

STEM defaults: Identifying and remedying foundational cultural biases

Dr. Sapna Cheryan
she/her/hers
University of Washington

On the lands of the Coast Salish peoples, including the Suquamish, Tulalip, and Muckleshoot nations

Differential treatment -
negative judgment or treatment

Masculine defaults

Form of bias in which characteristics and behaviors associated with the male gender role are valued, rewarded, or seen as standard or necessary

Male gender role

Self-promoting
Self-reliant
Assertive
Independent
Competitive
Confident
Influencing
Impatient
Risk-taking
Separate
Analytical

Female gender role

Other-promoting
Nurturing
Agreeable
Interdependent
Collaborative
Modest
Adjusting
Patient
Sensitive
Connected
Holistic

Why masculine defaults disadvantage women

1. Some masculine characteristics and behaviors may be rarer in women
2. Masculine characteristics may not be recognized
3. Women who fit masculine characteristics encounter backlash

Interruption example



Empirical examples of masculine defaults

Table 3

Empirical Examples of Masculine Defaults in Majority-Male Fields and Occupations on Multiple Levels of Culture

Examples
Combative, adversarial, and judgmental environments (Haslanger, 2008; Moulton, 1983)
Holding meetings after work hours (Correll, Kelly, O'Connor, & Williams, 2014; Hewlett & Luce, 2006)
Cutthroat and competitive environments (Catanzaro, Moore, & Marshall, 2010; Croson & Gneezy, 2009; Gaucher et al., 2011; Glick, Berdahl, & Alonso, 2018; Kleinjans, 2009; Maier, 1999; Reid, O'Neill, & Blair-Loy, 2018; Riegle-Crumb, Peng, & Buontempo, 2019)
Ideal worker norm based on masculine characteristics (Correll et al., 2014; Hewlett & Luce, 2006)
Masculine words in job ads (Gaucher et al., 2011)
Rewarding abstract rather than concrete speech (Joshi, Wakslak, Appel, & Huang, 2020)
Rewarding participation in a masculine sport (Agarwal, Qian, Reeb, & Sing, 2016)
Rewarding self-promotion and individual accomplishment (Diekman et al., 2010; Haslanger, 2008; Rudman, 1998)
Rewarding volubility (Brescoll, 2011)
Stereotypical décor (e.g., Star Trek posters; Cheryan, Plaut, Davies, & Steele, 2009)
Recruiting sessions with stereotypically masculine behaviors and references (e.g., StarCraft; Wynn & Correll, 2018)
Work that is primarily independent rather than collaborative (Diekman, Clark, Johnston, Brown, & Steinberg, 2011)

White defaults

Form of bias in which characteristics and behaviors associated with White culture are valued, rewarded, or seen as standard or necessary

