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

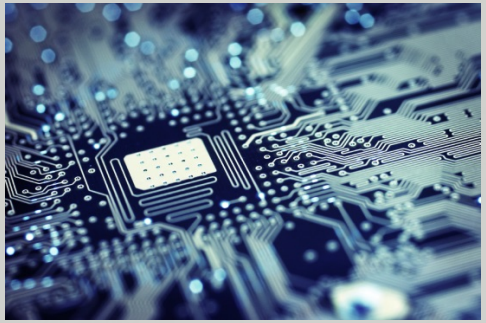
Current Literature

Recruitment & Retention of Faculty in STEM Fields

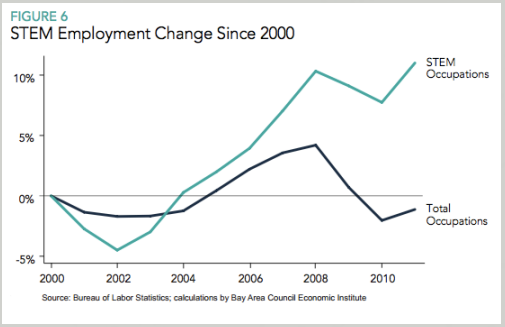
Experiences of LGBQ STEM Faculty

Findings | Implications

Importance of STEM Talent



For more than 50 years, technological innovation has driven more than half of all U.S. economic growth[1]

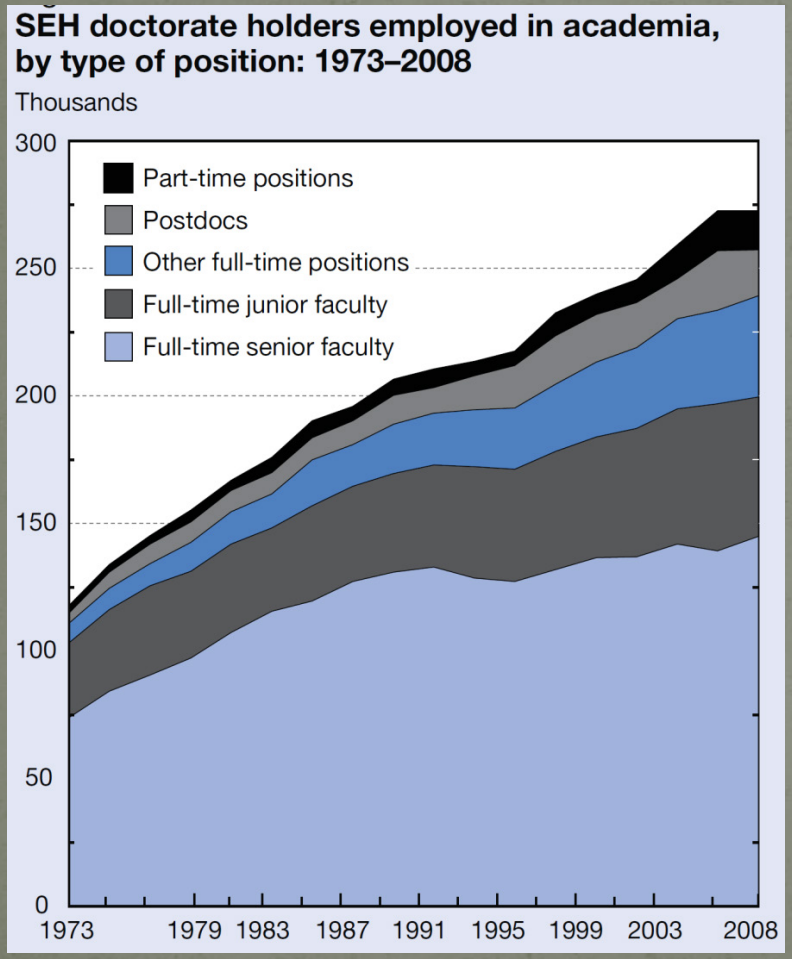


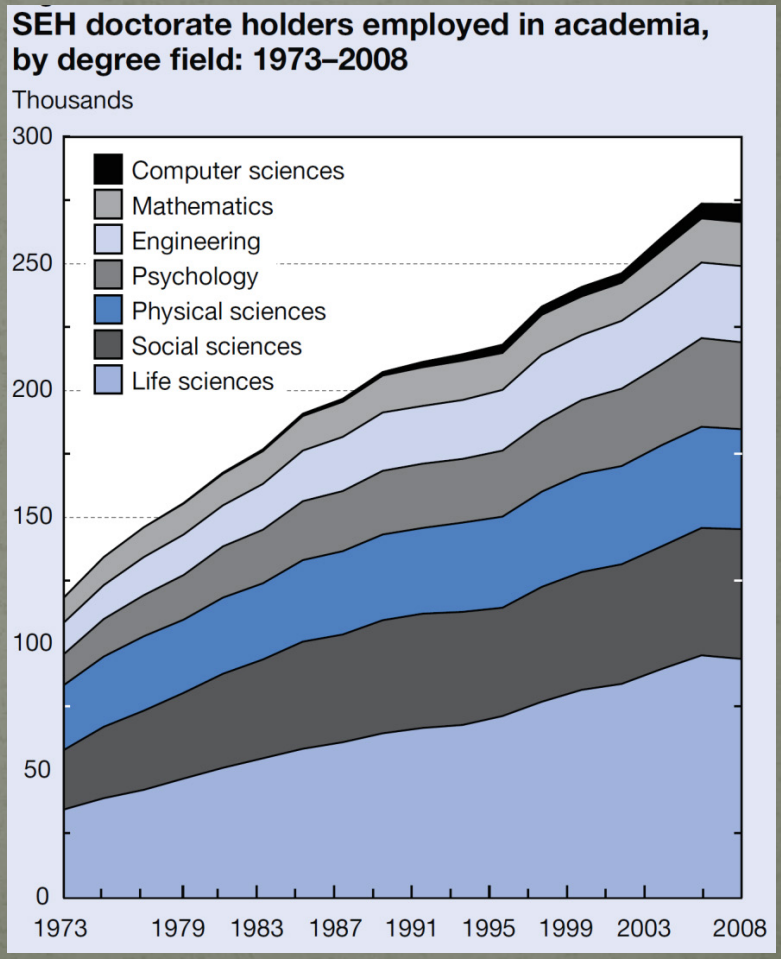
Over next decade we need to produce 1 million *more* college graduates from STEM fields than expected[2]

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



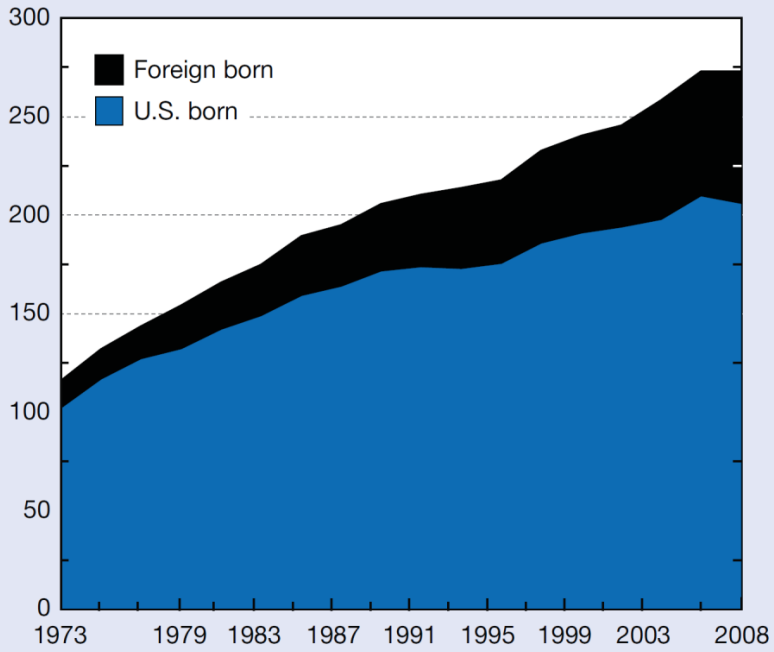


National Science Board. (2012). Science and Engineering Indicators: 2012. Arlington, VA: National Science Foundation Retrieved from http://www.nsf.gov/statistics/seind12/

