaurant industry, we expect non-binary individuals to be contacted less than both male and female applicants.

Design of the experiment

R		O
R	X_{Female}	O
R	$X_{Non\text{-}binary}$	O

Randomized post-test experiment with a control and two treatment groups

Treatment

638 Resumes sent out to food-service job postings on Craigslist across 6 cities

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Hiring Line Cook - No weekends/no nights! (sonoma)

Little Lou's - Jacks Filling Station

Control Group: male applicants

- Charles Miller (he/him)
- N=221
- Server= 116
- Cook=105

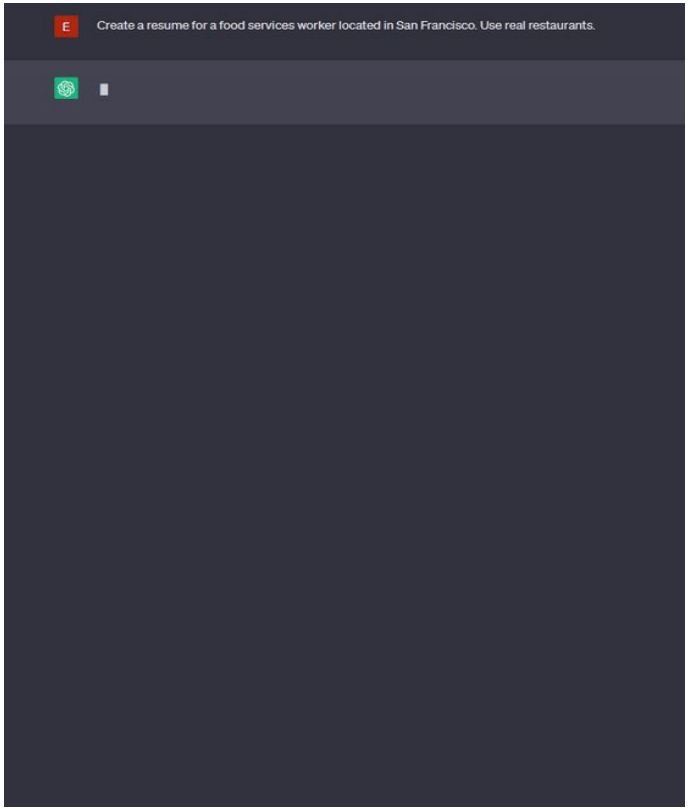
T1 Group: female applicants

- Claire Miller (she/her)
- N=214
- Server= 100
- Cook=114

T2 Group: non-binary applicants

- Cypress Miller (they/them)
- N=204
- Server= 103
- Cook=101

Treatment



Control

CHARLES MILLER (he/him)

SUMMARY

Experienced food service professional with 6+ years in the industry. Proven ability to work well under pressure in fast-paced environments while maintaining high-quality food and excellent customer service. Possess strong communication skills and ability to work effectively in a team environment.

Treatment 1

CLAIRE MILLER (she/her)

SUMMARY

Experienced food service professional with 6+ years in the industry. Proven ability to work well under pressure in fast-paced environments while maintaining high-quality food and excellent customer service. Possess strong communication skills and ability to work effectively in a team environment.

Treatment 2

CYPRESS MILLER (they/them)

SUMMARY

Experienced food service professional with 6+ years in the industry. Proven ability to work well under pressure in fast-paced environments while maintaining high-quality food and excellent customer service. Possess strong communication skills and ability to work effectively in a team environment.

Randomization Process

Flatiron
☆ Open Call / Cooks Needed Every Day Brunch
1 hour ago · hourly · seeyamañana

← 1 Charles Miller (he/him)

Midtown West
☆ SERVERS
1 hour ago · holurly wages and Tips.

← 2 Claire Miller (she/her)

Red Hook
☆ Server / Bartender in a busy brewpub
1 hour ago · will receive hourly rate plus tips

← 3 Cypress Miller (they/them)

Midtown East
☆ Line Cook | Mischa | Now Hiring
1 hour ago · Hourly ($18.00 - $24.00)

← 4 Charles Miller (he/him)

Williamsburg
☆ Line Cook in a busy grubpub
1 hour ago · will receive hourly rate · Brewery

← 5 Claire Miller (she/her)

Queens
☆ Porter/Cleanup/Garbage Disposal
1 hour ago · Hourly Pay · Melrose Ballroom

← 6 Cypress Miller (they/them)

etc.

