Factors Impacting the Academic Climate for LGBQ STEM Faculty

Findings from the 2010 State of Higher Education for LGBT People Report

Open Chemistry Collaborative in Diversity Equity (OXIDE) National Diversity Equity Workshop
Tuesday April 16, 2013
Presentation Overview

Introduction
Importance and State of STEM Talent

Setting the Context
Influence of Campus Climate

Current Literature
Recruitment & Retention of Faculty in STEM Fields

Experiences of LGBQ STEM Faculty
Findings
Implications
For more than 50 years, technological innovation has driven more than half of all U.S. economic growth\(^1\)

Over next decade we need to produce 1 million *more* college graduates from STEM fields than expected\(^2\)

Increasing the retention of STEM majors from 40% to 50% can largely meet this gap\(^2\)

\(^1\)Bonvillian, 2002; Solow, 1957

\(^2\)President’s Council of Advisors on Science and Technology, 2012
SEH Doctorates have doubled since 1973


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Increasing competition for U.S. jobs
U.S. / Foreign Academic Comparisons

SEH doctorate holders employed in academia, by birthplace: 1973–2008

First university natural sciences and engineering degrees, by selected countries: 1999–2008


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Modest Increase in Women PhD’s

Men

Women

- Engineering
- Social sciences
- Psychology
- Life sciences
- Computer sciences
- Mathematics
- Physical sciences


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Scant Increase in Underrepresented minority PhD’s

White

Underrepresented Minorities


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What is the state of LGBTQ SEH or STEM communities?

Diversity of Thought

Source of Potential

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Contextualizing Campus Diversity
Campuses as Social Systems

- Students, Faculty, Staff, Alumni
- Social Contexts
- Institutional Policies
- Vision/Mission
- Structural Framework
- Institutional History/Core Values

Hurtado, Milem, Clayton-Pederson, & Allen, 1998

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Climate (Living, Working, Learning)

Creation and Distribution of Knowledge

Community Members

The personal and professional development of employees including faculty members, administrators, and staff members are impacted by campus climate.¹

Faculty members who judge their campus climate more positively are more likely to feel personally supported and perceive their work unit as more supportive.²

Research underscores the relationships between (1) workplace discrimination and negative job and career attitudes and (2) workplace encounters with prejudice and lower health and well-being.³

¹Settles, Cortina, Malley, and Stewart (2006)
²Sears, 2002
³Silverschanz, Cortina, Konik, & Magley, 2007; Waldo, 1999
The “ideal worker” is someone whose commitment to work is unlimited by child bearing or rearing—i.e., a man. Success in academia today continues to be aligned with traditional masculine stereotypes of autonomy, competitiveness and heroic individualism. The ‘ideal worker’ is someone for whom work is primary, the demands of family, community, and personal life secondary, and time to work unlimited.

—Ellen Ostrow, clinical psychologist & founder of Lawyers Life Coach

Positive Experiences with Campus Climate + Positive Perceptions of Campus Climate = Success

**For Students:**
- Positive educational experiences
- Healthy identity development
- Lower rates of substance use & abuse

**For Faculty & Staff:**
- Increased productivity
- Increased sense of value & community

Persistence & Retention

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Psychosocial Well-Being During Stages of Gay Identity Development

Cass’ Stages

Halpin & Allen, 2004

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Who were the Respondents?

- 5149 total participants (Faculty, Staff, Students)
- Queer spectrum (n = 4187)
- Trans spectrum (n = 695)
- All 50 states
- All Carnegie Basic Classifications of Institutions of Higher Education
- On-line survey instrument
“Troubling Terminology”

- Transgender
- Lesbian
- Man who loves men
- Woman loving women
- Asexual
- Tranny boy
- Butch
- Androgynous
- "Troubling Terminology"
- Cross dresser
- Pre-op
- Asexual
- Bisexual
- Intersex
- Gay
- Two-spirit
- Man loving men
- Queer
- Pansexual
- Bigender
- Woman loving women
- Gender Queer
- Transgender
- Same gender loving
- Questioning
- Boi
- Androgynous
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Faculty in STEM

