Posters

Posters are available in Section 18.2 of the Site Visit Documents page on the LEAF website:

http://www.uc.edu/orgs/ucleaf/archives/year-3-site-visit/site-visit-documents.html
Assessing the Intra-Departmental Social Networks of Male and Female STEM Faculty: A Preliminary Analysis

Brian Eller, Stacie Furst Holloway, Rachel Kallen, and Steve Howe
UC LEAF

Introduction

• Social relationships and intra-organizational networking have repeatedly been shown to predict career success (Sparrowe, Liden, Wayne, & Kraimer, 2001)

• Building social networks may be difficult when STEM women enter into an area where they are judged, implicitly or explicitly, to be less competent outsiders.

Specific Aims

• A key component to analyzing the success of the ADVANCE program at the University of Cincinnati (UC LEAF) entails assessing the social climate through real connections between people within UC.

• We will use data to examine whether the networks of men and women faculty within each department differ according to various network characteristics

Method

• Closed network data from faculty in each of UC’s STEM departments to assess department-level network characteristics.

• Differences between networks of men/women
  – Number of ties
  – Tie types (e.g. research, professional, support)
  – Quality of ties (e.g. rank of others)
Networks in the Department of Biological Sciences

- **Support networks**
  - Mentorship
  - Trust
  - Friendship
  - Diversity

- **Collaboration networks**
  - Research (support, desired, actual)

- **Comparisons between men and women**
  - Likelihood to leave UC

Biology Mentorship Network

Biology Trust Network

Biology Friendship Network
Application

- Logic models to be used in trainings with department heads to address department specific issues
- Individual feedback during workshops aimed at improving networking skills and developing better networks
- Better understand what constitutes a ‘good’ network

Future

- Network data to be compared longitudinally as a measure of UC LEAF success
- Archival data (e.g. publication, funding) and climate survey results to be integrated with social network data
Introduction

• Achieving higher levels of representation of women in the STEM sciences requires improved recruiting, hiring, and retention of women STEM scientists.

Specific Aims

• We developed a data base of all UC employees hired between 1990 and 2012.
  – We could examine how rates of hiring for women changed over time.
  – We could look at retention of women using survival analysis.

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<tr>
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<td>197</td>
<td>230</td>
<td>338</td>
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<tr>
<td>Other Hires</td>
<td>400</td>
<td>532</td>
<td>737</td>
<td>1,669</td>
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<tr>
<td>% Women</td>
<td>57%</td>
<td>56%</td>
<td>62%</td>
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Hiring and Retention Results at the University of Cincinnati.

STEM Hiring

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<td>36</td>
<td>42</td>
<td>92</td>
<td>170</td>
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<tr>
<td>% Women</td>
<td>31%</td>
<td>31%</td>
<td>46%</td>
<td>39%</td>
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<tr>
<td>Engineering</td>
<td>67</td>
<td>59</td>
<td>50</td>
<td>176</td>
</tr>
<tr>
<td>% Women</td>
<td>6%</td>
<td>7%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Medicine</td>
<td>94</td>
<td>129</td>
<td>196</td>
<td>419</td>
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<tr>
<td>% Women</td>
<td>39%</td>
<td>26%</td>
<td>31%</td>
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STEM Hiring African Americans Only

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<tbody>
<tr>
<td>Men</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>%</td>
<td>75%</td>
<td>80%</td>
<td>50%</td>
<td>67%</td>
</tr>
<tr>
<td>Women</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>%</td>
<td>25%</td>
<td>20%</td>
<td>50%</td>
<td>33%</td>
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Median Survival (Years) STEM versus Other

<table>
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<tr>
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<th>Women</th>
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<tbody>
<tr>
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<td>9</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Other Hires</td>
<td>12</td>
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50% of STEM hires have left UC (or have moved off of a faculty line) by the end of their ninth year of employment as a faculty member.

Median Survival (Years) STEM Only

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<tr>
<td>A&amp;S</td>
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<td>&gt;12</td>
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<tr>
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<td>9</td>
<td>11</td>
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<tr>
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<td>6</td>
<td>7</td>
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There has been too little attrition in A&S overall and for men to calculate median survival. Figures shown in those two cases are actually the 25th percentiles.
Limitations

- The data set was quite challenging to construct, and had some known problems.
- We have to refine our model to take starting rank into account.

