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SOLVING THE EQUATION

The Variables for Women's Success in Engineering and Computing

Focus on Engineering and Computing

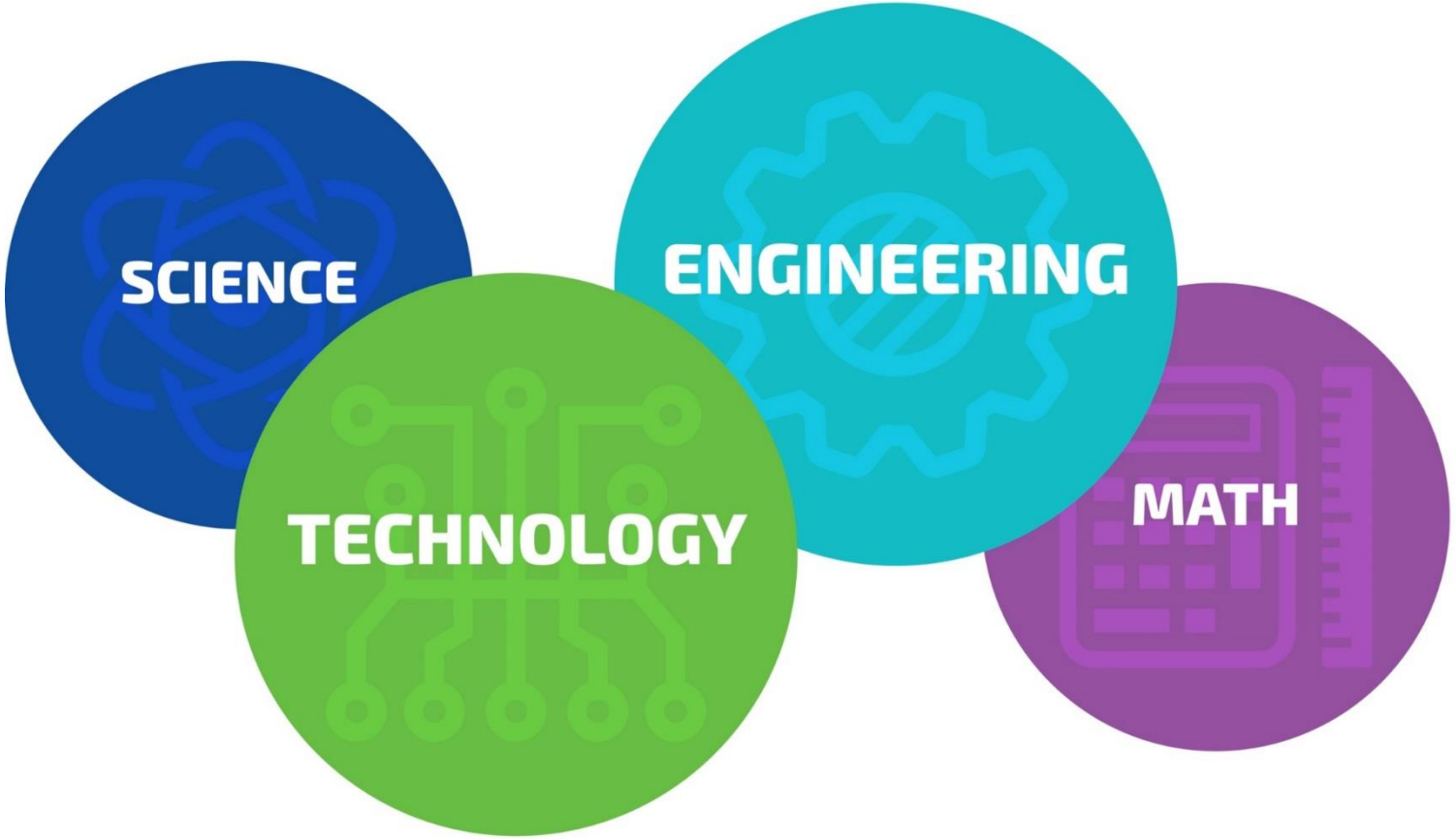
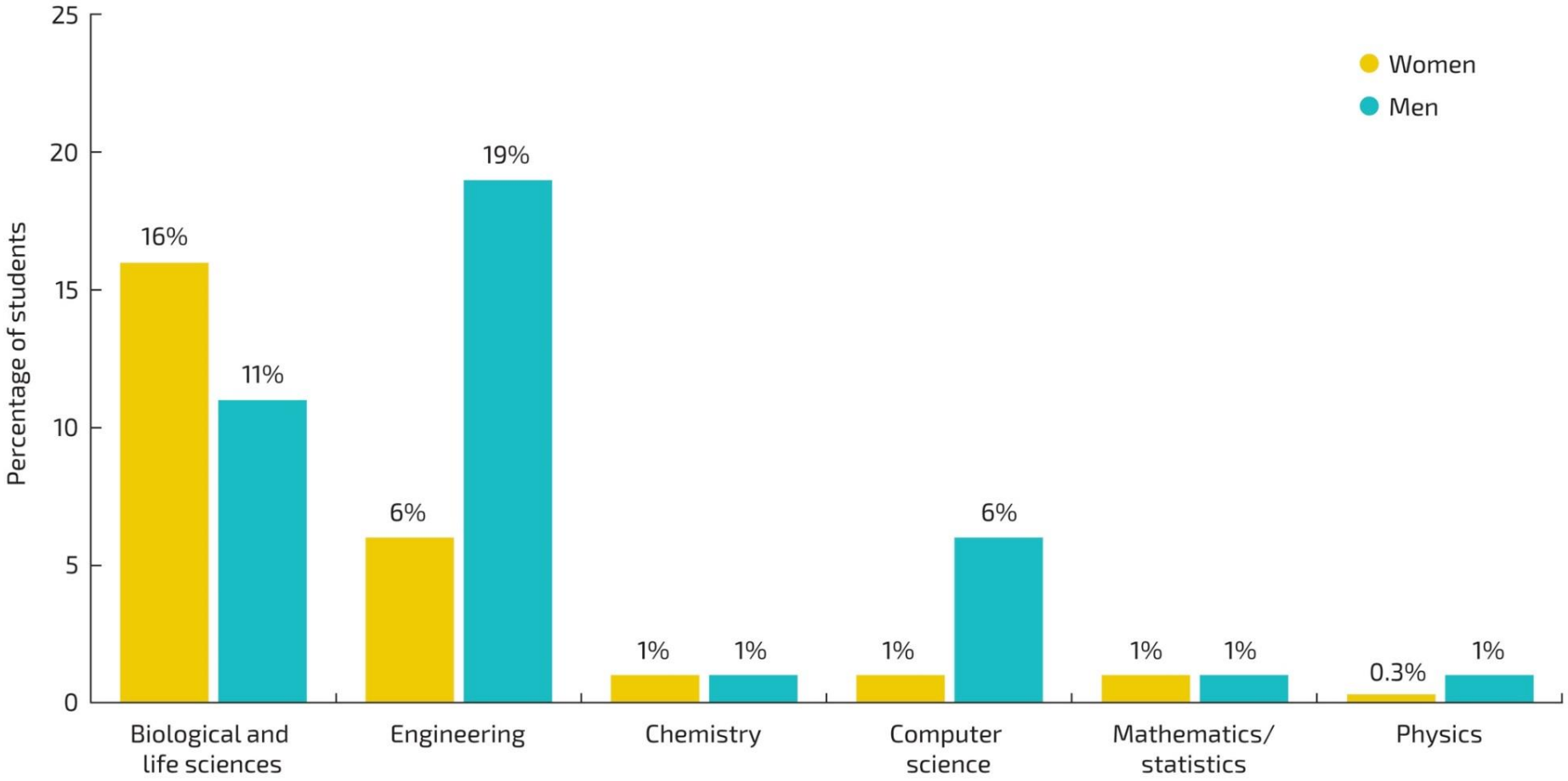
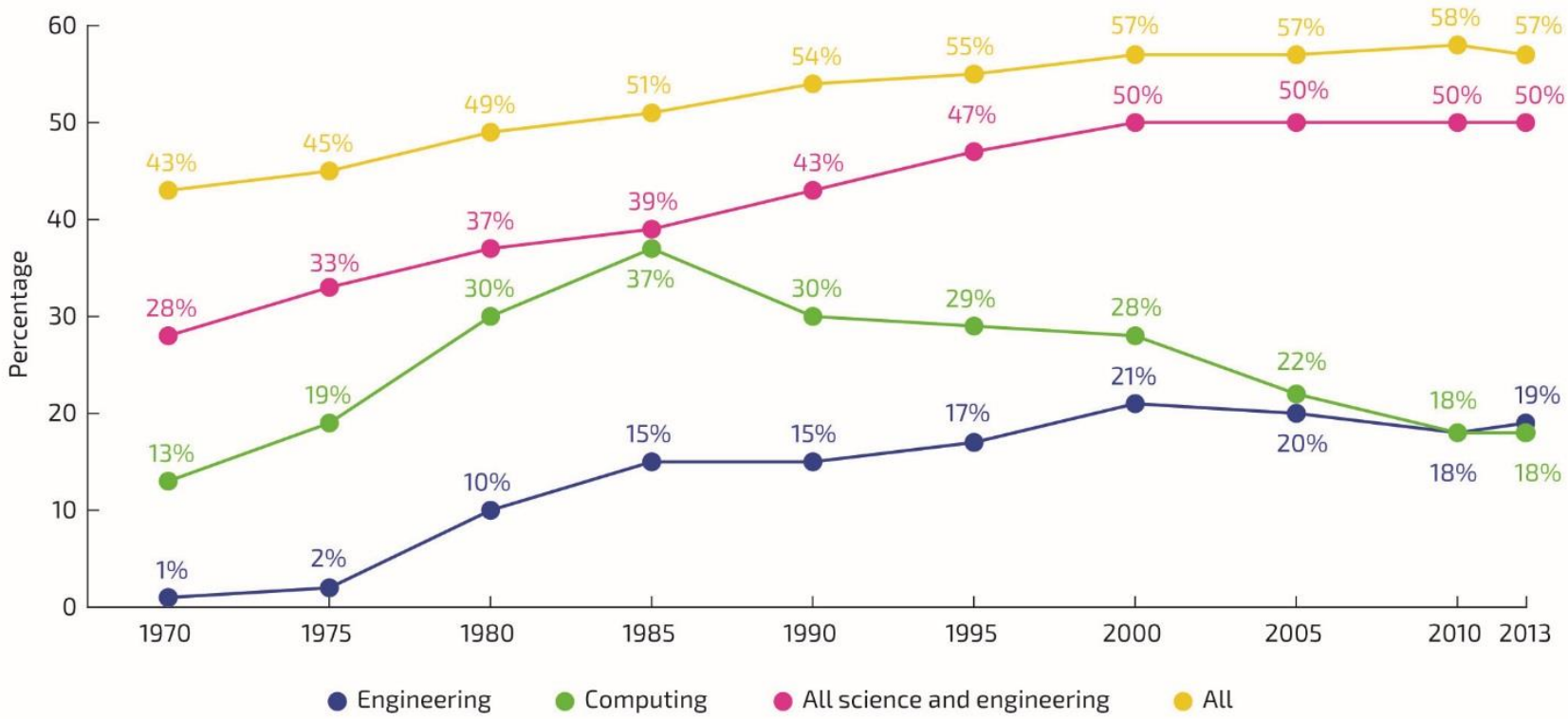