White defaults in STEM

Myth of meritocracy - belief that those who made it made it on their own merits

“Brilliance” - belief that those with innate genius belong in the field

Valuing topics that White researchers study

White defaults in STEM

Urgency - emphasis on quick or highly visible results

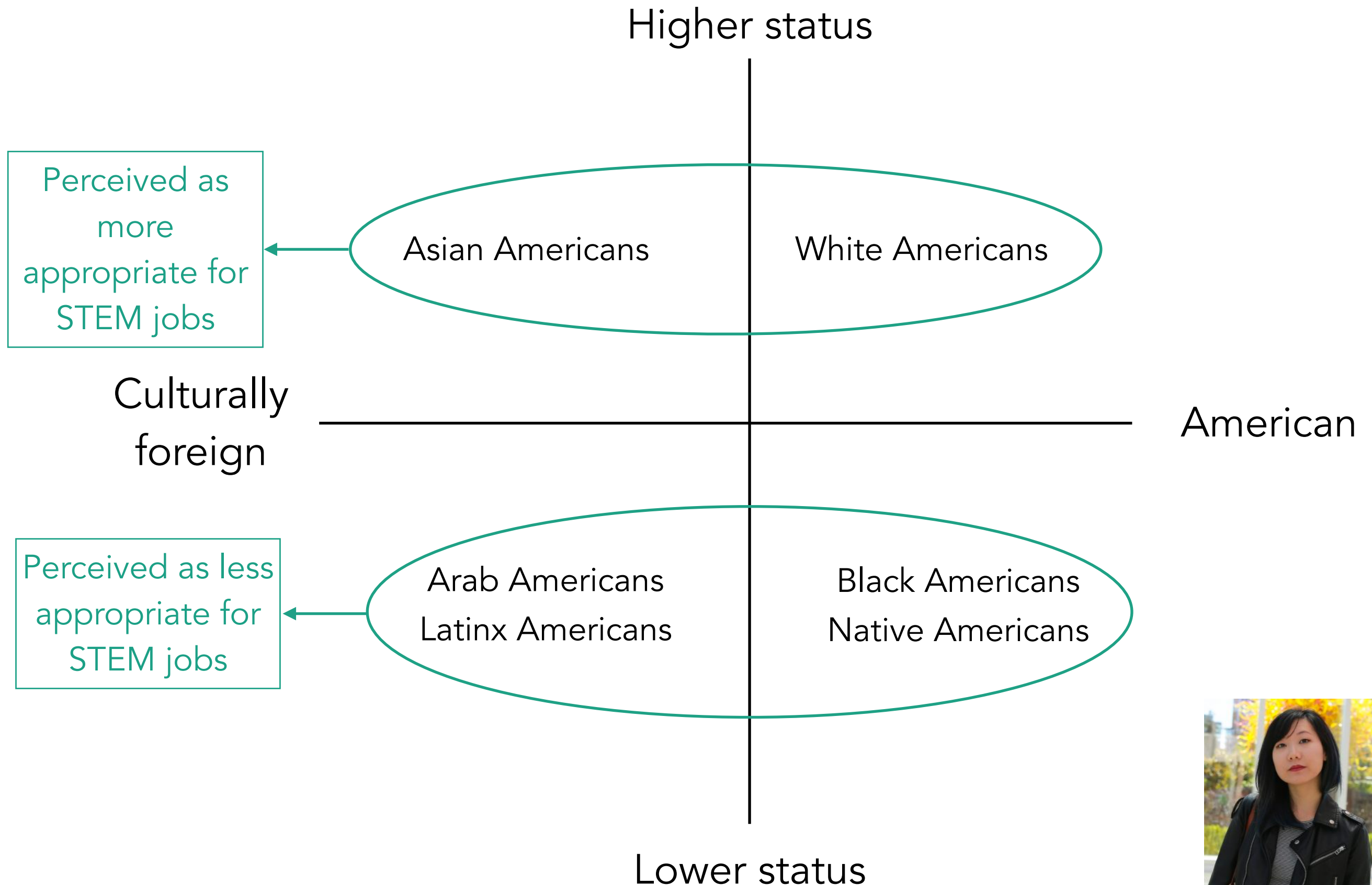
Perfectionism - pointing out inadequacies; splitting hairs

Worship of the written word - written communication valued above other forms

Overlap between White and masculine
defaults

Importance of disaggregating groups

Racial Position Model



Who is seen as hireable for STEM jobs?



Terrence Pope



Linda Zou



Laura Banham



Mona El-Hout

Job

"Looking for an employee who has the ability to learn new programming languages/frameworks"

"Strong programming competencies and analytical skills"

College education required

STEM job

Job

"Looking for an employee who can communicate effectively and has a strong customer service orientation"

"Familiarity with U.S. government regulations"

