



W I S E R I

*Women in Science & Engineering Leadership Institute
University of Wisconsin-Madison*

Behavioral and Organizational Strategies for Minimizing the Influence of Unconscious Bias

Eve Fine, Ph.D.



About WISELI

- **WISELI – Women in Science and Engineering Leadership Institute**
 - Research Institute at the University of Wisconsin-Madison
 - Mission: Advancing and promoting women in academic Science, Technology, Engineering, Mathematics and Medicine (STEMM) – focus on faculty
 - Broader goals – fostering a diverse faculty body
 - Funding: NSF ADVANCE, NIH, Campus support

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Today's focus

- What is unconscious bias?
- How does/how can unconscious bias influence underrepresentation of women and members of minority groups in STEMM?
 - Influence of unconscious bias in evaluation settings
 - Influence of unconscious bias on interpersonal interactions – climate
- How can we minimize the influence of bias?
 - Personal behavior/strategies
 - Department level policies/procedures/expectations



What is unconscious bias?

- A substantial body of evidence demonstrates that most people – men and women – hold unconscious biases about groups of people.
- Depending on the discipline unconscious biases can also be referred to as:
 - Schemas
 - Stereotypes
 - Mental models
 - Cognitive shortcuts
 - Statistical discrimination
 - Implicit associations
 - Spontaneous trait inference

The tendency of our minds to judge individuals by the characteristics(real or assumed) of the groups to which they belong.



What is unconscious bias?

- Most of us routinely rely on unconscious assumptions even though we intend to be fair and believe that we are fair.
- Human brain works by categorizing people, objects and events around us -- this allows us to quickly and efficiently organize and retrieve information. It is an essential cognitive function for managing a vast amount of sensory input.
- But – when evaluating people we can be led astray by our tendency to categorize people – and we tend to do so automatically on the following dimensions:
 - Race/Ethnicity, Sex, and Age.



Unconscious bias in evaluation processes

- Applications/CVs/Résumés
- Reference Letters
- Job Interviews
- Teaching Evaluations
- Tenure and promotion
- Honors and awards
- Leadership positions
- Student admissions



Unconscious bias in evaluation settings

Evaluating Applications, CV's, Resumes –

- Moss-Racusin et al. (2012). "Science faculty's subtle gender biases favor male students." *PNAS* 109: 16474-16479.
- Steinpreis et al. (1999). "The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study." *Sex Roles* 41: 509 -528.
- Bertrand and Mullainathan. (2004). "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market
- Deros, Hanh Nguyen, and Ryan. (2009).. "Hiring Discrimination Against Arab Minorities: Interactions between Prejudice and Job Characteristics." *Human Performance* 22: 297-320.
- Tilcsik, A. (2011). Pride and prejudice: Employment discrimination against openly gay men in the United States. *American Journal of Sociology*, 117: 586-626.

Women and members of minority groups rated as less competent or less likely to be hired or called back for interviews.



Gender bias and Science

Moss-Racusin et al. (2012). “Science faculty’s subtle gender biases favor male students.” PNAS 109: 16474-16479.

- 127 Faculty from Biology, Chemistry and Physics departments participated
- Evaluated an application randomly assigned a male or female name for:
 - Competence
 - Hireability
 - Likeability
 - Starting Salary
 - Willingness to provide mentoring



Gender bias and Science

Moss-Racusin et al. (2012). "Science faculty's subtle gender biases favor male students." PNAS 109: 16474-16479.

Results

- Evaluated female applicants as more likeable but less competent
- Were more likely to hire male applicants
- Were more likely to give male applicants substantially higher starting salaries
- Were more likely to offer mentoring to male applicants.



Selected forms of bias

- **Expectancy Bias**

Expecting certain behaviors or characteristics in **individuals** based on stereotypes or assumptions about the **social category** to which they belong.

- **Presumed competence/incompetence**

Making judgments about the competence or incompetence of individuals on the basis of stereotypes about the group to which they belong.

- **Role Congruity/Incongruity**

The fit (or lack of fit) between group stereotypes and occupations or occupational roles.



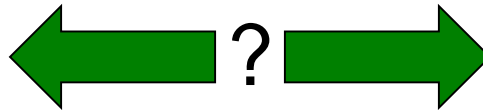
Selected forms of bias

Role Congruity/Incongruity

Men

- Strong
- Decisive
- Intelligent
 - Logical
- Unemotional
- Good at math

“Scientist”



Women

- Nurturing
 - Nice
- Supportive
- Sympathetic
- Emotional
 - Verbal



Selected forms of bias (Cont.)

- In-group preferences

Being more comfortable interacting with people who share your group identity/identities.

- Microaggressions

“... brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative ... slights and insults toward [members of underrepresented groups].”

Derald Wing Sue, Racial Microaggressions in Everyday Life (2010)



Influence of bias on interpersonal interactions -- Climate

What is Climate?

- Behaviors within a workplace or learning environment, ranging from subtle to cumulative to dramatic, that can influence whether an individual feels personally safe, listened to, valued, and treated fairly and with respect.
- The atmosphere or ambience of an organization as perceived by its members. An organization's climate is reflected in its structures, policies, and practices; the demographics of its membership; the attitudes and values of its members and leaders; and the quality of personal interactions

Ethnicity *celebration* Age *respect*
Ideas *advocacy* Gender *participation*
Income *inclusion* Language *support*
Race *engagement* Religion *tolerance*
Physical Ability *understanding*
Sexual orientation *recognition*



Assessing Climate

■ Campus Climate Surveys

- Harvard University's COACHE surveys
- Individual Institutional Survey's
 - UW-Madison Faculty Worklife Survey

■ General Findings

Campus surveys show that women and faculty members from underrepresented groups experience a less positive climate than do male and majority faculty.

