

SCI 199Y: Random Walks and Mathematical Discovery

Discussion questions, week 15.

You have read the excerpt about mathematics ability from “Women and Gender: A Feminist Psychology” by R. Unger and M. Crawford, and also the brief biographical excerpts about the female mathematics geniuses Emmy Noether and Olga Taussky-Todd. Form your own groups of 3 or 4 students each. With your group, discuss the following questions. [Note: We will have further discussion of gender issues next week!]

1. What overall conclusions can be drawn about Emmy Noether and Olga Taussky-Todd?
2. What do these conclusions imply about women and mathematics?

For the remaining questions, discuss the answer according to the Unger and Crawford excerpt, and also the extent to which you agree with this answer.

3. At what levels, and in what ways, do females perform as well as (or better than) males at mathematics (on average)? In what levels and ways do they perform worse (on average)?

4. What does it mean to say that standardized tests “underpredict” women’s performances? Why might this be so? What consequences does this have? (Try to relate your answers to our earlier readings about Assessment.)

5. In what ways do girls receive less “exposure” to mathematics than boys do?

6. In what ways do girls receive less *encouragement* to do mathematics than boys do?

7. How do girls differ from boys (on average) with respect to self-confidence about mathematics? What factors might cause this? What consequences does this have? (Try to relate your answers to our earlier readings about Math Anxiety.)

8. What was the conclusion of the study by Benbow and Stanley about biological influences on gender differences in mathematics ability? Was their conclusion justified by their research?

Reading assignment for next week: Read the excerpt from the Harvard Assessment Seminars by R.J. Light; the two-page excerpt from “Overcoming Math Anxiety” by Shiela Tobias; and the tiny excerpt from “Women and Gender: A Feminist Psychology” by R. Unger and M. Crawford.