# Limiting Bias Promising Practices For Searches





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## UNIVERSITY OF CALIFORNIA DIVERSITY STATEMENT

Endorsed as Amended by the President of the University of California August 17, 2010 http://www.universityofcalifornia.edu/diversity/diversity.html

Diversity refers to the variety of personal experiences, values and worldviews that arise from differences of culture and circumstance. Such differences include race, ethnicity, gender, age, religion, language, abilities/disabilities, sexual orientation, gender identity, socioeconomic status, and geographic region, and more.

AT UCSF WE ARE COMMITTED TO THE BEST
Our vision: to be the world's preeminent health sciences innovator

## I. Excellence Requires Diversity

## People who are different from one another bring unique information and experiences

- Diverse groups are more innovative and creative 1,2
- Papers written by diverse groups have more citations and higher impact factors<sup>3</sup>
- Diverse groups share more information with others in the group<sup>4</sup>

## Employee engagement is a validated predictor of organizational performance

Diverse workplaces with culturally competent workforces have the highest employee engagement 5,6

## **US CENSUS**

## **PROFESSIONAL PHARMACY**

African American	13.4%	8.3%	African American
Hispanic/Latinx	18.5%	3.4%	Hispanic/Latinx
Asian	5.9%	20.0%	Asian
White	60.1%	67.9%	White

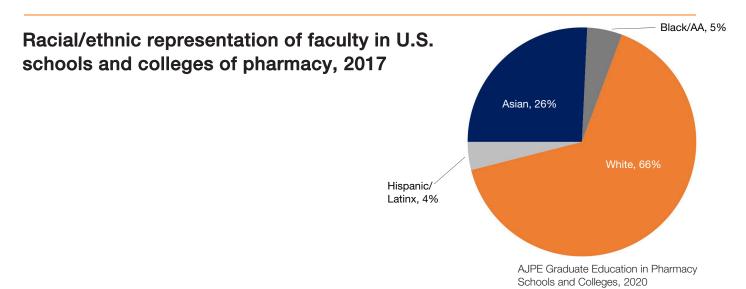
Bureau of Labor Statistics, 2021



#### BY THE NUMBERS

## Representation in Pharmacy

- In 2020, 62% of pharmacists were women.<sup>7</sup>
- In 2019, 64% of enrollees in first professional degree programs were women and 17% were underrepresented minorities.<sup>8</sup>
- In 2018-2019, 37% of Pharm.D.s and 53% of Ph.D.s in Pharmacy went to men.9
- In 2020, the gap between median weekly earnings for men and women employed as full-time pharmacists was 5.5%, with male median weekly earnings at \$2,286 and female median weekly earnings at \$2,160.9



#### **CALIFORNIA CENSUS**

#### **CALIFORNIA PHARMACY GRADUATES**

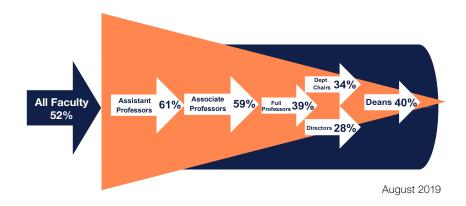
	African American	6%	 3%	African American	
	Hispanic/Latinx	39%	 5%	Hispanic/Latinx	
	Asian	15%	 63%	Asian	
	White	37%	 19%	White	
	Native Hawaiian/ Pacific Islander	1%	 1%	Native Hawaiian/ Pacific Islander	
	Native American	1%	 1%	Native American	
	Two or More Races	3%	 3%	Two or More Races	
	Unknown	0%	 5%	Unknown	

