Organizational Blind Spots

Assessing Evidence of Implicit Racial & Gender Bias in the US Coast Guard

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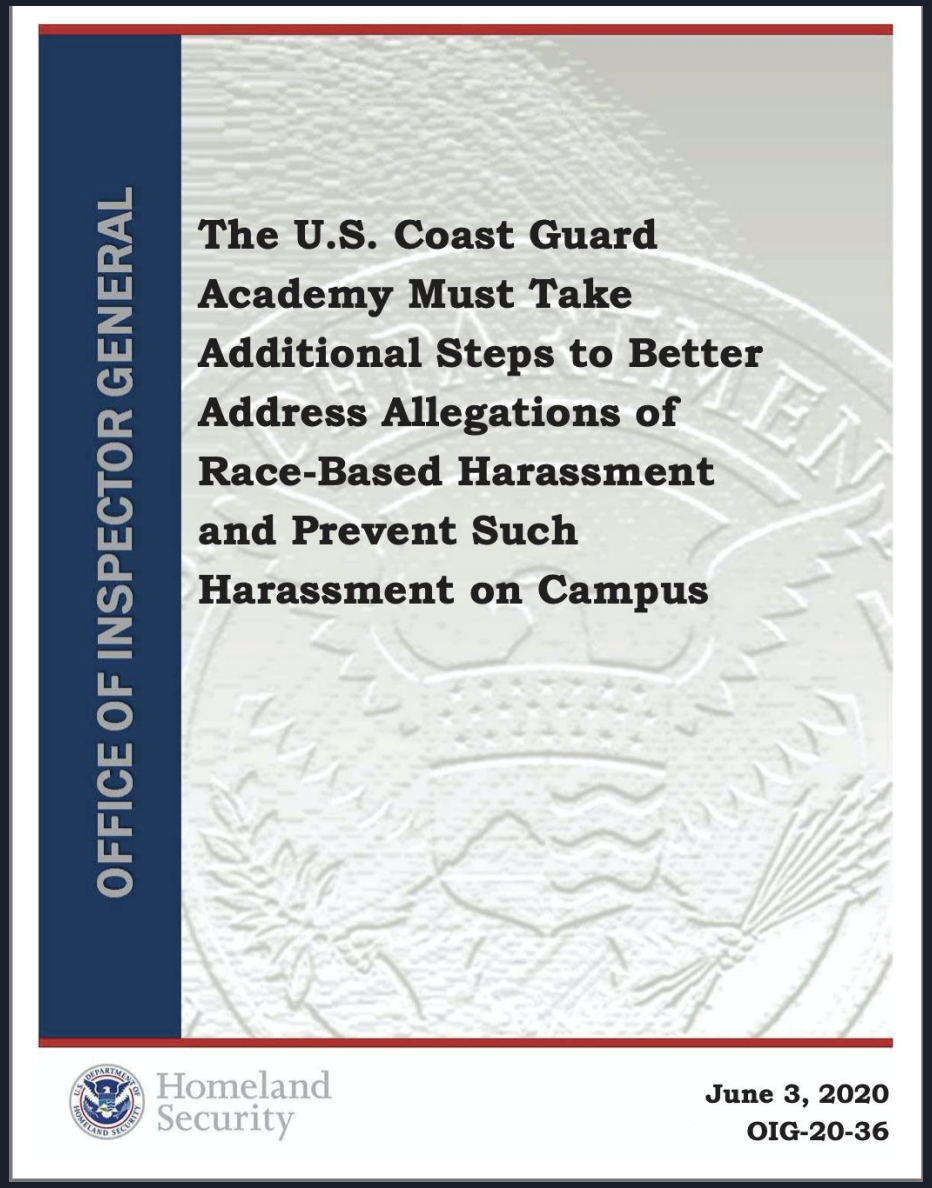
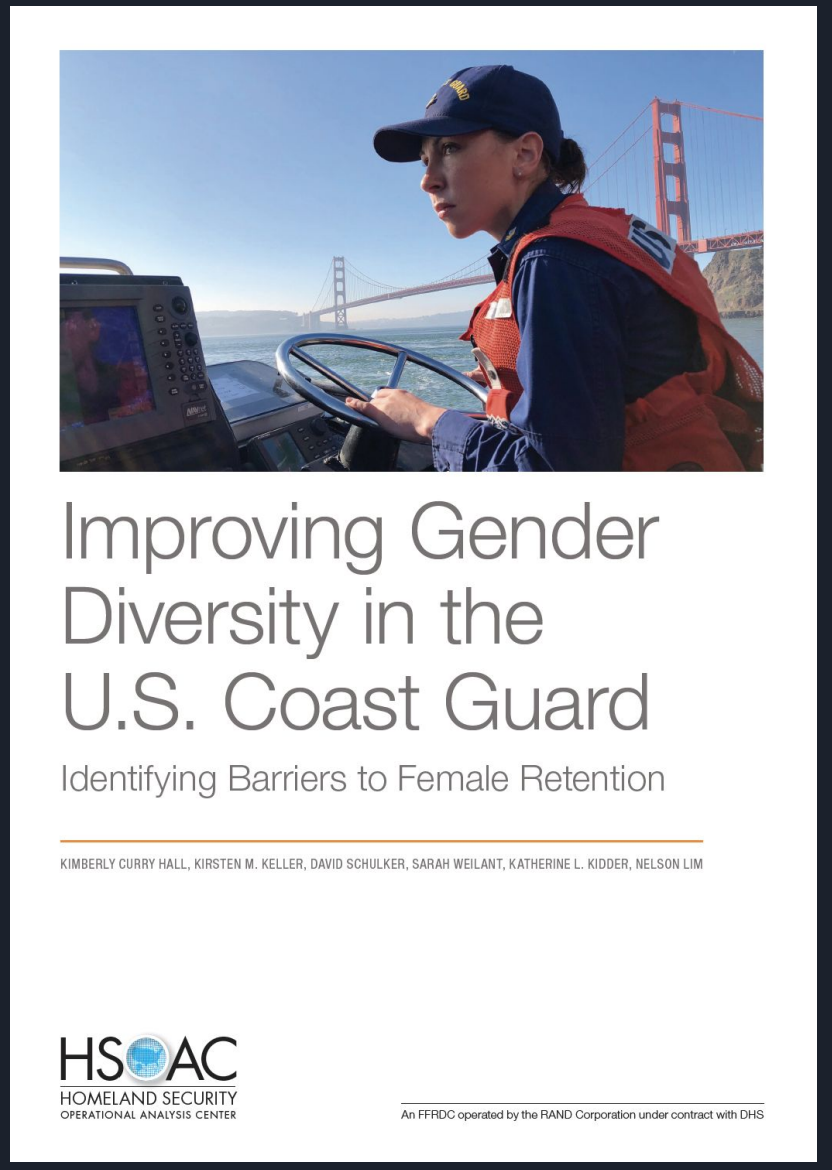
(W241, Spring 2021)