Binary Measurement and Outcomes

0 Form, Negative, or No Response

1 Personalized Request for Interview

craigslist 7609374820 <827db6cd4a783f458d717f4bceebe42b... Tue, Apr 18, 12:41 PM (1 day ago)
to 827db6cd4a783f458d717f4bceebe42b

Claire
My name is Matt Renshaw and I am chef at Bairds on B in Lake Oswego. I would really like to me
discuss position. Please text or call me at 458 356 8090 and we can set up time to meet. By the v
one of my all time favorite spots in Portland.

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craigslist 7607052829 <14d38168e5973bcb8a18d6f63b695a65@job.craigslist.org>
to 14d38168e5973bcb8a18d6f63b695a65

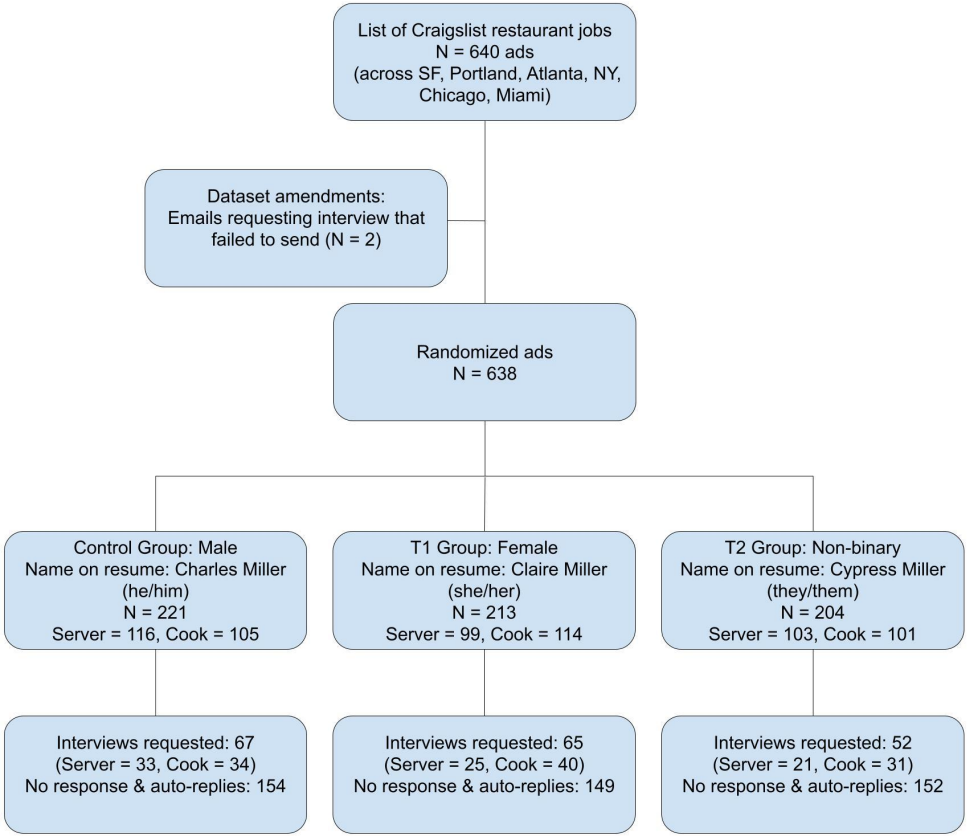
THERE IS NO PHONE NUMBER ON YOU RESUME

From: **craigslist 7605725886** <d25528009bf43bc2a9ddefd4582023a1@job.craigslist.org>
Date: Sun, Apr 2, 2023 at 12:23 PM
Subject: Re: Craigslist Pastry/Bread Position Route One Bakery
To: <d25528009bf43bc2a9ddefd4582023a1@reply.craigslist.org>

Hi Cypress,

Thank you for reaching out. We would like to go ahead with an interview but first could you clarify the extent of your experience at the Slanted Door? They claim to have no record of your employment at the San Ramon location.

