Gender and STEM Course Evaluations: Teaching While Female

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Overview

- Women in STEM fields
- Research on student evaluations
- The double bind
- Risk factors
Women’s representation has increased dramatically over time, although it varies by field.

Women in Academia: STEM Disciplines

Women’s representation still lags behind men’s but is improving in the life sciences.

Challenges for Academic Women in STEM Fields

- **Not** typically outright discrimination in
  - Manuscript and grant reviewing
  - Interviewing and hiring
- Work-life balance
  - Demands of research
- Climate issues (U Michigan ADVANCE study, 2008)
  - Lack of mentors, scholarly isolation
  - Disparaging comments, tokenism
What About Student Perceptions/Evaluations?

• **Overall**, student ratings of male and female professors are similar

• **Stronger divisional effects**
  – Typically, professors in STEM fields get lower evals than profs in humanities

• **But what about women compared to men in STEM fields?**
  – Not much studied due to small N’s
Background on Gender and Evaluations

- Effects of gender are **complex**
- Depends on
  - Particular questions being asked
  - Gender of rater
  - Gender-typing of field
  - Gender-typed characteristics
  - Status cues
Finding: Teacher Gender by Student Gender Interaction

• Male profs rated equally by M and F students
• Female profs rated lower by M students
  – Especially traditional ones (business, engin.)
  – Chosen less often as “best” (but not more often as “worst”)
• Female profs rated higher by F students
  – Certain questions (e.g., fairness, comfort; “best prof.”)
Typical Interaction  (from Basow, 1995)

- Mean Rating of Overall Teaching Ability (1-5 scale)
Finding: Gender x Divisional Effects

• Teacher gender by student gender interaction mainly found in Humanities and Social Sciences

• In Natural Sciences, male profs typically rated higher than female profs by both M and F students overall (Basow, 1995)
  – But male profs receive lower ratings in instructor-student interactions (Basow & Montgomery, 2005; Centra & Gaubatz, 2000)
More Divisional Effects

• In Natural Sciences
  – Male profs especially rated higher in “demonstrates knowledge”
  – Changing as more females are in these fields (Basow & Montgomery, 2005)
    • e.g., psychology, biology
  – Supports other research (Heilman & Okimoto, 2007):
    • Women in “male” jobs viewed as less competent than their male peers
Possible Explanations of Findings

• Gender stereotypes lead to perceptual biases
  – Similar behavior perceived differently
• Male and female profs teach differently
  – Different behaviors: lecture vs. discussion
• Both appear true
Expectancy Disconfirmation

**Double Bind** for Female Professors

- Expected female behavior
- Expected professor behavior
Differential Expectations, Perceptions

• Female profs expected to be more available
  – They typically are

• Expected to be warmer and more engaging
  – They typically are

• But receive similar evaluations
  – Women need to work harder to receive equal ratings
Differential Expectations, Perceptions

• If women viewed as similar to their male counterparts in availability, warmth
  – Lower evaluations

• If women are viewed as equally demanding or low graders
  – Lower evaluations
Double Bind for Women Academics

• Women must combine traditional markers of femininity ("warmth") as well as traditional markers of masculinity ("competence")
  – Very fine line

• Even more pronounced in STEM fields (traditionally "male"):
  – If viewed as appropriately "feminine", viewed as less competent
  – If viewed as clearly competent, liked less
Summary

• Female profs marked for gender in ways male profs aren’t
  – Double set of expectations: fine line
• Male and female students may react differently
• Gender appropriateness of discipline, personality matter
• Small differences (1-4% of variance) can add up
Risk Factors for Bias against Women Professors

- Student characteristics: male; traditional gender role attitudes
- Subject area: nontraditional
- Teacher: non-nurturant, non-expressive personality traits
- Lecture-based teaching style
- “Tough” grader
- Status cues: untenured, young-looking
- Lower-level course
- Feminist reputation
- Additional minority cues (race, ethnicity, sexual orientation)