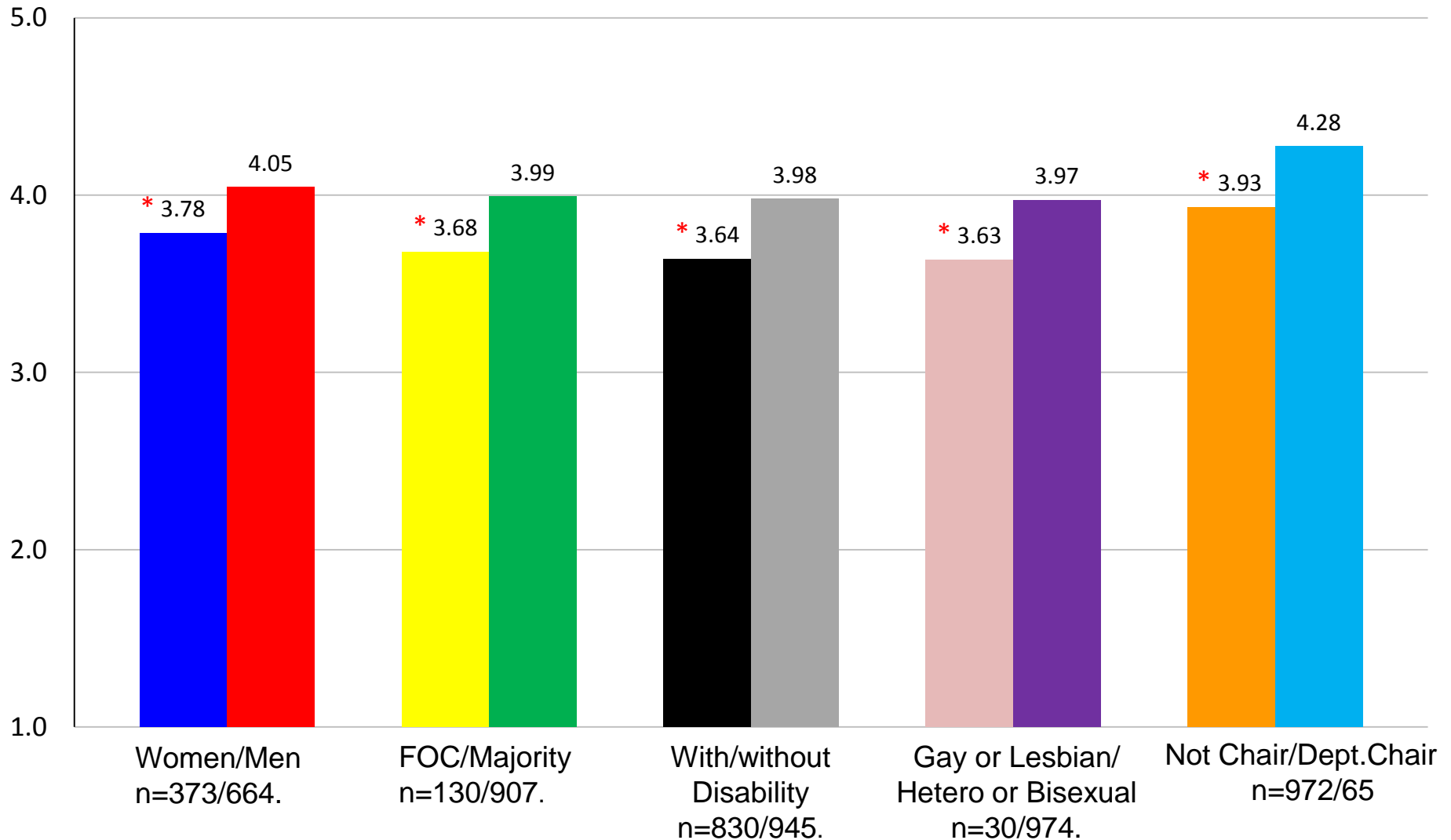


UW-Madison Faculty Worklife Survey, 2012

- Response Rates
 - 2,099 TT Faculty received survey
 - 1,044 responded (50% response rate)
 - Women more likely than men to respond (57% women responded, 46% men responded)

<http://wiseli.engr.wisc.edu/facworklife.php>

In my department, the overall climate is ...