Background


OFFICE OF INSPECTOR GENERAL
The U.S. Coast Guard Academy Must Take Additional Steps to Better Address Allegations of Race-Based Harassment and Prevent Such Harassment on Campus
Homeland Security
June 3, 2020
OIG-20-36


Improving Gender Diversity in the U.S. Coast Guard
Identifying Barriers to Female Retention
KIMBERLY CURRY HALL, KIRSTEN M. KELLER, DAVID SCHULKER, SARAH WEILANT, KATHERINE L. KIDDER, NELSON LIM
HSOAC
HOMELAND SECURITY OPERATIONAL ANALYSIS CENTER
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Primary Investigative Question

- **Research Question**

  Do US Coast Guard officers demonstrate implicit bias when considering two resumes that suggest candidates of different gender and race?

- **Pilot Research Methodology**

  *Administer an **Audit Study** with the UC Berkeley xLab that aims to answer this question via an online recruitment survey*

- **Final Research Methodology**

  *Administer an **Audit Study** with the US Coast Guard Officer Corps that aims to answer this question via an email recruitment survey*

Please Consider...

- **How to improve our multi factor design without reducing power?**
- **How to encourage participation in a restricted survey setting (privacy / restricted covariates)?**
- **What other metrics can be collected for granular outcome measurement?**
