GENDER MATTERS

SNSF Annual Meeting, October 2014

Priya Natarajan
Yale University

ON THE TRAIL OF A FEW STUDIES

Moss-Racusin & Handelsman (2012)
Resume study of undergraduates looking for a summer internship in a lab; Male and Female Chairs; mix of universities
Hiring, Salary, Mentoring

Winneras & Wold (1995)
Postdoctoral Fellowship, Swedish MRC, peer-review scores and evaluation
Gender Gap and Nepotism advantage (friendship bonus)
TRIX & PENSKA (2010)

Recommendation letters for hiring U.S. Medical School Faculty; gendered differences

Less solid, not as leaders, mention personal lives & traits

NIH-Grant Funding (2008)

Grant Application outcomes for the R01 scheme, the new PI research grant; controlling for prior research awards, publications, institution

Award Likelihood

SHELTZER & SMITH (2014)

Membership in Elite labs; Nobel Laureate and NAS member training

10-40% fewer women trained as post-doctoral researchers

MERVIS (2005)

Pioneer Awards, NIH – sudden jump in number of women awardees in a couple of years (to 50%)

Encouraged to apply, self-nomination, more time schooling reviewers on implicit bias

SUGIMOTO ET AL. (2013)

Bibliometric global study research output, patents, citations, influence, network, collaboration

Significant Gender Disparity world over

BORNMANN, MUTZ & DANIEL (2008)

Meta-analysis of gender differences in grant peer-review

~7% gender penalty
Global Bibliometrics by Gender

The Challenge in Academia
the need for re-framing

**DEMOGRAPHIC DIMENSION**
Opening the door – and keeping it open and flowing
Discipline specific challenges

**CULTURAL DIMENSION**
Conscious bias
Unconscious bias
Challenge in all disciplines

**WHAT TO DO ABOUT UNCONSCIOUS BIAS?**
if its universal & inescapable?

**HOW TO GENERATE INSTITUTIONAL COMMITMENT**
awareness=>compliance=>leads to commitment?
**THE NUMBERS GAME.....**

**INTERVENTIONS**
legal constraints
quotas, AA, Equal Op

**MEASURING EFFICACY**
Metrics, How to evaluate
Gender Equality Project*

**SUSTAINABILITY**
Actors? gender fatigue?

---

**CULTURAL CHANGE...**

**RATIONAL FOR GENDER PARITY**
IN ACADEMIA

Half the sky?
Meritocracy?

RECONSTRUCTING THE NOTION OF
EXCELLENCE AND MERIT

The price of exclusion – economic
calculation
Reflection of “customer/client” base

Inclusion of new ideas – innovation
Value based – equity, fairness

Global challenges – rethink role
of the university and education
in a more diverse, interconnected
world

Harnessing the power of the best
Excellence

---

**BIAS MITIGATION**

new studies?
translation?

---

**SURMOUNTING**

BIAS
sustainable & effective
solutions

---

**STRATEGIES FOR AMPLIFICATION**

Shaming?
signaling?
norm generation

---

**awareness**

---

**compliance**

---

**commitment**

---

OUTSIDE ACTORS/CATALYSTS
Peer Institutions
Rankings
Funding agencies
Foundations

---

rewards, certification
reinforcement
new metrics for resource reallocation
Distribution of Minority Faculty, University-Wide (2011-2012)*

**Ladder Faculty**

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Ladder White Men</td>
<td>1127</td>
<td>52%</td>
</tr>
<tr>
<td>Total Ladder Minority Men</td>
<td>306</td>
<td>14%</td>
</tr>
<tr>
<td>Total Ladder White Women</td>
<td>554</td>
<td>25%</td>
</tr>
<tr>
<td>Total Ladder Minority Women</td>
<td>200</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Tenure Faculty**

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Tenure White Men</td>
<td>666</td>
<td>66%</td>
</tr>
<tr>
<td>Total Tenure Minority Men</td>
<td>99</td>
<td>10%</td>
</tr>
<tr>
<td>Total Tenure White Women</td>
<td>203</td>
<td>20%</td>
</tr>
<tr>
<td>Total Tenure Minority Women</td>
<td>39</td>
<td>4%</td>
</tr>
</tbody>
</table>

*Male and Female Native American, Native Hawaiian/Pacific Islander, and Multi-Racial faculty members constitute less that 1% in each category.

Source: Office of Institutional Research, University-Wide Headcounts, Race by Sex 2011-2012; OIR W105

---

**A Tale of Two Pipelines**

The Challenge of STEM
INSTITUTIONAL SELF-ASSESSMENT
Pilot Project at Yale funded by the Alfred P. Sloan Foundation
Conducted in collaboration with EDGE FOUNDATION, Switzerland!

POLICY  PERCEPTION

IMPLEMENTATION

CLOSING THE ACADEMIC GENDER GAP

RECRUITMENT  RETENTION  PROMOTION
The results of the EDGE gender equality assessment are based on an analysis of the following sources of information, as provided by the organization:

- **Yale University statistics** covering the period January to December 2012
- the responses from 176 surveyed employees (19% of the total workforce) to the 21 **survey** questions
  - the answers to the additional customized 10 questions are to be found in the attached excel file
- the answers from Deputy Provost Frances Rosenbluth to the 29 questions of the **gender equality policies and practices questionnaire**
  - one additional customized question was asked on the existence of the informal mentoring programs, not included in the analysis below
Key Metrics

Note: The trendline at 30% indicates the threshold that needs to be reached in order for a historically under-represented subgroup to start having a voice in the decision making process of the larger group.