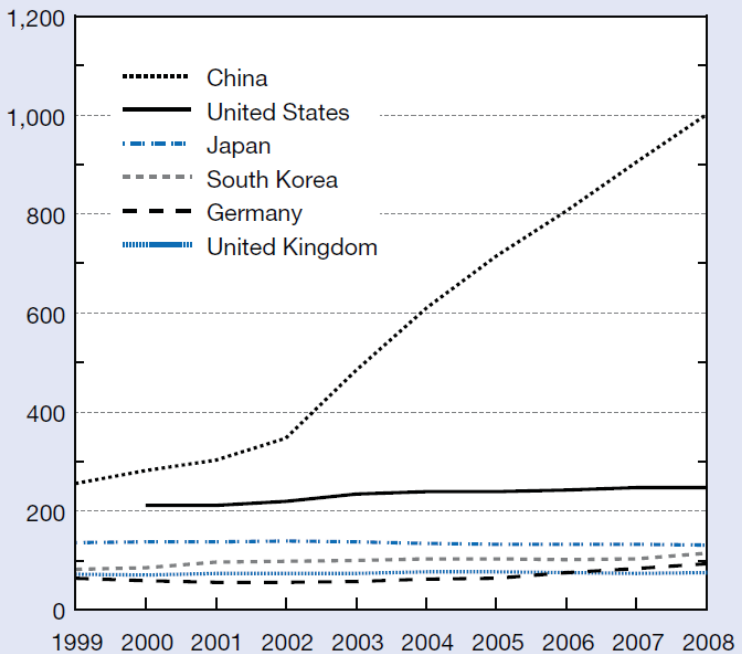
Increasing competition for U.S. jobs

U.S. / Foreign Academic Comparisons

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

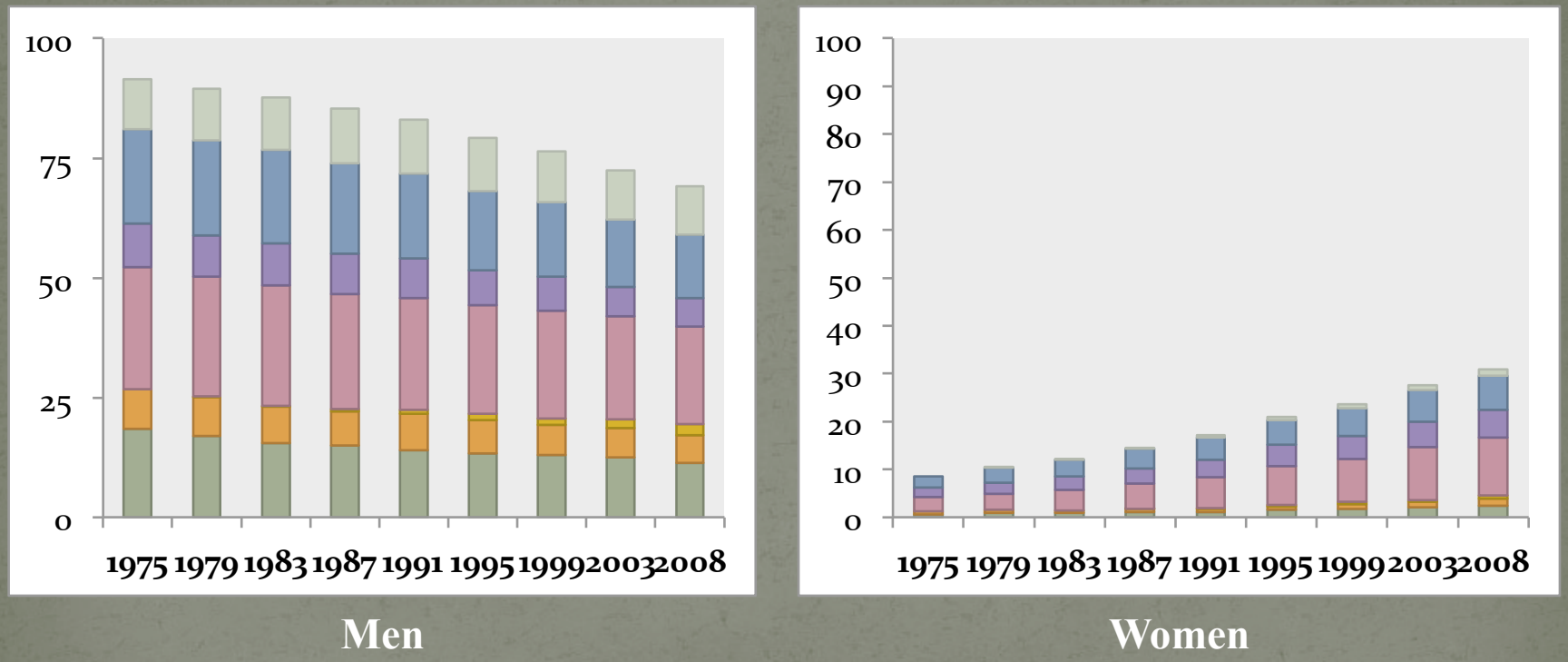


First university natural sciences and engineering degrees, by selected countries: 1999–2008



National Science Board. (2012). Science and Engineering Indicators: 2012. Arlington, VA: National Science Foundation Retrieved from http://www.nsf.gov/statistics/seind12/

Modest Increase in Women PhD's



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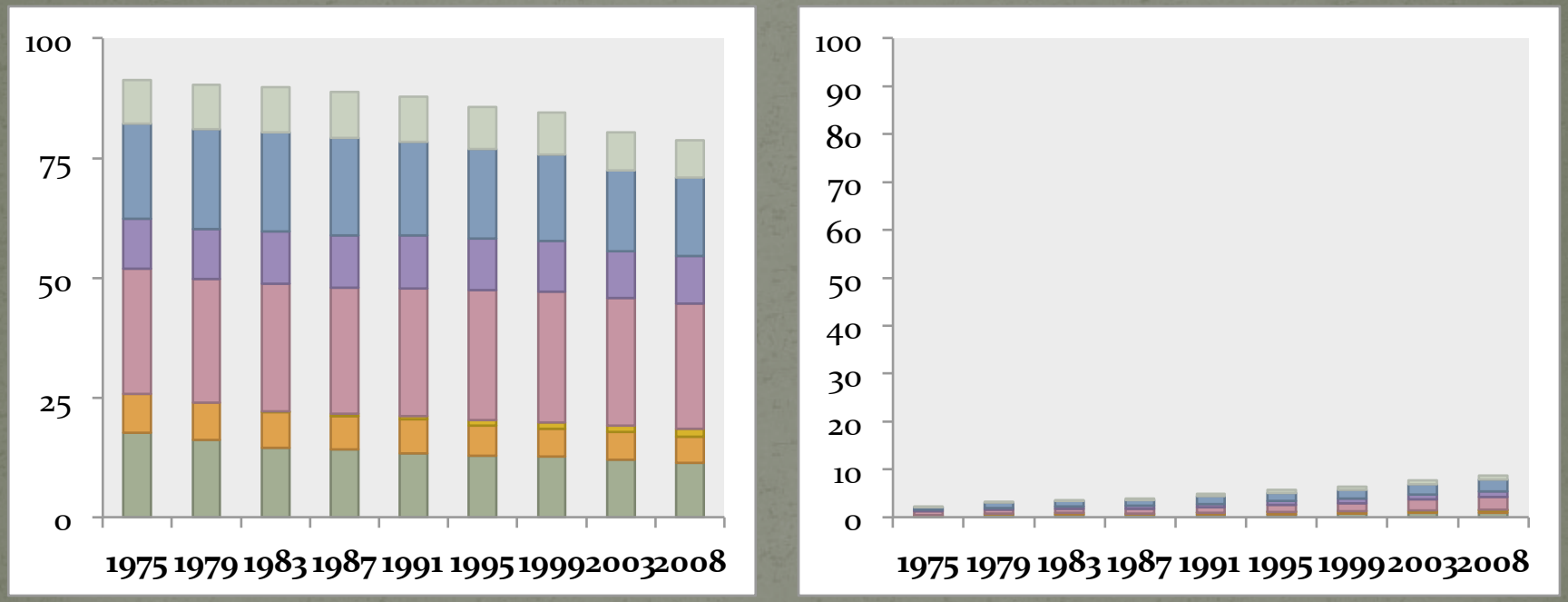
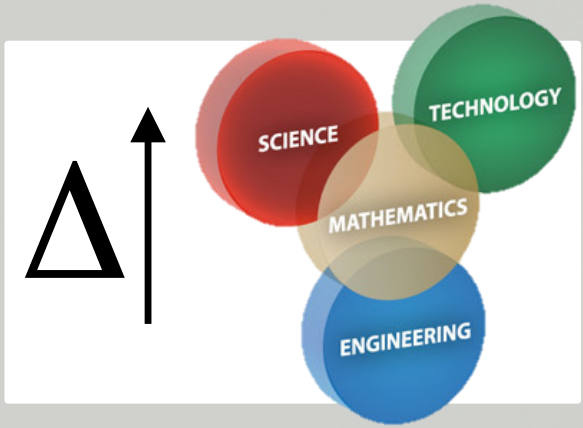
Scant Increase in Underrepresented minority PhD's



National Science Board. (2012). Science and Engineering Indicators: 2012. Arlington, VA: National Science Foundation Retrieved from http://www.nsf.gov/statistics/seind12/

What is the state of LGBTQ SEH or STEM communities?



