In attendance:

Cecilia

andrea

Sandi

Beth

Emily

Katherine

Aaron Wolf

Madeleine

Me

Alex

Max

Josh Schraiber

Molly

Liz Kwan

Old Boy’s Club Starts Early: Males Under-Estimate Academic Performance of their female peers in undergraduate biology classrooms

Gender and biology

Data from UW registrar, in this case gender is considered binary

Biology is often overlooked in STEM studies on gender inequity at undergraduate level because there is a female majority

Drops down in post-docs and practicing biologists (both academia and industry, from NSF data)

Question: does this number change looking historically? We are doing better than we were

Question: how does this compare to other disciplines? They look much worse

Clearly the dropoff has to do with something more than just family choices

His broad question: What contributes to the leaky pipeline?

How do you know you’re good at something?

How do you know you’re not good at something?

Feedback we get from others, and comparing ourselves to others, contributes a lot to our view of ourselves

“Self efficacy” — belief in your own ability to succeed at a task; also influences what we choose to try; it is influenced by the beliefs and actions of others

For undergrads, two sources contribute to our self efficacy: faculty, and peers

Faculty biases:

the John and Jennifer resume audit study (Moss-Facusin et al 2012); bias showed by both female and male faculty

Handley et al 2015; the abstract from the Moss-Racusin paper was passed around, people asked to evaluate the quality of the study; male STEM faculty rated it lowest, female STEM faculty rated it highest; non-STEM faculty showed no gender bias

Milkman et al 2015: another audit study, the identical emails with racial names studies etc.

Eddy et al, 2014: how often females called on in class

Question: how much do you think the idea of “faculty want to help people like them” comes into play?

Faculty have biases. But we’re millennials, more evolved right?

Co-first author Sarah Eddy, UT Austin

Asked at beginning, after first exam but before grades back, after every exam, and at the end “please list any students that you feel are particularly strong at understanding class material"

 — empty box, list first and last name have to be recognizable,

 — have some skew from people who didn’t nominate anyone or were supernominators

 — done as part of their online reading quiz

3 iterations so far of the same molecular and cellular biology class

196 students, 759 students, 760 students

Visualize data with sociographs (networks)

Model whether gender matters

Each node is a student, edge represents a nomination as doing well, can code node by gender, correlate size of node with how many edges point to them

Can see everything is pretty equitable at the beginning, extremely skewed by the end

Most well-known strong students are male — the “celebrity students” are male

Can start to model statistically importance of gender to giving and receiving nominations

What do we need to control for?

How often they go to class

Frequency of answering questions in class

Their actual grade

how popular are they

gender of nominator

They included:

GPA in the class (males have higher grades than females at the UW)

Speaking up in class (instructor generated variable of who is “outspoken”)

social structure of the class (same quiz section?)

propensity of pairs to nominate each other

then try to isolate the impact of gender on sending a nomination and receiving a nomination

as time goes on, something is going on in the classroom that leads to males getting more nominations

females are equitable in nominations; merit-based

males show a male bias

compare the importance of grade to receiving a nomination to the importance of gender

For a female to be nominated by a male, she needs to have a GPA that is 0.76 higher than a male

Concerns:

biased interactions may be eroding self-efficacy

survey could be reflecting subtle destructive things in peer interactions

should we be calling this a leaky pipeline or a selective filter? are things set up with a bias?

an implicit bias today means an implicit bias tomorrow; can’t rely on time to erase equity issues

“implicit bias” is key; we are not aware of it; told from an early age that science and maleness goes together

What can we do? Practices in the college question — really big question on a society level

In Class C, which was less biased, they used “random call” give them a chance to discuss in a group and then pull a name out of a hat, different from cold call because it has a discussion component

WE ALL HAVE BIASES, we’re human. Need to be aware of when they are sneaking up when we are making important decisions.

Tanner KD (2013) teaching strategies to cultivate engagement and classroom equity; these are band-aids but these are good band-aids