

AHA Peer Review Training

Unconscious Bias

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American
Heart
Association®

To be a relentless force for a
world of longer, healthier
lives.



2024 IMPACT GOAL

Every person deserves the opportunity for a full, healthy life.
As **champions for health equity***, by 2024, the American Heart Association will advance cardiovascular health for all, including identifying and removing barriers to health care access and quality.

Addressing the drivers of health disparities, including the social determinants of health and structural racism, is the only way to truly achieve equitable health and well-being for all.



Learning Objectives

- Unconscious biases are social stereotypes about certain groups of people that individuals form outside their own conscious awareness
- Recognize that biases are human, and everyone has biases they must work on
- Develop strategies to become more aware of and mitigate our biases
- Be an effective ally when observing potential structural bias and unconscious bias in AHA peer review
- Commit to practices that will advance a diverse investigator workforce and health equity in AHA and our institutions



Why are we concerned about unconscious bias in peer review?

Peer review decisions award an estimated >95% of academic medical research funding, so it is crucial to understand how well the process works and where it could be improved



RACIAL BIAS
GENDER BIAS
CRONYSM
INNOVATION



There are **MANY** kinds of biases

ALL humans have them

AFFINITY BIAS

HALO EFFECT

HORN EFFECT



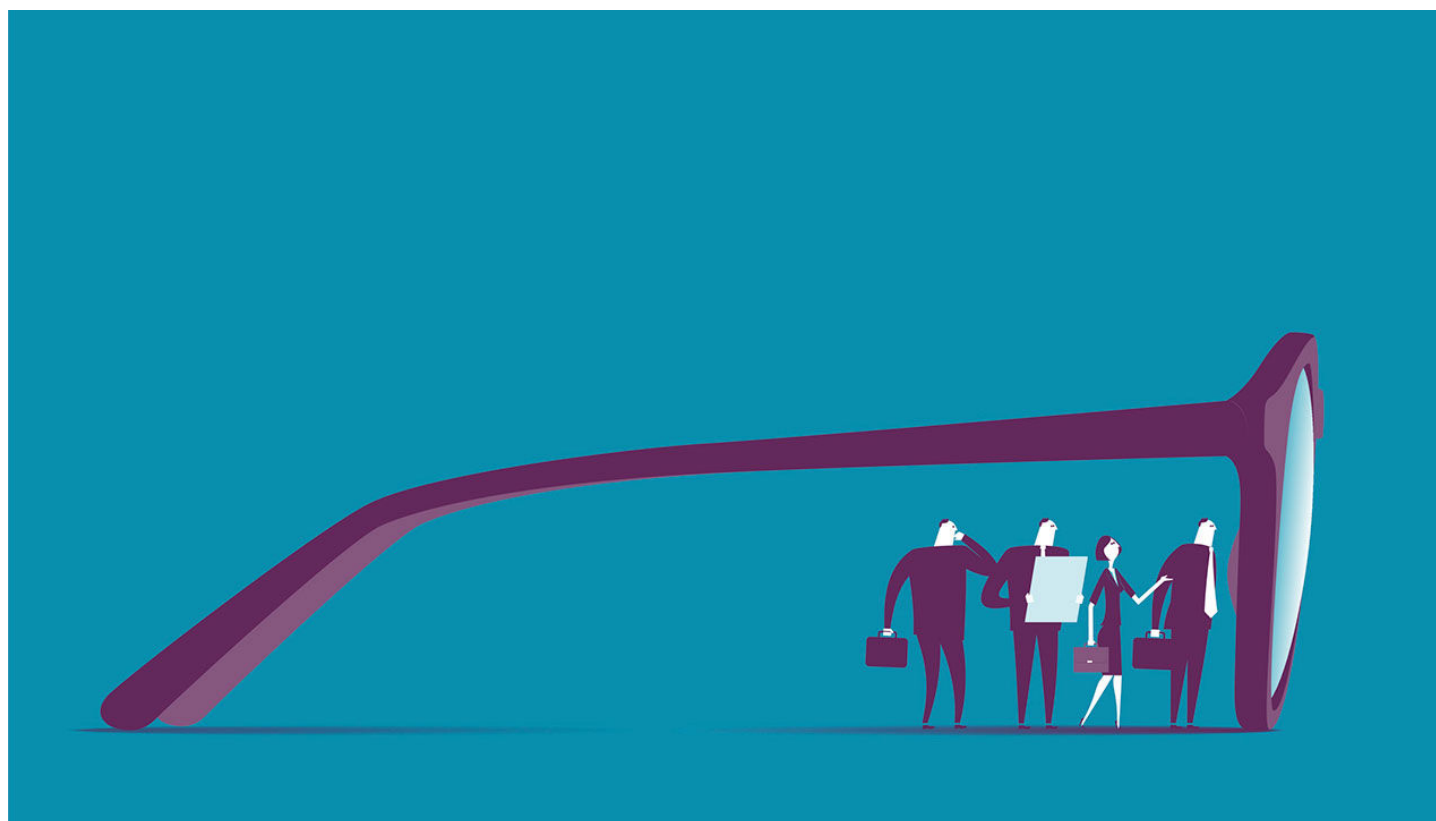
ANCHORING BIAS

AGEISM

NAME BIAS

Types of Bias That Can Impact Peer Review

- Confirmation
- Conformity
- Conservatism
- Expertise
- Institutional
- Gender
- Racial



Also consider more broadly:

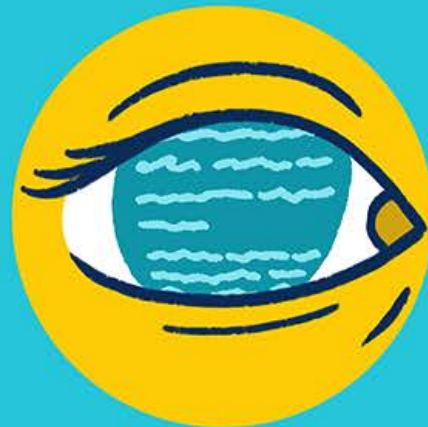
- False correlations
- Cultural preconceptions
- Geographic boundaries
- Language presumptions

