

Women in Physics

Teacher Version

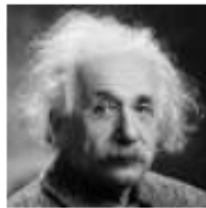


Familiar Physicists

What trends do you notice about the physicists you found in your Google search?



Stephen
Hawking



Albert
Einstein



Nikola Tesla



Isaac
Newton



Galileo
Galilei



Marie Curie



Richard
Feynman

Guidelines for Conduct During Discussion



Share air time
equitably

Value differences

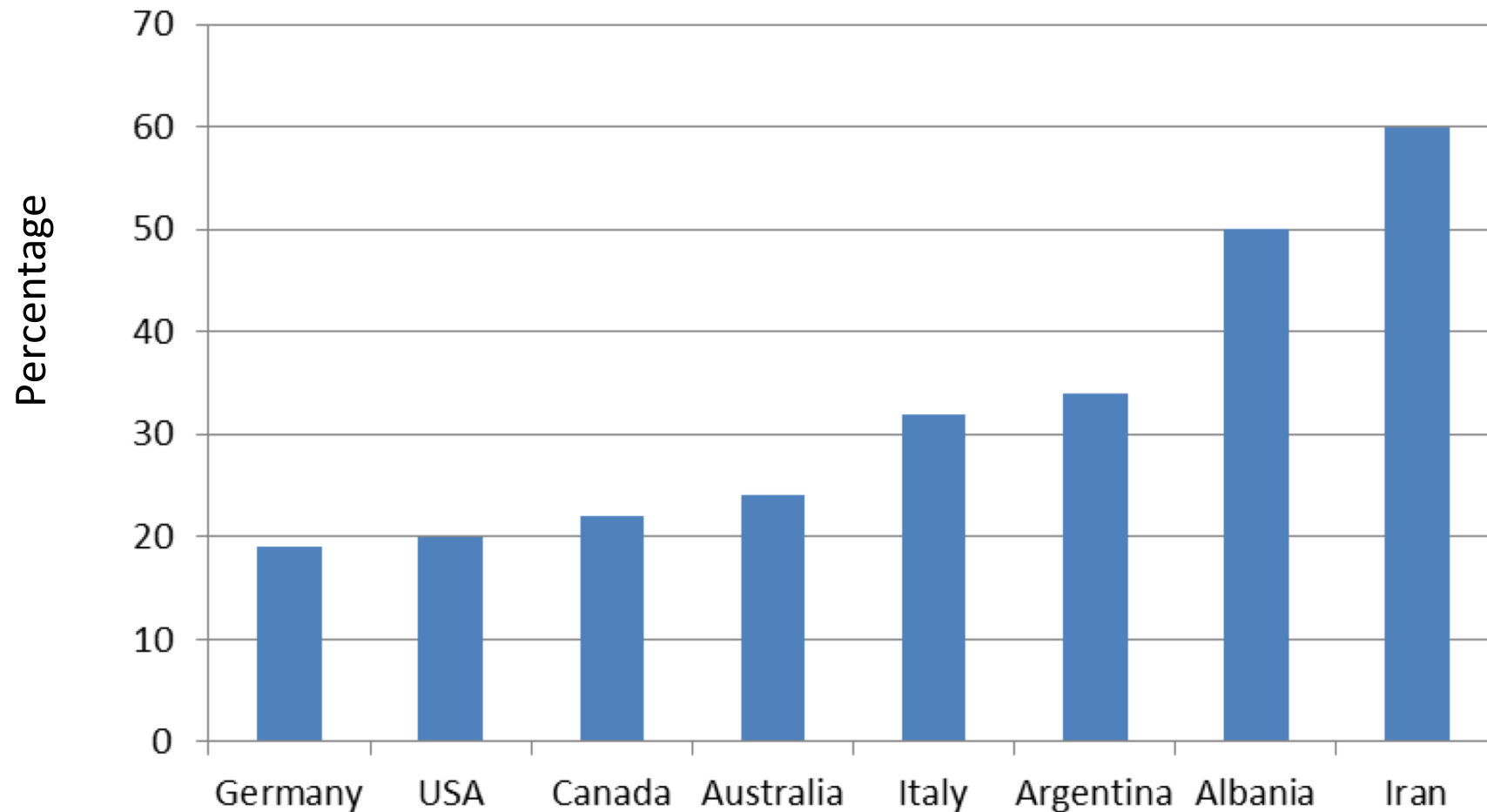
Own your impact

Make sure
everyone feels safe

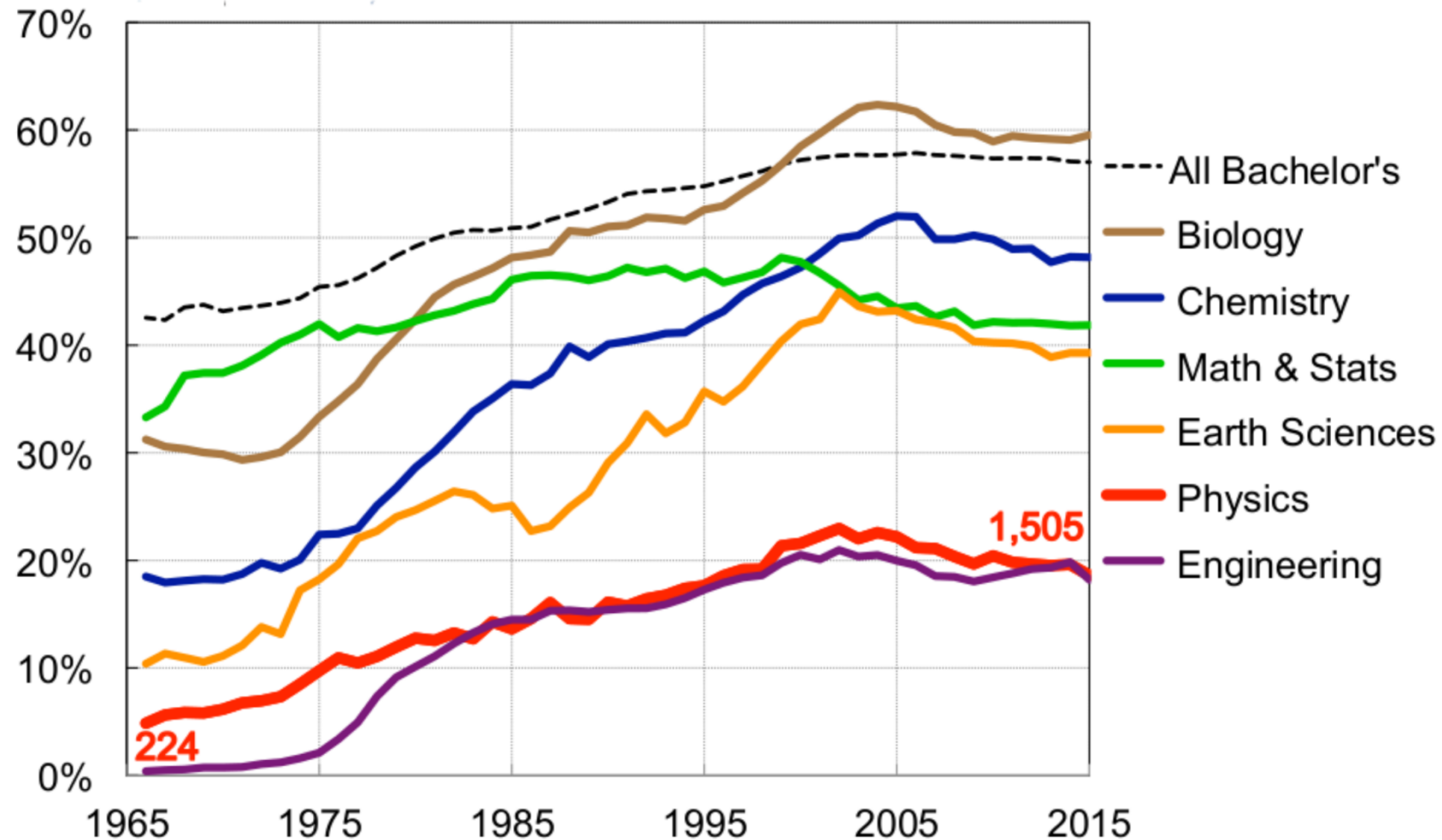
Discomfort is okay

Argue using
evidence

Percentage of Undergraduate Physics Degrees Awarded to Women



Bachelor's Degrees Earned by Women, by Major



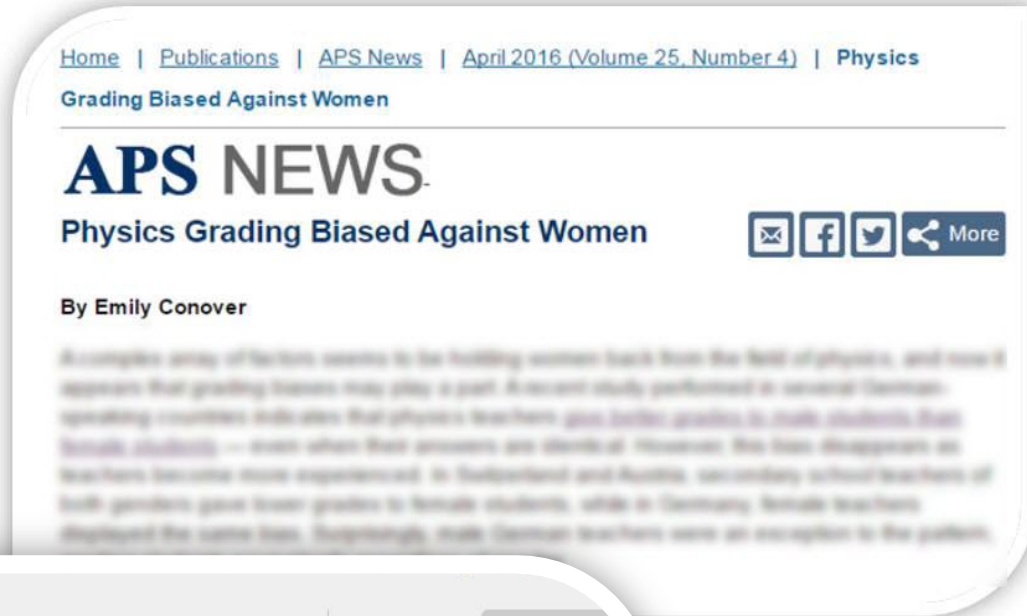
Academic Achievement references

Gender Differences in the High School and Affective Experiences of Introductory College Physics Students

The Physics Teacher **46**, 423 (2008);
<https://doi.org/10.1119/1.2981292>
[Zahra Hazari](#)
[Philip M. Sadler](#)
[Robert H. Tai](#)
[more...](#)

Gender differences in introductory university physics performance: The influence of high school physics preparation and affective factors

