

Diversity, Leadership, and Teaching-Mentoring: Linking Personal Values to Disciplinary Norms among STEM Faculty

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Introduction

- Proposed elements for one campus's Strategic Plan
 - a) **Attract, retain, and grow top quality faculty body**
 - b) **Enhance equity, diversity, and inclusion on campus**
 - c) Create an engaging environment for students with comprehensive advising and mentorship
 - d) Grow a high quality and cost effective graduate program

Problem

“We all know that a more diverse faculty will be an increasingly important measure of a great university” (Mark Yudof, President, University of California, 11-17-2013)

Yet many colleagues may view the (a) scientific excellence and quality and (b) diversity and equity to be inconsistent goals.

Outline

Using data on STEM faculty at a top-ranked university with preeminent science programs, we:

Explore cultural schema of “scientific excellence”

Explore cultural belief that valuing excellence and valuing diversity are incompatible

Analyze unintended consequences of the **d**evaluation of diverse faculty (preliminary results)

Sample

- Academic Personnel Data for entire population
- Survey data on 266 (response rate above 50%)
- Interview Data (n=85)
 - Overrepresentation of women, URM, and LGB faculty

Schemas of Excellence

Socially constructed, cultural beliefs

Define particular traits as markers of success, including competitiveness, self-promotion, being a strong leader, and being a risk taker, and a good mentor and teacher.

These schemas are often perceived by many faculty as objective indicators of scientific merit.

Excellence schemas can define and justify interactions that fail to fully value researchers who do not fit that image (Rosser 2012; Rhoton 2011).

Schemas of excellence in everyday departmental interaction

STEM faculty members 1 and 2:

1. "If the best person in the pool for hire is...from an underrepresented group, it's irrelevant...The best person gets the job and if the best person is underrepresented, they get the job"
2. *Critic*: "[STEM colleagues] still do not believe that women or minorities are as excellent as white men who are in these fields. I think there is still a barrier... Partly because, I think, because you don't *look* like you're excellent. Even though you have all these same credentials, you're not what *looks* excellent"

Often a perceived contradiction between valuing "quality and excellence" and "diversity"

(Continued)

“I’m not necessarily giving you my personal view, just stating the things that I think people may believe. . . .

“They automatically think you [women and URMs] are not as good. And then therefore the bar goes up higher for you. So if people think, “Oh, she got that position because she’s a woman,” and I’m sure there are people who think that, then I think the bar would be higher.”

Discipline schemas of excellence

Beyond demographics, what qualities do respondents think are most highly valued in their science or engineering discipline?

We asked respondents (on a scale of 1-5) the extent to which each characteristic describes a typical successful person in their **discipline**.

Means of each characteristic and rank-ordered (from the most valued to the least valued):

Discipline Valued Characteristics

1. Competitive

2. Strong communication skills

3. Promote own accomplishments

4. Strong leader

5. Risk taker

6. Good mentor

7. Skilled teacher

8. Specialization

9. Nerdy

10. Blunt/direct

11. Empathetic

12. Cares about diversity

13. Strong interests outside profession

14. Dress fashionably

How well are strategic plan goals supported by disciplinary schemas of excellence?

- Attract, retain, and grow top quality faculty body
*** Top 4 Disciplinary values**
- Enhance equity, diversity, and inclusion on campus + **Valued at #12, just above hobbies and dressing fashionably**
- Create an engaging environment for students with comprehensive advising and mentorship
*** Values 6-7**

Self-characteristics

But first, we asked (on a scale of 1-5) the extent to which each characteristic describes **that respondent**

Means of each characteristic and rank-ordered (from the most valued to the least valued):

<i>Self Chars.</i>	<i>Discipline-Valued Chars.</i>
1. Good mentor	1. Competitive
2. Strong communication skills	2. Strong communication skills
3. Skilled teacher	3. Promote own accomplishments
4. Competitive	4. Strong leader
5. Cares about diversity	5. Risk taker
6. Strong leader	6. Good mentor
7. Empathetic	7. Skilled teacher
8. Strong interests outside the profession	8. Specialization
9. Risk taker	9. Nerdy
10. Blunt/direct	10. Blunt/direct
11. Nerdy	11. Empathetic
12. Promote own accomplishments	12. Cares about diversity
13. Dress fashionably	13. Strong interests outside profession
14. Specialization	14. Dress fashionably

Disciplinary Schemas and Personal traits at this campus: Overlap and Disconnect

Five of the top 7 self-characteristics are *also* five schemas valued within the discipline:

Strong leadership

Being competitive

Good mentoring

Strong communication skills

Skilled teaching

Disconnect:

Faculty on this campus put promoting diversity in top 5, even though they perceive that not valued in broader discipline.