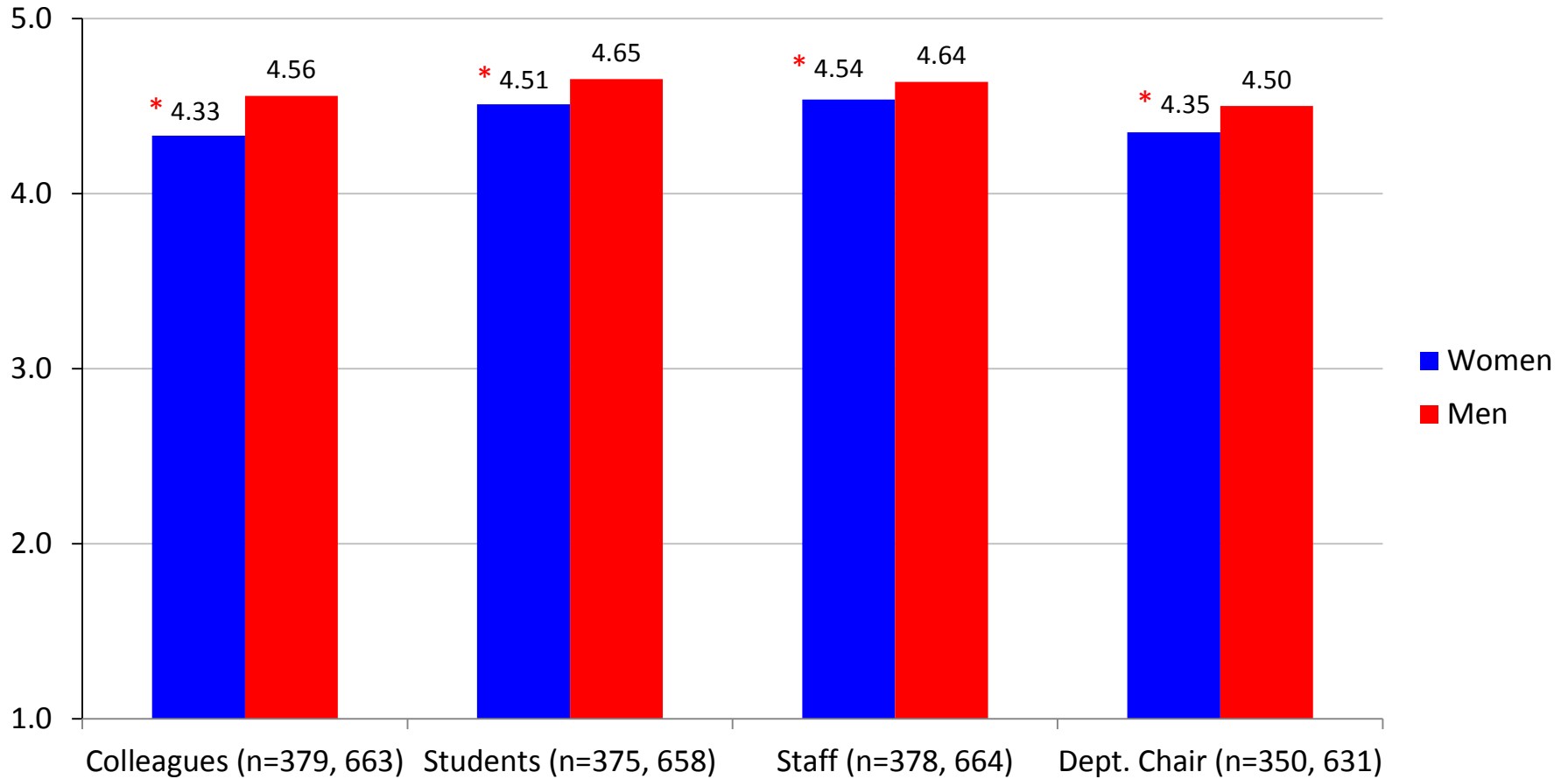


* Indicates significant difference at $p < 0.05$.

Response choices: 1 – Very negative, 2 – Negative, 3 – Mediocre, 4 – Positive, 5 – Very positive

Results from the 2012 Study of Faculty Worklife at UW-Madison: Tenure and tenure-track faculty. © 2013.

How often are you treated with respect by ...