Confirmation Bias

Examples of Confirmation Bias



Not seeking out objective facts



Interpreting information to support your existing belief

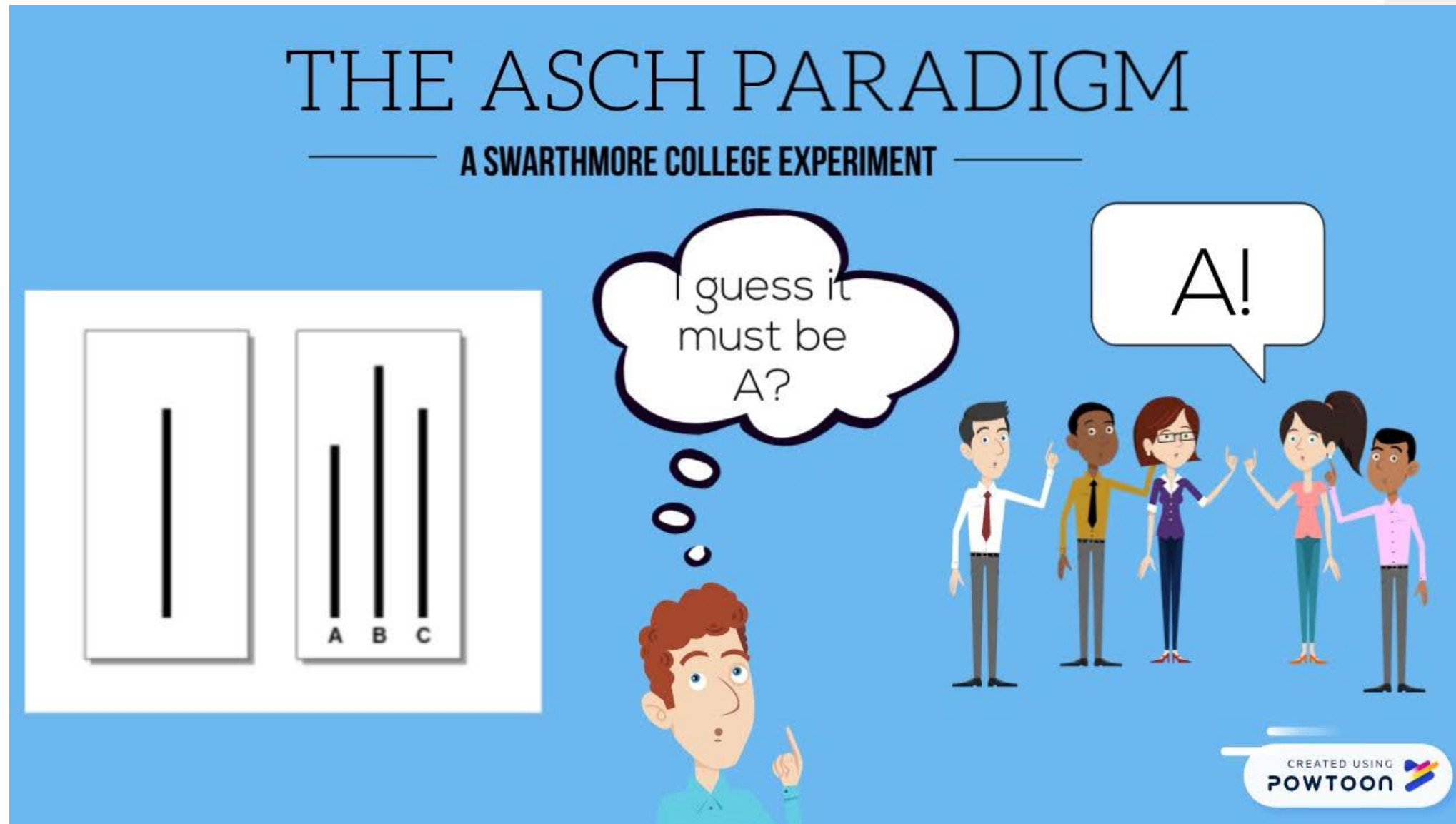


Only remembering details that uphold your belief



Ignoring information that challenges your belief

Conformity Bias



Conservatism Bias

- Conservatism or low support for innovative research is another form of bias which reviewers need to be cognizant of
- According to Guthrie et.al , the peer review process leans more strongly towards incremental research and discourages research into unexplored approaches

Guthrie S, Rodriguez Rincon D, McInroy G et al. Measuring bias, burden and conservatism in research funding processes [version 1; peer review: 1 approved, 1 approved with reservations]. *F1000Research* 2019, 8:851 (<https://doi.org/10.12688/f1000research.19156.1>)

Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were **slow to accept** that the Earth was round because they maintained their earlier understanding that the planet was flat.