FIGURE 5. INTENT OF FIRST-YEAR COLLEGE STUDENTS TO MAJOR IN STEM FIELDS, BY GENDER, 2014



AAUW analysis of Eagan et al. (2014).

FIGURE 6. BACHELOR'S DEGREES EARNED BY WOMEN, SELECTED FIELDS, 1970–2013



Note: "All science and engineering" includes biological and agricultural sciences; earth, atmospheric, and ocean sciences; mathematics and computer science; physical sciences; psychology; social sciences; and engineering.
Source: L. M. Frehill analysis of data from National Science Foundation, Division of Science Resources Statistics (2013), and National Science Foundation, National Center for Science and Engineering Statistics (2014a).

FIGURE 1. WOMEN IN SELECTED STEM OCCUPATIONS, 1960–2013

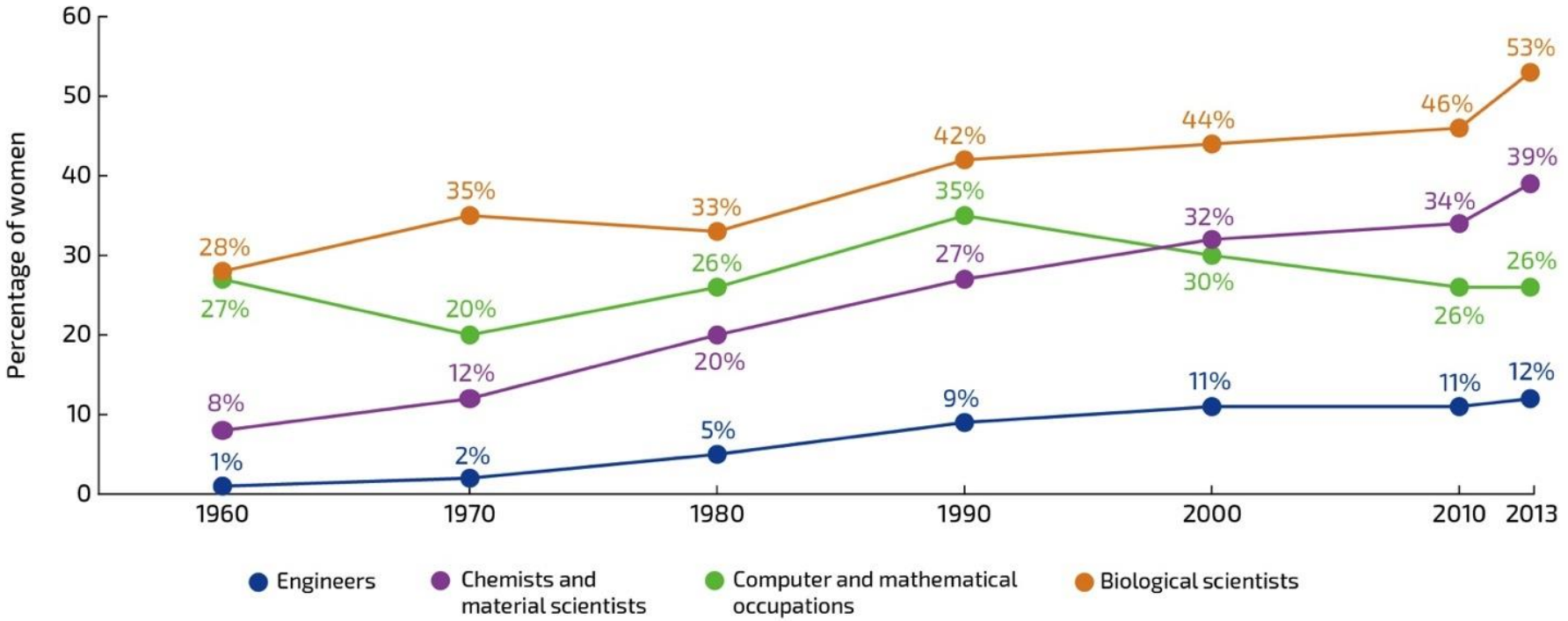


Figure 1 notes: Postsecondary teachers are not included.

Figure 1 sources: AAUW analysis of data from U.S. Census Bureau (1960, 1970, 1980, 1990, 2000); L. M. Frehill analysis of data from U.S. Department of Labor, Bureau of Labor Statistics (2011, 2014b).

African-American and Hispanic women are particularly underrepresented.

