Professional Cultures and Inequality in Science

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Overview

- Question: How do taken-for-granted beliefs in STEM reproduce inequality?
  - Focus: Professional Cultures in STEM
No longer primarily a “bad apples” problem
Subtle beliefs and practices matter
Won’t necessarily improve with time
Small disadvantages accumulate over time
A Starting Place


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A Starting Place

- No longer primarily a “bad apples” problem
- Subtle beliefs and practices matter
- Won’t necessarily improve with time
- Small disadvantages accumulate over time
Professional cultures of STEM disciplines can help reproduce inequalities

3 specific cultural ideologies:
- Professional Competence Schemas
- Depoliticization
- Meritocracy

How to undermine these ideologies
What are Professional Cultures?

- Professional Cultures = rich and historically-rooted meaning systems built into and around professions’ tasks and knowledge.
  - Give professional work meaning
  - Unite profession members
What are Professional Cultures?

- Perpetuated through interactions, journals & conferences
- Passed down through professional socialization
- Influential in departments across the profession.

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“[We] have labs where you’re supposed to touch human bones.... I personally went up to the professors and said I can’t do that. If it’s possibly bones I can’t touch that. That’s taboo. I mean that’s what I told by my grandpa. If I were to do anything like that I’d have to have a big ceremony because that’s someone. That’s their bones. You don’t touch it. I mean you’re not supposed to bother things like that.”

--Navajo woman, biology student
(Erin Cech, Jessi Smith & Anneke Metz, in progress)
Cultural Perspective of Navajo Beliefs

Taboo to touch human remains

Cultural Perspective of Western Science

Human remains provide teaching opportunities

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Professional Cultures are not benign.

- Can have built within them powerful (but unnoticed) ideologies that reproduce inequality.
Three Specific Ideologies

- Professional Competence Schemas
- Depoliticization
- Meritocratic Ideology
Professional Competence Schemas

- Widely-shared beliefs about the characteristics & skills assumed to be markers of professional competence
  - Cultural yardsticks in judgments of skills, abilities, and excellence.
  - Influence hiring, promotion, and career decisions
  - Not necessarily the skills *actually* required for success
  - Can be infused with social biases

- Example: The “Technical/Social Dualism”
The ideological separation between “technically-focused” and “socially-focused” activities (Faulkner 2000)

“Technical” is more highly-valued than the “social”
Social stereotypes mapped on to this dualism:
- Women versus men
- African-American and Hispanic vs. white (and Asian-American)

Source: (Cech 2013, Social Forces)
Gay vs. heterosexual / lesbian vs. heterosexual

*I mean, stereotypically, gay men are hairstylists and fashion designers...like, the people who act in the most stereotypically gay fashion have more non-technical jobs...like, there’s no way you could be acting like that in a technical position...*

(Brian, gay graduate student at “Gold University”; quote taken from Cech & Waidzunas 2011)
Professional Competence Schemas and Inequality

- Competence schemas undermines others’ perceptions of women’s and minority’s competence as professionals.

Reflection Question: How is competence judged in your profession? How might social stereotypes be mapped on to beliefs about competence?
Three Specific Ideologies

- Professional Competence Schemas
- Depoliticization
- Meritocratic Ideology
Depoliticization: the belief that STEM is a “pure” space that *can* and *should* be stripped of political and cultural concerns.

comic: http://xkcd.com/435/
Depoliticization

- Depoliticization means that discussions of “political” issues (such as equality or diversity) are supposed to be separated from scientific work (Cech 2013)

- But science is inherently political
  - What to study, how to define problems, what to prioritize in solutions are cultural & political decisions
When Scientists Write this…

High-purity…
Very High purity…
Extremely high purity…

They really mean this…

Composition unknown except for the exaggerated claims of the supplier…
When Scientists Write this…

...accidentally strained during mounting

They really mean this…

...dropped on the floor
When Scientists Write this…

...handled with extreme care throughout the experiments

They really mean this…

...not dropped on the floor
When Scientists Write this…

A statistically oriented projection of the significance of these findings…

They really mean this…

A wild guess…
Depoliticization shuts down conversations about diversity and equality within STEM professions.

Affects Students:
Depoliticization reinforces existing power structures within S&E:

In my department, [the issue of sexual identity] is sort of invisible. I think most of them are straight dudes who don’t really think about the existence of people who are not like them. I think they have so much privilege that they can’t understand what it’s like for people who don’t have that privilege.

(--taken from Cech and Waidzuans 2011, p. 11).
Depoliticization

Reflection Question: How might depoliticization silence conversations about diversity and inequality in your department?
Meritocratic Ideology

- Success in life is the result of individual talent, training and motivation.

- *Inequalities* are the result of a properly-functioning system that rewards the most talented and hard-working.
  - Defines inequalities as the fault of women and minorities, not the social system.

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Reflection Question: Who still needs to be convinced that unequal processes actually exist?
These 3 ideologies are part of the professional cultures of S&E
  - Difficult to see, hard to change

Professional cultures can reproduce inequalities within S&E

Do we contribute to these cultural processes?
What can be done?

- Not about “fixing” women or minorities to be more like white men
- Professional Competence Schemas: Be wary of discussions about “fit”
- Depoliticization: legitimize topics of diversity and equality
- Meritocratic Ideology: First step—explain that there is a problem

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"Persistence of Male Power & Prestige in the Professions” Report

Center for Research on Gender in the Professions
March 2013

The Persistence of Male Power and Prestige in the Professions: Report on the Professions of Law, Medicine, and Science & Engineering

Gender inequality remains pervasive in the American workplace. Recent studies continue to show that, even though the number of women in the workforce has increased, the number of men in the workforce has decreased. Women are concentrated in lower-paying, lower-status jobs, while men are concentrated in higher-paying, higher-status jobs. The result is a continuing gap in pay and status between men and women. This gap persists even when controlling for factors such as education, experience, and industry. The persistence of gender inequality is evident in the professions of law, medicine, and science & engineering, where men continue to hold the majority of positions and earn the majority of the income. The report highlights the need for continued research and action to address the persistent gender gaps in these and other fields.

The Ordinance of Edith: Not So Fast!

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Professional Competence Schemas: How is competence judged in your profession? How might social stereotypes be mapped on to beliefs about competence?

Depoliticization: How might depoliticization silence conversations about diversity and inequality in your department?

Meritocratic Ideology: Who still needs to be convinced that unequal processes actually exist?
Thank you