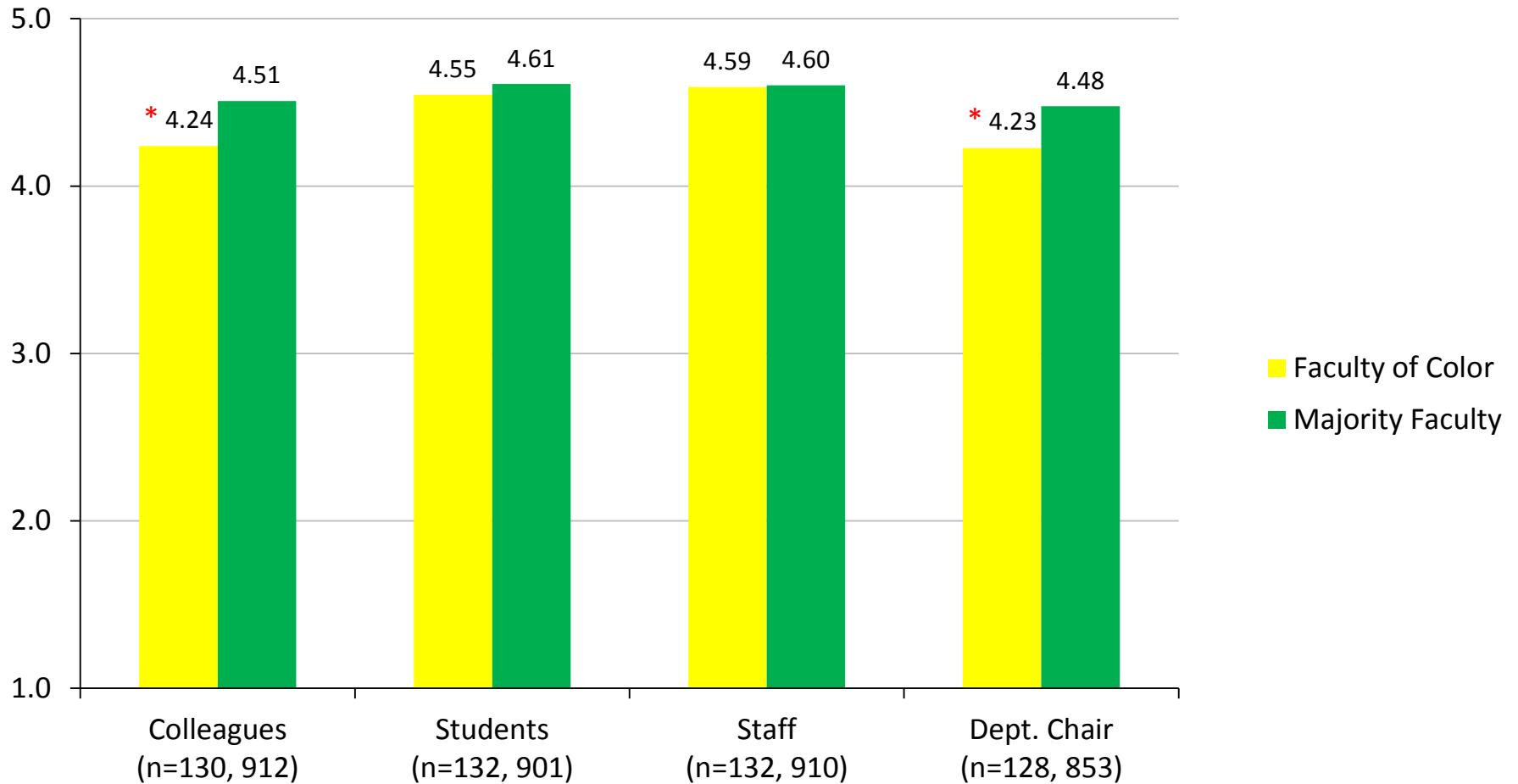


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Response choices: 1 – Never , 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Very often

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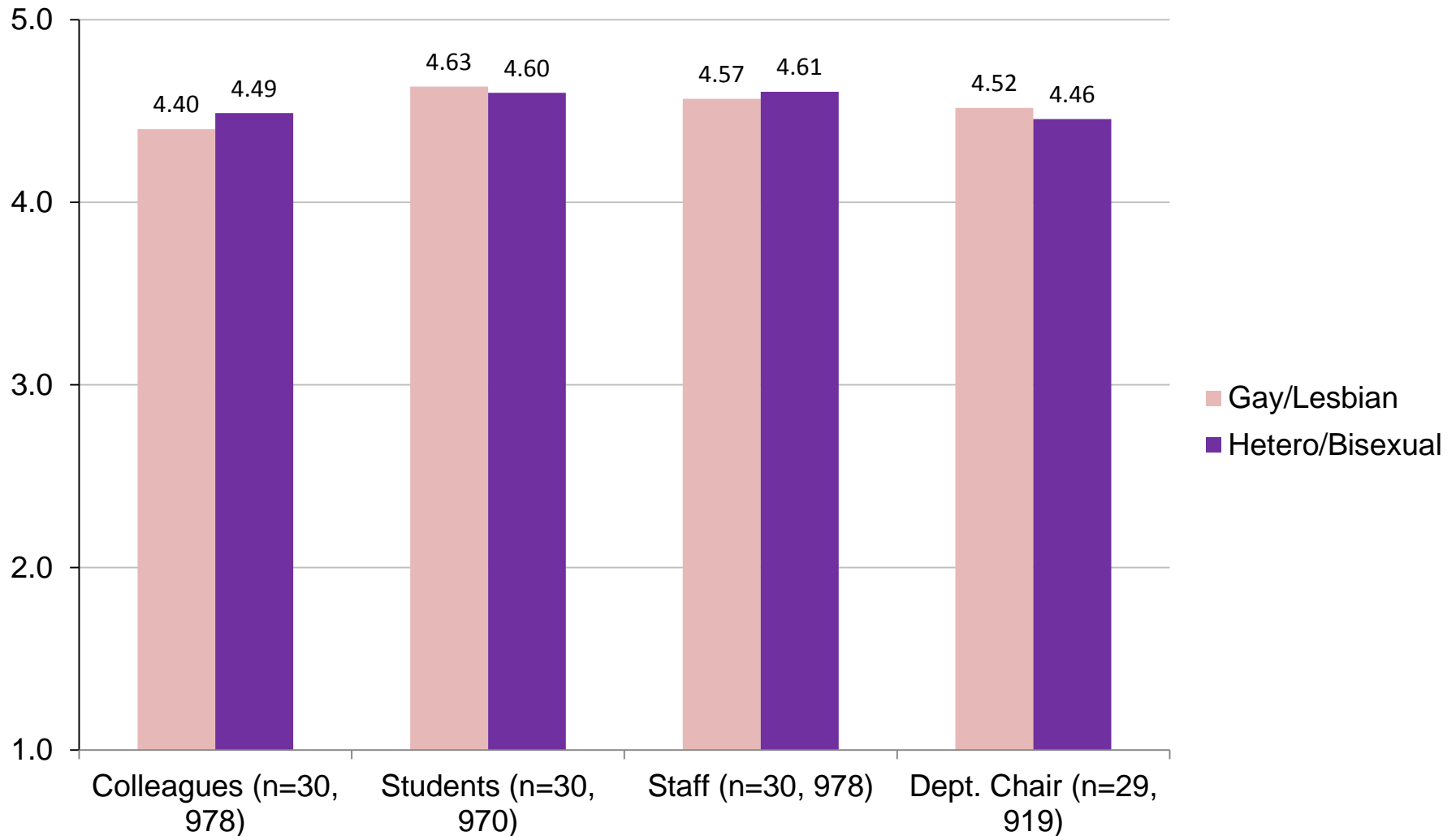


