

Dr. Christina R. Richey

An Uncomfortable Conversation: Bias (Both Unconscious and Conscious) and Harassment in Science: How We Can and MUST Do Better

October 24, 2016

Lunar and Planetary Laboratory

Grad Notes by Ali Bramson

Day 1: The Problems – a brief overview of the topics to cover (unconscious bias, conscious bias and harassment) and recent literature/studies within the fields...go into the social science behind issues. Preliminary results of the CSWA Survey.

trigger warning: things will be uncomfortable

Day 2 (tomorrow): The Solutions: how to raise awareness, techniques for implicit bias, techniques for mitigating implicit bias, accountability, reporting, tips for life-long allyship. How to fix problems. Bring someone with you tomorrow....bring white men to help with the solutions. Sad people aren't here to go through today's brutally honest part.

The Problems:

- Unconscious (Implicit) Bias: occurs regardless of dominant group (i.e. both men and women downplay women's contributions. Both whites and minorities downplay minorities' contributions). Can happen especially in stressful environments with deadlines (award and hiring committees)
- Conscious (Explicit Bias): an intentional prejudice in favor of or against one thing, person or group compared with another usually in a way considered to be unfair. i.e. sexism, racism
- Other types of discrimination: ableism, homophobia, xenophobia, religious intolerance, etc. However, the primary examples in this particular presentation are sexism and racism.
- Harassment: unwelcome conduct that is based on race, color, religion, sex, national origin, age, disability or genetic information

If unconscious bias limiting your career, imagine what conscious bias is doing to it, and then harassment... ugly truth. Can't fix harassment, if don't deal with conscious bias, and unconscious bias. All contribute.

Why would these issues be a problem in this community?

- Power dynamics are extreme in academia- rely on advisors for funding, data, letters of rec...expectations of our leaders be that they are good people, but that's not a requirement
- High levels of stress (review panels, etc...time deadlines room with 6 other people with hard deadline)

- Workplace is untraditional (observing runs, field work, we set ourselves up to be in isolated moments and times that force social moments to occur – power sessions, going out for drinks... this isn't wrong but there needs to be an awareness)
- The current most-used system to protest those being harassed, the whisper culture, isn't working.... Whisper culture doesn't stop the issue...doesn't help everybody else.
- Our community is steeped in unconscious bias and is set such that white, cisgendered, heterosexual, able-bodied men are the dominant group y a larger percentage than the general population
- It's a difficult problem to see when you're not the one being harassed. Geoff Marcy case- hard for people to see when they weren't the ones being harassed.
- The evidence is anecdotal- a lot of times people think there is just one or two "whiners" and it doesn't actually affect a large chunk of the STEM population

Results from our Field:

(can be hard for physical scientists to take a step back and remember that numbers have a value of more than just an optical constant...sometimes those numbers are people you know, with how our culture limits those around you such that science isn't as productive in our field)

What do these problems look like?

- Teams of male and female professors (search committee) evaluate identical application packages aside from the name (Brian, Karen): Brian preferred 2:1 over Karen. When going for tenure, reservations expressed 4xs more for Karen than Brian. This from Patricia Knezek's talk from DPS.
- Similar for race bias: sending identical resumes: Lakisha vs Emily...Lakisha needed 8 years more of experience to get as many call backs as Emily...just based on name! The higher the resume quality, the larger the gap for callbacks.

In our field: percentage of women vs years (not including students, and only US institutions) on mission teams and Icarus editorial board. Trend: everything below the line other than 4 missions. Missions were way worse without participating scientists. Participating scientists programs were closer to percentage of the makeup of the field... once fold into team members though, overall still lower than average.

Percentage of women on missions has remained flat in last few decades even though # of women in our field is closer to 27%... current total for 2016: 12.37%

Missions are the bread and butter of NASA- largest impact factor. That's what the public sees from us. New mandate: can't have a nondiverse panel of 5 or more. This is a conscious bias throughout the field...problem at leadership level too.

Women winners of DPS awards: lack of gender diversity of winners of Eberhart (closest at 25% not a science prize, it's a journalism prize), Sagan (18% but is for service), Masursky... Urey and Kuiper are the main science prizes: 16% and 3%(!)...no female winners since 2009. While

everyone that has won the award is deserving of it, should still talk about implicit biases behind awards.

Your ability to be a first author on a paper is like 2 to 1 worse if you're a woman vs if you're a man. Papers take longer to get out from the review process for women. 85% of papers coming out that had criticisms that derailed them were female-led.