Check Your Expertise Bias

Check if you are giving more credits to investigators who are similar to you (e.g., attended similar training program or institution)

Use and stick to the same set of criteria for every person under consideration

If the benefit of the doubt is given to one person, make sure that it is given to ALL

Bias is more likely to occur when there is a high level of discretion and ambiguity - if the group has to make frequent discretionary decisions, it is a good sign that we - the AHA - need to revisit the criteria

Institutional Bias

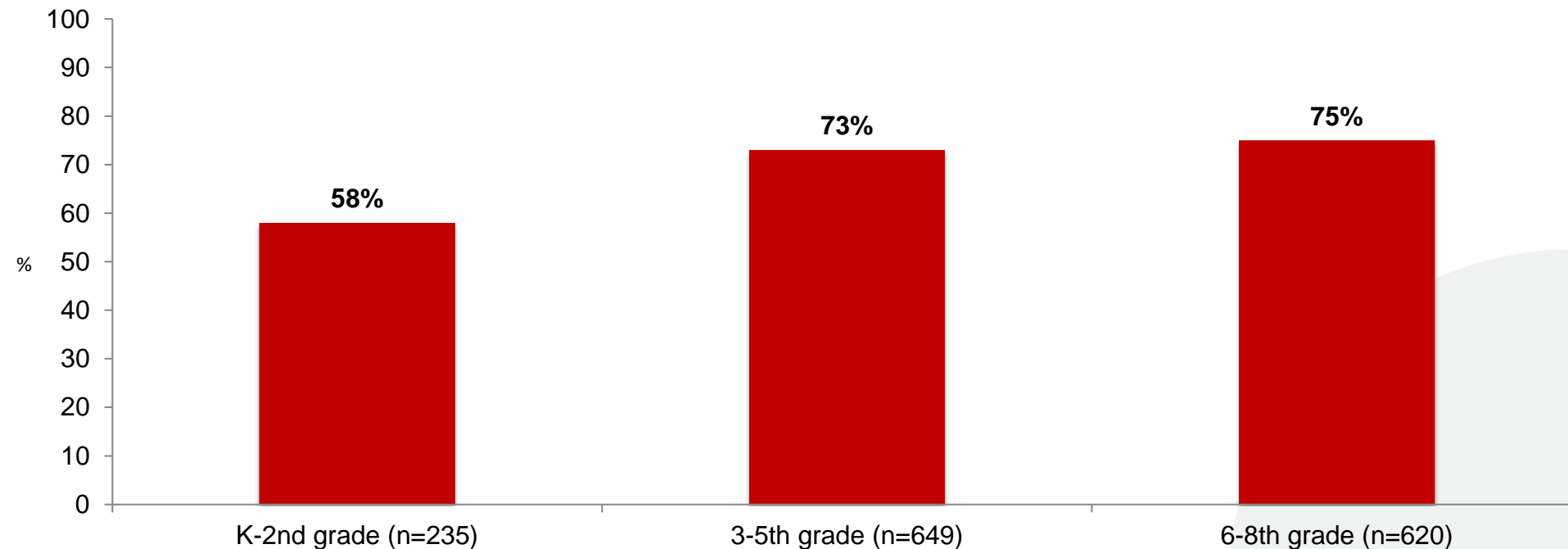


Reviewers are to adhere to the criteria stated and not assume that more popular, well-known institutions are likely to equate to an applicant being successful/having access to various resources or that an applicant from a smaller institution will not be as successful due to a perceived (and unproven) lack of resources.