Major Conclusion

- UC has more difficulty getting women STEM scientists into faculty positions than it has retaining them.
- Retaining people is not same as helping them be successful. We still have to look at promotion rates, as one example, and productivity, as another.

Another Conclusion

- The college differences were quite striking, and suggest that deans and heads should be quite amenable to discussing how to improve retention in Engineering and Medicine.
Broadening Participation: What is Your Data Telling You?

Rachel W. Kallen    Stacie Furst-Holloway

Overview

- Brief Presentation
- Data Driven Organizations
- Examples from UCLEAF
- Small Group Discussions
- Reconvene & Brainstorm

Data Driven Organizations

- Increased organizational intelligence
- Informed strategy development
- Objective performance measurements

UCLEAF: A Data-Driven Approach

- Aim:
  - Broaden Participation of women faculty, and women faculty of color, in STEM at UC

- Mechanisms:
  - Improved recruitment, retention, and advancement
  - Improved climate for diversity and inclusion
  - Increased accountability, & Advocacy
Broadening Participation: What is Your Data Trying to Tell You?

- **UCLEAF: Sources of Data**
  - Existing Institutional Examples
  - Research & Benchmarking Examples
  - Social Networks
  - Discourse
  - Turnover
  - Climate & Work-Life Integration
  - Program Evaluation & Logic Models
    - Surveys, Focus Groups, Key Informant Interviews

- **Indicators**
  - Representation & Advancement
  - Policy
  - Contract, RPT, Handbooks…
  - Scholarship
  - Funding, Publications

- **Scholarship**
  - Funding, Publications

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**EXAMPLE 1**
Do Multiple Sources Yield Consistent Information?
Recruitment & Hiring

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**EXAMPLE 1**
By the Numbers…Retention?
EXAMPLE 1

Median Survival Rates (Years)

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EXAMPLE 2

Climate Survey & Social Networks

Compared to male peers, women report:
- Less favorable perceptions of:
  - Fairness & transparency
  - Consistency of recruiting and hiring processes at department level;
- Less positive views of diversity issues in general,
- Less support for women & faculty of color in general
- Less satisfaction with resource and workload allocation
- Being treated with less respect within their departments

Compared to male peers, women report:
- Greater workplace incivility
- More (formal) mentors
- Greater concern that they would not receive necessary support in departmental leadership roles
  - Men 3.5 times more likely to serve as head/chair

Which colleagues you seek out for help with issues related to:
- Administrative Help
- Publication
- Grant Funding
- Teaching
- Friendship
- Diversity Issues
- Service
- Navigating Office Politics
- Mentorship
- Sounding Board
- Work-Life Balance
- Trust
- Research
- Trust
- Research
Lies, Damned Lies, and Statistics?

Need for triangulation of data

Overcoming limitations of single-source data

Identification of consistencies or inconsistencies in data

Multi-Method, Data-Driven Approach

Next 15 Minutes

Identify what data you or your institution has collected:

Access, Dissemination, etc.

Is it useful?

How are you or your institution utilizing this data?

Is it useful?

What other data would you like to see gathered & how could we use such data to broaden participation?

Program evaluation, cross-disciplinary development for policy change, etc…

EXTRA - College Comparisons

A & S reported the most positive perceptions of:

- Recruiting/hiring
- Promotion/tenure processes
- Diversity issues for women and faculty of color
- Openness & transparency within their departments
- Work life balance
- COM reported the least favorable perceptions on these subscales

EXTRA - Rank Comparisons

In general, full professors reported most positive perceptions of:

- HR processes (i.e., recruiting, hiring, RPT, annual performance review)
- Diversity issues
- Respect, openness and transparency
- Work life balance issues within their departments
- UC, and satisfaction at UC.

Associate professors reported the least positive perception of support for women among the three faculty ranks.
EXTRA - Track Comparisons

- Tenured faculty, compared to non-tenure track faculty, tended to have more favorable perceptions of:
  - Fairness & transparency
  - Consistency of recruiting/hiring and RPT processes at the department level.
  - Higher levels of satisfactions at UC