FIGURE 9. POPULATION AGES 20–24 AND BACHELOR'S DEGREES AWARDED IN SELECTED FIELDS, BY RACE/ETHNICITY AND GENDER, 2013

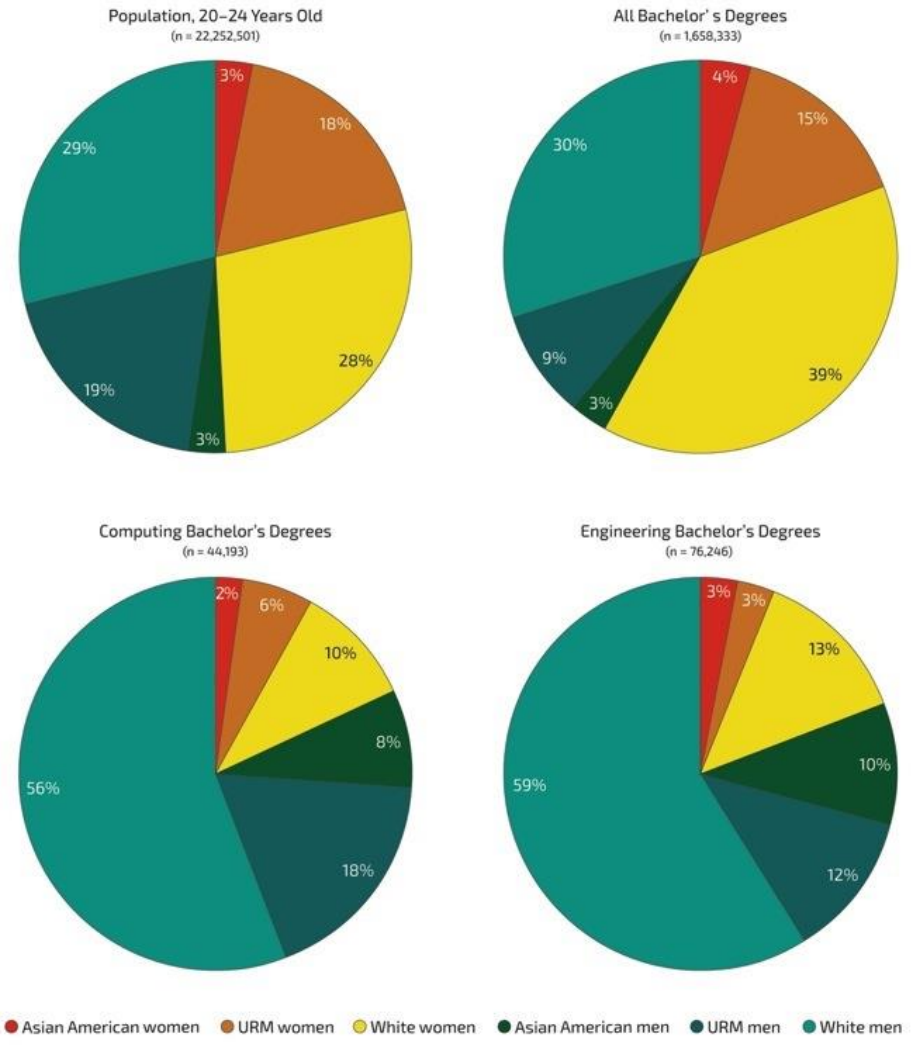
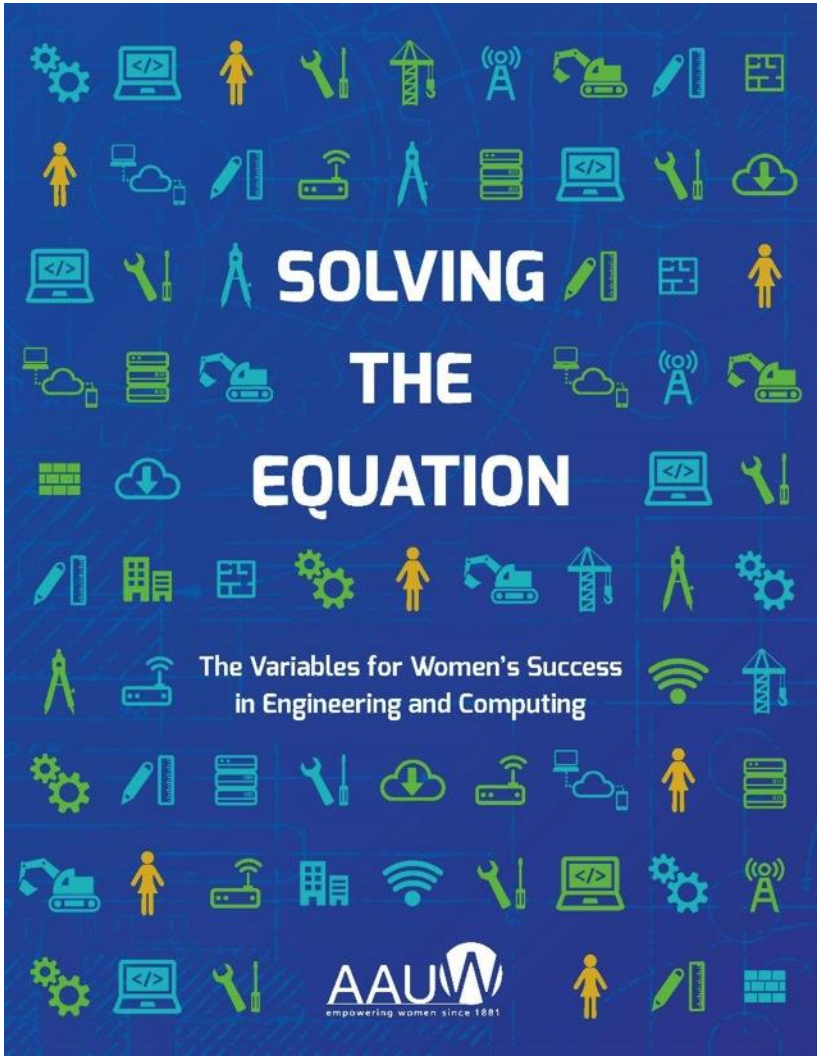


Figure 9 notes: Charts include only U.S. citizens and permanent residents

Figure 9 sources: L. M. Frehill analysis of National Science Foundation, National Center for Science and Engineering Statistics (2014b), and U.S Census Bureau (2014d).



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Stereotypes and Biases

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FIGURE 14. FACULTY RATINGS OF LAB MANAGER APPLICANT, BY GENDER OF APPLICANT