Relying on assumptions of an institution from personal experience is not aligned with designated peer review criteria.

Gender Bias: Who is a “Scientist”?

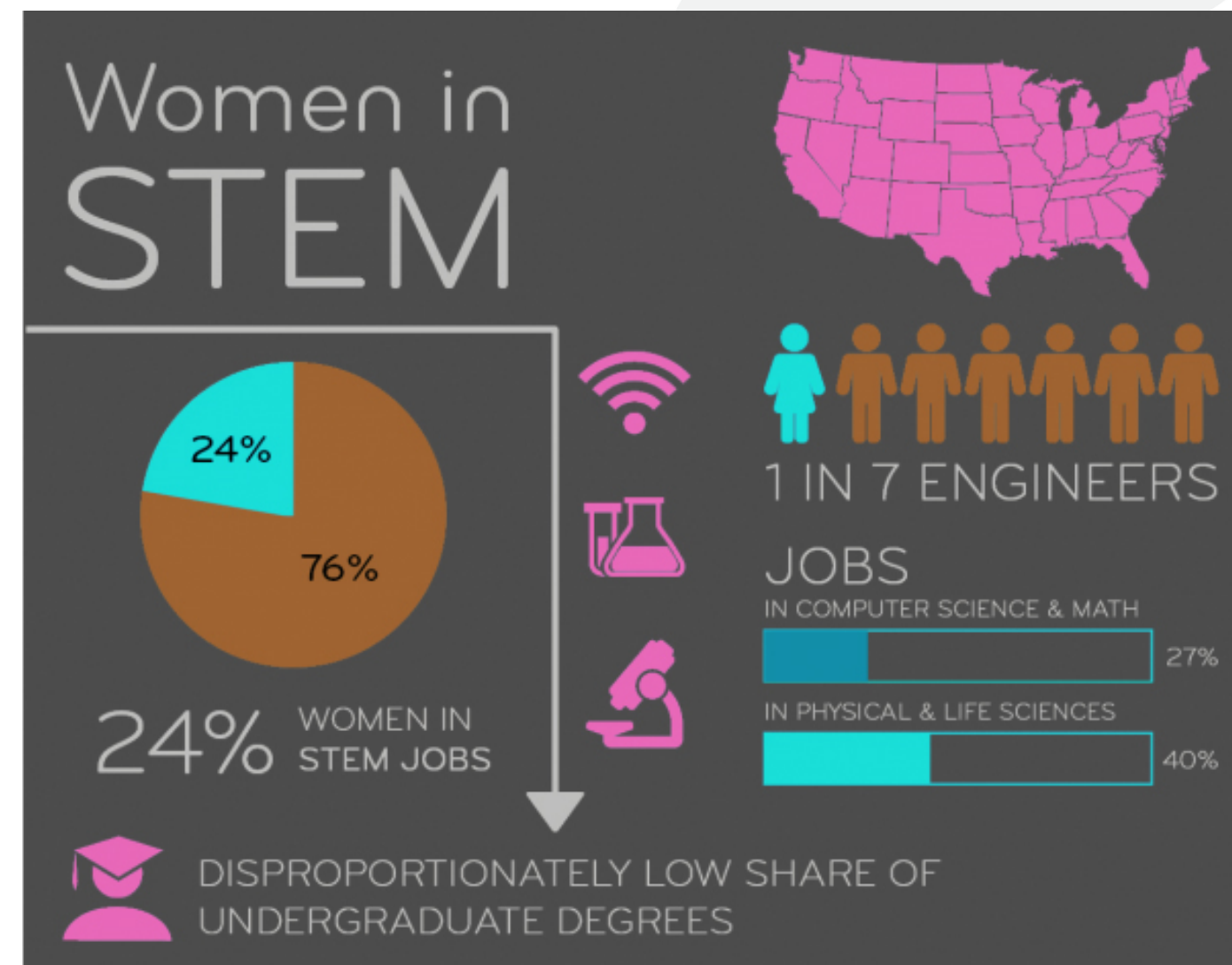
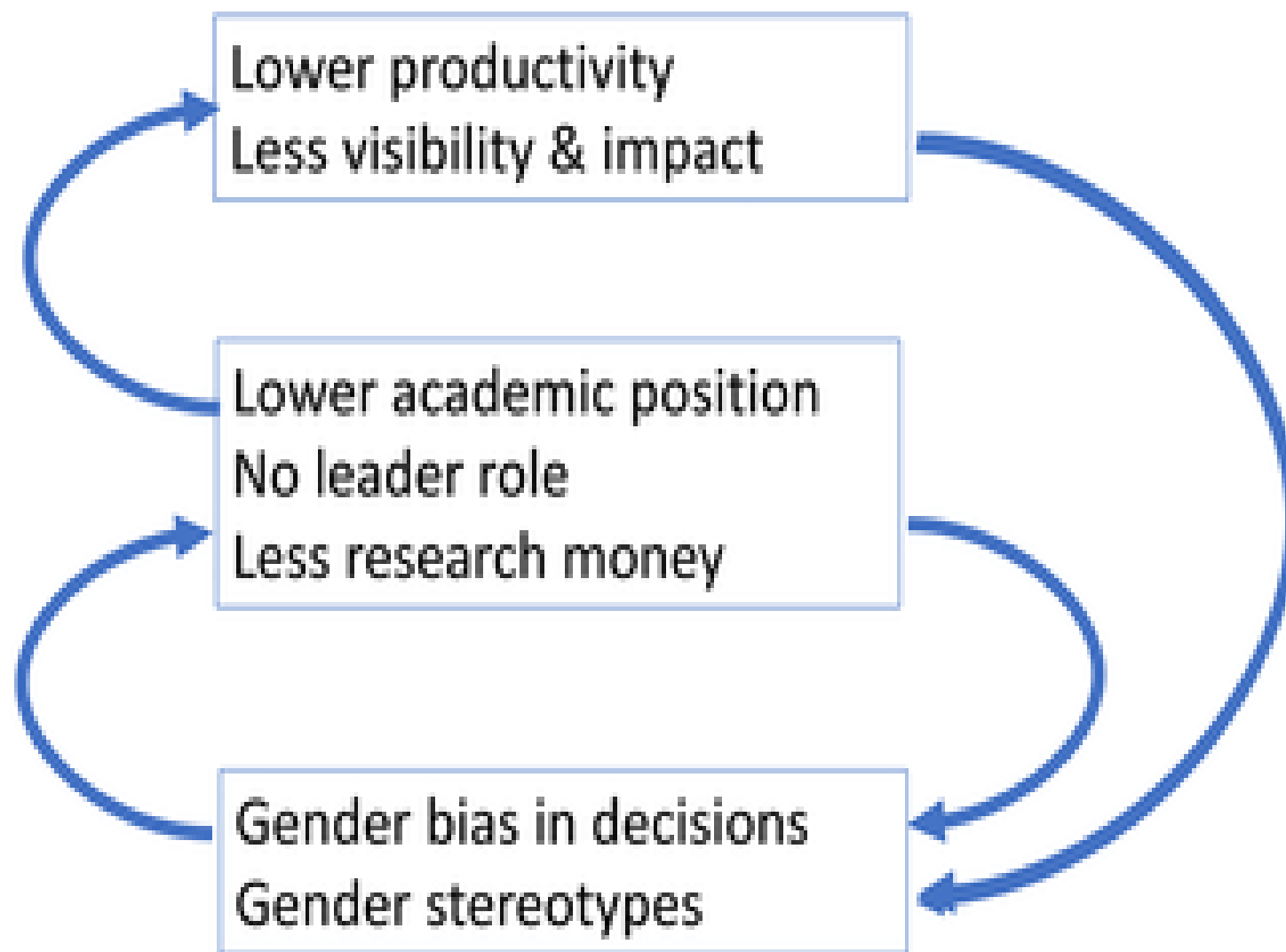
Draw-A-Scientist: Percent of Students Who Drew A Male Scientist
(N=1504)



Barman, C.R. Students' Views About Scientists and School Science: Engaging K-8 Teachers in a National Study. *Journal of Science Teacher Education* 10, 43–54 (1999).
<https://doi.org/10.1023/A:1009424713416>