- **How to effectively communicate and administer policy changes in the US Coast Guard?**

Experimental Design

Treatment

- **Control vs Treatment**

Control: Receive resumes **without** names
Treatment: Receive resumes **with** names

- **Multi-factor compound treatment**

Race/Gender	Male	Female
White	WM	WF
Black	BM	BF

- **Between subject design**

Participant shown multiple sets for comparison

Data

- **Likert scale**

Force comparison between 2 resumes to avoid personal baseline difference

- **Covariate: strata, gender, age group**

Avoid pinpointing respondent
Limited access to CG covariate information

Survey Design

- **Resume summaries instead of real resumes**

Reduce survey time in order to increase response rate

- **No go back button**

Reduce spillover effects

Resume Building

- **How to pick names?**

  First Name: *Demographic Aspects of First Names, Scientific Data (Article Number: 180025 (2018))*

  Last Name: *1990 Census Surname Data*

Race / Gender	Male	Female
White	Bradley Meyer	Kirsten Schmidt
Black	Reginald Washington	Gwendolyn Jackson

Why fixed names?

Avoid treatment explosion (power concerns / complexity)

Resume Building

- **How to build a Resume Summary?**

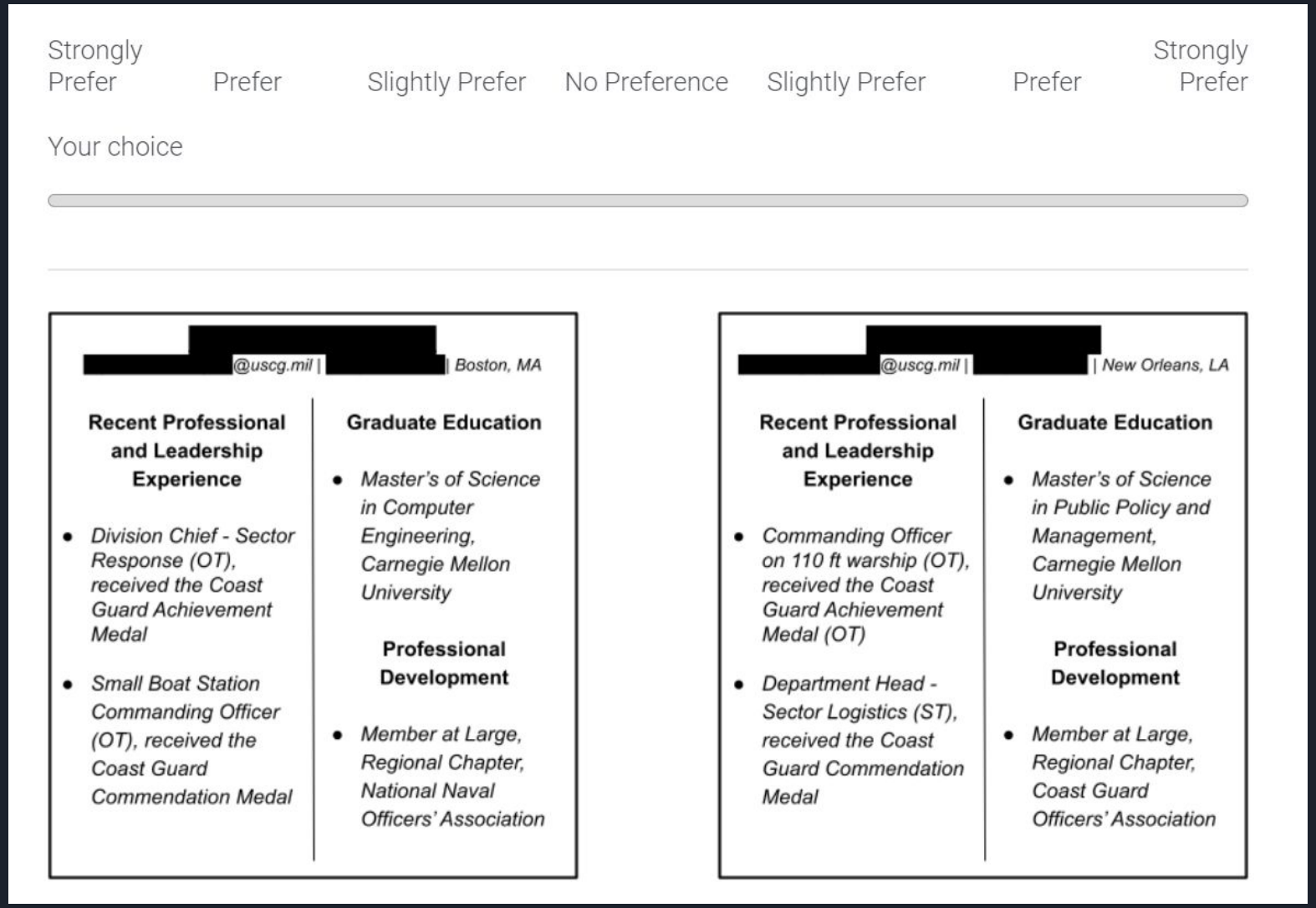
  Requirement for promotion: *4 areas x 2 standards*