California Health Care Foundation, 2021

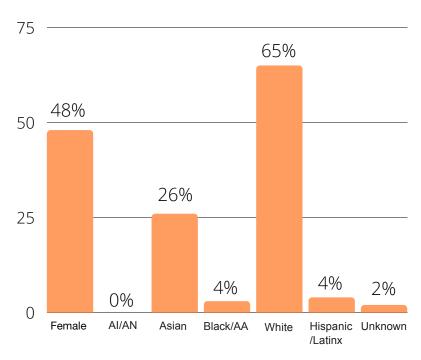


## Representation at UCSF

## Female faculty pipeline, UCSF



## Gender/race/ethnicity UCSF School of Pharmacy faculty

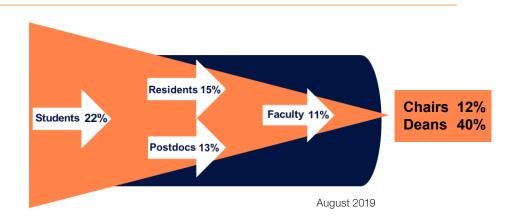


Academic Affairs 2020

# Underrepresented minority (URM¹) pipeline, UCSF

<sup>1</sup>UCSF Definition of URM: Someone whose racial or ethnic makeup is from one of the following: African American / Black; Asian: Filipino, Hmong, or Vietnamese; Hispanic / Latinx; Native American / Alaskan Native; Native Hawaiian / Other Pacific Islander; or Two or more races when one or more are from the preceding racial and ethnic categories in this list.

In addition: Women in traditionally male dominated specialties; Males in traditionally female dominated specialties; and Historically marginalized individuals: LGBT, individuals with disabilities





## We recognize the connection between diversity and innovation. Our goal is to be the workplace of choice for diverse, top-tier talent.

-UCSF'S 2014-2015 PLAN

## II. Unconscious Bias May Impede Selecting The Best

"The greatest barrier to achieving gender equity in STEMM is systematic bias, frequently unconscious" - National Academy of Sciences"

## Social stereotypes that individuals form outside of conscious awareness

- All of us hold unconscious beliefs about various social and identity groups
- Stems from our tendency to organize social worlds by categorizing
- Often incompatible with conscious values

## Data we receive from others may be biased Certain scenarios can activate unconscious stereotypes and attitudes

#### We all have biases

- Project Implicit: 75% of people have implicit biases or associations
- Unconscious biases tend to map to existing social hierarchies <sup>10</sup>
  - Favor men, Whites, youth, heterosexuals, and physically able
- Males = Science; Females = Liberal Arts

Seminal studies and contemporary research have shown that unconscious bias influences hiring, evaluation, and selection of leaders

#### Evaluation of CVs

- Selection of "Brian over Karen" 2x as often 11
- 50% higher call back rate if named "Emily and Gregg" vs "Lakisha and Jamal" 12
- Whites & Hispanics benefit from quality resume;
   Blacks evaluated negatively even with quality resume
  - Occupational stereotypes: Asians high status, Blacks and Hispanics lower status <sup>13</sup>

#### Evaluation of CVs

- "Whitened Resumes": racial minorities' attempts to downplay ethnic/racial cues
  - Less resume whitening if employer specifies valuing diversity <sup>14</sup>

## Motherhood Penalty

- Mothers perceived as less competent; offered lower starting salaries <sup>15,16</sup> and less likely to be hired & promoted compared to fathers & employees without children <sup>17</sup>
- Fathers not penalized; <sup>15</sup> at times, there is a "fatherhood premium"
  - Fathers less likely to be laid off during Covid-19 than all other groups, including mothers and people without children 18

## Evaluation of reference letters

- More "standout" adjectives for males 19
- Female letters shorter, contained more "doubt raisers" & focus on teaching; males as researchers 20

### Bias into academic pathways

- Faculty more likely to respond to research inquiry requests from fictional White male doctoral students than any other group <sup>21</sup>
- When reviewing identical resumes, research faculty rated male students as more competent than females, with higher starting salaries<sup>22</sup>
- Biases about rating of males and females on a math lab task was related to IAT sex-related beliefs<sup>23</sup>

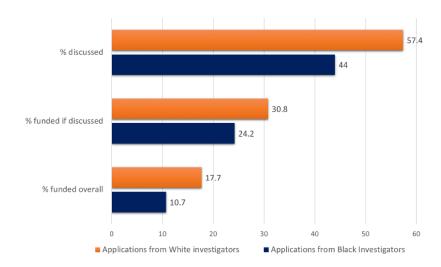
#### Academic review

#### **NIH Review**

 Black applicants 10% less likely than Whites to receive NIH investigator initiated research grants<sup>24</sup>