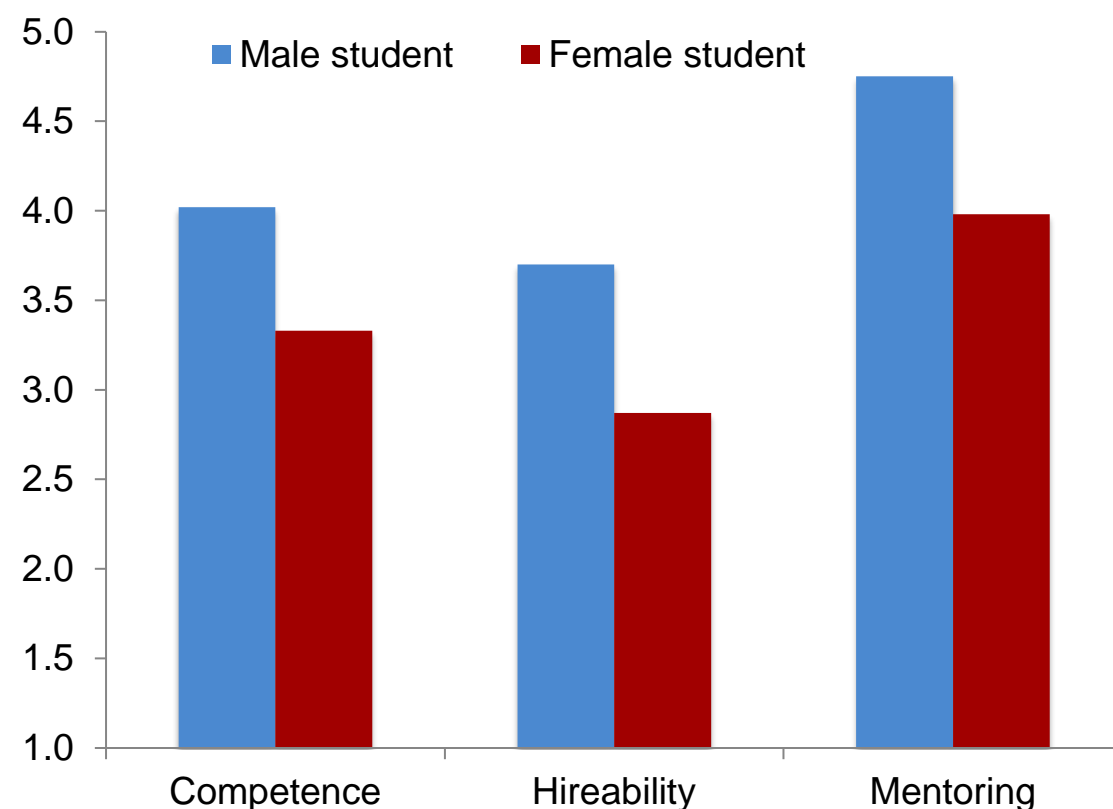
By the age of 6, young girls are less likely than boys to view their *own gender* as “brilliant” and already believe boys are more suited to ‘really, really smart’ activities as compared to their own gender

Gender Bias



Gender Bias: Evaluations in Academic Science

A nationwide sample of biology, chemistry, and physics professors (n=127) evaluated application materials of an undergraduate science student (female or male) for a lab manager position.



Both male and female faculty participants rated the female student as:

- Less competent
- Lower hireability
- Offered lower salary (\$3.7K)
- Less mentoring

Even though the female was rated more likeable

Gender Bias: Doris Duke Clinical Scientist Development Award 2013-2016



Is there bias in our peer review?

Success rate

Women

16/312 proposals; 5% funded

Men

52/413 proposals; 13% funded

Components of applications that could elicit bias remarks

Some words only used for
applicants of a specific gender:

Men

- Scientific, creative, top, best, able

Women

- Personal, active, remarkable, perfect, tremendous, protected



Gender Bias: Doris Duke Clinical Scientist Development Award 2013-2016

Change: Provide guidance to those providing recommendations

Please address:

- Why the applicant's record & accomplishments merit CSDA support
- Why you have taken a mentorship role for this applicant
- How you and mentorship team, will use your professional influence and scientific knowledge to promote research & career advancement of the applicant



Please AVOID referring to personal circumstances or attributes of the applicant such as: marital status, age or gender (e.g. young, woman, man), juggling of work-life balance such as childcare responsibilities or illness, and roles of the applicant outside of the professional setting (e.g. mother, husband, father)

AHA has removed gender biased terms from program descriptions, proposal instructions, peer review criteria include training materials, and third-party materials including reference reports, training plans, etc.

Racial Bias

Recent study examined how intersecting stereotypes about gender and race influence faculty perceptions of post-doctoral candidates in STEM fields in the United States

Physics faculty rated:

- Asian and White candidates as more competent and hireable than Black and Latinx candidates
- Black women and Latinx women and men candidates were rated the lowest in hireability compared to all others.