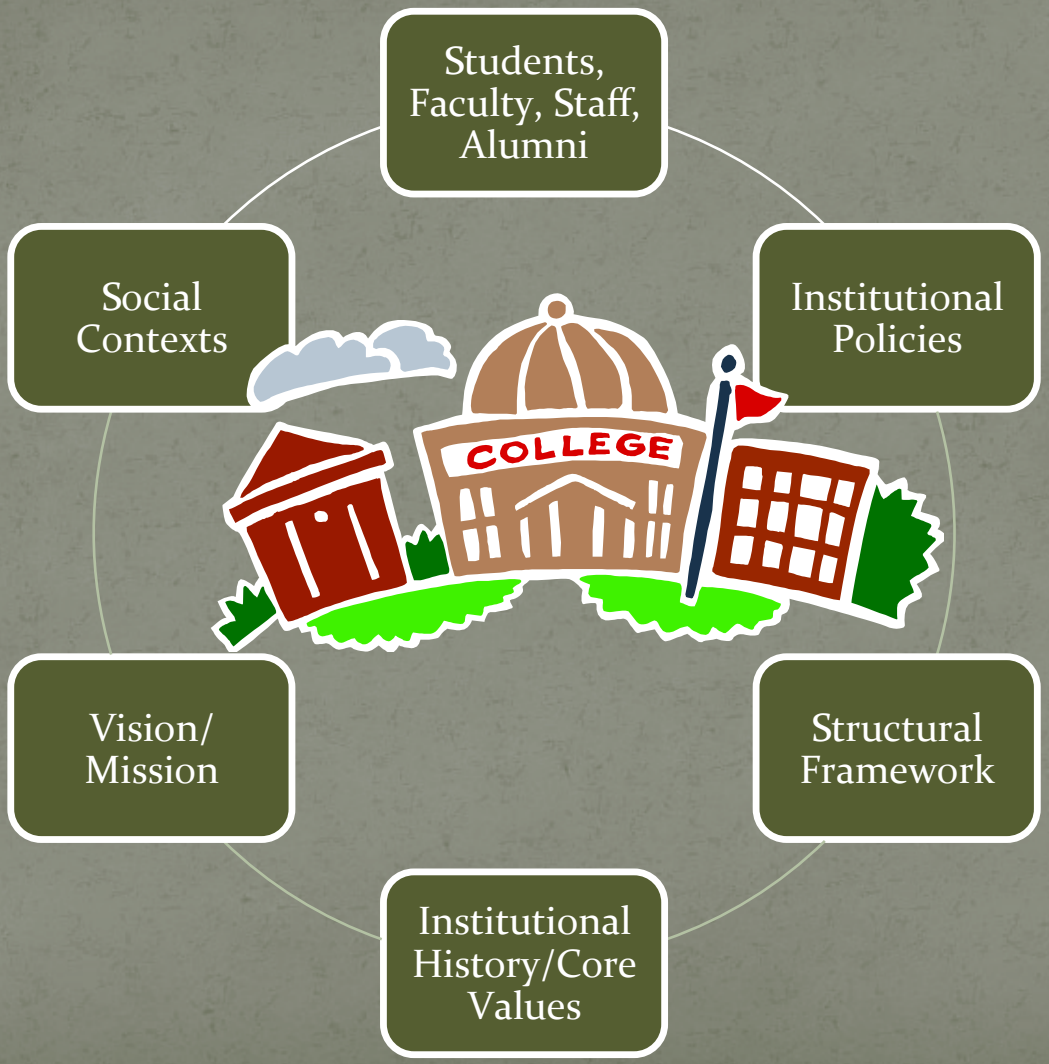
Diversity of Thought

Source of Potential

Campus Climate

Contextualizing Campus Diversity

Campuses as Social Systems



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

Campus In Higher Education

Barcelo, 2004; Bauer, 1998, Kuh & Whitt, 1998; Hurtado, 1998, 2005; Ingle, 2005; Milhem, 2005; Peterson, 1990; Rankin, 1994, 1998, 2003, 2005; Smith, 1999; Tierney, 1990; Worthington, 2008

Campus Climate & Faculty/Staff

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]

[1]Settles, Cortina, Malley, and Stewart (2006)
[2]Sears, 2002
[3]Silverschanz, Cortina, Konik, & Magley, 2007; Waldo, 1999

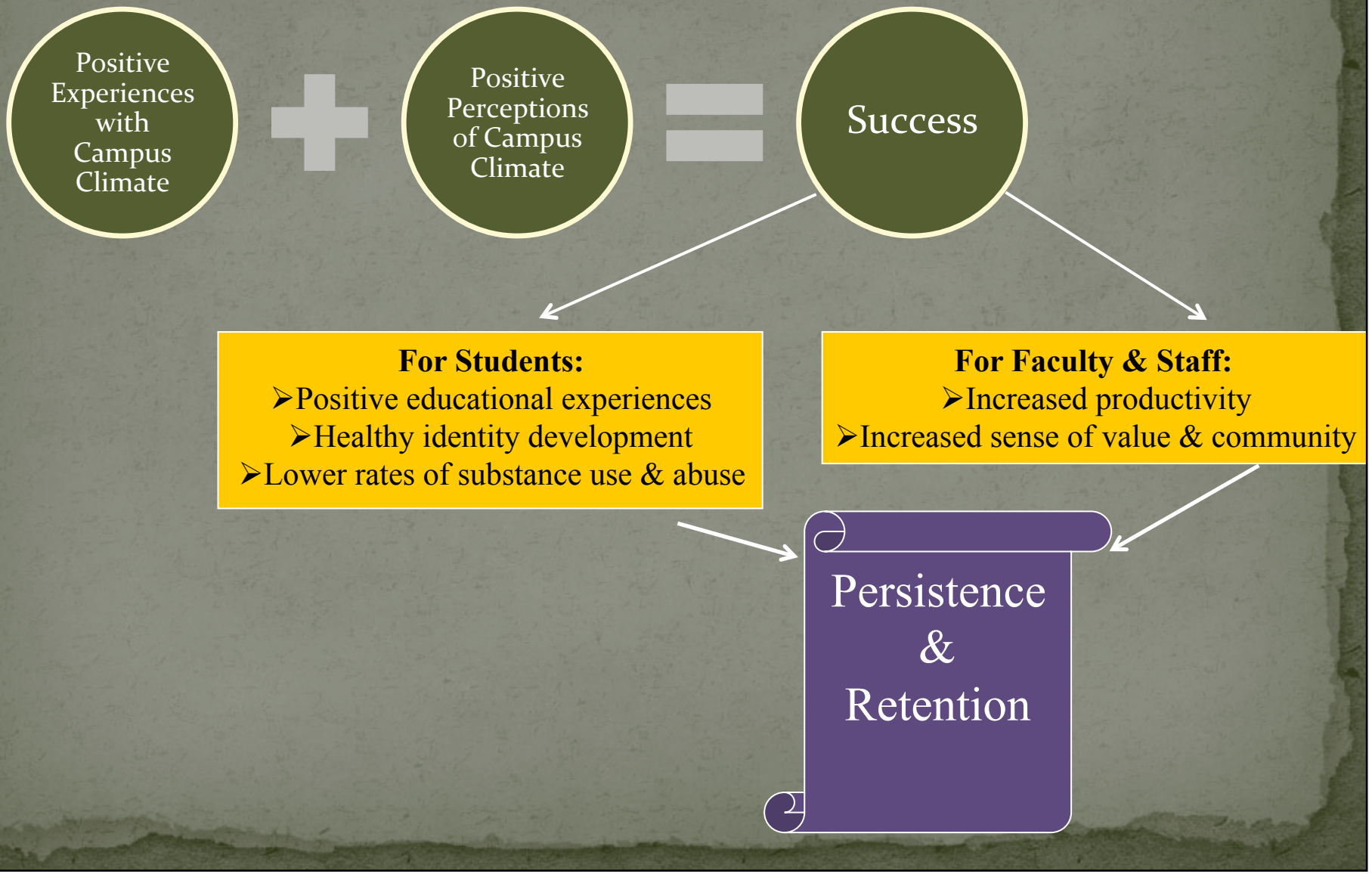
STEM "Work Ethics" in Academia

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.

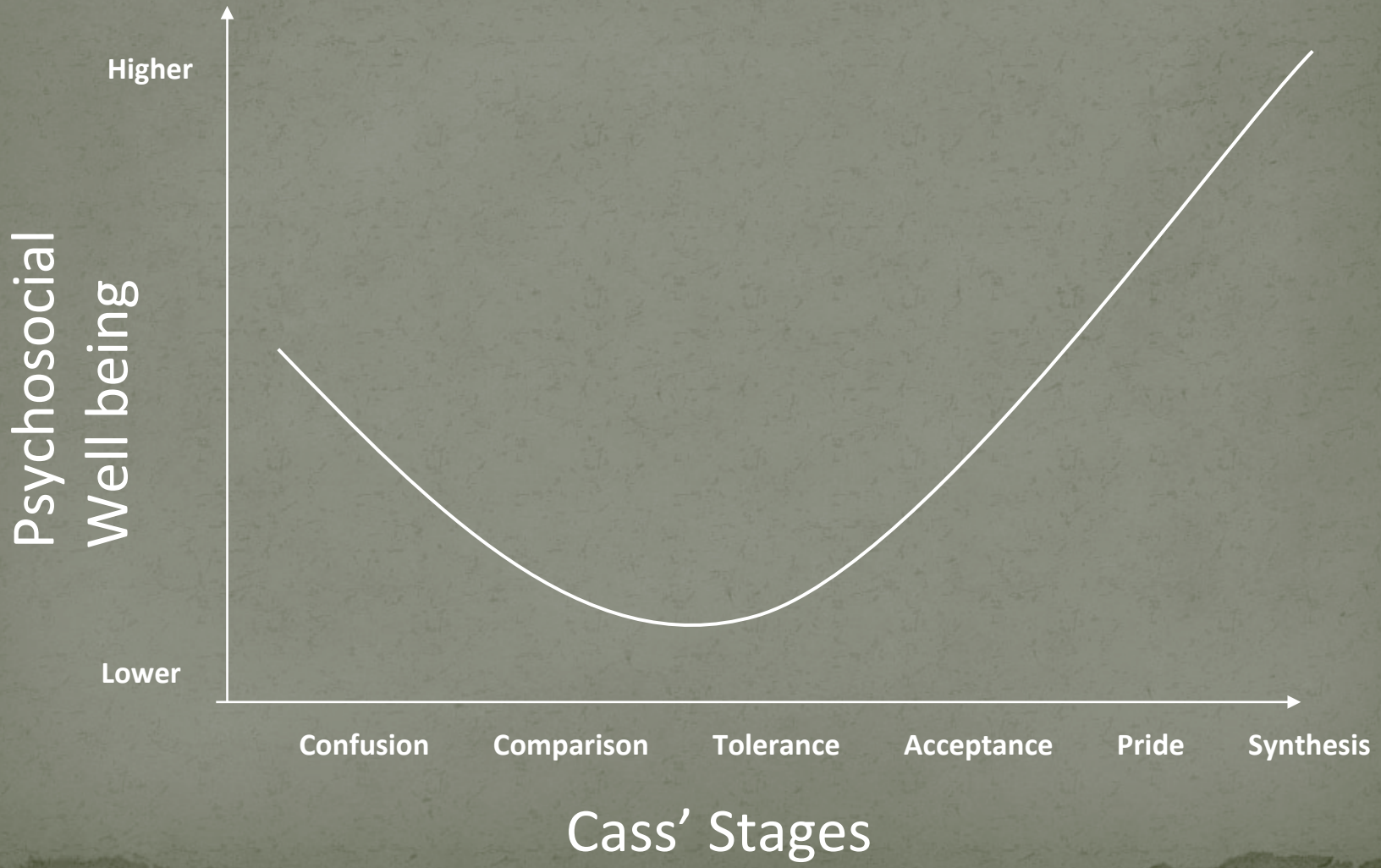
—Ellen Ostrow, clinical psychologist & founder of Lawyers Life Coach

E Ostrow (2002). The backlash against academic parents. *Chronicle of Higher Education* (February 22).

