Limiting Bias Promising Practices For Searches





CONTENTS

Commitment to diversity, equity and inclusion	pg. 2
Representation in academic dentistry	pg. 2
Representation at UCSF	pg. 3
The science of unconscious bias	pg. 4
How to combat unconscious bias	pg. 5
► Key links and additional resources	na 6



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 factors³
- Diverse groups share more information with others in the group⁴

Employee engagement is a validated predictor of organizational performance

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

US CENSUS ACADEMIC DENTISTRY

African American	13.4% 3.7%	African American
Hispanic/Latinx	18.5% 6.8%	Hispanic/Latinx
Asian	5.9% 11.7%	Asian
White	60.1% 61.7%	White

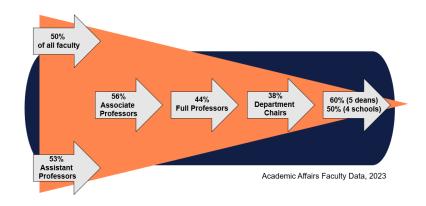
American Dental Education Association 2018-2019



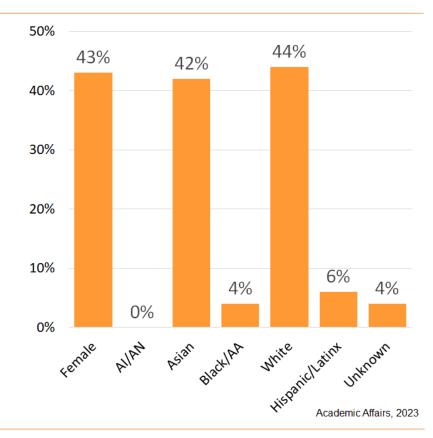
2

Representation at UCSF

Female faculty pipeline, UCSF



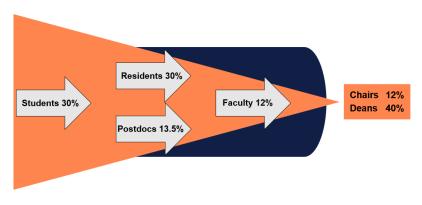
Gender/race/ ethnicity UCSF School of Dentistry faculty



Underrepresented minority (URM¹) pipeline, UCSF

¹UCSF 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

We all have biases

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

- Project Implicit: 75% of people have implicit biases or associations
- Unconscious biases tend to map to existing social hierarchies 7
 - Favor men, Whites, youth, heterosexuals, and physically able
- Men = Science; Women = Liberal Arts
 - E.g., Biases about rating of males and females on a math lab task was related to IAT sex-related beliefs 8
- Asian = Feminine; Black = Masculine
 - On the IAT, participants primed with the word Asian responded most quickly to words they had rated as more feminine whereas participants primed with the word Black responded most quickly to words they had rated as more masculine.⁹
- Unconscious biases are more likely to emerge in certain situations, such as when multi-tasking or under time pressure (i.e., "high cognitive load") 8,10

Seminal studies and contemporary research have shown that unconscious bias influences hiring, evaluation, and selection and perception 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
 - The finding that Black applicants are contacted less often than white applicants has been replicated as recently as 2024 ¹³
 - Adewale and Ngochi (Black Africans) also seen as more employable than "Lakisha and Jamal" 14
- Whites & Hispanics benefit from quality resume; Blacks evaluated negatively even with quality resume
 - Occupational stereotypes: Asians high status regardless of resume, Blacks and Hispanics lower status ¹⁵
- "Whitened Resumes": racial minorities' attempts to downplay ethnic/racial cues
 - Less resume whitening if employer specifies valuing diversity ¹⁶

Motherhood Penalty

- Mothers perceived as less competent; offered lower starting salaries ^{17,18} and less likely to be hired & promoted compared to fathers & employees without children ¹⁹
- Fathers not penalized; at times, there is a "fatherhood premium" ²⁰
 - Fathers less likely to be laid off during Covid-19 than all other groups, including mothers and people without children²⁰

Evaluation of reference letters

- More "standout" adjectives for males ²¹
- Women's letters shorter, contained more "doubt raisers" & focus on teaching; men as researchers ²²
- More "communal" adjectives for women and "agentic" adjectives for men ²³

Bias into academic pathways

- Faculty more likely to respond to research inquiry requests from fictional White male doctoral students than any other group ²⁴
- When reviewing identical student resumes, research faculty rated men as more competent than women, with higher starting salaries ²⁵

Leadership

- Women often overlooked for leadership potential
 - o Men more likely to be valued for leadership potential
 - Women valued for demonstrated leadership performance ²⁶
- Women in leadership penalized more often than men for displays of emotion, especially pride or anger.
 - However, women also penalized for being emotionally unexpressive e.g., not warm ²⁷

Evaluation of contributions

- Women less likely to get credit for joint efforts ²⁸
- Women who co-author more often less likely to receive tenure
 - Men receive tenure at similar rates regardless of solo or co-authorship ²⁹
- Research topics/approaches more likely to be undertaken by URM viewed as peripheral to academic fields and devalued in advancement 30