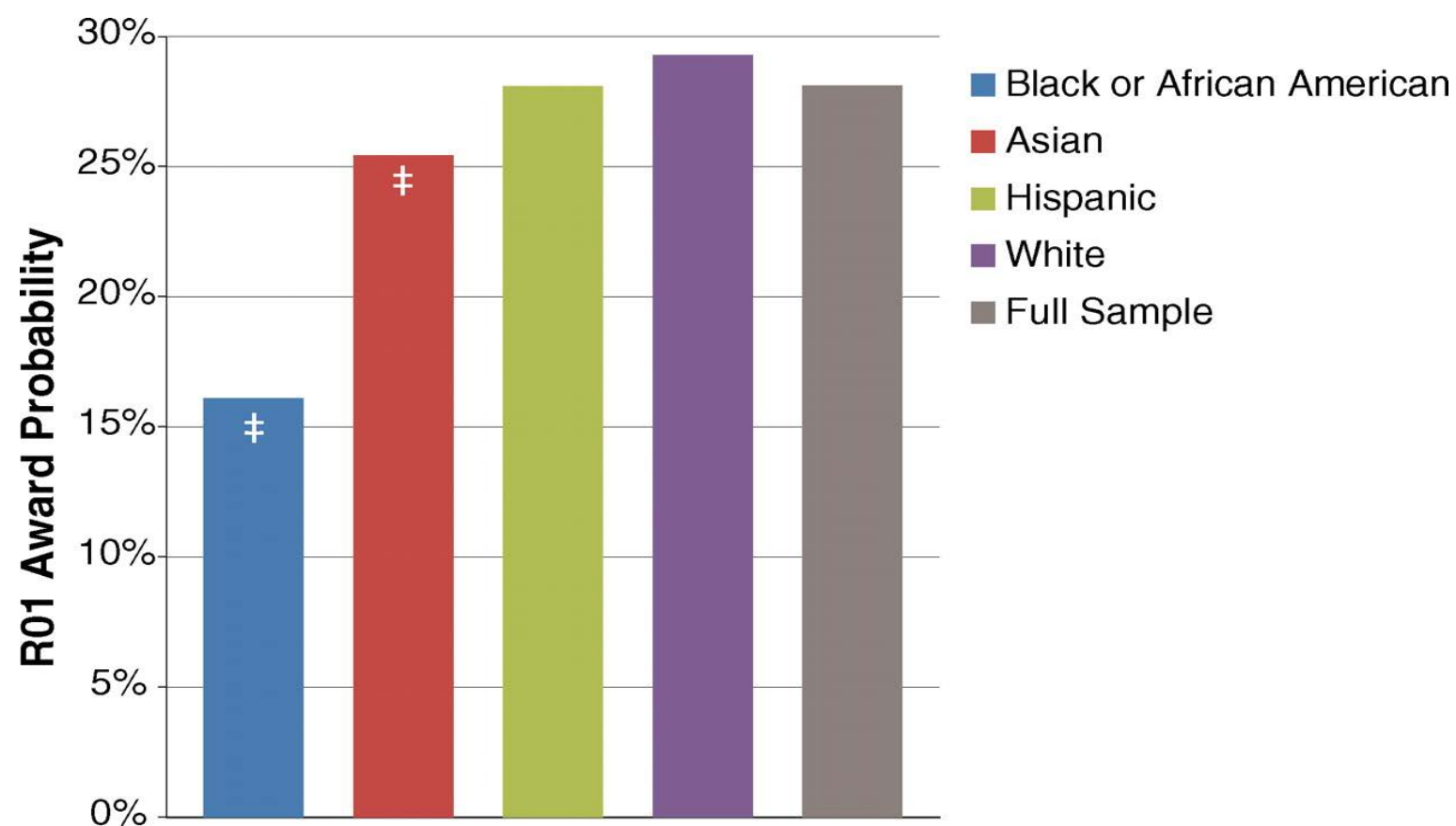
Biology faculty rated:

- Asian candidates as more competent and hireable than Black candidates, and as more hireable than Latinx candidates.