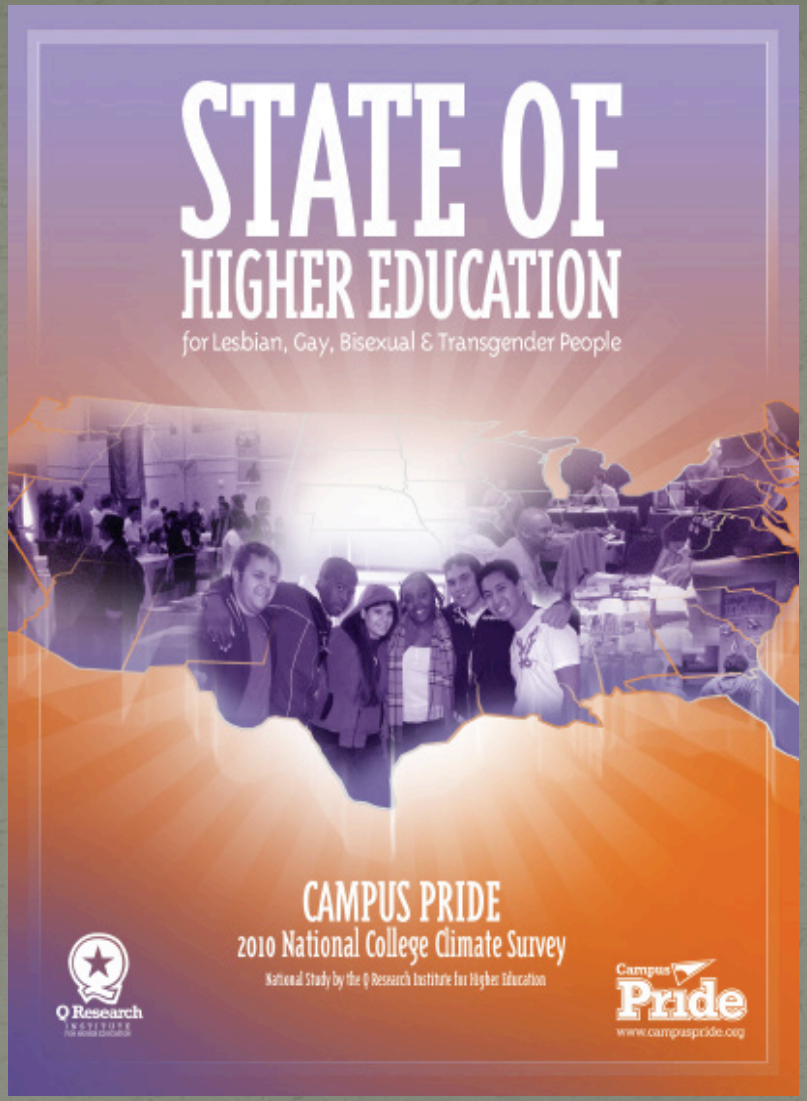
Campus Climate & Retention



Psychosocial Well-Being During Stages of Gay Identity Development



Halpin & Allen, 2004



Rankin, S., Weber, G., Blumenfeld, W., and Frazer, M.S**. (2010).** ***2010 State of Higher Education for LGBT People*****. Charlotte, NC: Campus Pride.**

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"