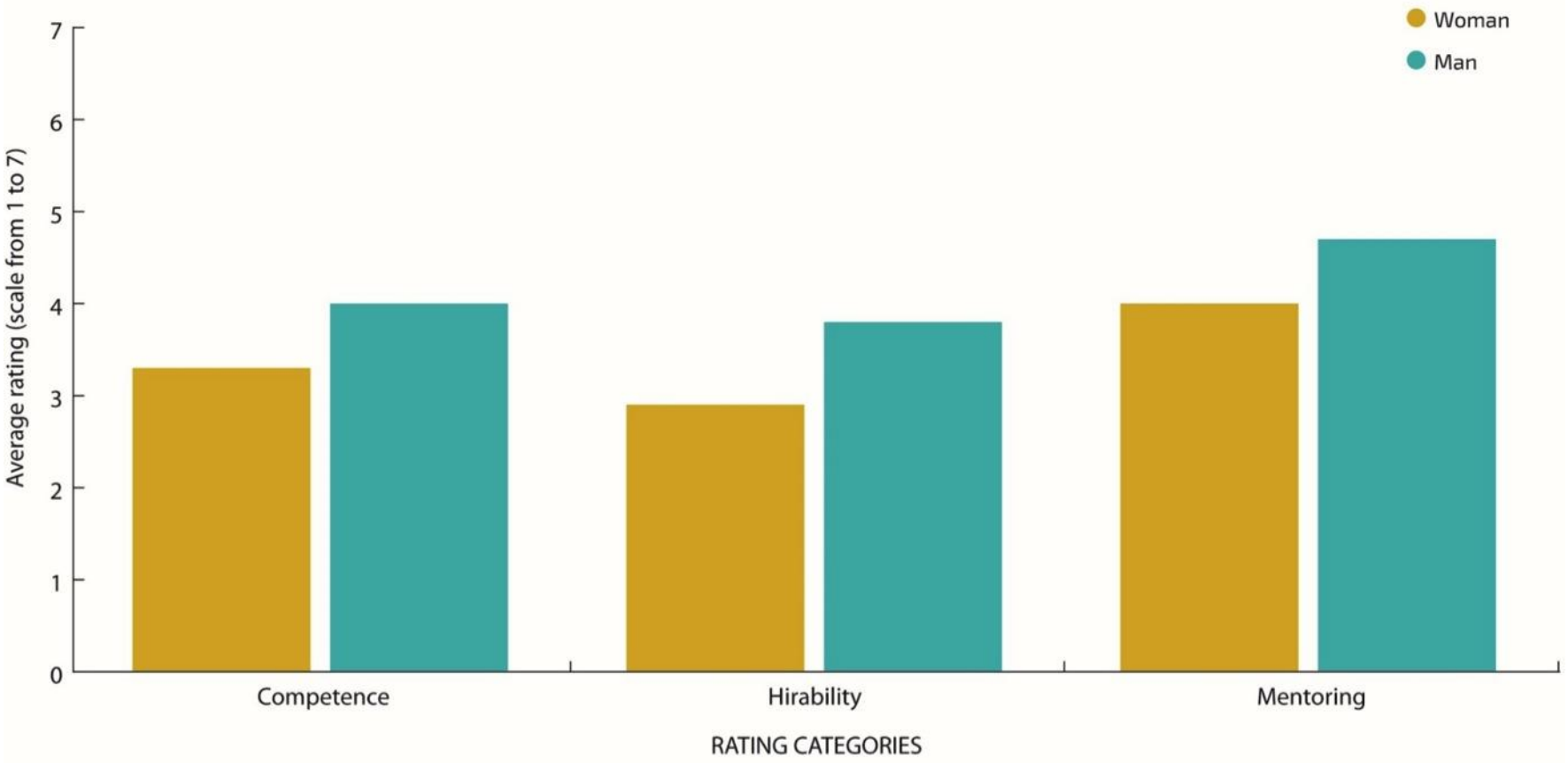
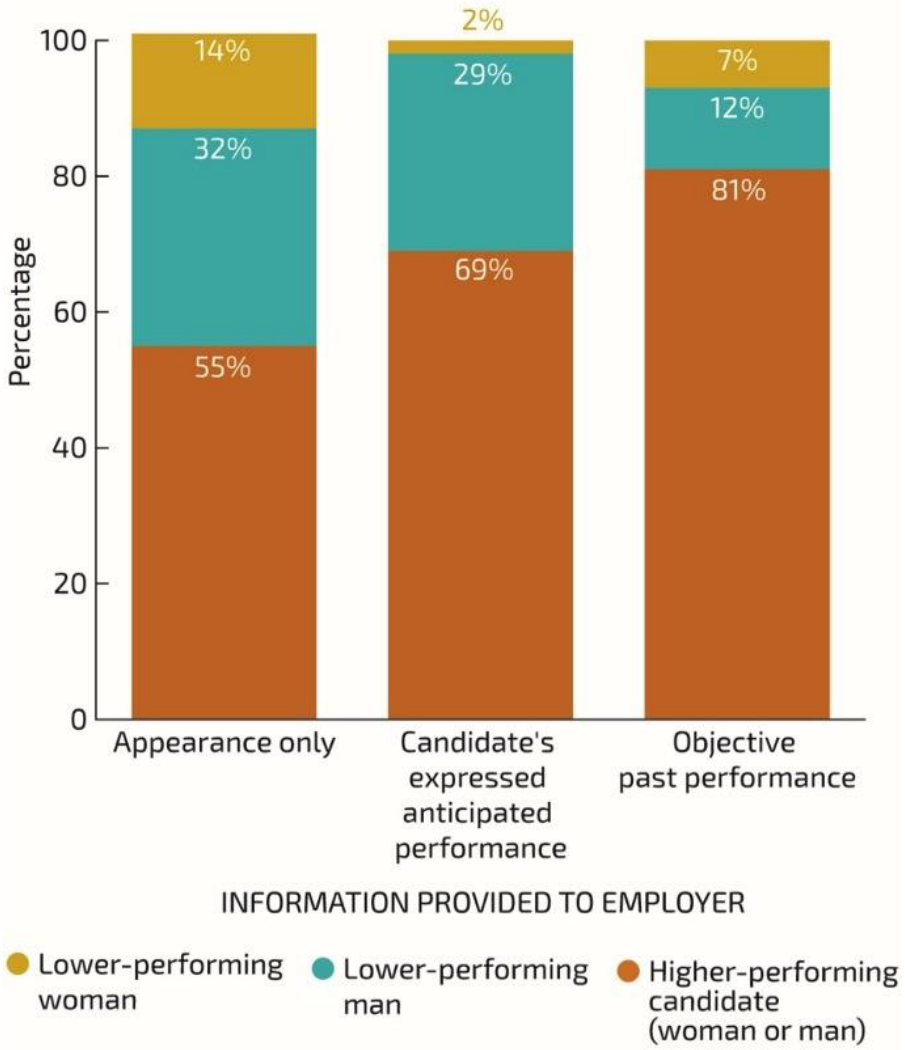