Women were only 9% of scientific plenary speakers, 17% of total plenary speakers at DPS! Had we not gotten a woman speaker to talk about this issue, would've been under 10%...which means also having to limit topics to talk about to combat noticeable bias rather than science.

27 pieces of literature attached to these slides about this all:

- science syllabi uses gendered language shows women as incompetent but normalizes masculine behaviors, belief systems and priorities
- studies of STEM fields find implicit bias related to gender and race limits opportunities in mentorship, hiring and classroom
- women of color faculty are more likely to experience the dominant culture of their disciplines as outsiders with their views validated less than the dominant group
- number of women of color science faculty has actually decreased while number of white women science faculty has increased...need to be more intersectional with our practices and policies
- within physics and astronomy, women generally and women of color (specifically) are isolated and experience microaggressions in the workplace
- women of color must employ multiple navigation strategies in order to persist using time and energy that could have increased work productivity
- women of color and white women are underrepresented in physical sciences
- discrimination and harassment lead to mental and physical pain. It's not just death by 1000 cuts but we are hurting the health of these individuals. Accumulation of even minor distresses across work day can over time have profound physical and mental consequences
- studies of workplace behaviors have shown that those receiving negative feedback in line with negative stereotypes display more disengagement and those targeted for harassment express greater job turnover intentions

People ask if this is really a big deal in planetary sciences and astronomy? Is it really that profound? So CSWA did a survey on workplace climate.

426 participants (this is more people than who voted for DPS president, pretty good number for our field...a little over 50% responses were from women) for an online survey...confined to experiences in their current and previous positions within the past 5 years only (beyond 5 years and the reality is skewed towards the negative so for use only most recent 5 years)

How often do you hear the following language from your peers?

Then asked how often hear from your supervisor?

How often verbally harassed? 32% had been verbally harassed due to their gender. Even if many of those were “rarely”, hopefully you’re not okay with 82 people have being harassed at some point.

Only 8% for race/ethnicity, but that’s of all responses. If just look at responses from people of color, this skyrockets.

In your current position, how often have you been physically harassed? 9% because of gender. Offered at the end of the study for people to give email addresses to have follow-up discussions.... Found that...people in our field were redefining physical harassment to physical assault(!). Never seen that in a field before. 9% have been physically harassed, and that most of this were talking about assault, not just harassment.

Those that said yes...what group were they a member of? Supervisors within the institution were part of the active participants of this harassment.

Do you feel unsafe in your position at work? Out of 426 respondents, 102 (!!!!), 24%, said yes because of their gender. People also reported missing 6 or more classes/meetings/conferences/field work due to not feeling comfortable going due to their gender and lead to pursuing less scholarly endeavors.

CUNY Experiment: what would you do?

Half physical sciences/half social sciences for students in the course...which was about cross section... Christina came in and gave class on sexism in STEM...could see people thinking just about numbers, not as actual people....

So, let’s look at real life examples of what people actually face:

Think about what you would’ve done in those moments...then talk about the theme

- Male colleague asks female manager a question. She replies and then a male colleague in the room (who wasn’t asked) also replies, repeating what the female manager just said. When John tells the male colleague that was what the female said...
- Drunk colleague gropes female colleague in elevator
-
- several examples
- 10 stories...
- what do they all have in common?
- They all happened to Christina. It’s your program manager...and she’s only been in the field 10-15 years.

The Solution:

- Human decency

- Because it's 2016
- Because we're currently in the spotlight and forefront of this issue
- Because we're some of the most intelligent people of the planet and we can do better
- Because we brag about wanting to be diverse and inclusive
- Because the science in this field is being directly impacted
- HUMAN DECENCY!

We have phds in problem solving- why can't we do this?! Have to actually fix them! Have to do more than say we'll form a subcommittee to look into it. Needs to have action. Science is being affected. We want the best science possible. From the best scientists, from the best human beings. So long as these issues impact our science, we are taking away from that.

Literatures slide.

Resources slide.

Last thoughts of the day:

"Every time we liberate a woman, we liberate a man" – Margaret Mead

"If you asked me to name the greatest discoveries of the past 50 years, alongside things like the internet and the Higgs particle, I would include the discovery of unconscious biases, and the extent to which stereotypes about gender, race, sexual orientation, socioeconomic status, and age deprived people of equal opportunity in the workplace and equal justice in society." Prof. Nancy Hopkins

Have a discussion tomorrow about solutions, don't want to just talk about the issues!