EPSY 5261 : Introductory Statistical Methods

Day 14
Study Design: Causal Claims

Learning Goals

- At the end of this lesson, you should be able to…

    - Describe the benefits of randomly assignment participants to treatment groups

Social Media Activity

Plot of Class Difference in Means and Proportions

Why are our plots centered here?

Continue on with the Activity

Now suppose that there are two more variables related to mental health that you had not considered or could not measure. These variables that were not measured, but could still affect the mental health of participants, are unknown confounding variables.

Would you expect random assignment to balance out these variables between the two treatment groups as well? Explain.

In general, if you have a randomized experiment, would you be comfortable making cause-and-effect conclusions based on the result?

Summary

- Randomly assigning participants to groups allows us to create groups that are probabilistically equivalent

  - The same on average

- This allows us to infer that our treatment was the only cause of a difference between the groups (if a difference is detected)

  - Then we can make a causal claim