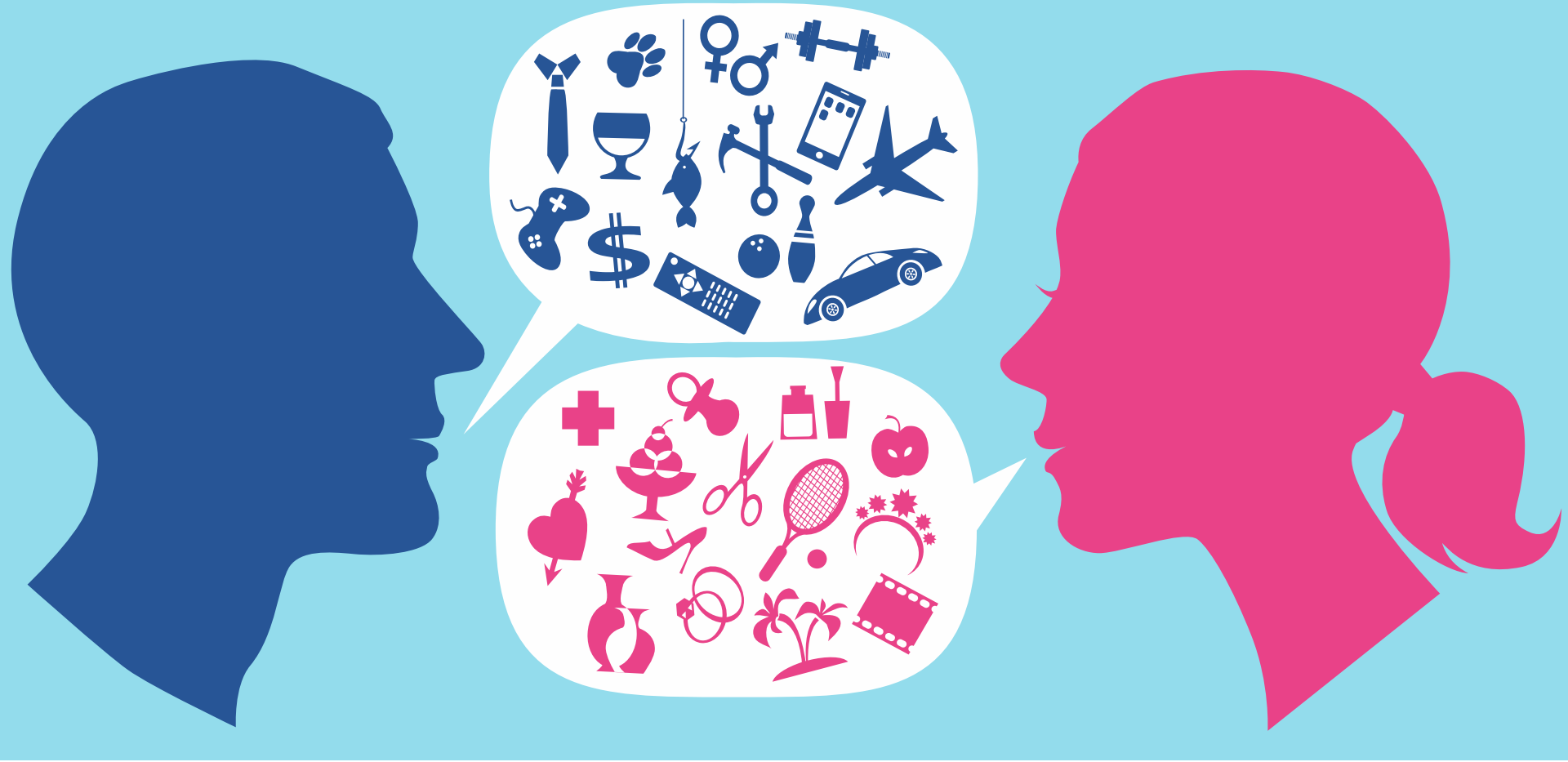
Figure 14 source: Moss-Racusin, Dovidio et al. (2012a).

FIGURE 15. PROBABILITY OF SELECTING THE BEST CANDIDATE FOR A MATHEMATICAL TASK



Source: Reuben et al. (2014a)

Gender biases affect how we view ourselves.



