Engaging the Data: Are we ADVANCE-ing?

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ADVANCE Overview

➢ NSF’s Signature Program to Promote the Success of Women STEM Faculty

➢ Build on previous university-wide efforts to broaden the climate of inclusion for all faculty.
  • Diversity Plan, Action 2015, Vision 2020
  • State of Texas Higher Education Plan
  • National Academies

➢ Improve Workplace Climate, Recruitment & Retention, and Success of Diverse Faculty of Excellence

➢ TAMU ADVANCE theory of institutional transformation:
  • no single initiative will substantially impact progress
  • a series of interrelated programs
  • sustained vigilance

➢ Psychologically Healthy Workplace
Underlying Evidence-Based Framework

American Psychological Association’s
Psychologically Healthy Workplace (PHW)
5 Practices

- Fosters employee health and well-being which enhances organizational performance
- Employees thrive, not just survive

1. Faculty Growth & Development
   - Opportunities to expand knowledge, skills, and abilities and apply them
   - Job-related and career-related training and benefits

2. Health & Safety
   - Maximize health through prevention, assessment, and treatment of potential risks
   - Disease management and health promotion and wellness

3. Faculty Involvement*
   - Allow employees to bring ideas/perspectives as part of organizational decision-making
   - Autonomy and input

4. Faculty Recognition
   - Reward employees for their contributions and achievements
   - Monetar y and non-monetary rewards

5. Work-Life Balance
   - Help employees balance multiple demands
   - Work flexibility and non-work support

ATM | ADVANCE CENTER
Texas A&M University
## 12 Activities

<table>
<thead>
<tr>
<th>Workplace Climate</th>
<th>Recruitment &amp; Retention</th>
<th>Success Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department Head Workshops</td>
<td>6. ADVANCE Speaker Series</td>
<td>10. Administrative Fellow Program</td>
</tr>
<tr>
<td>2. Departmental Mini-Grants</td>
<td>7. Search Committee Training</td>
<td>11. Individual Faculty Mentoring</td>
</tr>
<tr>
<td>3. Faculty-Staff Program</td>
<td>8. Faculty Recognition</td>
<td>12. Peer Mentoring Groups</td>
</tr>
<tr>
<td>5. Student Diversity Training</td>
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</table>

Aligned with 1 or more PHW Practices

**Collective** (change faculty environment or “drain the pool of inequity”)

**Individual** (support individual faculty or “help them tread water”)

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[ATM] ADVANCE CENTER
TECH A&M UNIVERSITY
6 Social Science Studies

1. Reducing Disrespect: Faculty Perceptions of Incivility from Faculty, Staff, and Students at TAMU

2. Reducing Student Implicit Biases: Analysis of Course Evaluations at TAMU

3. Do STEM Women Faculty receive Lower Course Evaluation Ratings? A Comprehensive Meta-Analysis

4. Repairing the Leaky Pipeline: Workshops for Early Career Academics

5. Increasing Equity in the Faculty Selection Process: The TAMU STRIDE Program

6. Advancing Women into Leadership Positions: Effectiveness of the Administrative Fellow Program
Evaluation

1. Individual Activity Evaluations for Program Development

2. Difference-in-Difference Analysis of Institutional Transformation
   - Faculty Climate Survey
   - Space allocation
   - Salary
   - Startup Packages
   - Retention, Promotion, & Tenure
Institutional Data

12 Activities
Aligned with PHW Practices
Collective and/or Individual Focus

Social Science Studies
Institutional Data
Evaluation

Institutional Data

12 Activities
Aligned with PHW Practices
Collective and/or Individual Focus

Social Science Studies
Institutional Data
Evaluation

Institutional Data
Social Science Studies
Psychologically Healthy Workplace & the 2015 Faculty Climate Survey

(Stephanie Payne, Isabel Ching, & Thomas LaGrone)

**Growth and Development**
- Improving employee competencies and career development

**Health and Safety**
- Preventing, assessing, and treating potential health risks and problems (e.g., workplace mistreatment) and encouraging and supporting a healthy lifestyle and behavior choices

**Employee Involvement**
- Providing employees with a greater level of autonomy in their work and opportunities to be involved in organizational decision making. This is the most important PHW practice (Grawitch et al., 2009)

**Employee Recognition**
- Demonstrating appreciation for employee contributions, including both monetary and nonmonetary rewards

**Work-Life Balance**
- Providing employees with greater flexibility in when, where, or how they work and benefits to assist them in managing nonwork demands

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**Workplace Climate Change**