Career Progression

This page presents an overview of the career progression opportunities for men and women at Yale University. It includes a comparative representation of the transitions men and women make at Yale University (hires, promotions, leaves).

Transition Probabilities

This chart looks at hires, promotions and exits of men and women employees. For each type of transition and for each level of responsibility, the arrows indicate whether women or men are more likely to make the particular transition (see legend). The chart can thus highlight whether at particular levels of responsibility there may be a blockage point in the career progression of employees of one gender, or whether there are some levels of responsibility where one gender is more likely to be hired or to leave the company.
Key Metrics

**Administrative Leaders**

<table>
<thead>
<tr>
<th>Position</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Deans</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>College Masters</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Department Chairs</td>
<td>49</td>
<td>11</td>
</tr>
<tr>
<td>DGS</td>
<td>51</td>
<td>15</td>
</tr>
<tr>
<td>DUS</td>
<td>60</td>
<td>18</td>
</tr>
</tbody>
</table>

**Employees' rating of Yale University on gender equality**

I believe that women and men are given the same opportunities to be hired at Yale University

I am given fair opportunities to be promoted at Yale

**Key Metrics**
Gap Analysis

This section contrasts employees’ perceptions, as captured through key survey questions, with the corresponding information submitted by Yale University in the data tables and the Policies & Practices questionnaire.

I am familiar with the criteria for promotion from my current position to the next higher position

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>agree + strongly agree</td>
<td>45%</td>
<td>72%</td>
</tr>
<tr>
<td>neutral</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>disagree + strongly disagree</td>
<td>34%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Level of implementation of corresponding practice as per Policies & Practices questionnaire:

Yale University openly communicates on its promotion process and criteria.

I am given fair opportunities to be promoted at Yale

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>agree + strongly agree</td>
<td>44%</td>
<td>77%</td>
</tr>
<tr>
<td>neutral</td>
<td>26%</td>
<td>17%</td>
</tr>
<tr>
<td>disagree + strongly disagree</td>
<td>31%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Gender mix of workforce and promotions

<table>
<thead>
<tr>
<th></th>
<th>Total Workforce</th>
<th>Promotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>72%</td>
<td>61%</td>
</tr>
<tr>
<td>Women</td>
<td>28%</td>
<td>39%</td>
</tr>
</tbody>
</table>
I believe that women and men are given the same opportunities to be hired at Yale University.

Gap Analysis

This section contrasts employees’ perceptions, as captured through key survey questions, with the corresponding information submitted by Yale University in the data tables and the Policies & Practices questionnaire.

I believe that having a career and a family are compatible for men at Yale.

I believe that having a career and a family are compatible for women at Yale.

Gap Analysis

This section contrasts employees’ perceptions, as captured through key survey questions, with the corresponding information submitted by Yale University in the data tables and the Policies & Practices questionnaire.
Gap Analysis

This section contrasts employees’ perceptions, as captured through key survey questions, with the corresponding information submitted by Yale University in the data tables and the Policies & Practices questionnaire.

Challenges and Barriers to Progress

- Implicit and explicit bias – in hiring and retention
- Hostile/Unwelcoming climate
- Family and Care commitments
- Industry competition
- Small community and/or weak institutional support systems for women and minority faculty
- Institutional culture and climate
- Lagging retirement
**Interventions: How we improve**

- Direct policy interventions (e.g. hiring incentives)
- Institutional policies for family leave, child care, elder care
- Improved research, policy and education on sexual misconduct
- Mentorship and sponsorship programs
- Education about bias
- Transparency and accountability
- Cultural and political pressure to improve & change

**POLICY INTERVENTIONS**

- **LOCAL** – understand local policies, politics within institutions, data collection (self-diagnosis – Yale pilot)
- **ACADEMIC COMMUNITY** – coordinated effort in specific fields e.g. ATHENA SWAN in the U.K.
- **NATIONAL LEVEL** – AAS, NSF, NIH, SNSF, MRC...
- **INTERNATIONAL** – Scientific Bodies resolutions/guidelines, charters (IAU)
STRATEGIES FOR AMPLIFICATION

Shaming? signaling? norm generation → awareness → compliance → commitment

OUTSIDE ACTORS/CATALYSTS
Peer Institutions
Rankings
Funding agencies
Foundations

rewards, certification reinforcement
new metrics for resource reallocation

What we do...

SNSF COULD BE A STRONG CHANGE AGENT AND CATALYZE LONG TERM INSTITUTIONAL CHANGE IN ACADEMIC CULTURE

Ten Years of Equal Opportunities in Research Funding, Eds. Widmer & Knaus
CURRENT SNSF INITIATIVES

Clear signaling from leadership

- sensitization to inequities
- men and women
- young and old
- native & foreign
- family commitments versus those without

Gender and Research Funding Report & Recommendations

- replacement of biological age by academic age
- measures for child bearing and care gaps
- flexible and part-time work
- mobility grants
- early stage grants & prizes

GEFO REPORT Leemann & Stutz 2008

WHAT CAN SNSF DO?

- Mentoring and Sponsoring
- Cluster hiring and funding
- Awareness of implicit biases
- Audits – require gender equity analysis for salary, lab space, promotion rates
- Data collection and longitudinal studies
- Allowances for childcare & elder care time and expenses
- Incentives for early stage participation & retention
- Incentives for mentoring/sponsoring
- Incentives for demonstrated improvement
- Dual-career solutions - industry and university partnerships for placements
- Career planning workshops and opportunities
- Fellowships with stays abroad and international networking opportunities
- Hosting regular high profile international conferences in high-priority areas