7. Awards Inequity in Scientific Societies

Awards are important indicators of career success and are key in recruitment, hiring, promotion, recognition, and tenure decisions. Since 2010, AWIS (Association for Women in Science) has partnered with eighteen STEM disciplinary societies to research patterns in awards allocations, focusing on the influence of unconscious bias in the selection procedures aimed at fostering gender equity in awards. The results indicated that “Awards allocations are stratified along gendered lines. Women were consistently under-represented among recipients of scholarly and research awards and overrepresented among recipients of teaching and service awards relative to their proportion among PhD., full professors and disciplinary society membership” (Fig.3A). The results indicated that unconscious biases based on social stereotypes influenced the under-recognition of women for research and over-recognition of women for services, teaching and mentoring.

AWIS #02 in AWIS AWARDS Series (www.awis.org)

8. Change Requires Continued Effort

Change is possible with continued, conscious efforts. Following critically reflective meetings with AWIS in 2010 and 2012, many societies implemented substantial changes in their selection procedures that allowed for improvements leading towards equity in making awards. However, awards cycling over time reveal that without repeated and intentional efforts, it becomes easy to slip back into problematic and unconscious patterns. Repeated and intentional efforts are necessary for sustainable and equitable change to be realized.

AWIS #02 in AWIS AWARDS Series (www.awis.org)

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**Unconscious Bias is most extreme when...**

- Individuals are tired, rushed or cognitively burdened,
- Individual demographic traits are rare in a group making decisions and/or a group being evaluated
- Valid quantitative performance information is lacking
- Evaluation criteria are vague or ambiguous

**Implicit Association Test (IAT)**

In the last 20 years, there have been a number of efforts to develop measures that reflect “Implicit Bias/Unconscious Bias”. Implicit Association Test (IAT) is an example. IAT measures implicit attitudes that one is not aware of. For example, one may believe that women and men should be treated equally in leadership positions, but people’s automatic responses associate leadership roles with men more often than with women. There are various types of bias associated with gender, race, age, religion and even weight.

An example of IAT can be found at:


**Tools to Interrupt Unconscious Biases**

There are many on-line tools designed to interrupt unconscious biases. Below are examples of tools offered by the United States universities. They were developed under the United States National Science Foundation’s ADVANCE program (https://www.nsf.gov/ehr/Materials/ADVANCEBrochure.pdf).

- **University of Wisconsin-Madison**
  Women in Science & Engineering Leadership Institute (WISELI)
  http://wiseli.engr.wisc.edu/

- **University of California, Berkeley**
  Tools for Change, University of California
  http://www.toolsforchangeinstem.org/

- **University of Washington, Seattle**
  The UW ADVANCE Center for Institutional Change
  https://advance.washington.edu

- **Stanford University**
  The VMware Women’s Leadership Innovation Lab at Stanford University
  (SEE BIAS/BLOCK BIAS)
  https://womensleadership.stanford.edu/tools

**Closing Remarks**

As unconscious bias resides outside of awareness, it is not possible to completely eliminate it, but, we can minimize its negative impacts by recognizing that we all have unconscious bias, understanding how our biases can manifest, and avoiding situations where unconscious bias can become extreme. We hope this leaflet will be helpful and valuable in creating the inclusive environments where both men and women can realize their full potential without encountering barriers and biases.

**Acknowledgement**

This leaflet is prepared by Dr. Hisako Ohtsubo, Nihon University, for the EPMEWSE based on the Japanese leaflet (http://djrenrakukai.org/doc_pdf/2017/UnconsciousBias_leaflet.pdf) published in August 2017.

All rights reserved. Unauthorized copying and reproduction of all the contents of the leaflet are strictly prohibited. When you refer them, please cite as follows: “Understanding Unconscious Bias” by EPMEWSE (RENRAKUKAI), March 2019. https://www.djrenrakukai.org/doc_pdf/2019/UnconsciousBias_leaflet_eng.pdf
2. Privilege
Privilege is a systemic form of advantage. The privileged take it for granted that they deserve to get a more positive evaluation, therefore, it strongly linked to bias. It is invisible and affects everyone, by categorizing people into the group based on a certain attribute (gender, occupation, educational background, race and so on) and assuming that every member of that group is equally qualified or able. People tend to treat those who belong to the same group as themselves, and to be suspicious of those who do not. A typical example is a so-called "Old Boys' Network" where it is hard for women to break into.

3. Micro-aggression, Subtle in Action, but Persistent
Micro-aggression comprises attitudes that are subtle, but persistent. It includes everyday acts of exclusion that devalue the capabilities of underrepresented groups. Micro-aggression includes behaviors such as interruption, translation, misidentification (call by the wrong name, or have one's name repeatedly misrepresented), exclusion, and marginalization.

4. Unconscious Bias in Action
The following examples highlight evidence of unconscious bias in action. All reports are based on research in the field of social sciences, cognitive sciences, behavioral sciences, and increasingly neurosciences.

1. Operating Impartiality
This research analyzed whether gender biases could help account for the significant underrepresentation of women in the United States orchestras, where women's ratio was around 5-10% in the 1970's and 1980's despite the fact that women comprised of about 45% of the top United States music school graduates. Some orchestras began experimenting with a "blind" audition. Musicians were hidden behind a screen and judges could not see the gender of the musician. The rate at which female musicians passed the initial audition increased almost immediately.

Most major United States orchestras had changed their hiring policies by 2000. Openings became widely advertised in the union papers, and many positions attracted more than 100 applicants where fewer than 20 would have been considered before. At present, ratio of women players reached 23%-46% in the top United States orchestras.

2. Emily and Greg are More Hirable than Lakisha and Jamal
This is a famous field research experiment designed to survey the differential treatment based on race still seen in the United States labor market. In order to manipulate perceived race, researchers prepared identical resumes with randomly assigned African-American names (such as Lakisha Washington or Jamal Jones) or Caucasian-sounding names (like Emily Walsh or Greg Baker). The results showed that applicants with assigned Caucasian-sounding names on average got one callback for every ten advertisements applied to. On the other hand, those assigned African-American names would need to apply to about 15 different advertisements to achieve the same result. African-American names receive 40 percent more callbacks for interviews. This is a typical bias indicating that employers judged the applicant as unfairly favorable simply based on the names which they perceived as having a disadvantaged background.

M. Bertrand and S. Mullainathan (2004) University of Chicago Graduate School of Business, NBER and CEPRMIT and NBER

5. Are Women Visible Enough in Scientific Societies?
Unconscious bias is present in the selection of speakers at the annual meetings of the Molecular Biology Society of Japan (FY2008, 2009 and 2010). This society is one of the largest among the science-related societies in Japan. Female ratio of the members is about 30%. This survey shows how gender of organizers affected the percentage of invited female speakers at the annual meetings over the three-year period from 2008 to 2010. The percentage of the female speakers invited to symposia organized solely by men was much smaller than those organized by both men and women. Female ratio of the speakers in the symposia organized by all-male committees were only 10%, whereas the ratio jumped up to 32% with the presence of just one female committee member. Unconscious Bias on the part of male scientists could be present when evaluating their female colleagues.


6. Academic Recommendation Letter
This study found differences in letters of recommendation written for female and male candidates for academic medical faculty positions. Letters written for women were more likely to refer to their compassion, teaching, and effort as opposed to their achievements, research, and abilities, which are the characteristics significantly stressed for male applicants. The traits stressed for the women are based on cultural female stereotypes, and are less valued for success in academic medicine.