		(T1) Self Characteristics: Care about promoting diversity
(T1) Self Characteristics: Good mentor	Pearson Correlation Sig. (2-tailed) N	.253 .000 253
(T1) Self Characteristics: Strong leader	Pearson Correlation Sig. (2-tailed) N	.300 .000 251
(T1) Self Characteristics: Skilled teacher	Pearson Correlation Sig. (2-tailed) N	.200 .001 254
(T1) Self Characteristics: Care about promoting diversity	Pearson Correlation Sig. (2-tailed) N	1 255
(T1) Self Characteristics: Competitive	Pearson Correlation Sig. (2-tailed) N	.070 .271 253
(T1) Self Characteristics: Empathetic	Pearson Correlation Sig. (2-tailed) N	.317 .000 253
(T1) Self Characteristics: Have strong communication skills	Pearson Correlation Sig. (2-tailed) N	.091 .149 254

Self-char. Caring about Diversity is correlated with self-characteristics of:

- Stronger leader
- Good mentor
- Empathetic

- moderate correlation with Skilled teacher

APM 210 “Recognizing contributions to diversity” becoming a cultural norm on this campus?

Some backlash against APM 210 as administrative burden or privileging of some research topics over others

But for many, APM rule has prompted conversations that make schemas of excellence should less taken-for-granted and more inclusive:

“With people broadening searches and more awareness of . . . biases and trying to open up things **so that excellence maybe has a broader definition**, has really helped to get women, I think, and diverse faculty on campus. I think it’s really been effective.”

STEM faculty on this campus could play a leadership role in showing how promoting diversity is consistent with, rather than contradictory to, valued traits in the discipline such as leadership and mentorship.

Leadership in disciplines, scientific academies, and ADVANCE Roundtables

Use graduate mentoring to diffuse new schema of excellence: articulating value of and contributions to diversity

One faculty respondent mimics confusion that he/she imagines a graduate student applicant to this campus might feel about requirement to write contribution to diversity statement:

“So then I don’t understand it. I know how to write a discussion about my research and how good it is. I know how to write about my teaching. I know how to write about my professional activity, but, boy, I’m a Ph.D. student and I haven’t done anything in diversity. I can’t put anything in there. I don’t know what to put. I don’t know where to start. I don’t know what they’re looking for. I’ve got no chance.”

Consistent with fourth Strategic Goal:
Grow a high quality graduate program

Overall experience & job satisfaction

- Important for STEM faculty, who strongly identify with their research and care about teaching and mentoring
- Previous literature has found that women and URM are less satisfied men (e.g. Olsen, Maple, & Stage, 1995; Settles, Cortina, Malley, & Stewart, 2006)
- But we find that perceptions of fairly valuing diverse colleagues matter more than demography

Negative consequences for failing to value the contributions of diverse individuals

We measure whether how strongly faculty perceive that:
“women faculty must work harder than men to convince people of their competence” and that
“racial/ethnic minority faculty must work harder than non-minority faculty to convince colleagues of their competence”
(1=strongly disagree to 5=strongly agree)

Preliminary regression results

The perception that women or URM's face a "higher bar" and are not fairly valued contributes to **lower levels of overall satisfaction** for faculty, regardless of own demographic characteristics

Net of controls: gender, race/ethnicity, LGB identification, department, advancement, step, salary, parenthood status, marital status.

Women faculty must work harder than men to convince colleagues of their competence ($p < .039$)

Minority faculty must work harder than non-minorities to convince colleagues of their competence ($p < .080$)

Valuing diversity can contribute to a more positive and productive working environment for all faculty.

Conclusion

The campus we study seems ahead of broader STEM disciplines in linking the value of diversity to other values, such as leadership, mentorship and teaching.

Faculty in our sample could help diffuse the norms of valuing diversity to broader disciplines, starting with their grad students and mentees.

Costs of not valuing diversity to job satisfaction of individuals within their department.

Works Cited

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