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Stereotype Threat at Work

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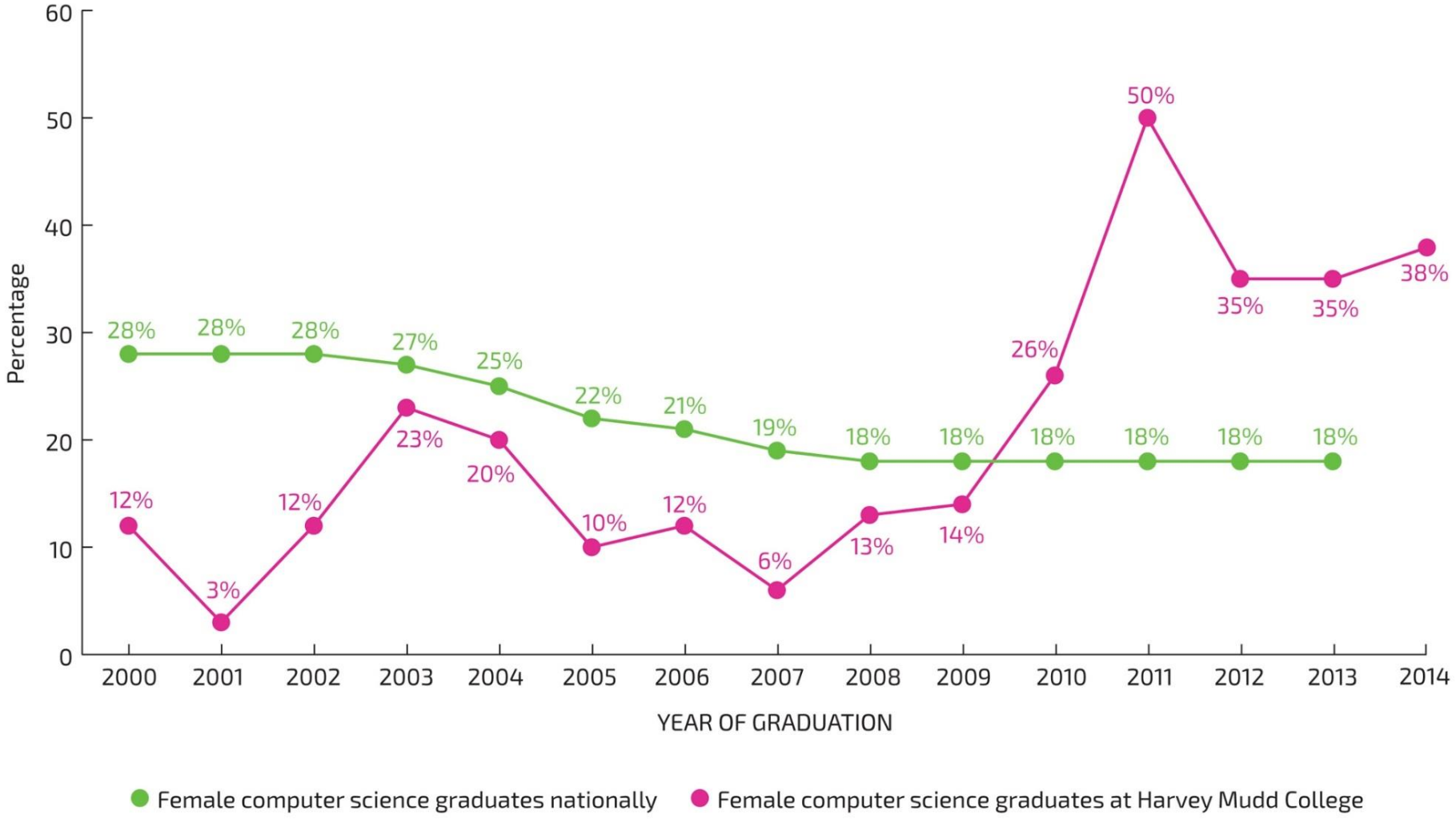
FIGURE 23. FEMALE COMPUTER SCIENCE GRADUATES NATIONALLY AND AT HARVEY MUDD COLLEGE, BY GRADUATION YEAR, 2000–2014



What can colleges do?

- Revise introductory courses and make accommodations for prior experience
- Provide research opportunities for undergraduates
- Take students to conferences and events where they can meet role models and peers

FIGURE 11. RETENTION IN ENGINEERING, BY GENDER, 2010

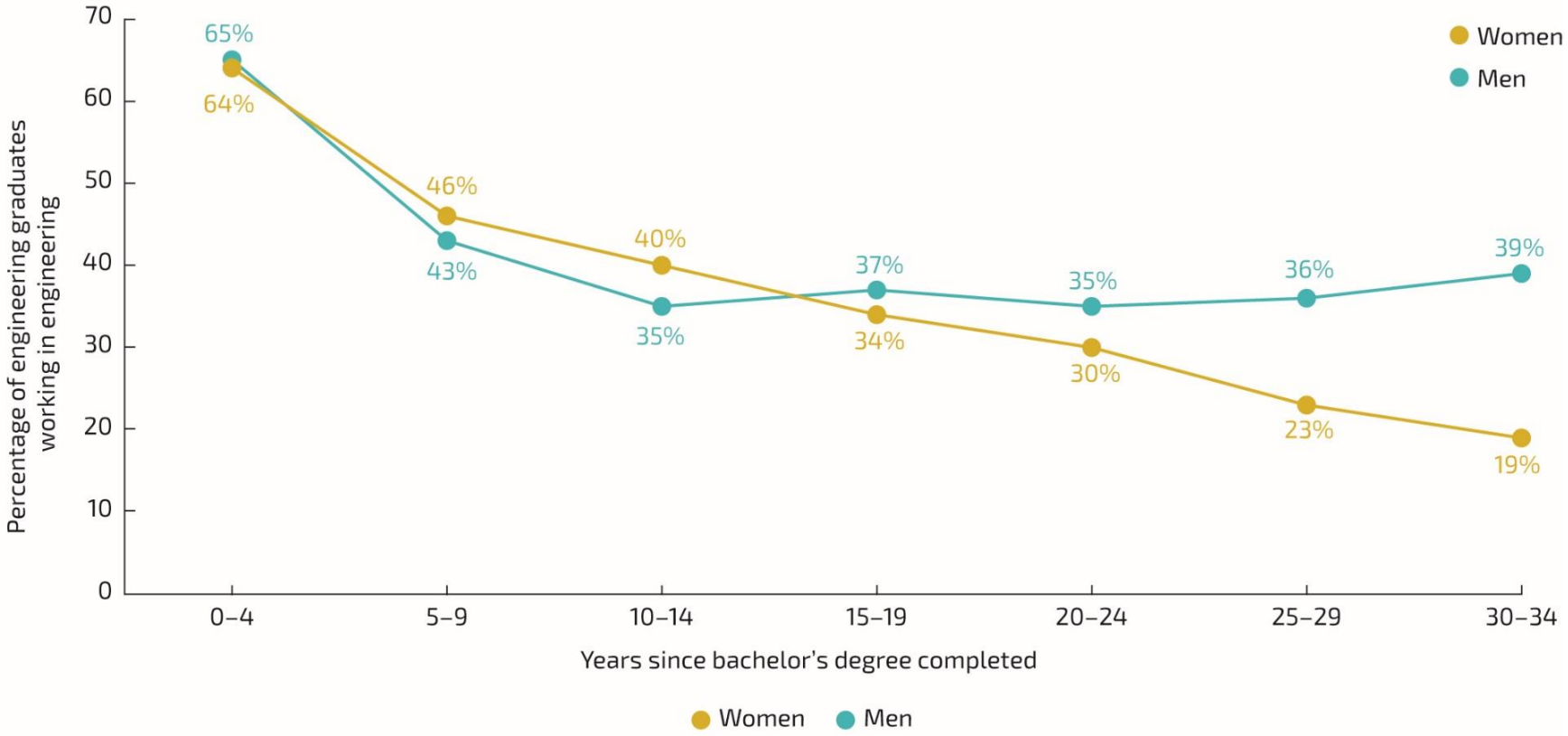


Figure 11 notes: Includes only individuals who reported a bachelor's degree in engineering and no additional educational credential as of 2010..