## Part of the disparity due to topic choice 25

 Black applicants more likely to be associated with topics like health disparities, disease prevention and intervention, socioeconomic factors, healthcare, lifestyle, psychosocial, adolescent, and risk



Funding gap between Black and White scientists at each stage of the R01 application and review process

## III. How to combat unconscious bias

#### On the individual level

Enhance internal motivation to reduce bias

Recognize unconscious bias (IAT)

Implicit bias is changeable 26

- Knowledge of bias can reduce its impacts
- New information can cause reinterpretation of scenario
- Priming has an effect: Can counter stereotypes
- Enhance perspective taking and communication skills
- Facilitated discussions with colleagues from diverse groups

#### On the institutional level

- Concrete, objective indicators & outcomes reduce standard stereotypes <sup>27-29</sup>
- Decreasing ambiguity about individual contributions to joint outcome reduces bias in performance evaluation 30
- Use structured interviews and objective evaluation criteria 31,28
- Commit to specific credentials before reviewing applications<sup>32</sup>
- Allow sufficient time as bias stronger when under time pressure <sup>26,31,33</sup>
- Accountability for decision makers 34-35
- Provide training workshops 33



## Key Links and Additional Resources

Office of Diversity and Outreach https://diversity.ucsf.edu/

UCSF Faculty Equity Advisors

https://diversity.ucsf.edu/faculty-equity-advisor

UCSF Leadership Equity Advances Diversity (LEAD) Advancing Faculty Diversity Grant

https://diversity.ucsf.edu/advancing-faculty-diversity-grant-lead

University of California Coro Project: Leading with Diversity: Strategies for Recruitment and Retention

https://www.ucop.edu/human-resources/coro/uc-coro-cohort-projects.html

University of California: Guidelines for Addressing Race and Gender Equity in Academic Programs in Compliance with Proposition 209

https://www.ucop.edu/uc-legal/files/guidelines-equity.pdf

University of California Diversity Reports, Key Resources and Initiatives, and Data

https://www.ucop.edu/faculty-diversity/index.html

AAMC Unconscious Bias Resources for Health Professionals https://www.aamc.org/what-we-do/diversity-inclusion/ unconscious-bias-training

AAMC E-learning seminar: The Science of Unconscious Bias https://www.aamc.org/initiatives/leadership/recruitment/178420/unconscious\_bias.html

NIH Scientific Workforce Diversity Toolkit https://diversity.nih.gov/sites/coswd/files/images/SWD\_Toolkit\_Interactive-updated\_508.pdf

Implicit Association Test: https://implicit.harvard.edu/implicit/

## References

- Page SE. Making the Difference: Applying a Logic of Diversity. Academy of Management Perspectives. 2007;21(4):6-20.
- Page SE. The diversity bonus: How great teams pay off in the knowledge economy. Princeton University Press; 2017.
- Freeman RB, Huang W. Strength in diversity: Richard B. Freeman and Wei Huang reflect on a link between a team's ethnic mix and highly cited papers. *Nature*. 2014;513(7518):305.
- Li CR, Lin CJ, Tien YH, Chen CM. A multilevel model of team cultural diversity and creativity: The role of climate for inclusion. *The Journal of Creative Behavior*. 2017;51(2):163-179.
- Downey SN, van der Werff L, Thomas KM, Plaut VC. The role of diversity practices and inclusion in promoting trust and employee engagement. *Journal of Applied Social Psychology* 2015;45(1):35-44.
- Goswami S, Goswami BK. Exploring the Relationship between Workforce Diversity, Inclusion and Employee Engagement. *Drishtikon: A Manage*ment Journal. 2018;9(1).
- "Table 11. Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity." Labor Force Statistics from the Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, January, 2021. Retrieved from http://www.bls.gov/cps/cpsaat11.htm
- "Academic Pharmacy's Vital Statistics." About AACP, American Association of Colleges of Pharmacy, 2019. Retrieved from https://www.aacp.org/article/academic-pharmacys-vital-statistics
- "Table 39. Median weekly earnings of full-time wage and salary workers by detailed occupation and sex," 2020. Labor Force Statistics from the Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor. Retrieved from http://www.bls.gov/cps/cpsaat39.pdf
- Nosek BA, Smyth FL, Sriram N, et al. National differences in genderscience stereotypes predict national sex differences in science and math achievement. *Proceedings of the National Academy of Sciences*. 2009;106(26):10593.
- Steinpreis RE, Anders KA, Ritzke D. The impact of gender on the review of the curricula vitae of job applicants and tenure candidates: A national empirical study. Sex Roles. 1999;41(7):509-528.
- Bertrand M, Mullainathan S. Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. American Economic Review. 2004;94(4):991-1013.
- King EB, Mendoza SA, Madera JM, Hebl MR, Knight JL. What's in a name? A multiracial investigation of the role of occupational stereotypes in selection decisions. *Journal of Applied Social Psychology*. 2006;36(5):1145-1159.
- Kang SK, DeCelles KA, Tilcsik A, Jun S. Whitened résumés: Race and self-presentation in the labor market. Administrative Science Quarterly. 2016;61(3):469-502.
- Correll SJ, Benard S, Paik I. Getting a job: Is there a motherhood penalty? American Journal of Sociology. 2007:112(5);1297-1338.
- Heilman ME, Okimoto TG. Motherhood: A potential source of bias in employment decisions. *Journal of Applied Psychology*. 2008;93(1):189.
- Cuddy AJ, Fiske ST, Glick P. When professionals become mothers, warmth doesn't cut the ice. *Journal of Social Issues*. 2004; 60(4):701-718.