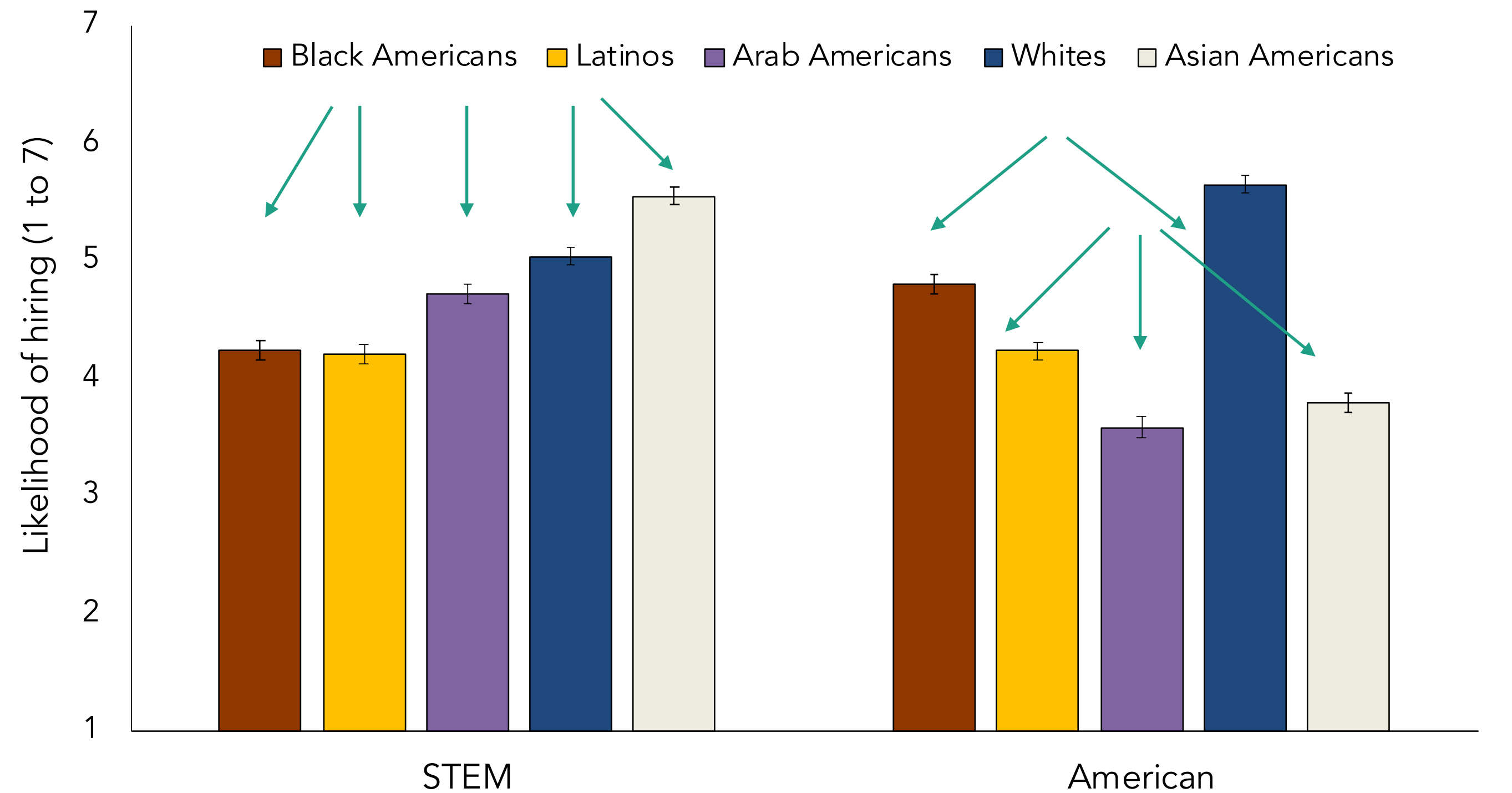
American job

Candidate: DeShawn Jackson

Based on his name, how interested do you think U.S. hiring managers would be in hiring this applicant?