Lesbian

Intersex

Gay

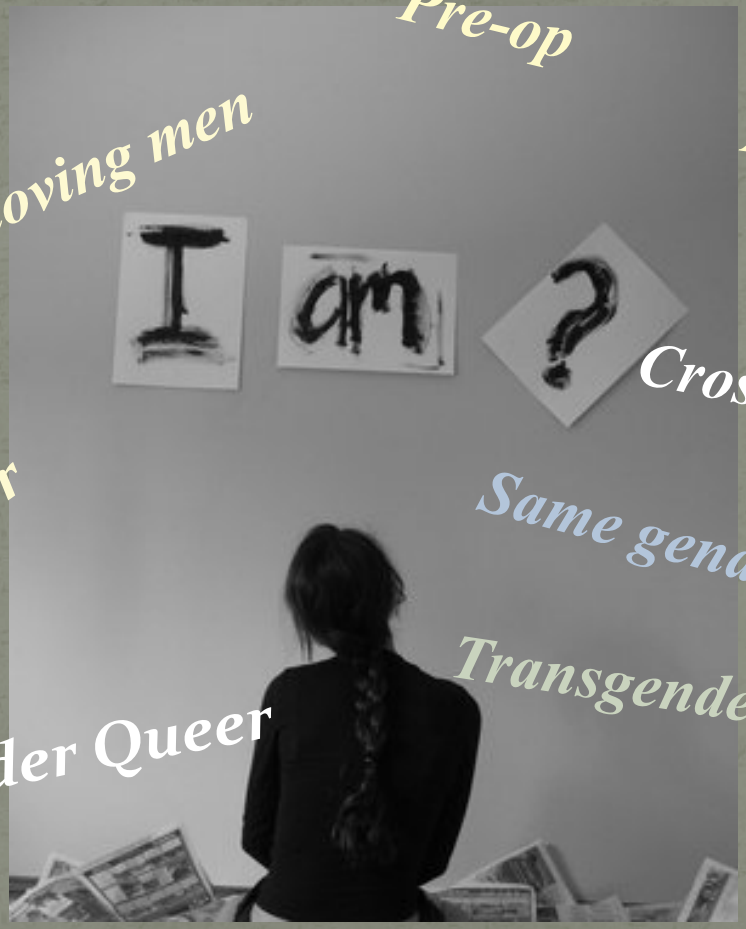
Pre-op

Tranny boy

Two -spirit

Man loving men

Asexual



Bisexual

Cross dresser

Butch

Queer

Same gender loving

Questioning

Pansexual

Transgender

Boi

Gender Queer

Bigender

Androgynous

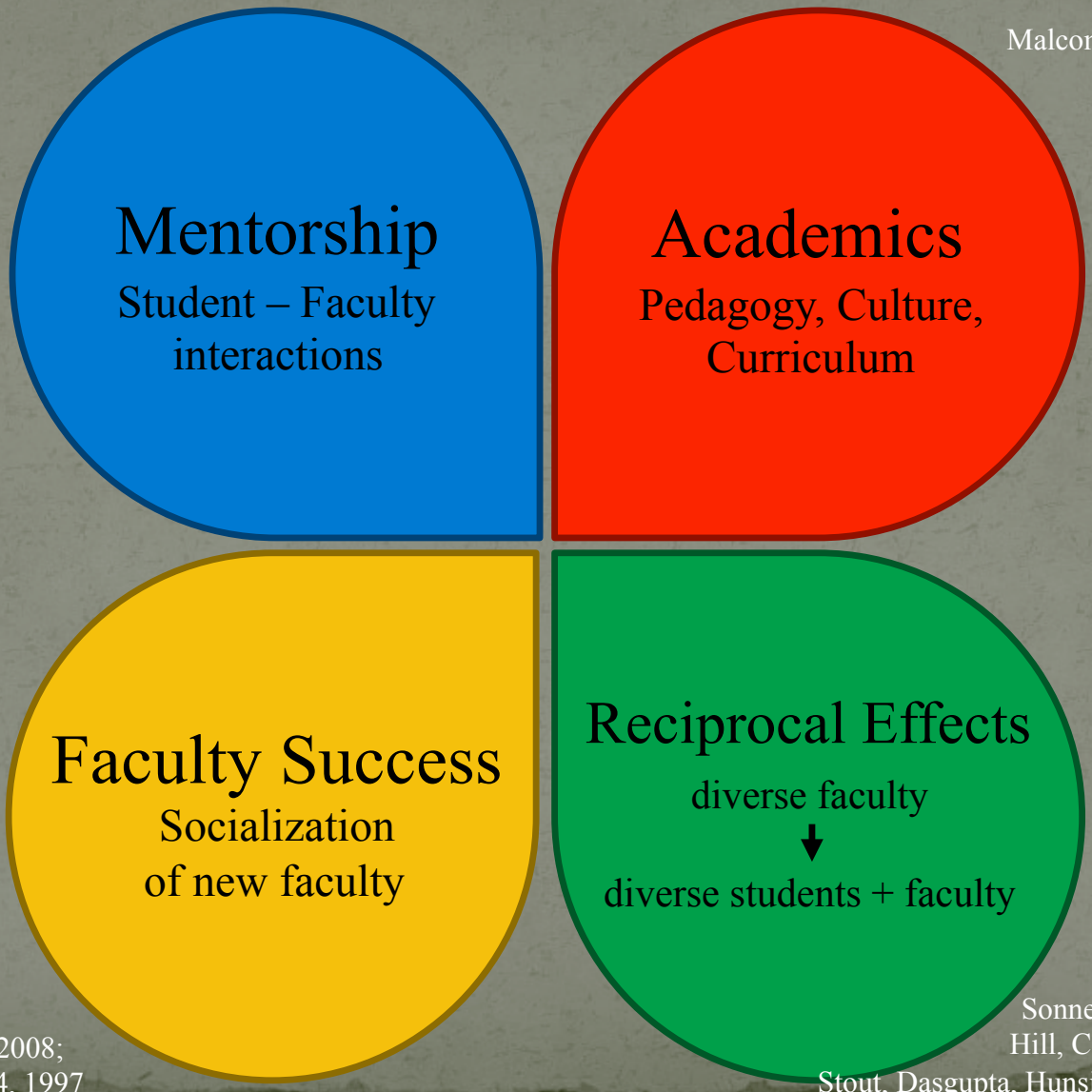
Woman loving women

Man who loves men

Faculty in STEM

Recruitment & Retention of Faculty in STEM Fields

Faculty Impact on the STEM Pipeline



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

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

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

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

Guiding Research Questions

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

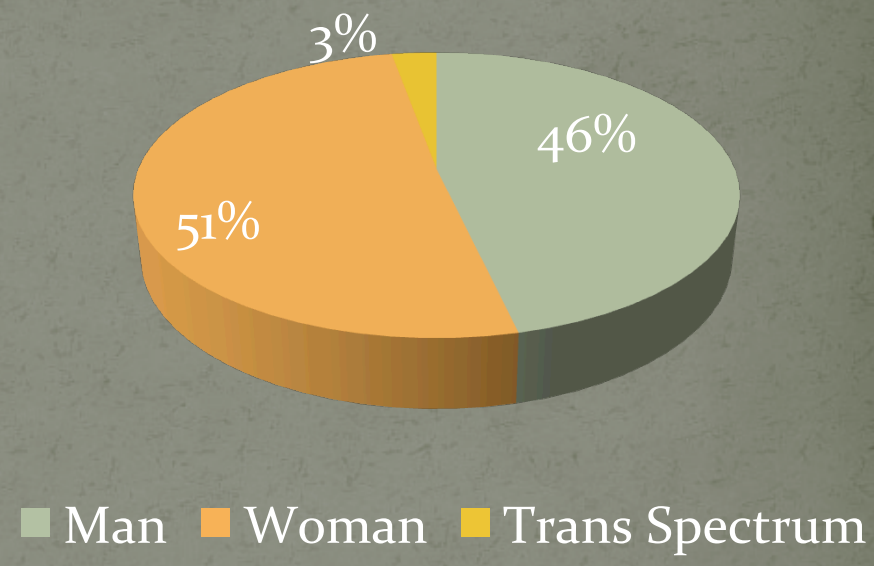
II. *What factors of climate affect the career consequences of LGBT faculty?*

Who are the Participants?

Selected Demographics of Faculty Respondents

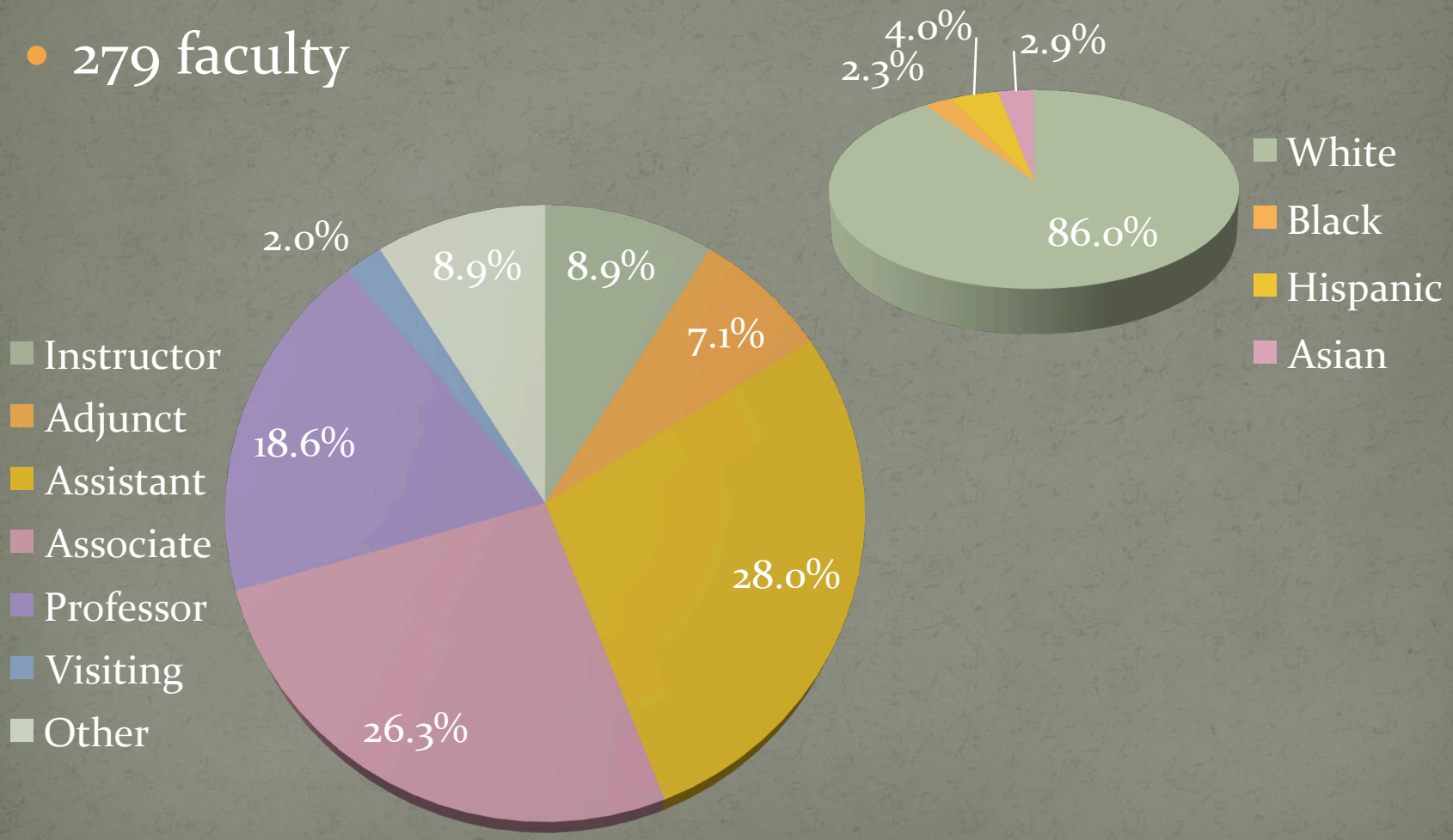
Total Faculty Respondents

- 498 faculty responded
- 350 faculty aggregated:
  - STEM Fields
  - Social Sciences
  - Education
  - Humanities & Liberal Arts
  - Fine Arts



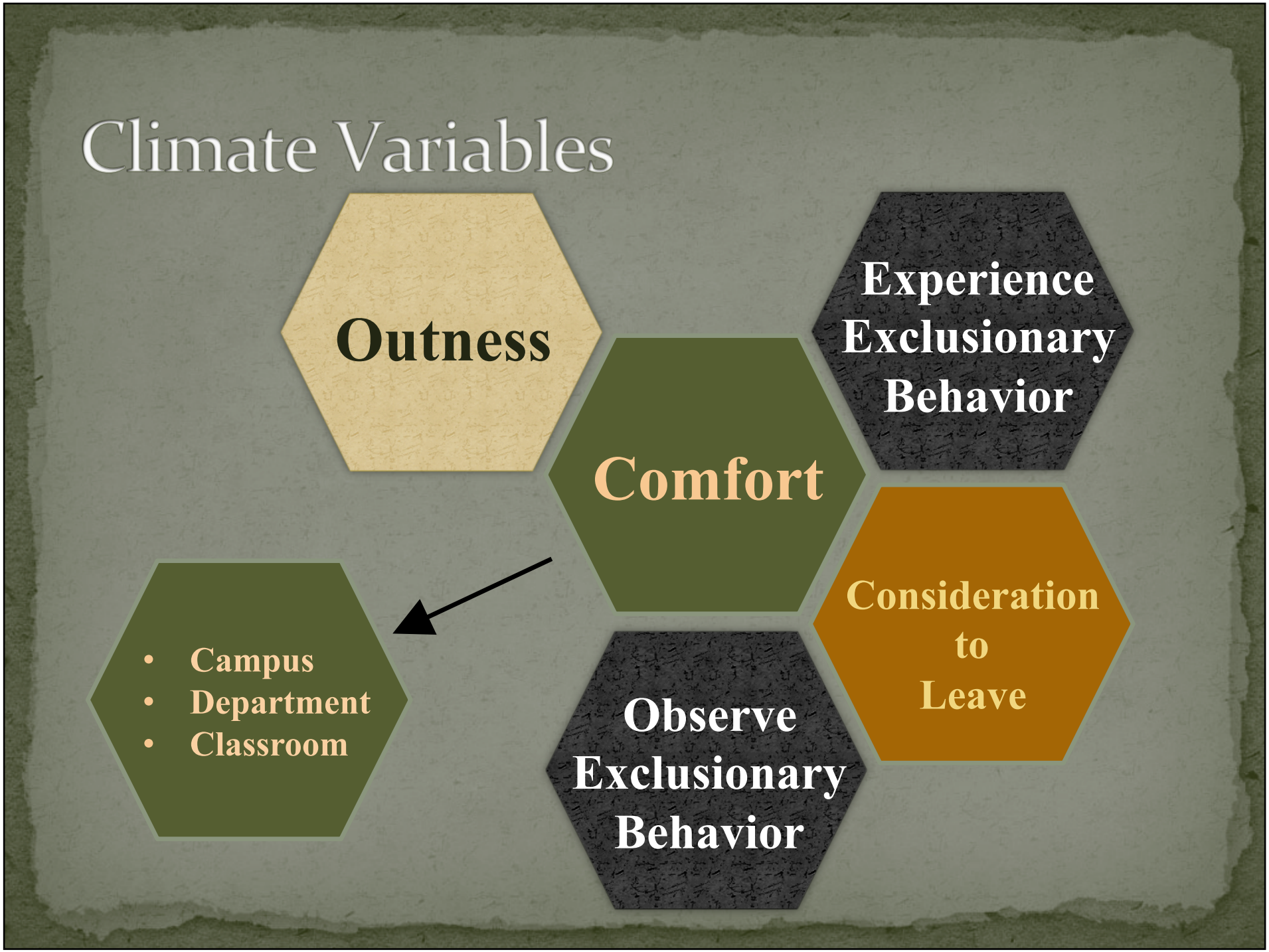
Faculty included in final analyses

- 279 faculty



So What Did We Find?