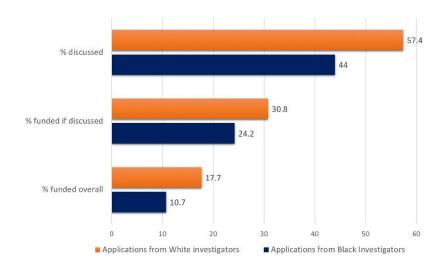
Evaluation of contributions

NIH Review

 Black applicants 10% less likely than Whites to receive NIH investigator initiated research grants ³¹

Part of the disparity due to topic choice 32

 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 33

- 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 ³⁴⁻³⁶
- Decreasing ambiguity about individual contributions to joint outcome reduces bias in performance evaluation ³¹
- Use structured interviews and objective evaluation criteria ^{36,37}
- Commit to specific credentials before reviewing applications 38
- Allow sufficient time as bias stronger when under time pressure ^{33,37,39}
- Accountability for decision makers ^{40,41}
- Provide training workshops ³⁹



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-eguity.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/17842 <a href="https://www.aamc.org/initiatives/leadership/recr

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: reflecton 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;45:35-44.
 Goswami S, Goswami BK. Exploring the Relationship between Workforce
- Goswami S, Goswami BK. Exploring the Relationship between Workforce Diversity, Inclusion and Employee Engagement. *Drishtikon: A Management Journal*. 2018;9(1).
- Nosek BA, Smyth FL, Sriram N. National differencesin gender science stereotypes predict national sex differences in science and math achievement. Proceedings of the National Academy of Sciences. 2009:106(26):10593.
- Reuben E, Sapienza P, Zingales L. How stereotypes impair women's careers in science. Proc Natl Acad Sci U S A. 2014;111(12):4403-4408.
- Galinsky AD, Hall EV, Cuddy AJ. Gendered races: implications for interracial marriage, leadership selection, and athletic participation. *Psychol Sci.* 2013;24(4):498-506.
- Wigboldus DHJ, Sherman JW, Franzese HL, van Knippenberg A. Capacity and Comprehension: Spontaneous Stereotyping Under Cognitive Load. Social Cognition. 2004;22(3):292–309.
- 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.
- empirical study. Sex Roles. 1999;41(7):509-528.

 12. 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.

 Kline PM, Rose EK, Walters CR. A discrimination report card (No. w32313).

 Cambridge, MA: National Bureau of Economic Research, 2024.
- Howard S, Borgella AM. Are Adewale and Ngochi more employable than Jamal and Lakeisha? The influence of nationality and ethnicity cues on employment-related evaluations of Blacks in the United States. J Soc Psychol. 2020;160(4):509-519.
- 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 selfpresentation 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. *J Appl Psychol*. 2008;93(1):189-198.
 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.

 20. 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. Letters of recommendation for female and male medical faculty. *Discourse & Society*. 2003;14(2):191-220.
 Khan S, Kirubarajan A, Shamsheri T, Clayton A, Mehta G. Gender bias in
- Khan S, Kirubarajan A, Shamsheri T, Clayton A, Mehta G. Gender bias in reference letters for residency and academic medicine: a systematic review. Postgrad Med J. 2021.
- 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. J Appl Psychol. 2015;100(6):1678-1712.
- Moss-Racusin CA, Dovidio JF, Brescoll VL, Graham MJ, Handelsman J. Science faculty's subtle gender biases favor male students. Proc Natl Acad Sci U S A. 2012;109(41):16474-16479.
- Player A, Randsley de Moura G, Leite AC, Abrams D, Tresh F. Overlooked Leadership Potential: The Preference for Leadership Potential in Job Candidates Who Are Men vs. Women. Front Psychol. 2019;10:755.
- Brescoll VL. Leading with their hearts? How gender stereotypes of emotion lead to biased evaluations of female leaders. The Leadership Quarterly. 2016;27(3):415-428.
- Heilman ME, Haynes MC. Combating organizational discrimination: Some unintended consequences. Discrimination at Work: The Psychological and Organizational Bases. 2005:353-377.
- Sarsons H, Gërxhani K, Reuben E, Schram A. Gender differences in recognition for group work. *Journal of Political Economy*. 2021;129(1):101-147.
- Settles IH, Buchanan NT, Dotson K. Scrutinized but not recognized: (In)visibility and hypervisibility experiences of faculty of color. *Journal of Vocational Behavior*. 2019;113:62-74.
- Ginther DK, Schaffer WT, Schnell J, et al. Race, ethnicity, and NIH research awards. Science. 2011;333(6045):1015-1019.
- Hoppe TA, Litovitz A, Willis KA, et al. Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. Sci Adv. 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.
- Biernat M, Manis M. Shifting standards and stereotype-based judgments. *Journal of Personality and Social Psychology*. 1994;66(1):5.
- 35. 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.
- 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 E, Cohen GL. Constructed criteria: redefining merit to justify discrimination. Psychol Sci. 2005;16(6):474-480.
- discrimination. Psychol Sci. 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.
- 40. 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.

