PSY204L Lab Lesson Plan
03/01/2021

LEARNING OBJECTIVES

By the end of this session, students should be able to:

1. Open and navigate statistical software JASP
2. Conduct simple data troubleshooting and cleaning
3. Run basic statistical analyses and create basic data visualizations
4. Explain the importance of reproducibility in science

ICEBREAKER/ATTENDANCE

Attendance at labs is required, so I must take attendance. I do this by using an icebreaker – I prompt students with an interesting question, and then call on each student to hear their answer. This lets me take attendance while also breaking the ice, getting students to talk, and getting to know each other!

You have your own late night talk show. Who do you invite as your first guest?

JASP DEMONSTRATION

Before lab, students should have installed JASP on their computers and received a sample data file to use during the lab session.

1. Share screen and explain basics of JASP software. Have students follow along on their own computers using JASP and address any issues they are having as they come up.
2. Refer students to the Student Guide on Sakai. Encourage them to read the first section as needed for instructions/tips on using JASP.
3. Have students open up JASP on their computers.
    a. Ensure all students can access JASP and have received the data file.
    b. Students should follow along on their own computers.
4. Demonstrate how to import data file.
5. Examine the data with the students.
    a. Explain that one line in the data is one person's responses.
    b. Symbols show that type of variables JASP thinks each column is. These are automatic, and JASP doesn't always get it right! Click the symbol to change.
6. Run descriptive statistics on inner_circle variable.
    a. Add min, mean, and other statistics to the table.
7. Run frequencies on categorical variables, veggie and musicgenre.

    a. We run into an issue! There are many values that are repeated with spelling errors and formatting differences.
    b. Discuss this aspect of open-ended (text entry) data. What can we do to resolve this issue? Brainstorm solutions (e.g. don't use open-ended text entry, recode responses)
8. Create new variable to solve this problem, based on class suggestion(s).
    a. DON'T CHANGE ORIGINAL DATA!
    b. Double-click on the data in JASP
    c. Add a new variable with an informative name (e.g. new_veggie)
    d. Save the sheet
9. Highlight reproducibility.
    a. Why not change the original variable?
    b. Document everything that you have done (including manual recodes) so that someone else could do the same and arrive at the same results.
10. **Breakout rooms:** Instruct students to breakout and recode veggie into the new column.
11. Return from breakout rooms.
12. Run frequencies on new_veggie variable
    a. Can someone share their results table?
13. Make a visualization of the new veg variable
    a. Can someone share their results table?
14. Demonstrate how to export results (e.g., tables) and plots.
15. Save work frequently!
    a. Demonstrate how to save data and JASP analysis file.
    b. Highlight the importance of saving frequently.
16. Run frequencies on musicgenre.
    a. Similar to before, we have some issues with the categories!
17. **Breakout rooms:** Discuss what new categories should be.
    a. What genres should be grouped together, and on what basis? (can include combinations)
18. Return from breakout rooms.
19. **Whiteboard:** Settle on a master list of categories
20. Each student should (individually) create and populate the new variable.
21. Run basic descriptive statistics.
    a. What statistics make sense/are available for each type of variable?