The Results


Climate Variables
Outness
Experience Exclusionary Behavior
Comfort
Consideration to Leave
Observe Exclusionary Behavior
• Campus
• Department
• Classroom

Outness

STEM faculty are more likely to be out*

28% vs 11% of all faculty

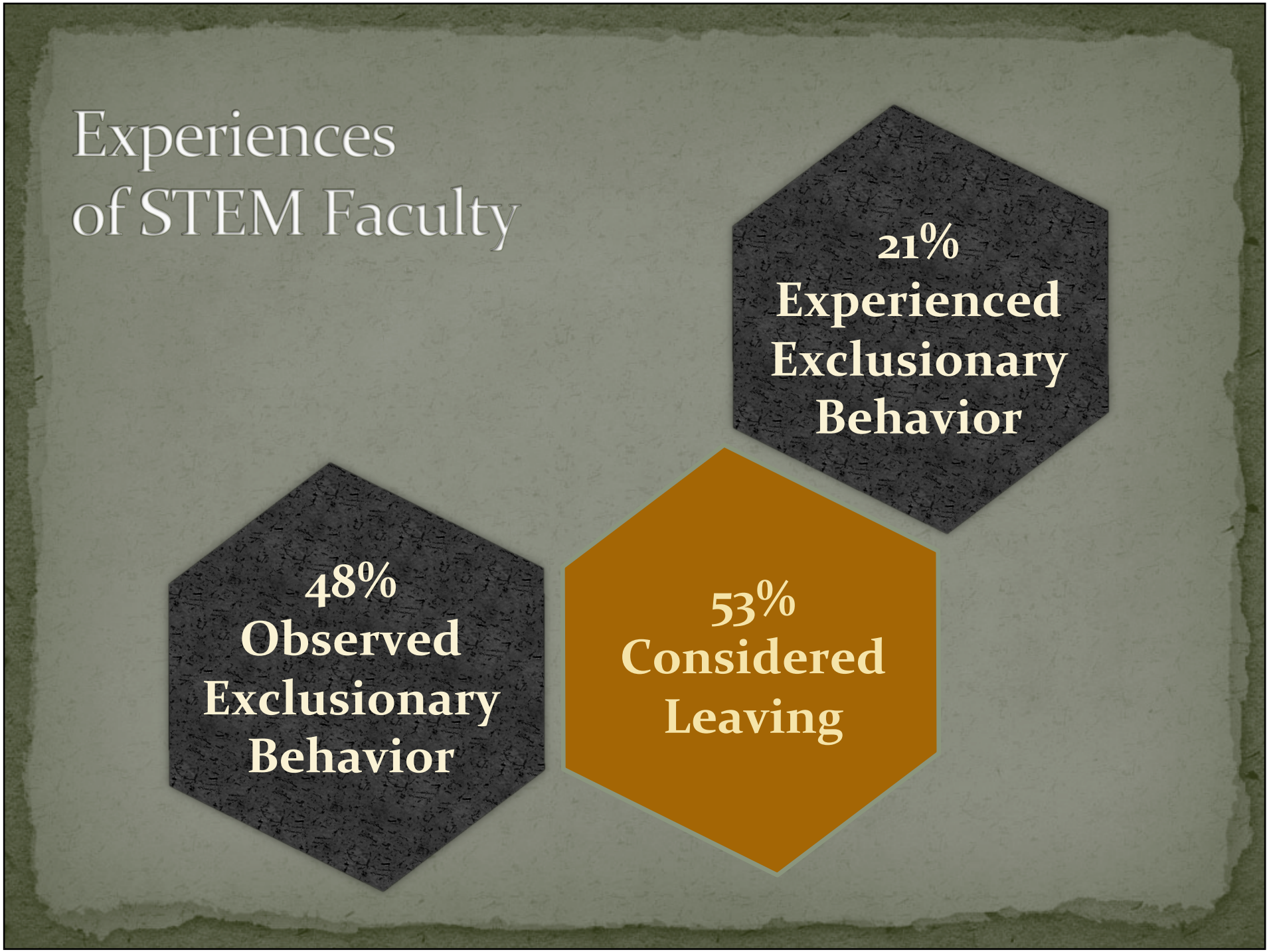
Comfort

STEM faculty most likely to be not comfortable**

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

Campus: r = -.39, p<.01
Department: r = -.62, p<.01

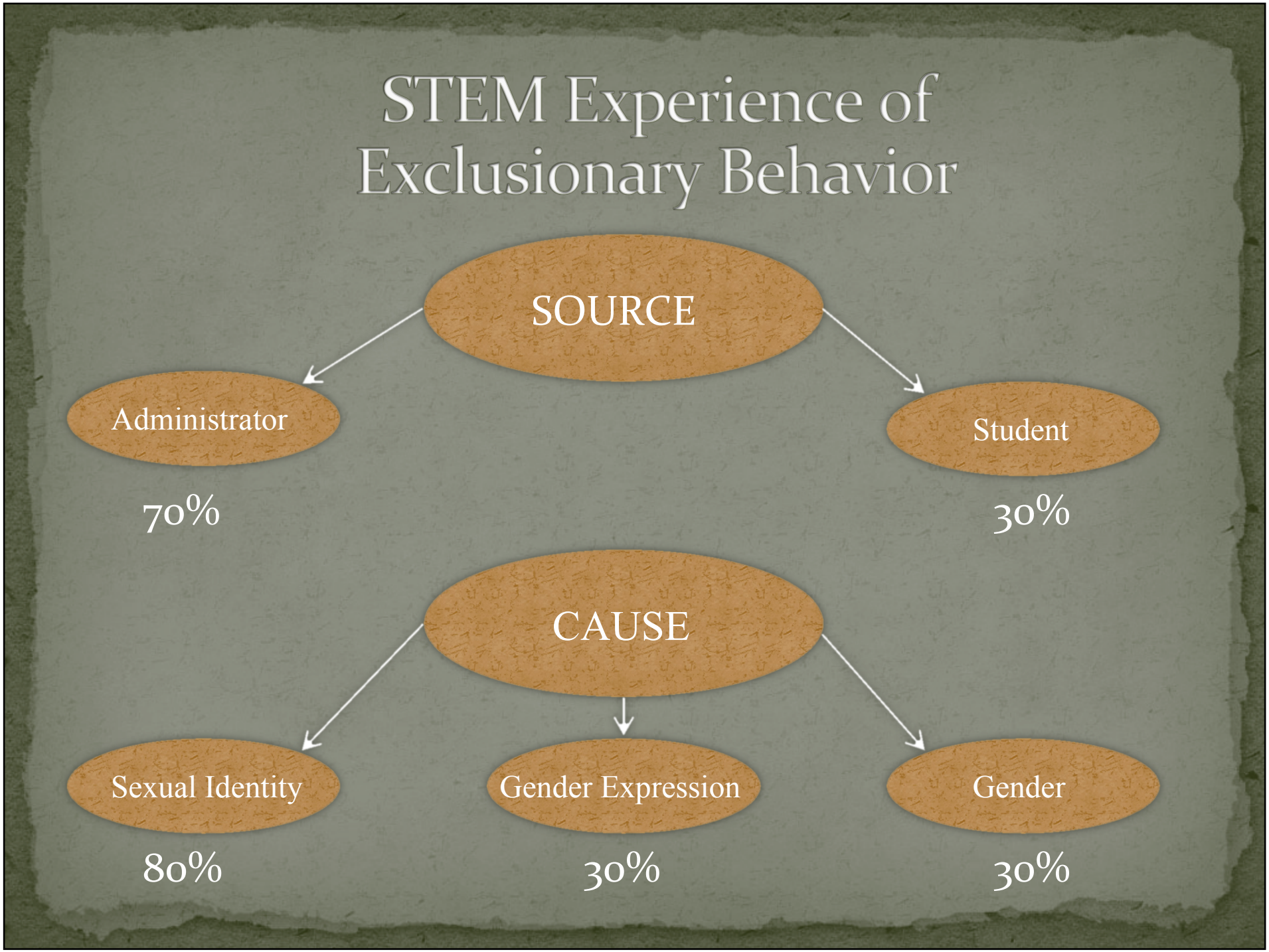
*Statistically Significant p<.0001
**Not Statistically Significant


Experiences of STEM Faculty
21% Experienced Exclusionary Behavior
48% Observed Exclusionary Behavior
53% Considered Leaving