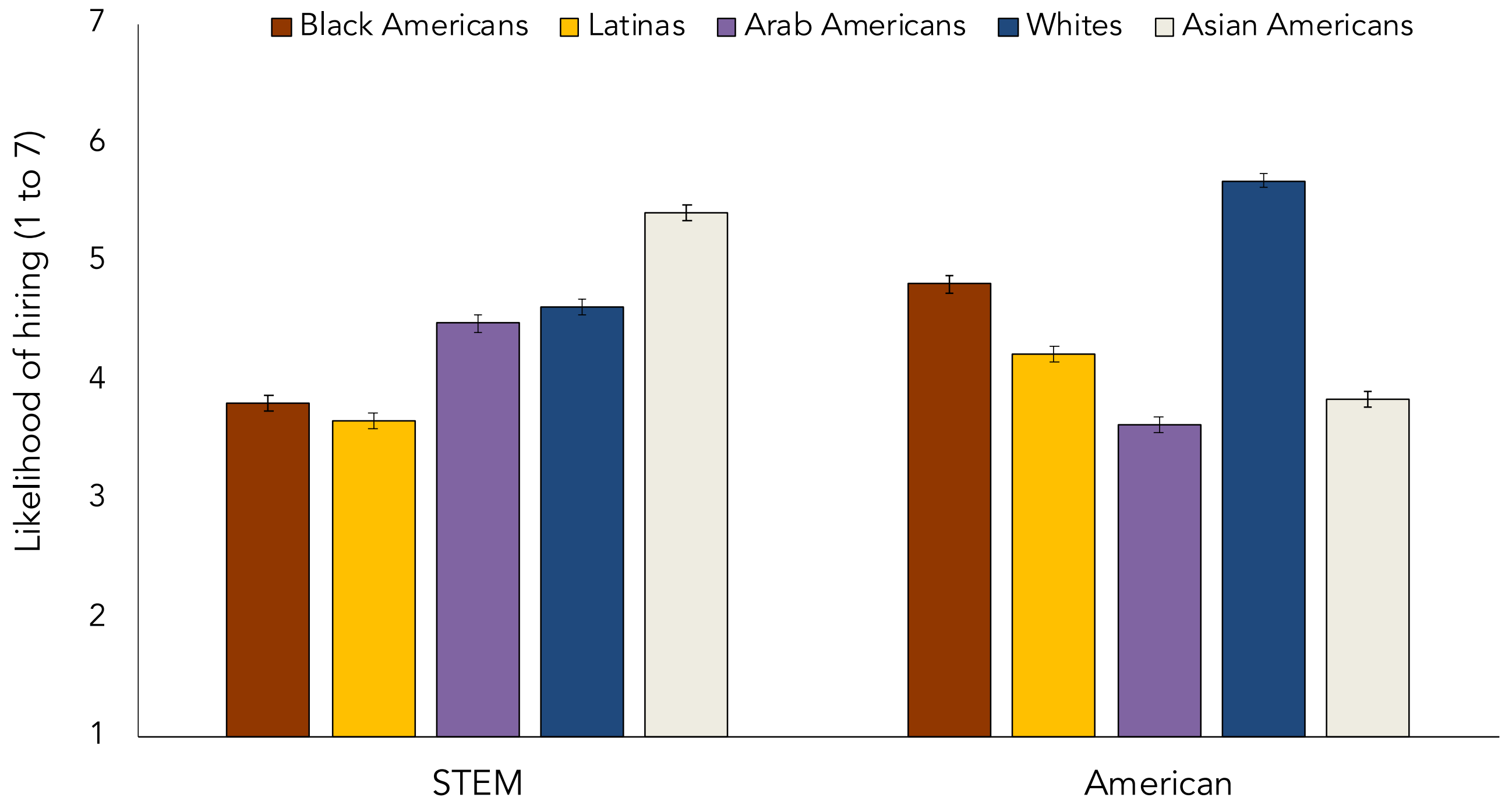
5 names for each job (Black American, Latinx American, Arab American, Asian American, White American)

Men's names and women's names



$F(4, 1116) = 212.82, p < .001$

Pope, Zou, Banham, El-Hout, & Cheryan, in prep



$F(4, 1204) = 253.46, p < .001$

Importance of disaggregation

Racial/ethnic group

Field

Intersectionality

Disaggregating White defaults

Racial/ethnic group

Field

Intersectionality

Enthusiasm example



Value many ways of being in STEM

A photograph of the Harvey Mudd College building, a modern structure with a flat roof and a facade of vertical stone columns and large windows. In the foreground, a low wall made of vertical stone panels features the college's name in large, raised, orange letters. The scene is set outdoors with trees and shrubs, and a paved walkway is visible in the lower right.