- Dias FA, Chance J, Buchanan A. The motherhood penalty and The fatherhood premium in employment during covid-19: evidence from The united states. Research in Social stratification and Mobility. 2020;69:100542.
- Schmader T, Whitehead J, Wysocki VH. A linguistic comparison of letters of recommendation for male and female chemistry and biochemistry job applicants. Sex Roles. 2007;57(7): 509-514.
- Trix F, Psenka C. Exploring the color of glass: Letters of recommendation for female and male medical faculty. *Discourse & Society*. 2003;14(2):191-220
- Milkman KL, Akinola M, Chugh D. What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*. 2015;100(6):1678.
- Moss-Racusin CA, Dovidio JF, Brescoll VL, Graham MJ, Handelsman J. Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*. 2012;109(41): 16474-16479.
- Reuben E, Sapienza P, Zingales L. How stereotypes impair women's careers in science. *Proceedings of the National Academy of Sciences*. 2014;111(12):4403-4408.
- Ginther DK, Schaffer WT, Schnell J, et al. Race, ethnicity, and NIH research awards. Science. 2011;333 (6045):1015–9.
- Hoppe TA, Litovitz A, Willis KA, et al. Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. Science Advances. 2019;5(10):eaaw7238.
- Staats C, Capatosto K, Tenney L, Mamo S. State of the Science: Implicit Bias Review 2017 Edition. Columbus, OH: The Ohio State University, Kirwan Institute: 2017.
- Fiske ST, Taylor SE. Social Cognition. 2nd ed. New York: McGraw-Hill; 1991.
- Heilman ME. Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social* Issues. 2001;57(4):657-674.
- 29. Biernat M, Manis M. Shifting standards and stereotype-based judgments. *Journal of Personality and Social Psychology*. 1994;66(1):5.
- Heilman ME, Haynes MC. Combating organizational discrimination: Some unintended consequences. Discrimination at Work: The Psychological and Organizational Bases. 2005:353-377.
- Martell RF, Guzzo RA. The dynamics of implicit theories of group performance: When and how do they operate? Organizational Behavior and Human Decision Processes. 1991;50(1):51-74.
- Uhlmann EL, Cohen GL. Constructed Criteria: Redefining Merit to Justify Discrimination. Psychological Science. 2005;16(6):474-480.
- Blair IV, Banaji MR. Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology*. 1996;70(6):1142– 1163. doi:10.1037/0022-3514.70.6.1142
- Foschi M. Double standards in the evaluation of men and women. Social Psychology Quarterly. 1996: 237-254.
- Foschi M. Double standards for competence: Theory and research. Annual Review of Sociology. 2000;26(1):21-42.