Voices from the Data

"… 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

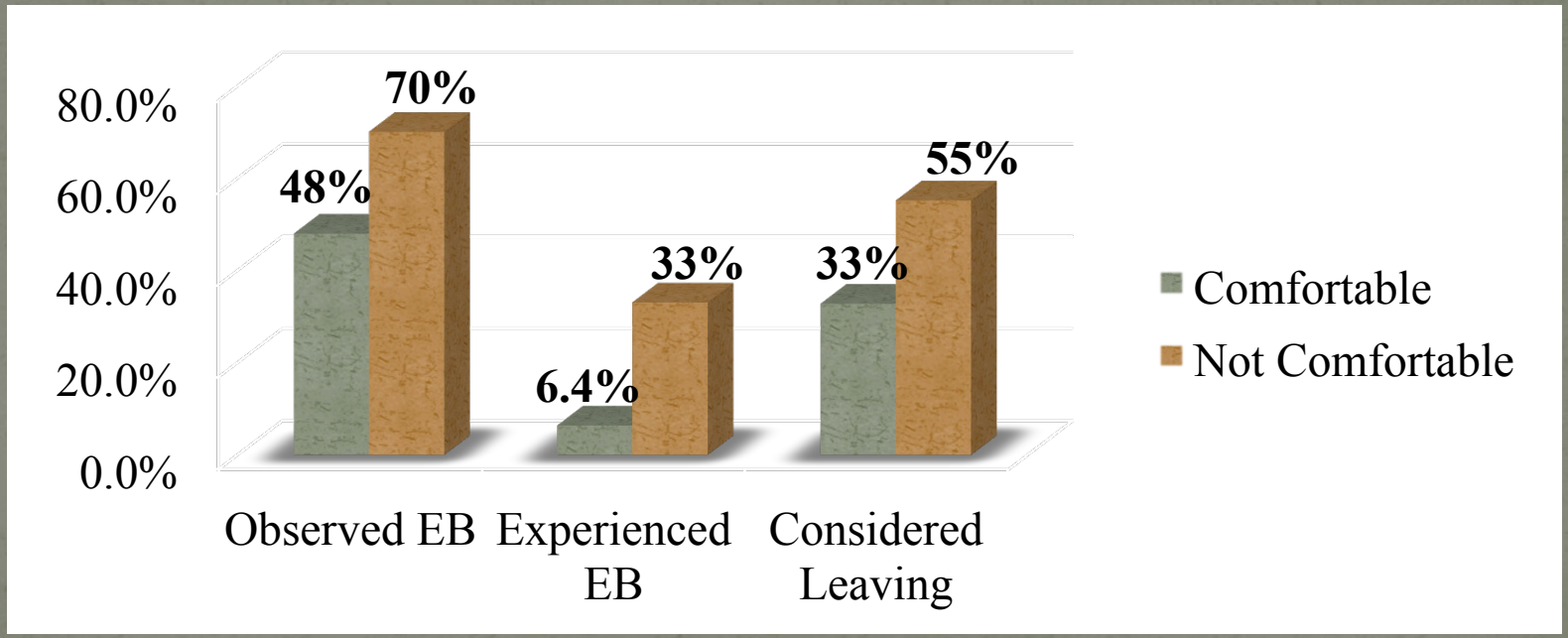

STEM Experience of Exclusionary Behavior
SOURCE
Administrator
70%
Student
30%
CAUSE
Sexual Identity
80%
Gender Expression
30%
Gender
30%

Voices from the Data

"I was told I don't fit in at my institution and should consider leaving by my peers"
–Survey Respondent

Experiences of Comfortable Faculty

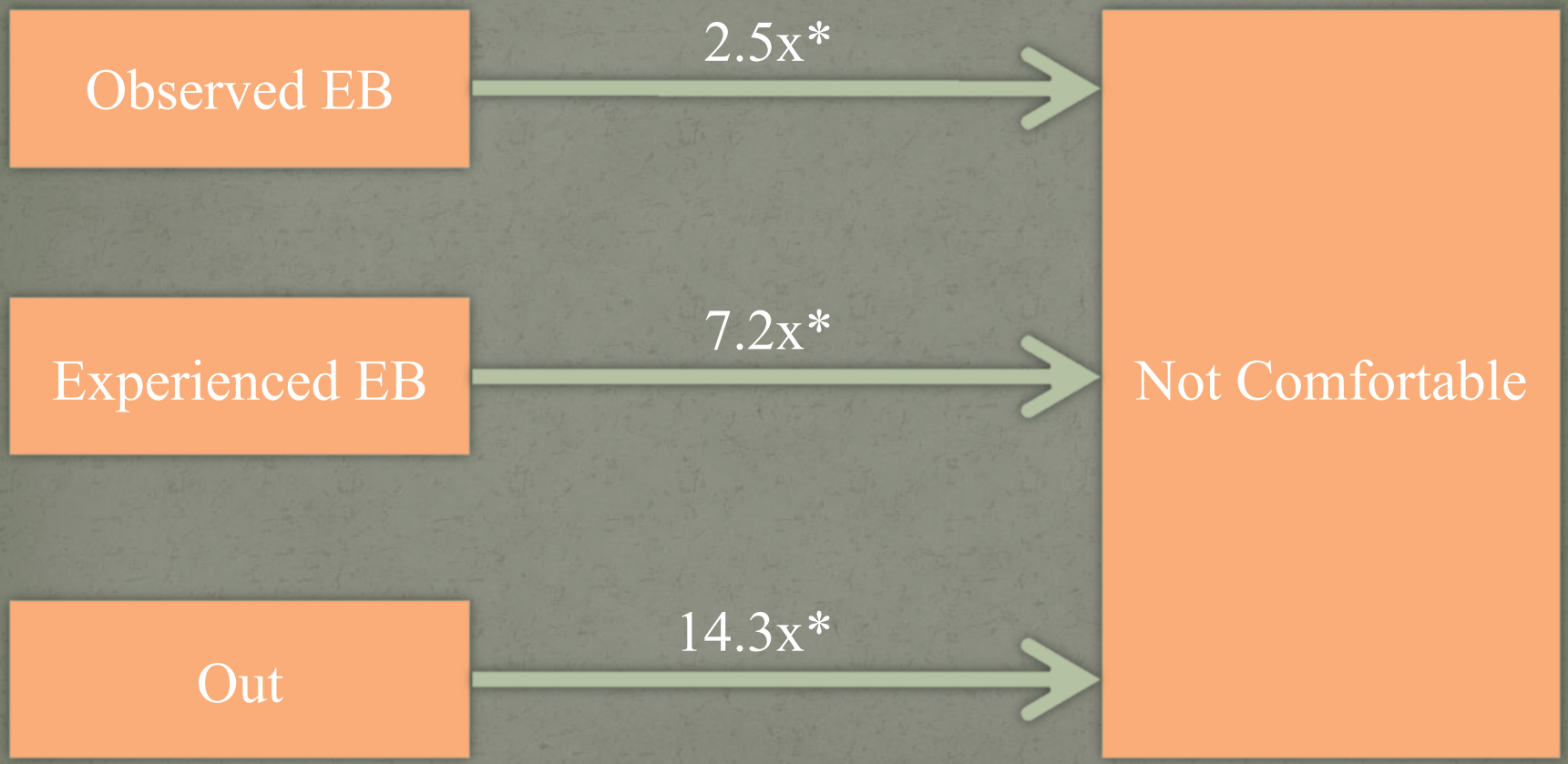
- Subdivided faculty:
  - N=125 Comfortable
  - N=154 Not Comfortable