  Each resume satisfies 2 preferred and 2 minimum qualifications (randomly assigned)

  Create similar skill sets for each section. Randomly assign skills and resume layouts to build resumes.

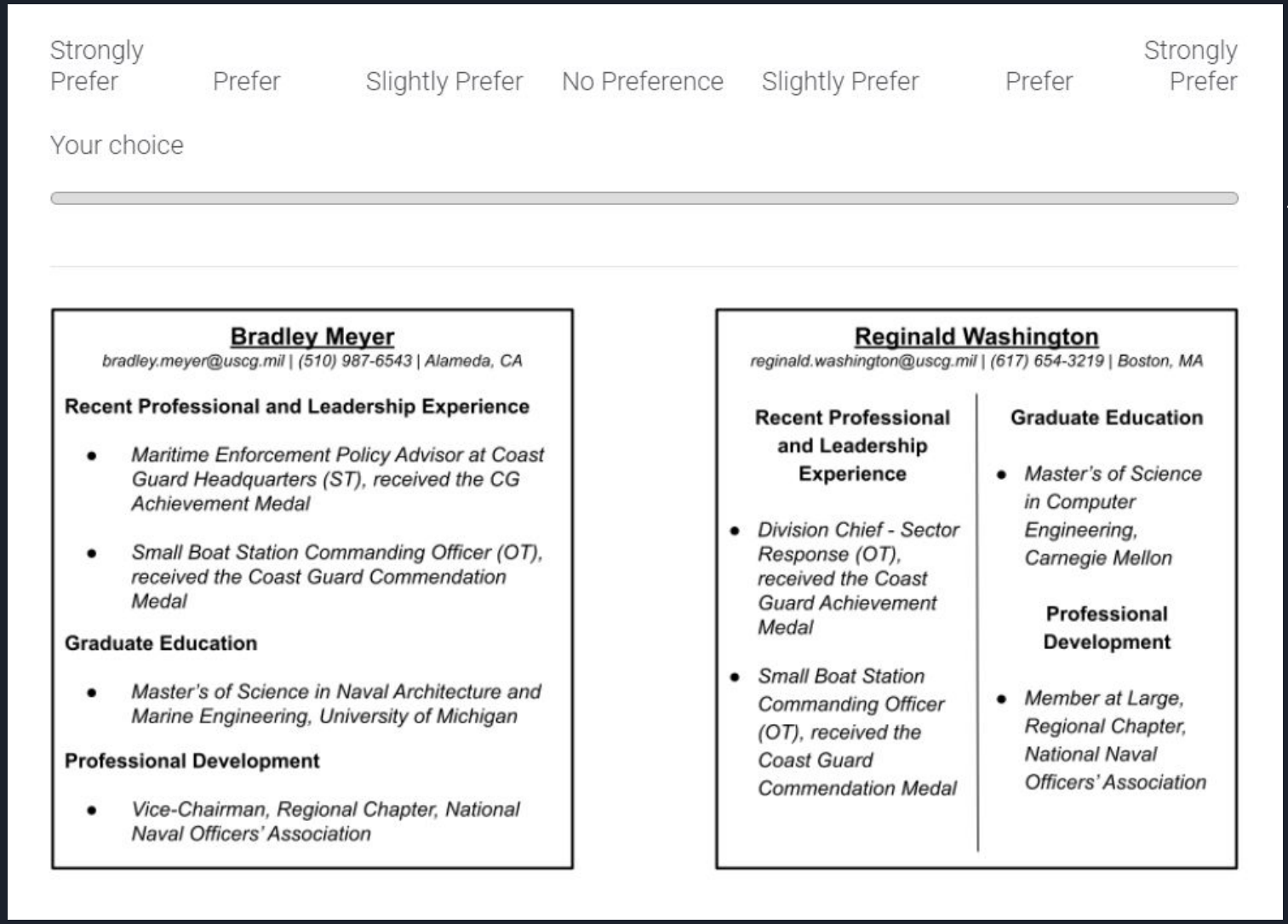
Area	Preferred	Minimum
Professional Experience	Skill set A, Skill set B	Skill set A, Skill set B
Leadership Experience	Skill set A	Skill set A
Highest Education Level	Skill set A, Skill set B	Skill set A, Skill set B
Professional Development	Skill set A, Skill set B	Skill set A, Skill set B

