Key Research Findings
Unintentional Bias – Gender, Race & Sexual Orientation


Analysis of 14,000 audition records and roster data from 11 major orchestras from major US symphony orchestras from 1970-1996 demonstrates:

- the use of a screen during auditions increases the probability that a woman will advance from preliminary rounds by 50%, and
- the switch to blind auditions accounts for 30% of the increase in the proportion of women among new hires.


One of four identical CVs distinguishable only by male or female name was sent to 238 STEM academics. Participants were asked whether they would hire the applicant, tenure the applicant and what starting salary they would offer, whether the applicant had adequate teaching, research, and service experience to be hired or tenured, and to rank the factors that influenced their decision.

- Male job applicant preferred 2:1 over female applicant
- For the tenure candidate, reservations were expressed 4 times more often when the name was female
- Results were consistent for both male and female STEM academics


In a randomized double-blind study (n = 127), male and female science faculty from research-intensive universities rated the application materials of a student—who was randomly assigned either a male or female name—for a laboratory manager position.

- Faculty participants rated the male applicant as significantly more competent and hireable than the (identical) female applicant.
- The faculty participants also selected a higher starting salary and offered more career mentoring to the male applicant.
- The gender of the faculty participants did not affect responses, such that female and male faculty were equally likely to exhibit bias against the female student.


Researchers conducted a content analysis >300 letters of recommendation for medical faculty at a large American medical school.

- Letters for men were longer and had more references to CV, publications, patients, colleagues
- Letters for women were shorter with more references to personal life and more “doubt raisers” (hedges, faint praise and irrelevancies)

In an analysis of peer-review scores for postdoctoral fellowship applications, researchers found that reviewers in the Swedish Medical Research Council (one of the main funding agencies for biomedical research in Sweden):

- over-estimated male achievements and/or underestimated female performance when reviewing for scientific competence, relevance of proposed research, and quality of methodology, and
- scored women applicants significantly lower in scientific competence (2.21 v 2.46) even when women had “impact factors” (calculated from number of publications, citations, journal prestige) 2.5 higher than males with same rating.


Researchers reviewed awards given by 13 STEM disciplinary societies (e.g. ACS, APS, MAA, ASA, etc.) from 1991-2010.

- Committees chaired by men are significantly less likely to award prizes to women
- Male chairs trump any effect of women on the committee
- Committees chaired by men awarded prizes to men 95.1% of the time, despite the fact that women comprised 21 percent of the nomination pool


Fictitious resumes were sent to help-wanted ads in Boston and Chicago newspapers. Resumes were randomly assigned “White sounding” or “African-American sounding” names. Researchers found:

- “White sounding” names receive 50% more callbacks for interviews,
- “White sounding” names yielded as many more callbacks as an additional 8 years of experience, and
- the racial gap is the same across occupation, industry, and employer size.


Male and female university students acted at as job applicants at a mall in a major metropolitan area in Texas. Standardized interactions (n=84) were recorded. Job applicants wore hats not knowing the label. Hats were labeled “Gay & Proud” or “Texas & Proud” and randomly assigned to job applicants. With stigmatized applicants (“Gay & Proud”), employers:

- spent less time,
- used fewer words, and
- were more negative (based on applicant report and interaction raters).