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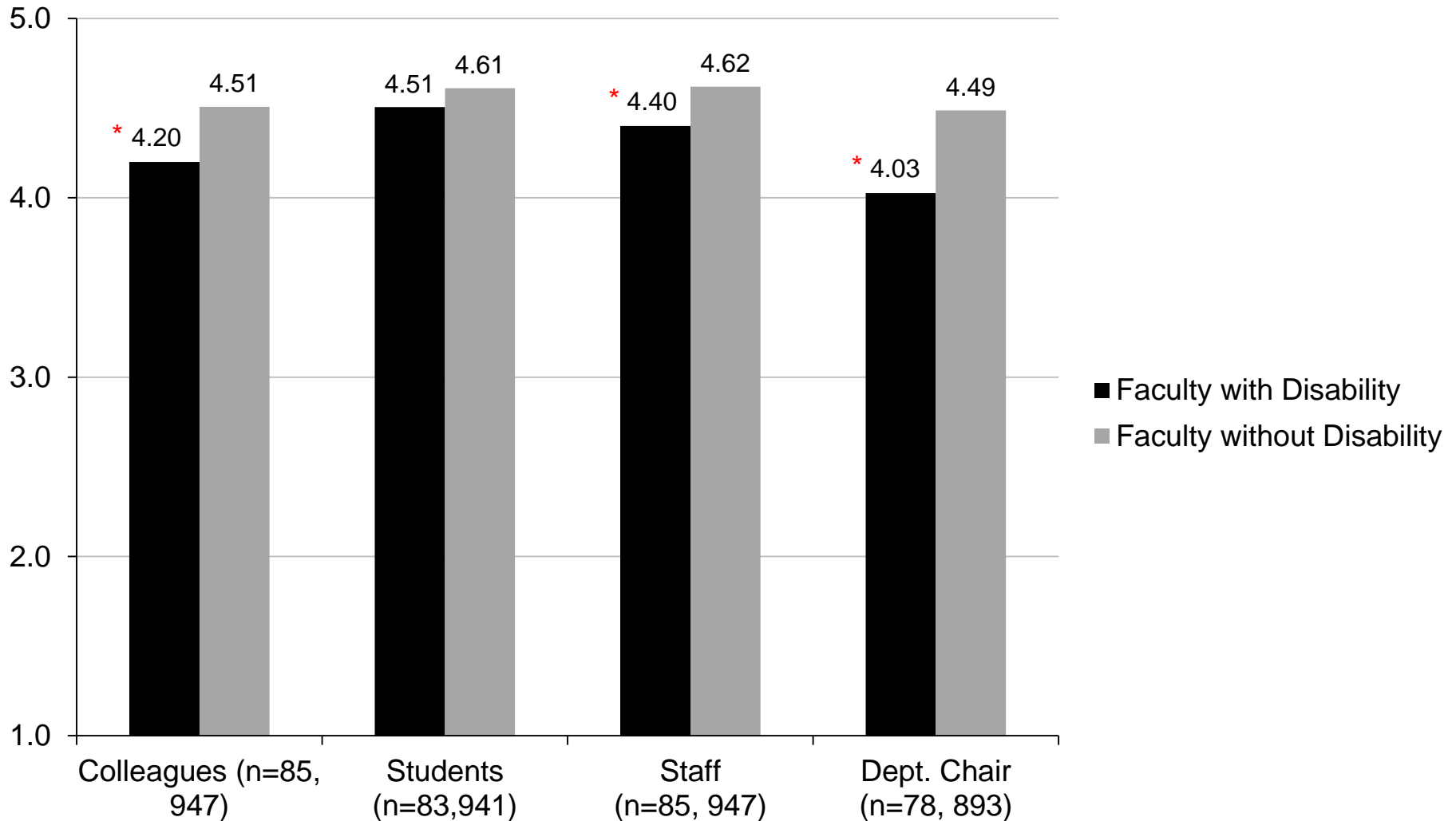