[Zahra Hazari](#)
[Robert H. Tai](#)
[Philip M. Sadler](#)
First published: 29 May 2007
<https://doi.org/10.1002/sce.20223>
Citations: [77](#)



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Grading Biased Against Women

APS NEWS

Physics Grading Biased Against Women

By Emily Conover

A complex array of factors seems to be holding women back from the field of physics, and new research suggests that grading biases may play a part. A recent study performed at several German-speaking countries indicates that physics teachers give better grades to male students than female students — even when their answers are identical. However, this bias disappears as teachers become more experienced. In Switzerland and Austria, secondary school teachers of both genders gave lower grades to female students, while in Germany, female teachers showed the same bias. Surprisingly, male German teachers were an exception to the pattern.

Gender stereotypes about intellectual ability emerge early and influence children's interests

Lin Bian,^{1,2*} Sarah-Jane Leslie,³ Andrei Cimpian^{1,2*}



Common stereotypes associate high-level intellectual ability (brilliance, genius, etc.) with men more than women. These stereotypes discourage women's pursuit of many prestigious careers, that is, women are underrepresented in fields whose members cherish brilliance (such as physics and philosophy). Here we show that these stereotypes are endorsed by, and influence the interests of, children as young as 6. Specifically, 6-year-old girls are less likely than boys to believe that members of their gender are "really, really smart." Also at age 6, girls begin to avoid activities said to be for children who are "really, really smart." These findings suggest that gendered notions of brilliance are acquired early and have an immediate effect on children's interests.



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RESEARCH ARTICLE

Males Under-Estimate Academic Performance of Their Female Peers in Undergraduate Biology Classrooms

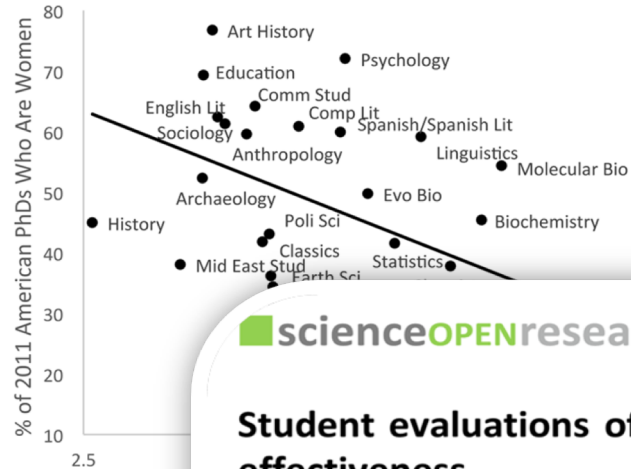
Daniel Z. Grunspan, Sarah L. Eddy, Sara E. Brownell, Benjamin L. Wiggins, Alison J. Crowe, Steven M. Goodreau