HARVEY MUDD COLLEGE





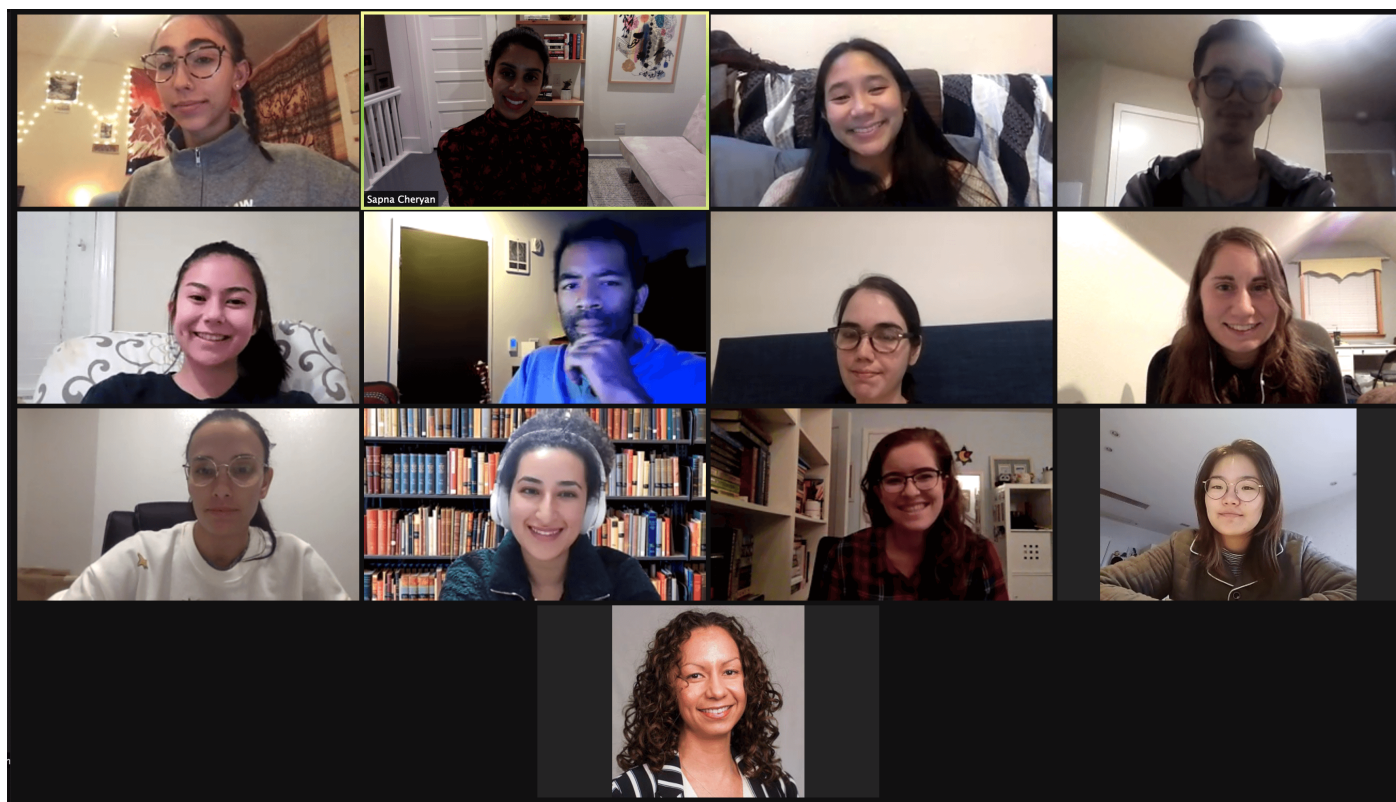
Conclusion

Makes visible privileging of masculinity and Whiteness

Disaggregate to understand how defaults affect different subgroups

Identify effective ways to change defaults

Thank you



For more information:
<http://depts.washington.edu/sibl/>