The purpose of this study is to investigate gender biases in STEM, and courses in undergraduate biology were picked as the study target. The researchers wanted to answer the question “is there gender bias in peer perception of mastery of content?”, so by that, they surveyed each student on their nomination of a peer with the strongest understanding of class materials, along with their gender. Students’ grades and outspokenness provided by the instructors are also taken into account.

Through the analysis using ERGMs and logistic regression, the researchers observed three main findings. One, males showed a significant bias toward nominating males, while females’ bias toward females was rather insignificant. The bias even increased throughout the semester. Two, students’ grades and outspokenness were strong predictors of nomination, and males on average scored higher on them. Though it is unclear whether this was caused by instructors’ gender bias or not. Three, males’ bias toward males declined after controlling factors of grade and outspokenness, but still remained significant.

Let us discuss the study in more detail. First, I think the nomination by the standard of “having the strongest understanding of class materials” is about rating one’s logical-mathematical intelligence. But since the nominators didn’t have their peers’ grades, they can probably only guess their peers’ intelligence by assessing their peers’ image in class as intelligent or not. This means that the assessment is not very fair and objective and doesn’t reflect one’s actual ability, at the same time being vulnerable to influences by one’s stereotypes and superficial impressions toward others.

Second, I think the fact that the study shows that males’ nominations are biased but not exclusive toward males implies that males were not viewing the entire group of females as incompetent. Instead, they may just implicitly and unconsciously have a lower baseline assumption of females’ competence, which requires females to be exceptionally competent to be recognized. In my view, this phenomenon should be blamed for the long-existing trend of males dominating scientific awards such as the Nobel prize (All Nobel Prizes, n.d.), which led to the stereotype that it is more common for males to excel in STEM, thus having generally lower anticipations toward females.

Third, I think the finding that the instructors on average rated the grade and outspokenness of males over females in classes of 55.4-58.4% female can be explained by the self-fulfilling prophecy and the confirmation bias. The instructors first believed that males are more competent, so they paid more attention to males' opinions to confirm that they are indeed more valuable and insightful. As time went by, females received less positive feedback which made them less willing to speak out. Combining these two, the instructor’s initial bias was further reinforced, thus causing the unevenness of ratings.

Overall, I think this study successfully brought us into the inner workings of gender discrimination in STEM. It shows that although students’ and instructors’ initial gender stereotypes were the root cause, gender discrimination was mainly actualized by the continuous effect of self-fulfilling prophecies. Therefore by the reasons supported by the Pygmalion effect (Practical Psychology, 2021), the instructors should be held greatly responsible for eliminating gender bias in themselves and striving toward creating a gender-friendly environment.

Reference

*All Nobel Prizes*. (n.d.). NobelPrize.org. <https://www.nobelprize.org/prizes/lists/all-nobel-prizes/>

Practical Psychology. (2021, March 22). *Self-Fulfilling Prophecy (Definition + Examples)* [Video]. YouTube. https://www.youtube.com/watch?v=hy7CptLHiV0