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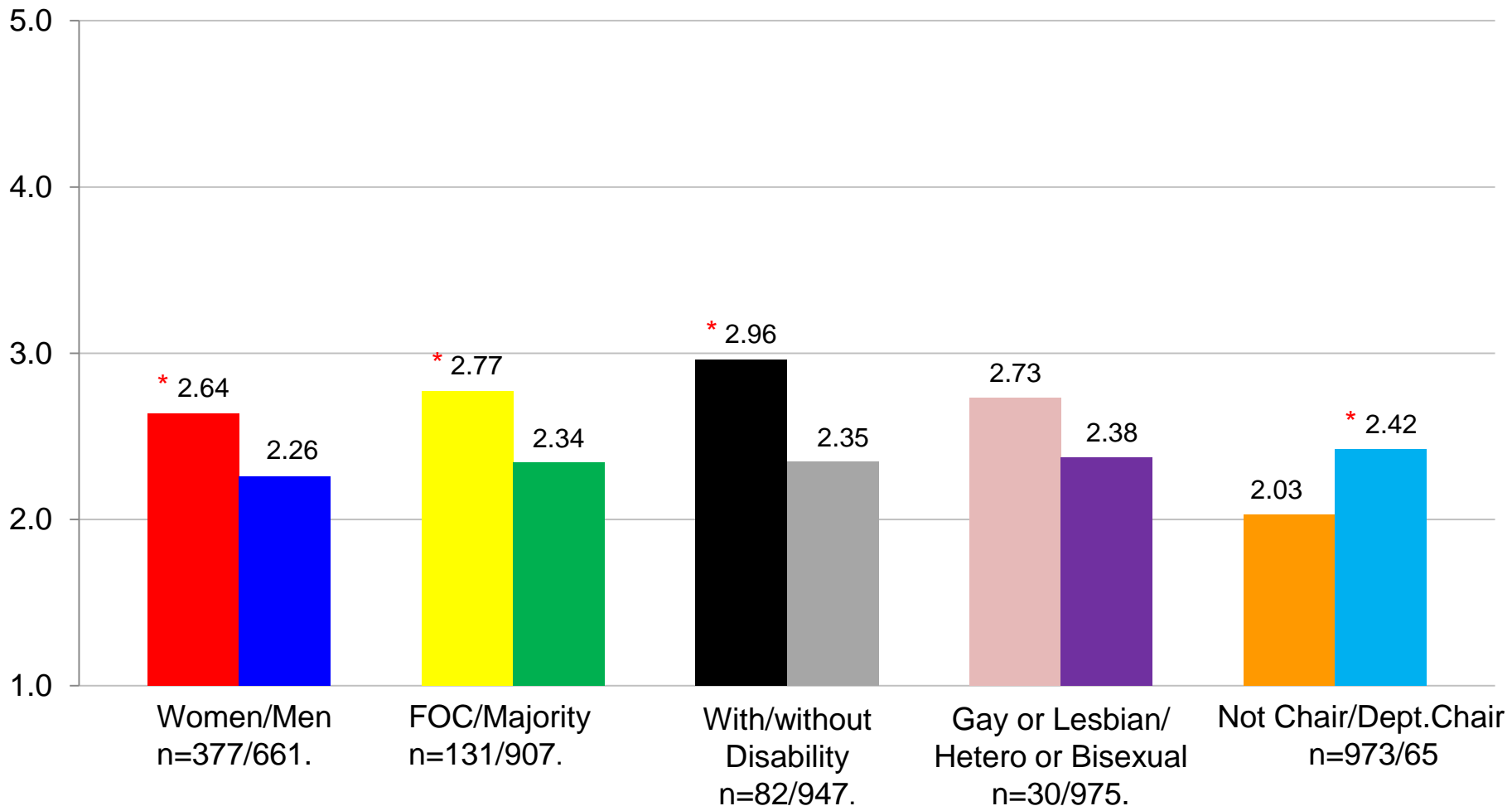
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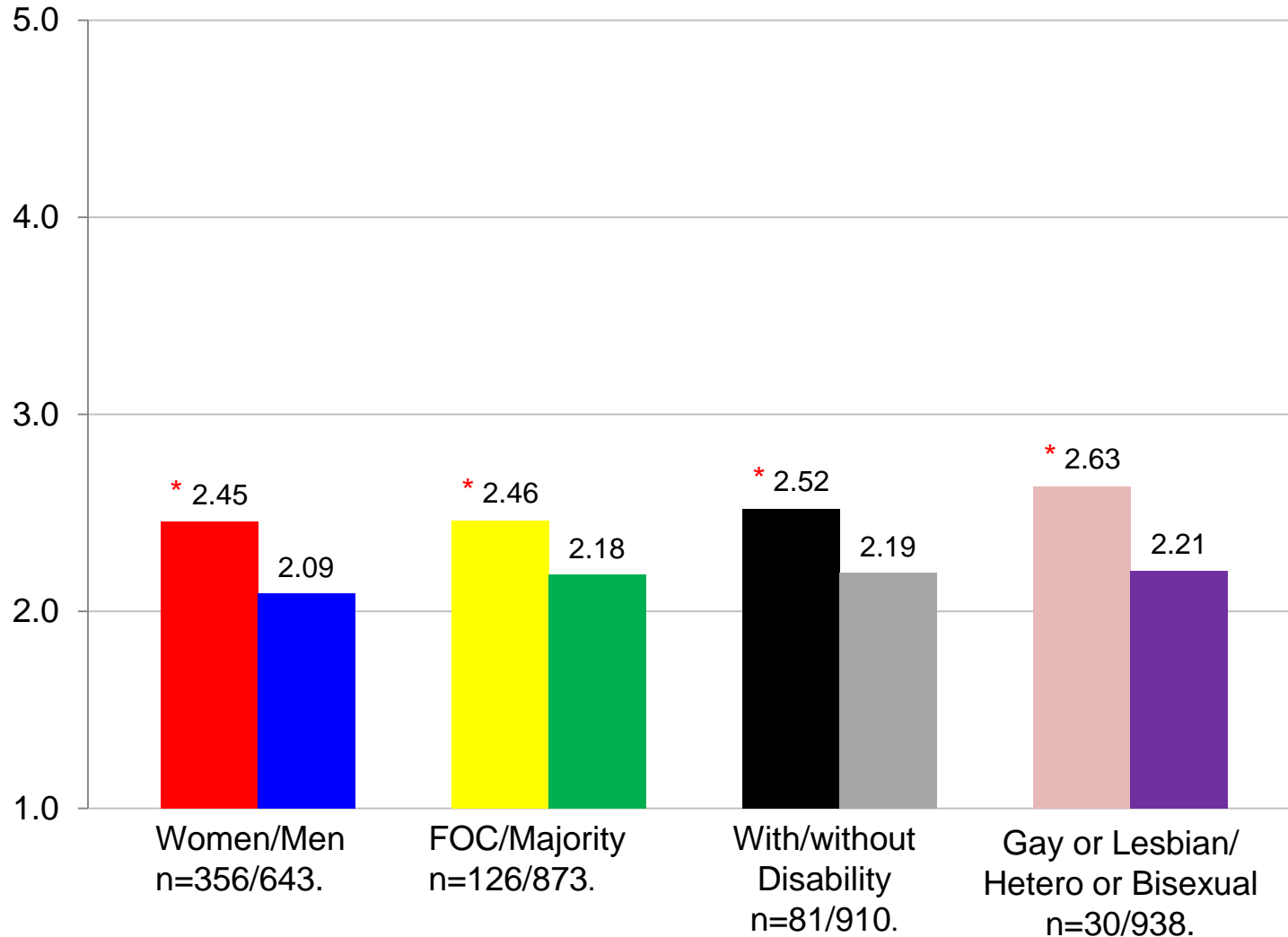
How often do you feel isolated in your department?