Published: February 10, 2016 • <https://doi.org/10.1371/journal.pone.0148405>

Unconscious Bias references

Expectations of brilliance underlie gender distributions across academic disciplines

Sarah-Jane Leslie,^{1*} Andrei Cimpian,^{2*} Meredith Meyer,³ Edward Freeland⁴



Definition of Unconscious Bias

<https://diversity.ucsf.edu/resources/unconscious-bias>

Student evaluations of teaching (mostly) do not measure teaching effectiveness

Anne Boring^{1,2}, Kellie Ottoboni³, and Philip B. Stark^{*3}

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³Department of Statistics, University of California, Berkeley, CA, USA
^{*}Corresponding author's e-mail address: pstark@berkeley.edu

ABSTRACT

Student evaluations of teaching (SET) are widely used in academic personnel decisions as a measure of teaching effectiveness. We show:

- SET are biased against female instructors by an amount that is large and statistically significant.

nature astronomy

Quantitative evaluation of gender bias in astronomical publications from citation counts

Neven Caplar , Sandro Tacchella & Simon Birrer

Nature Astronomy **1**,
Article number: 0141 (2017)

Received: 09 September 2016
Accepted: 21 April 2017

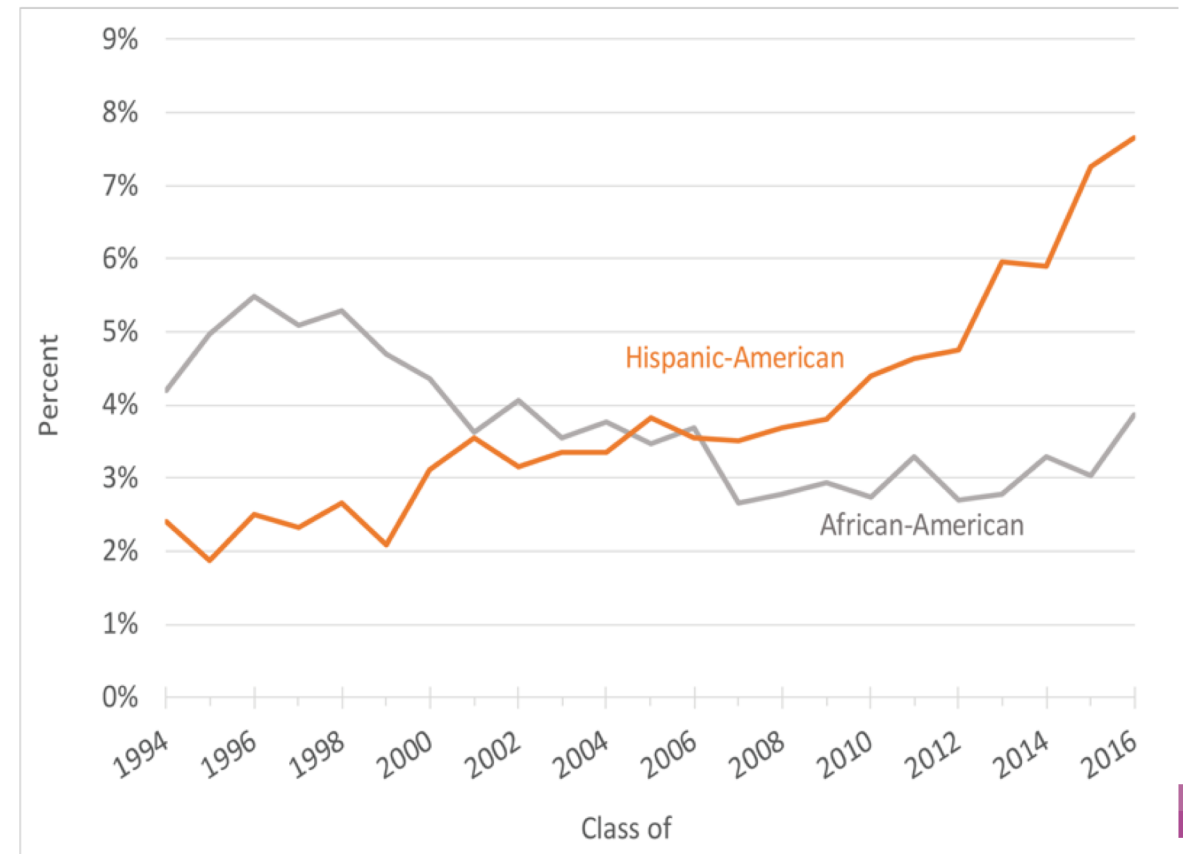
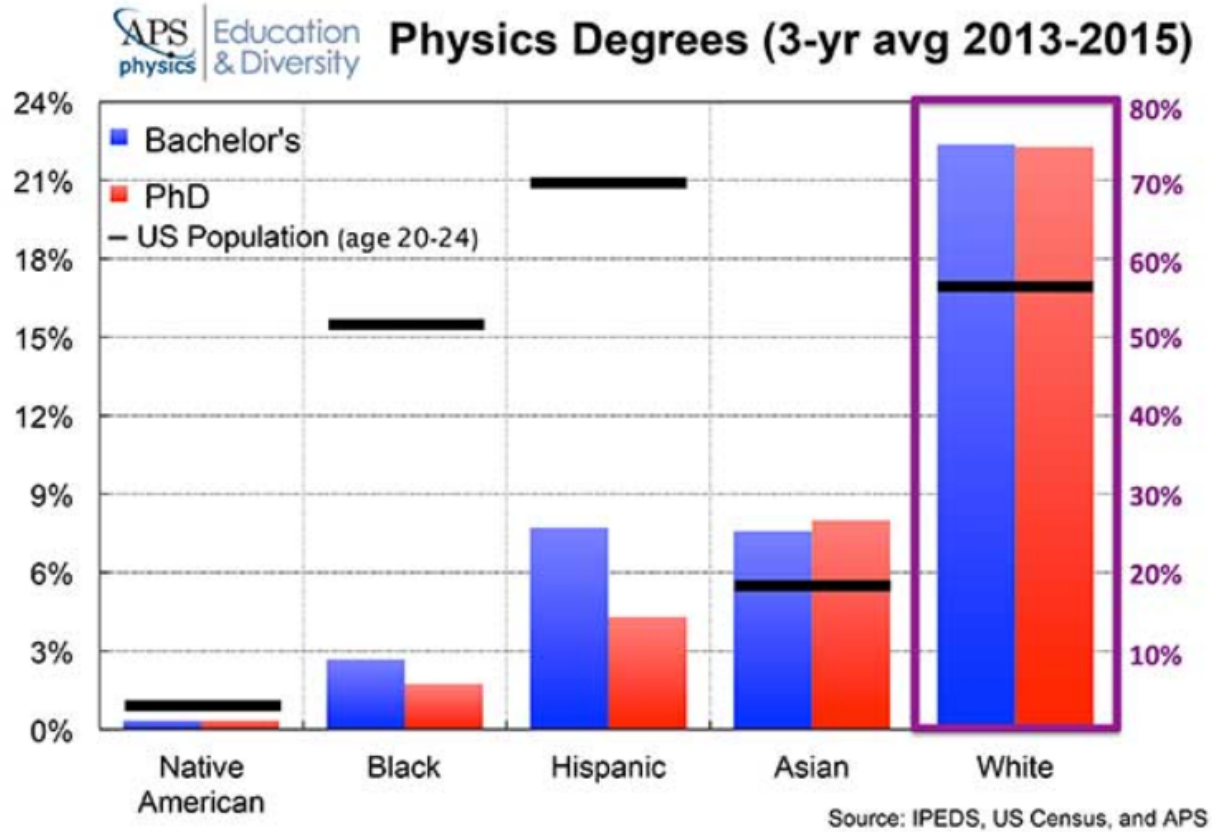
Abstract

Numerous studies across different research fields have shown that both male and female referees consistently give higher scores to work done by men than to identical work done by women^{1,2}. In addition, women are under-represented in prestigious publications and authorship positions^{3,4} and women receive ~50% fewer citations^{5,6}. In astronomy, similar biases have been measured in conference participation^{7,8}.

Physics Degrees Earned by Groups Underrepresented in Physics



The Proportion of Physics Bachelor's Degrees Awarded to African-Americans and Hispanic-Americans.



Credit: APS/Source: IPEDS Completion Survey

Task 3: Personal Reflection Writing Prompt

Describe experiences you or a friend has had related to science and gender issues.

Examples:

Who do you feel comfortable working with in class?

Do you feel more comfortable in any particular class?

Have you felt your abilities being questioned?

Task 3: 2nd Written Response & Group Discussion



Do you think societal beliefs related to gender have any influence on the career you want to pursue?

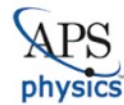
Careers you would not consider?

Task 3: Proposing Strategies

What can be done to support diversity in physics?

What could you do?

STEPUP



This material is based upon the work supported by the National Science Foundation under Grant Nos. 1720810, 1720869, 1720917, and 1721021. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.