Recruitment & Retention of Faculty in STEM Fields

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Faculty Success
Socialization of new faculty

Mentorship
Student – Faculty interactions

Academics
Pedagogy, Culture, Curriculum

Reciprocal Effects
diverse faculty
↓
diverse students + faculty

Leggon, 2010;
Sonnert, Fox, & Adkins, 2007;
Hill, Corbett, & St. Rose, 2010;
Stout, Dasgupta, Hunsinger, & McManus, 2011

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Astin & Astin, 1992;
Thompson, 2001;
Astin, 1993

Leggon, 2010;
Eddy & Gaston-Gayles, 2008;
Ragins & Scandura, 1994, 1997

Leggon, 2010;
Malcom, Chubin, & Jesse, 2004;
Bassett-Jones, 2005;
Leggon, 2010

Astin, 1993

Thompson, 2001;
Astin, 1993
Guiding Research Questions

I. What is the professional climate like for LGBT STEM faculty in comparison to other departments?

II. What factors of climate affect the career consequences of LGBT faculty?
Who are the Participants?

Selected Demographics of Faculty Respondents
Total Faculty Respondents

- 498 faculty responded
- 350 faculty aggregated:
  - STEM Fields
  - Social Sciences
  - Education
  - Humanities & Liberal Arts
  - Fine Arts
Facility included in final analyses

- 279 faculty

![Pie chart showing faculty distribution by role and race]

- Instructor: 2.0%
- Adjunct: 8.9%
- Assistant: 8.9%
- Associate: 7.1%
- Professor: 28.0%
- Visiting: 26.3%
- Other: 18.6%
- White: 86.0%
- Black: 2.3%
- Hispanic: 4.0%
- Asian: 2.9%
- Other: 2.9%
So What Did We Find?

The Results
Climate Variables

Outness

Comfort

Experience Exclusionary Behavior

Consideration to Leave

Observe Exclusionary Behavior

• Campus
• Department
• Classroom
**Outness**

STEM faculty are more likely to be out*

28% vs 11% of all faculty

**Comfort**

STEM faculty most likely to be not comfortable**

Classroom: 17% vs 12% avg.
Department: 26% vs 13% avg.

*Statistically Significant p<.0001
**Not Statistically Significant

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Experiences of STEM Faculty

- 48% Observed Exclusionary Behavior
- 21% Experienced Exclusionary Behavior
- 53% Considered Leaving

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“... a new dean arrived and contributed to a hostile and conservative set of rules that made it hard to be out and creative”

-Survey Respondent
STEM Experience of Exclusionary Behavior

SOURCE

Administrator: 70%
Student: 30%

CAUSE

Sexual Identity: 80%
Gender Expression: 30%
Gender: 30%

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“I was told I don’t fit in at my institution and should consider leaving by my peers”
–Survey Respondent
Experiences of Comfortable Faculty

- Subdivided faculty:
  - N=125 Comfortable
  - N=154 Not Comfortable

All Statistically Significant p<.0001
Predictors of Comfort
Binary regression analyses

- Observed EB: 2.5x*
- Experienced EB: 7.2x*
- Out: 14.3x*

*Statistically Significant p<.0001

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Predictors of Persistence
Binary regression analyses

- Observed EB: 3.4x*
- Experienced EB: 4.9x*
- Not Comfortable: 2.6x*
- Considered Leaving

*Statistically Significant p<.0001

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Modeling LGBQ faculty Experiences

All Statistically Significant p < .0001

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Beyond the Rainbow

Implications for Practice and Future Research

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“That’s So Gay” Matters

Hearing “that’s so gay”

- **.29**
- **.31**
- **.32**

** **p < .01

Being accepted on campus

Frequency of headaches

Frequency of trouble eating

Comfort & Exclusionary Behavior
Observing EB ≈ Experiencing EB

Invite LGBT faculty to offer experiences and solutions
Invite speakers capable of advising a community
Large population studies that include LGBT people as subgroup
LGBT STEM faculty is good place to start

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Trans Spectrum of Respondents

12% STEM Field

0 - 2% Other Fields
Questions...?
Thank You!

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