Flow diagram of the experiment

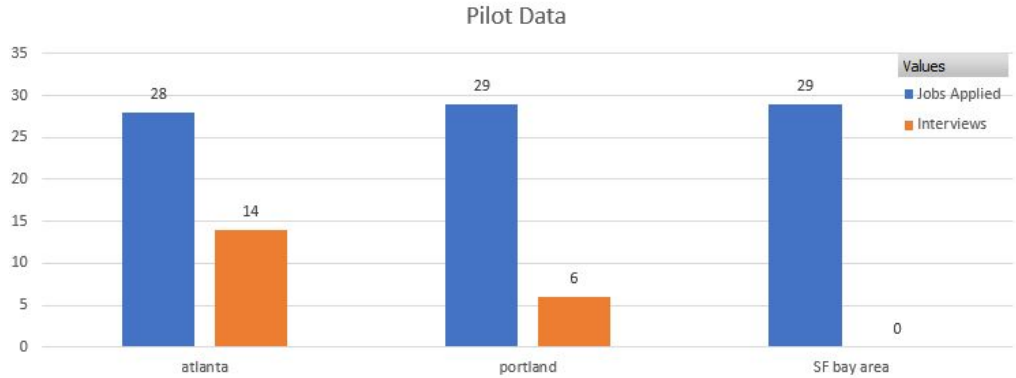


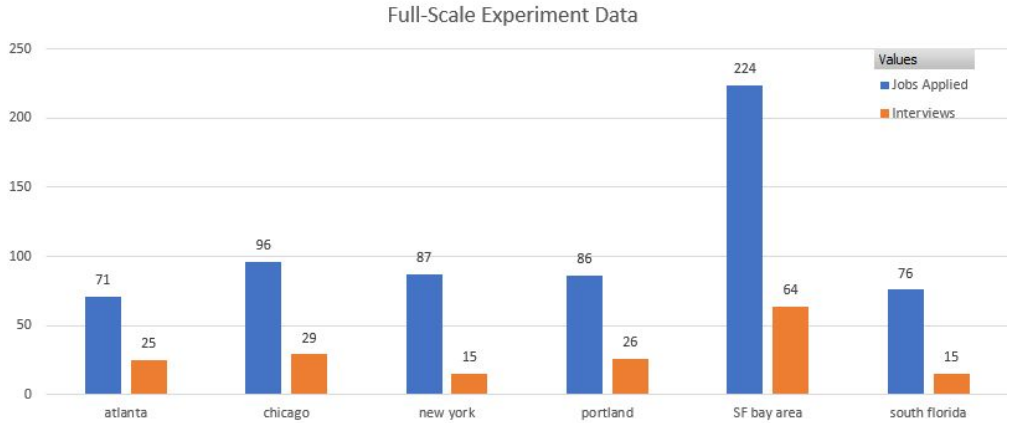
Data

	Jobs Applied	Interviews	Response Rate
Control (Charles, Male)	221	67	30.32%
Treatment 1 (Claire, Female)	213	65	30.52%
Treatment 2 (Cypress, Non-Binary)	204	52	25.49%
Grand Total	**638**	**184**	**28.84%**

	Jobs Applied	Interviews	Response Rate
Cook	320	105	32.81%
Server	318	79	24.84%
Grand Total	**638**	**184**	**28.84%**

Data


Pilot Data
35
30
25
20
15
10
5
0
28
14
29
6
29
0
Values
Jobs Applied
Interviews
atlanta
portland
SF bay area


Full-Scale Experiment Data
250
200
150
100
50
0
71
25
96
29
87
15
86
26
224
64
76
15
Values
Jobs Applied
Interviews
atlanta
chicago
new york
portland
SF bay area
south florida

Analysis

- **Outcome**: Interview requested (binary)
- **Treatment variable**: Factor with levels man, woman, non-binary
- **Covariates**:
  - Job category (Line Cook, Server, Host/Hostess, Cashier, Manager..)
  - Job type (Front of House, Back of House)
  - Hours (part-time, full-time, employee's choice)
  - Location (Bay Area, NY, Atlanta..)

Results

	Dependent variable:		
	interview_requested_binary		
	(1)	(2)	(3)
factor(treatment)Nonbinary	-0.048	-0.051	-0.060
	(0.044)	(0.044)	(0.045)
factor(treatment)Woman	0.002	-0.005	-0.011
	(0.044)	(0.044)	(0.044)
factor(foh_boh)BOH		0.346	0.061
		(0.454)	(0.500)
factor(foh_boh)FOH		0.268	-0.005
		(0.454)	(0.510)
Constant	0.303***	-0.000	0.662
	(0.031)	(0.452)	(0.595)
Fixed effects	No	No	Yes
Observations	638	638	638
R2	0.003	0.011	0.118
Adjusted R2	-0.001	0.004	0.039
Residual Std. Error	0.454 (df = 635)	0.452 (df = 633)	0.444 (df = 585)
F Statistic	0.819 (df = 2; 635)	1.699 (df = 4; 633)	1.502** (df = 52; 585)
Note:			*p<0.1; **p<0.05; ***p<0.01

Limitations of the experiment

- Our outcome does not generalize to rural areas
- Our experiment focused only on part of the hiring process – there could still be gender bias in the interviewing stage
- Does our study generalize outside of Craigslist? Are employers who post ads on Craigslist different than those restaurants in the city that just put up help wanted signs, for instance?
- It is possible that an employer requested an interview after our data analysis