All Statistically Significant p<.0001

Predictors of Comfort

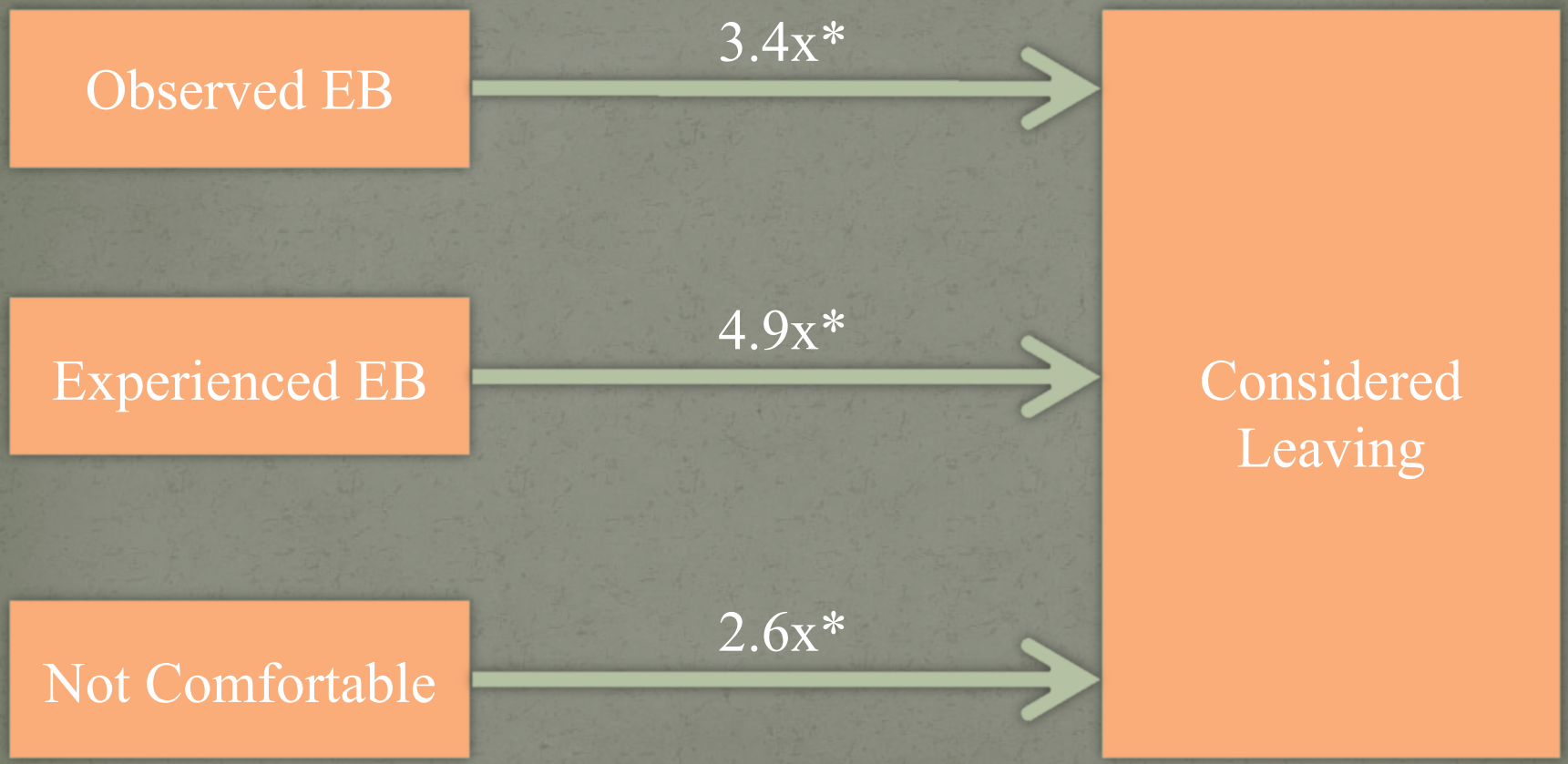
Binary regression analyses



*Statistically Significant p<.0001

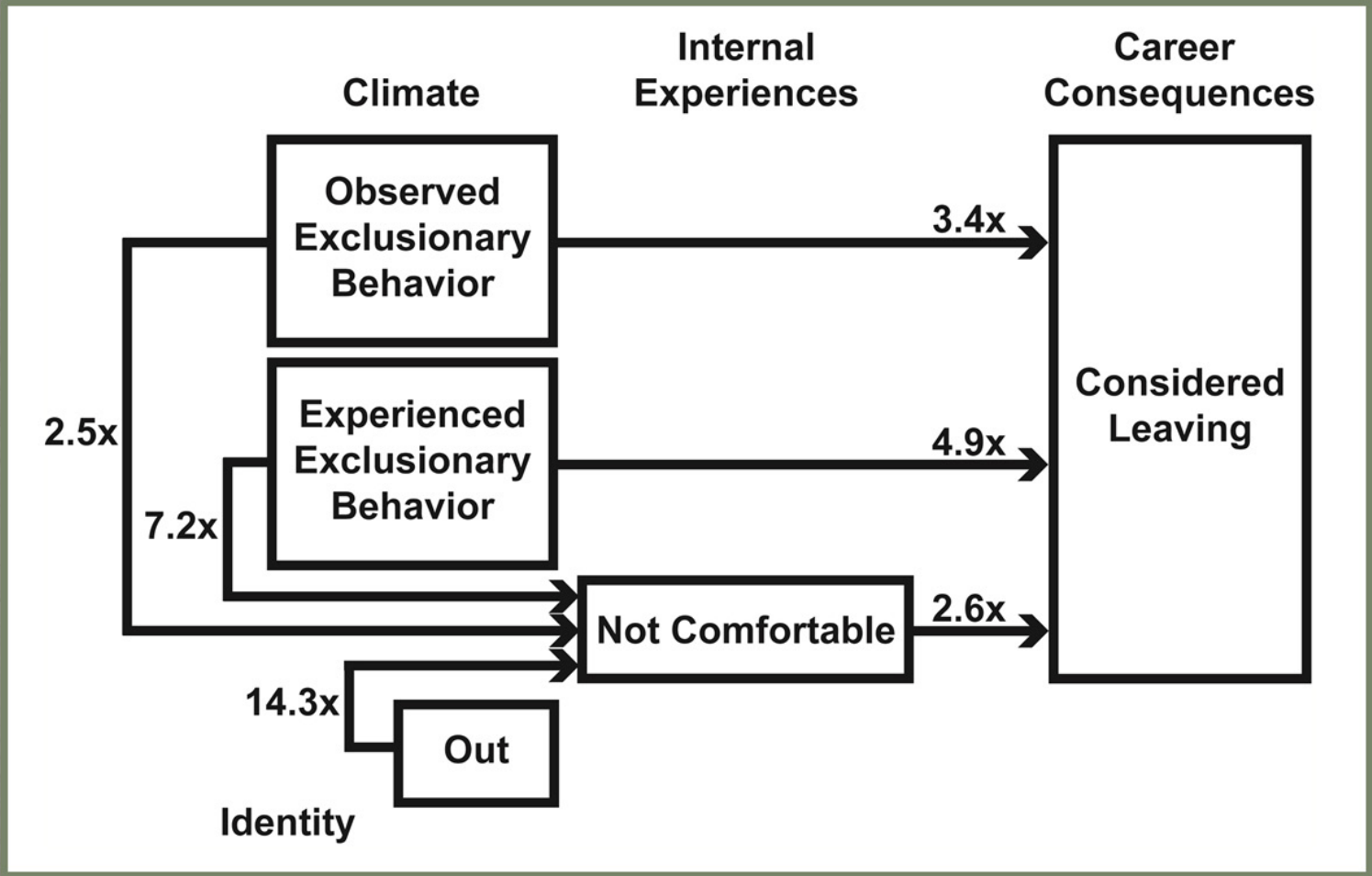
Predictors of Persistence

Binary regression analyses



*Statistically Significant p<.0001

Modeling LGBQ faculty Experiences

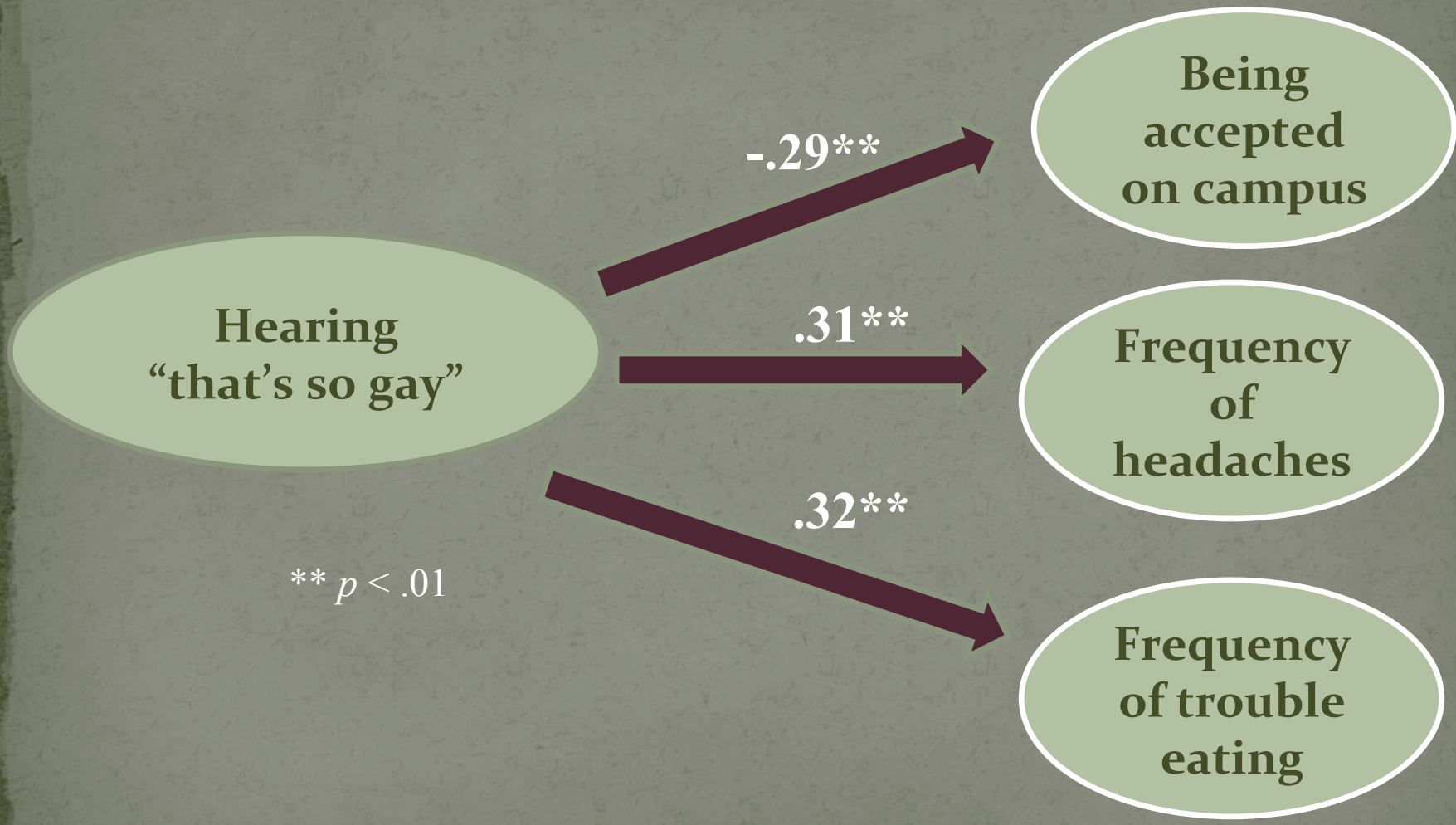


All Statistically Significant p<.0001

Beyond the Rainbow

Implications for Practice and Future Research

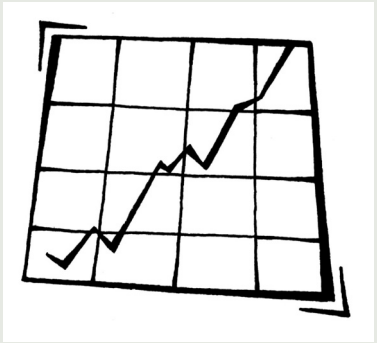
"That's So Gay" Matters



** $p < .01$

Woodford, Michael R, Howell, Michael L, Silverschanz, Perry, & Yu, Lotus, (2012) "That's So Gay!": Examining the Covariates of Hearing This Expression Among Gay, Lesbian, and Bisexual College Students. *Journal of American College Health,* 60(6), pp. 429-434.

Strategic Initiatives: Retention of LGBQ Faculty

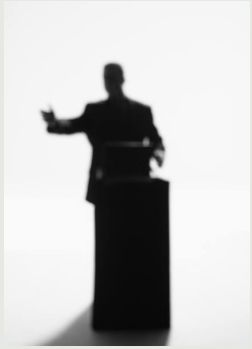


Comfort

&

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

Trans Spectrum of Respondents

12%
STEM Field

0 - 2 %
Other Fields

Questions..?

Thank You!

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