Evidence for lower rating and funding levels for Black and Asian vs. White applicants

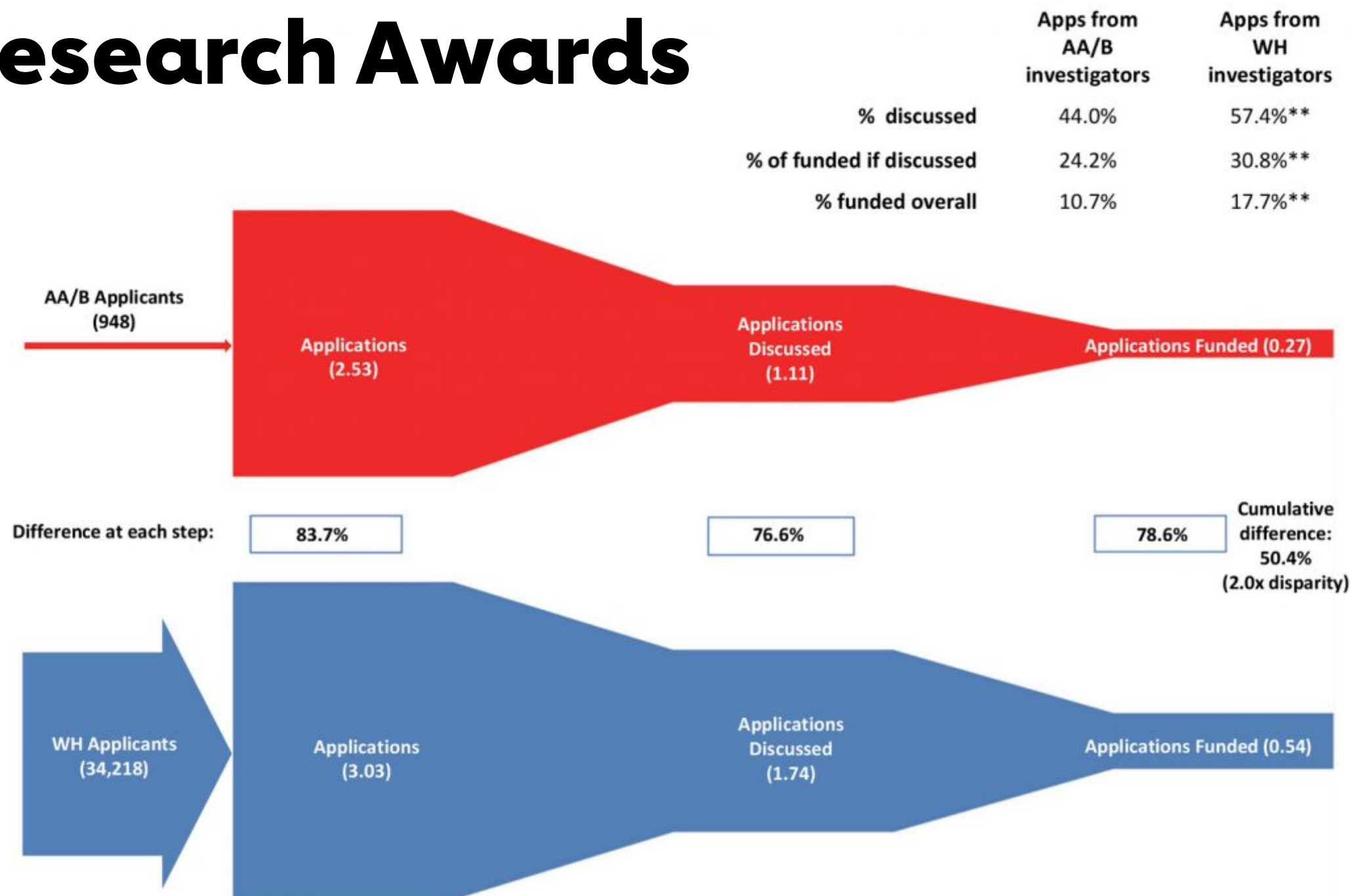
Race, Ethnicity, & NIH Research Awards



Compared with NIH R01 applications from white investigators, applications from black investigators were 13.2 percentage points less likely to be awarded, and those from Asian investigators were 3.9 percentage points less likely to be awarded.

For the entire research project grants (RPG) pool, if blacks had the same award probabilities as whites (36.4% for RPGs and 29.3% for R01s) one would expect to see 1,071 RPG awards instead of 585, and 337 R01 awards instead of 185 in the analysis sample.

Race, Ethnicity, & NIH Research Awards



Mitigating unconscious bias in peer review

Take the Implicit Association Test (IAT) – all results are anonymous, and this is an evidence-based approach to mitigate biases in decision making:

<https://implicit.harvard.edu/implicit/takeatest.html>

Additional tips for minimizing the influence of bias and assumptions:

- Periodically evaluate your judgments and consider whether unconscious biases may influence your decisions.
- Spend sufficient time evaluating each application.
- Maintain your standard and apply the criteria consistently to all applications throughout the review process.
- Evaluate everyone's entire application. Don't rely too heavily on only one element of the application to evaluate an applicant.



Thank You.

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