* Indicates significant difference at $p < 0.05$.

Response choices: 1 – Never , 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Very often

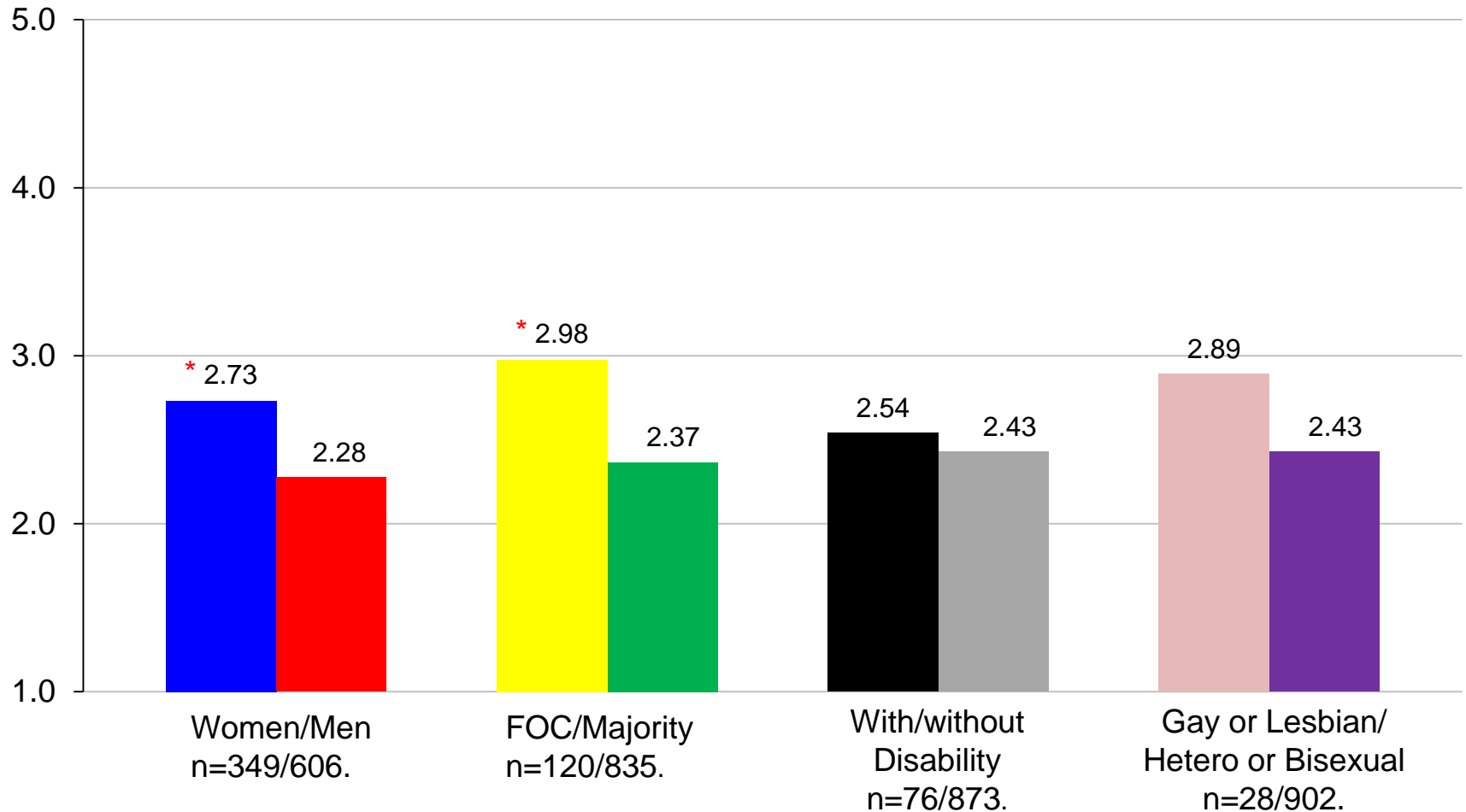
How reluctant are you to voice concerns ...



