Bias against Black and Hispanic workers in an online hiring experiment (#)

Created: 02/23/2023 08:51 AM (PT)
Public: MM/DD/YYYY HH:MM (PT)

Author(s)
Danila Serra (Texas A&M University) - dserra@tamu.edu
Daniel Gomez Vasquez (Texas A&M University) - danielcgomezv@tamu.edu
Tim Salmon (Southern Methodist University) - tsalmon@smu.edu

1) Have any data been collected for this study already?
It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?
We are conducting an online experiment to investigate:
1. The bias against minority workers (when compared to white workers) in the labor market, and how the bias against Black workers differs from the bias against Hispanic workers.
2. Whether the bias diminishes when employers know that among white workers, only those of average productivity are available for hire, whereas all minority are on the market; and whether this information affects the bias against Black and Hispanic workers differently.
3. Whether the bias against minority workers diminish when employers are informed that top workers exist in the same proportion across majority and minority groups; and whether this information affects the bias against Black and Hispanic workers differently.

3) Describe the key dependent variable(s) specifying how they will be measured.
We designed an online experiment, where respondents play either the role of workers or employers. 250 college educated white, Hispanic, and Black participants on the online platform Prolific assumed the role of workers. They each solved up to 10 multiple-choice algebraic problems from the quantitative GRE. The hiring experiment involves a second set of participants – all white – recruited through Prolific to be employers. They make 20 hiring decisions involving a white worker and a minority worker (either Black or Hispanic) and are paid based on the productivity of the hired worker. We elicit incentivized beliefs about the average productivity of white, Hispanic, and Black workers at the beginning of the hiring task, in the middle (after 10 hiring decisions) and at the end (after 20 hiring decisions). Hence, our dependent variables are:
1) Beliefs: Beliefs about average productivity of each minority group (Black and Hispanic workers) and the majority group (white workers);
2) Hiring decisions: the likelihood of hiring a minority worker, initially and over time, and the total times that a minority worker is hired.

4) How many and which conditions will participants be assigned to?
We randomly assign the employers to one of six treatment conditions below:
- T1, T2: employers are informed that the average productivity of the 250 workers is 5 out of 10 math problems. They then choose (20 times) between a randomly chosen white worker and a randomly chosen minority worker, both of unknown productivity – Black in T1 and Hispanic in T2.
- T3, T4: employers are informed that the average productivity of the 150 white workers is 5. The average productivity for Black and Hispanic workers remains unknown. They choose (20 times) between a white worker of average productivity and a randomly chosen minority worker of unknown productivity – Black in T3 and Hispanic in T4.
- T5, T6: employers are informed that the average productivity of the 250 workers is 5 out of 10 math problems. They are also informed that 15% of workers in each group solved 8 or more problems (out of 10) correctly. They then choose between a randomly chosen white worker and a randomly chosen minority worker, both of unknown productivity – Black in T5 and Hispanic in T6.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will conduct regression analyses on the likelihood of hiring from a minority, as well as beliefs and biases regarding average group productivities. Our primary explanatory variables will be treatment indicators, measures of good or bad previous experiences with workers from the minority group, and interaction terms between such measures and the treatment indicators. A more comprehensive specification will also include initial biases in beliefs. We plan to also conduct heterogeneity analysis by these ex ante biases.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We do not expect to exclude any survey respondents, with the exception of subjects failing comprehension questions and attention checks.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
Guided by power calculations, we aim to collect data on Prolific from 1,200 employers, i.e., 200 employers per treatment.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
The survey includes questions about demographic characteristics, risk and ambiguity preferences, and social desirability bias. The survey generated variables will be used as control variables. Secondary analyses will explore heterogeneous effects of the treatments by these measures – gender and political leaning in particular.

We already collected the data from the 250 Prolific workers. We collected data from a small sample of employers for two of the treatments (40 each) as part of a different project, pre-registered by one of the coauthors for different purposes.