Control Resume Summary Set



Handler is hidden in the beginning to avoid anchoring bias on preference score

Treatment Resume Summary Set



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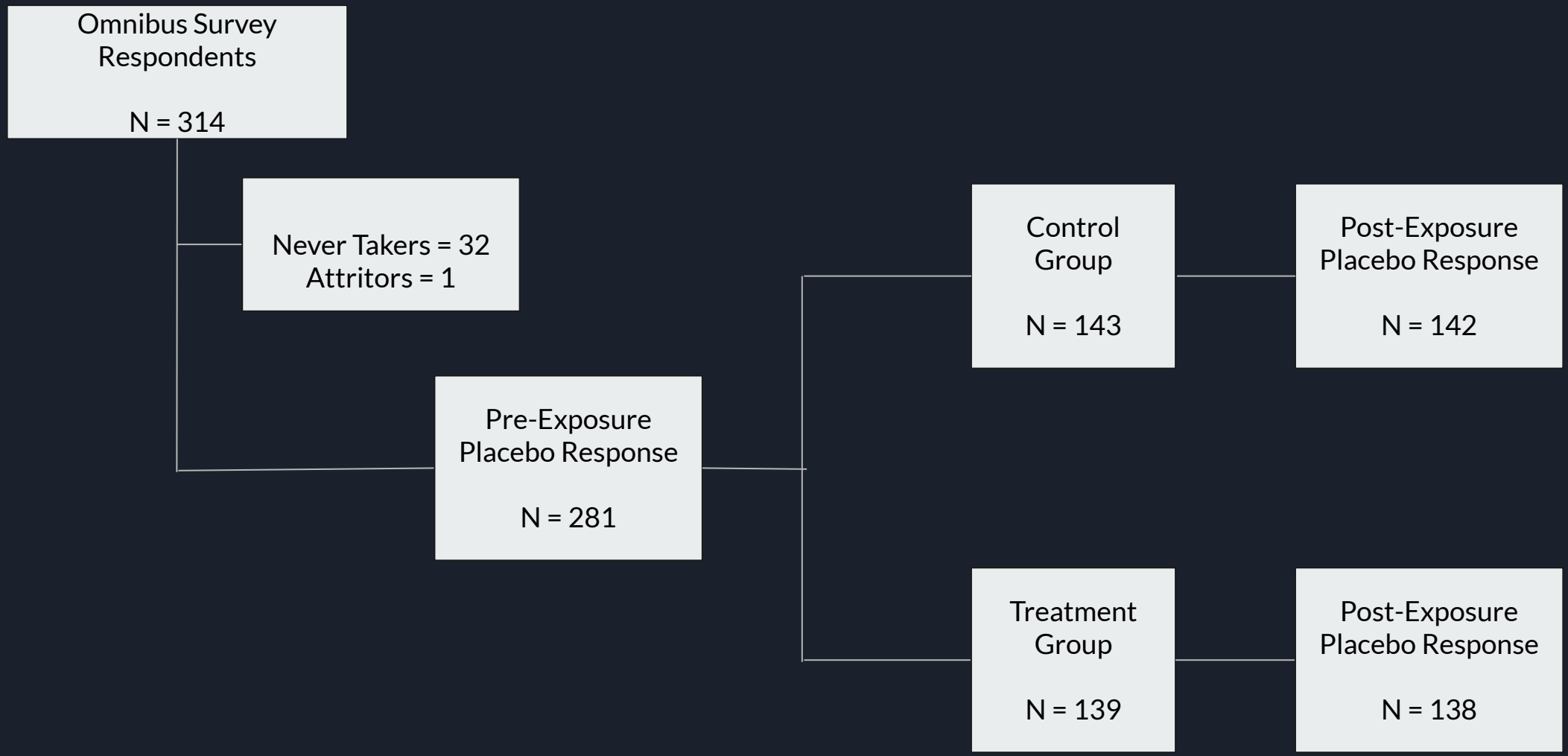
Experimental Flow Diagram



Treatment Effect Calculation: DiD

Hypothetical Results

Group	Outcomes in Control (Only Resume Compared)	Outcomes in Treatment (Resume + Names Compared)	Diff in Diff = ATE
R1-WM, R2-WF	4	2	-2
R2-WF, R3-BM	3	4	1
R3-BM, R4-BF	4	5	1
R4-BF, R1-WM	4	6	2
R1-WM, R3-BM	4	1	-3
R2-WF, R4-BF	5	3	-2

Treatment Effect Calculation: Bias on Race

Group	Outcomes in Control (Only Resume Compared)	Outcomes in Treatment (Resume + Names Compared)	Diff in Diff = ATE
R1-WM, R2-WF	4	2	-2
R2-WF, R3-BM	3	4	1
R3-BM, R4-BF	4	5	1
R4-BF, R1-WM	4	6	2
R1-WM, R3-BM	4	1	-3
R2-WF, R4-BF	5	3	-2

-2.5

Experimental Improvements

- **Identify and reduce spillover effects between treatment doses**

  1. *Currently, we assume no anchoring bias within treatment subject*

  2. We also assume non-interference between subjects (solution is to randomize set order)

- **Increase scope of Experiment (for meaningful policy change)**

  1. Add other races / job positions

  2. Add different quality / experiences in resume design

- **Capture the true effect of white male vs the effect of “Bradley Meyer”**

  1. Same goes for other treatment subjects

  2. Same goes for resume elements (college)

  3. Difficult to code up (encode “John Smith” and “Bradley Meyer” as WM)

- **Add attention checks to ensure quality control on responses**

  1. Which school did Bradley Meyer go to?

Thank you for listening! Now let's discuss!

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