* Indicates significant difference at $p < 0.05$.

Response choices: 1 – Never , 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Very often

How much harder do you have to work to be perceived as a legitimate scholar?



* Indicates significant difference at $p < 0.05$.

Response choices: 1—Not at all, 2—A little, 3—Somewhat, 4—Very, 5—Extremely



Differential experiences of bias -- Why climate matters

- Perceptions about department climate are key determinants for faculty satisfaction and retention.
- Improving department climate is critical for the retention and advancement of women faculty and faculty of color.



Minimizing Bias and Assumptions

Know what factors increase vulnerability to unconscious bias

- Believing oneself to be objective and unbiased
- Believing oneself to be colorblind or gender blind
- Having insufficient or ambiguous information
- Being busy and under time pressure
- Multi-tasking
- Being stressed, tired, and/or hungry



Minimizing Bias and Assumptions

What Not to Do:

- Suppress bias and assumptions from one's mind (or try to)
 - Studies demonstrating Stereotype Rebound effect
 - Nira Liberman and Jens Förster, "Expression After Suppression: A Motivational Explanation of Postsuppression Rebound," *Journal of Personality & Social Psychology* 79 (2000): 190-203
 - C. N. Macrae, Galen V. Bodenhausen, Alan B. Milne, and Jolanda Jetten, "Out of Mind but Back in Sight: Stereotypes on the Rebound." *Journal of Personality & Social Psychology* 67 (1994): 808-817



Minimizing Bias and Assumptions: Behaviors

■ Question your objectivity

- Replace your self-image as an objective person with recognition and acceptance that you are subject to the influence of bias and assumptions

Uhlmann and Cohen, "I think it, therefore it is true: Effects of self-perceived objectivity on hiring discrimination," *Organizational Behavior and Human Decision Processes*, 104;2 (2007): 207-223

■ Stereotype Replacement

- Reflect on your own judgments and interactions and assess whether bias/assumptions played a role
- Recognize stereotypical portrayals in society or your environment
- Challenge the fairness of the judgment or portrayal and replace it with a non-stereotypical response



Minimizing Bias and Assumptions

- Counter-Stereotype Imaging
 - Regulate your responses/judgments by imagining counter-stereotype examples
 - Recognize or increase the visibility of counter-stereotype examples in your domain.
 - Eg: Photographs on walls in classrooms and hallways – do they reflect the diversity; Examples used in text books and classrooms – do they reflect the diverse interests of students.
 - Departmental seminars/conferences – are invited speakers from diverse groups within the field.
 - Leadership positions within the department
 - Awards & recognition



Minimizing Bias and Assumptions

- Individuating (instead of generalizing)
 - Obtain more information on specific qualifications, record of performance, personality, and other attributes of an individual before making assumptions/judgments.
 - Practice making situational attributions rather than dispositional attributions
 - He's late because the bus broke down vs. he's late because he's disorganized/lazy/unmotivated.
 - She can't make the meeting because she's out of town presenting at a conference vs. assuming she is absent because she has to take care of her kids .



Minimizing Bias and Assumptions

■ Perspective Taking

- Adopt the perspective (in the first-person) of a member of a stigmatized group

For example, imagine what it would be like to...

- *Have your abilities repeatedly called into question*
- *Not be offered opportunities because of assumptions about what fields you will like – or because you have family responsibilities*
- *Not receive the same rewards and recognitions as similarly deserving peers*



Minimizing Bias and Assumptions

- Increase opportunities for contact with members of underrepresented groups
 - Greet and engage professionally with members of underrepresented groups presenting at or attending academic conferences
 - Pursue opportunities for collaboration
 - Engage in outreach work with minority communities
 - Mentor and advocate for students and colleagues from underrepresented groups.



Minimizing Bias and Assumptions: Organizational Strategies

- Examine your strategic plan – are diversity outcomes and goals incorporated into the department’s vision?
- Build an inclusive community
 - Departmental committees and leadership team
 - Teaching Assignments
 - Departmental events -- seminars, conferences
 - Promote inclusive language
 - Promote a culture of respect, consideration, politeness
 - Recognize and value the work of departmental members
 - Encourage Balance between work and family/personal responsibilities



Creating a Welcoming & Inclusive Department Climate

- Encourage or expect departmental members to take advantage of learning opportunities that aim to improve diversity and climate:
 - Information on the role of unconscious bias in evaluation
 - Information about sexual harassment
 - Information and advice on mentoring students from underrepresented groups
- Respond appropriately to illegal behaviors and complaints about demeaning, sexualizing or condescending language and behavior.

See: [Enhancing Department Climate: A Guide for Department Chairs](#)



Behavioral & Organizational Change is Possible!!

- Not necessarily easy
- Requires awareness, motivation, a sustained commitment, effective strategies, and persistent effort
 - Can expect that you may slip up
 - Stay committed
- Strategies we provided are powerful tools to combat unconscious/implicit biases
 - Implicit responses can be brought into line with explicit beliefs