<table>
<thead>
<tr>
<th>Workplace Climate Change</th>
<th>Growth &amp; Development</th>
<th>Health &amp; Safety</th>
<th>Employee Involvement</th>
<th>Employee Recognition</th>
<th>Work-Life Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSAO Program</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>PATF Program</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Student Diversity Training</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Departmental Mini-Grants</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Merit Pool Incentives</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Growth & Development**

<table>
<thead>
<tr>
<th>Department Head Relations</th>
<th>The frequency of my department heads with me regularly to provide constructive feedback supporting my performance.</th>
<th>5.88</th>
<th>5.49mv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean Practices</td>
<td>The degree to which I can identify opportunities for members to develop their abilities to become future leaders.</td>
<td>3.35</td>
<td>3.5mv</td>
</tr>
<tr>
<td>Mentoring Satisfaction</td>
<td>I am satisfied with my mentor.</td>
<td>5.82</td>
<td>5.7mv</td>
</tr>
<tr>
<td>Number of Mentors</td>
<td>Approximately how many T&amp;MU mentors, both formal and informal, do you currently have?</td>
<td>1.76</td>
<td>1.75mv</td>
</tr>
</tbody>
</table>
Reducing Incivility
(Sam January & Kathi Miner)
Administrative Fellows Study
(Vanessa Jean, Jessica Walker, & Mindy Bergman)

**Partner Support**

“Because of this position, at times of the year when there are projects that need to be finished, I need to be in the office so he keeps an eye on things at home with the kids and things like that. He has gotten more involved than he did before with many things.”

“He’s been very supportive; he’s the one that’s been helping me for a while that I should be doing something like this.”

**Department Support**

“There was a time […] where I might have been a little bit concerned about work-life balance kind of issues […] But I’ll say that the culture of my department was very supportive.”

“My department head and dean are both women […] They were supportive of that, of my taking this role and trying out if that was something I wanted to do. They could have said no, but they didn’t, and I knew I could go on and talk to them […] It’s been mostly women really that have played in that supportive role.”

**Release from Teaching/Service**

“I think that getting the course release, because it is 50/50, makes it reasonable. Even if I’m doing more than 50%, it’s still a significant reduction in those other demands…”

“I’m not teaching intro and that’ll be weird. I’m teaching […] in the fall. And then in the spring it’s going to be really busy here, and I’m not teaching. So I think that’s going to work out.”

**Fewer Family Demands**

“I have teenagers now and they can drive themselves home from school […] If my kids were younger and I still really needed to be there, my husband and I, we would switch off who needed to be there at 3-30 everyday […] It would be more difficult.”

“[My husband and I] rotate shifts at home […] We have no kids […] I’m pretty much in charge of the animals. We have a good separation of duties at home…”

**Trade-off of Non-work Time**

“I work a little more at home or at night, but I don’t think it short changes my kids. It short changes my free-time, which, if anything, is not there.”

“I do work on my lab stuff at home.”
Accumulation of Disadvantage

Any one slight might seem minor, but small imbalances and disadvantages accrue, having a major impact.

“Mountains are made by piling one on top of the other.” — Virginia Woolf

What Can Search Committees Do?

“It’s a Search, not a Sort.”

Active Strategies to Overcome Implicit Bias in the Search Process:
- Always Be Recruiting
- Search Committee Composition
- Inclusive Advertising
- Thoughtful Evaluation of Candidates
- Host an Effective Visit
Re-examining Sex Differences in Student Evaluations of Teaching

(Stephanie Payne, Nate Keiser, & Xiaohong Xu)
## Evaluation Baseline

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline Findings</th>
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<tbody>
<tr>
<td>Climate Survey</td>
<td>In the 2009 climate survey, female faculty expressed significantly lower job/life satisfaction than their male counterparts</td>
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<tr>
<td>Salaries</td>
<td>Salaries significantly lower for female faculty than for otherwise equal male faculty in the STEM departments of COALS and Liberal Arts</td>
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<tr>
<td>Staffing</td>
<td>Female faculty underrepresented, especially at the higher ranks</td>
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<tr>
<td>Retention/Promotion</td>
<td>Eight-year retention rates among tenure track faculty significantly lower for females than for males in Engineering, significantly higher for females than for males in COALS.</td>
</tr>
<tr>
<td>Startup Packages</td>
<td>No systematic differences by sex once faculty rank and department/college are taken into account</td>
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<tr>
<td>Space Allocations</td>
<td>No systematic differences by sex once faculty rank and department/college are taken into account</td>
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How Can We Know We are Making a Difference?