Figure 11 source: L. M. Frehill analysis of National Science Foundation, National Center for Science and Engineering Statistics (2010a, 2010b).

FIGURE 25. FEMALE ENGINEERS' EXPERIENCE OF INCIVILITY AT WORK, BY LEVEL OF JOB SATISFACTION

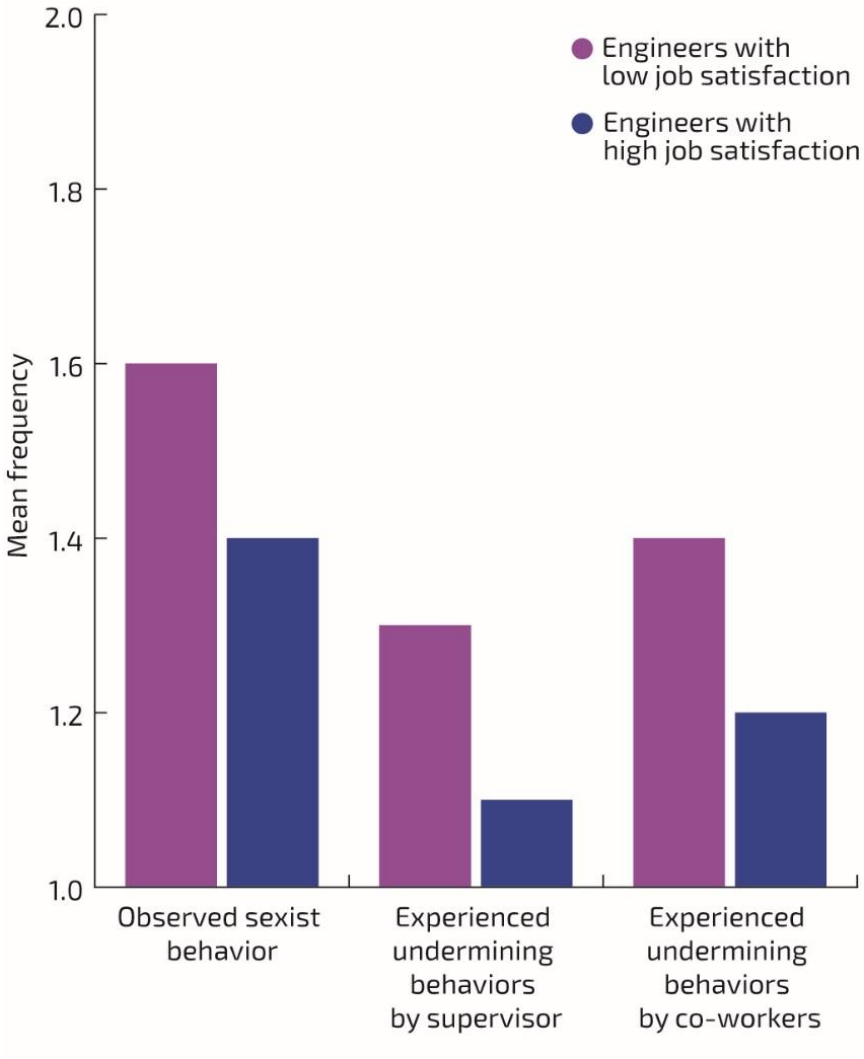


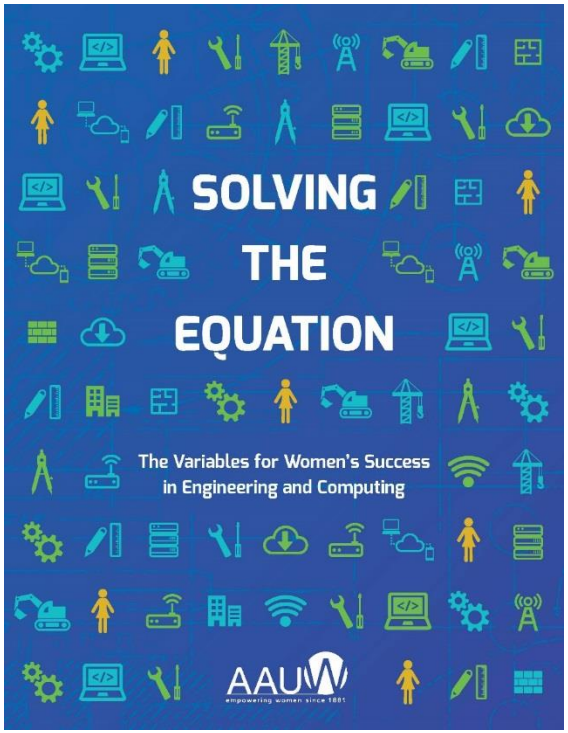
Figure 25 note: Scale from 1 (never) to 6 (every day). Participants estimated the frequency with which they experienced undermining behaviors in the past month and the frequency with which they observed sexist behavior in the past year.

Sources: Fouad et al. (2012)

What can we do?

- Implicit bias
- Stereotype threat
- Incorporate communal values
- Cultivate a sense of belonging

www.aauw.org/research/solving-the-equation



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