• We cannot simply compare outcomes before and after ADVANCE because many other things also changed
  – A university-wide salary freeze from 2009-2011
  – An early retirement program implemented in 2011
  – A hiring freeze
  – Programs sponsored by the Vice President for Diversity or the Dean of Faculties provide alternative sources of treatment
  – Turnover among top administrators created uncertainty

• Furthermore, many activities are designed to affect all STEM women or all STEM women in a category so we can’t randomly assign individuals to treatment and control groups
Our Core Analytic Approach:
Difference-in-Difference Analyses

• We have two potential, imperfect control groups
  – Non-STEM females
  – STEM males
• Using difference-in-differences (DD), we can use these imperfect controls to subtract out biases.
• Differences-in-differences-in-differences (DDD) analysis uses both imperfect controls simultaneously to control for non-intervention shocks that may be affecting STEM and NON-STEM differently over time, so long as they are not affecting women and men differently
Exposure to ADVANCE Committees Associated with Improved Job Satisfaction for Female Faculty

<table>
<thead>
<tr>
<th></th>
<th>Job Satisfaction</th>
<th>Feeling Valued</th>
<th>Turnover Intentions</th>
<th>Burnout</th>
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</thead>
<tbody>
<tr>
<td>Any Committee</td>
<td>↑</td>
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<tr>
<td>Roadmap</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Success Circles</td>
<td></td>
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<tr>
<td>Speaker Series</td>
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<tr>
<td>FASIT</td>
<td>↑</td>
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<tr>
<td>Administrative Fellows</td>
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<tr>
<td>Mini-grant</td>
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<tr>
<td>LEAD</td>
<td></td>
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<tr>
<td>STRIDE</td>
<td>↑</td>
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<tr>
<td>Student Diversity</td>
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<tr>
<td>Scholars Program</td>
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# Exposure to ADVANCE Committees Associated with Improved Retention Among Female Faculty

<table>
<thead>
<tr>
<th></th>
<th>All Ranks</th>
<th>Assistants</th>
<th>Associates</th>
<th>Full Professors</th>
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<tbody>
<tr>
<td>Any Committee</td>
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<td>↓</td>
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<tr>
<td>Roadmap</td>
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Job Satisfaction Has Rebounded...

All things considered, I am satisfied with my job

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly Agree

2009, 2013, 2015, New Units
...and Differences by Sex Are No Longer Significant

All things considered, I am satisfied with my job

NonSTEM Female  NonSTEM Male  STEM Female  STEM Male

2009  2013  2015

1  1.5  2  2.5  3  3.5  4
Female Salaries Still Lag Male Salaries in Some STEM Colleges

Female Faculty Salaries as a Percentage of Male Faculty Salaries in STEM, 2014-15

College of Agriculture and Life Sciences (STEM)  College of Engineering  College of Geosciences  College of Liberal Arts (STEM)  College of Science

Assistant  Associate  Full

*  **  ***
Female Salaries Still Lag Male Salaries in Some NonSTEM Colleges

Female Faculty Salaries as a Percentage of Male Faculty Salaries in NonSTEM, 2014-15

- Bush School of Government & Public Service
- College of Agriculture and Life Sciences (NonSTEM)
- College of Architecture
- College of Education and Human Development
- College of Liberal Arts (NonSTEM)
- College of Veterinary Medicine
- Mays School of Business
## Differences by Sex in the Retention/Promotion of Tenure Track Faculty Persist

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
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</thead>
<tbody>
<tr>
<td><strong>STEM Departments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture and Life Sciences</td>
<td>73.1%</td>
<td>78.3%</td>
</tr>
<tr>
<td>Engineering</td>
<td>49.0%*</td>
<td>68.7%</td>
</tr>
<tr>
<td>Geosciences</td>
<td>46.9%</td>
<td>41.1%</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>55.9%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Science</td>
<td>76.1%</td>
<td>69.2%</td>
</tr>
<tr>
<td><strong>Non-STEM departments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture and Life Sciences</td>
<td>69.1%</td>
<td>52.4%</td>
</tr>
<tr>
<td>Architecture</td>
<td>54.5%</td>
<td>74.4%</td>
</tr>
<tr>
<td>Education</td>
<td>58.1%</td>
<td>52.2%</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>56.8%*</td>
<td>76.4%</td>
</tr>
<tr>
<td>Mays School of Business</td>
<td>29.7%*</td>
<td>50.0%</td>
</tr>
<tr>
<td>Veterinary Medicine</td>
<td>78.0%</td>
<td>74.1%</td>
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