**Final PAO: PY222-Research Methods, Spring 2022**

**Total Points = 100** [Written Portion= 80; MCs, = 20]

By typing my name here and/or submitting this work, I attest that I have *fully complied with the BSC Honor code including the stipulations outlined academic integrity reminder below and those in the syllabus for this course.*

**TYPE YOUR NAME:**

**Academic Integrity Reminder:** You may use the following on this part of this mid-term PAO:

-YOUR notes (not someone else’s)

-YOUR Heath and Kail textbooks, assigned outside readings or videos

* That’s it. You may NOT use ANYTHING else. No other books, not the internet/web, not another person, or another person’s work, etc. – nothing else.
* *TYPE YOUR INITIALS HERE TO SIGNIFIY YOUR UNDERSTANDING AND AGREEMENT:* \_\_\_\_\_\_

**Directions:** Type your responses in the spaces underneath each question. *PLEASE leave the questions intact and space as needed to type your response below each question***.**

**Submit on Moodle in the space provided. Submit ONLY a WORD document – nothing else.**

**Final PAO: PY222: Research Methods,Spring 2022**

[Written Portion = 80]

**1.** Here is a story from an article in the New York Times about a research study.

Imagine you're working at a company, and you'd like people to view you as a potential leader. How might you go about it? Perhaps you'd share your good ideas at meetings, hoping they'll notice your talent. Perhaps you'd pursue higher level training to improve your credentials. Maybe you'd point out ways your group's processes could improve. Would these strategies work? The answer may depend on your gender.

The trouble is that people's prototype of a "leader" is a man. Studies show that when people are asked to draw a picture of a leader, they almost always draw a male figure (by the way, that's a frequency claim). How might people's default assumption--that leaders are male--affect their ability to spot leadership potential in their colleagues?

In one experiment, participants were asked to call into a monthly sales team meeting of a fictional insurance company, during which they would hear from either an Eric or an Erica. The person (Eric or Erica) made either change-oriented ideas (ideas to promote positive change) or simply critiqued their team’s performance (prohibitive). Later participants were asked to rate the speaker on the degree to which he or she had “exhibited leadership,” “influenced the team” or “assumed a leadership role.”​

The Erics who spoke up with change-oriented ideas were far more likely to be identified as leaders [rated higher on the leadership questions] than Erics who simply critiqued their team’s performance. But Ericas did not receive a boost in status from sharing ideas even though they were exactly the same as the Erics’.

**A.** What kind of research design is being describe here? Be specific. What are the variables and their levels?

**B.** Create a graph OR a table with fictitious means that would show the effect described in the article.

**2.** You are a clinical researcher and are interested in discerning how different forms of therapy may help alleviate symptoms in young children with different disorders. You are not sure if decreases in symptoms will depend upon both the type of therapy and the disorder. You decide, therefore, to conduct a factorial experiment. You randomly assign children with trauma-related disorders and those with conduct disorder to receive either play therapy or talk therapy – (cognitive-behavioral therapy for kids – CBT). You measure their symptoms before therapy with a standardized, valid, and reliable measure. Then the children engage in therapy for 4 months. You then re-assess their symptoms. On the back of the PAO, you will find the Jamovi and SPSS output. The DV represents the change in symptoms with *higher number meaning more improvement*.

**A.** What kind of design is this, specifically? Why do you suppose you would want to use this specific design?

**B.** Use the Jamovi or SPSS output (whichever you prefer) (or both if you like) to fully interpret the results by writing an APA-style results paragraph. Feel free to create a matrix table to help and/or a graph, but neither is necessary.

**3.** The weekly *Freakonomics* podcast recently put together an episode about the psychological impact of loud noises in our environment. The introduction to the transcript reads,

The modern world overwhelms us with sounds we didn’t ask for, like car alarms and cell-phone “halfalogues.” What does all this noise cost us in terms of productivity, health, and basic sanity?

Here's an example of study they described. It took place in a public school in New York City. The school was built right next to an elevated subway track, so kids in one of the schools were exposed to the loud noise of subway trains approximately every four minutes. One side of the school building faced a nearby elevated subway; the other side faced away. Bronzaft matched second-, fourth-, and sixth-grade classrooms on the quiet side and on the noisy side, where a passing train would push the sound readings from 59 decibels to 89 decibels. Then she compared the average reading scores from the two sets of classrooms.

*BRONZAFT: And the children exposed to the transit noise were nearly a year behind in reading by the sixth grade, and the teacher had difficulty teaching.*

**A.** What kind of Q-E design was this, specifically? Identify all the variables.

**B.** Sketch a graph of the results of the reading study. Identify two classic threats to internal validity that the combination of the design and the results can effectively rule out as plausible. Are there any it cannot? If so, identify it and why it cannot.

In the podcast, they make two caveats:

It’s worth noting that Bronzaft’s subway research, as with similar studies at airports and elsewhere, have some limitations. For one thing, Bronzaft couldn’t randomly assign students to the noisy versus quieter classrooms. There were also relatively few classrooms to choose from, so there might have been some natural variation.

**C.** Which of the four big validities is the first caveat about? Which of the four big validities is the second caveat about?  How big of a problem would this be?

**4.** Latane’ & Darley conducted a study on helping behavior and bystander intervention. They predicted that the fewer people around in an emergency situation, the more likely the victim is to receive help.  This idea comes from a theory of diffusion of responsibility, in which under certain conditions, the responsibility on any given individual is decreased because the sense of responsibility is diffused (spread around) throughout an entire group of people. In their study, participants were told they were partaking in a group discussion on problems of college life with other students. One of the “participants” was a confederate – he was in on the study. Participants were run in groups of two (just the one participant alone and the confederate; two other “bystanders”; or five bystanders), randomly assigned to conditions. Once everyone arrived at the lab, participants were placed in individual rooms/cubicles and spoke into a microphone about problems of college life, one at a time in turn. (The experimenter told participants he had to leave for an appointment; thus, participants thought the experimenter was not around). After a couple of turns each, one student (the confederate), feigned a medical emergency (having a seizure). The seizure was a recording, which the confederate played at a set time in the sequence (during the third round). The researchers found that when the participants thought they were the only person around other than the “victim”, 85% left their room to provide help. However, when two or five other bystanders were present, research participants left the room to help the "victim" 62% and 31% of the time, respectively. This difference was statistically significant and produced a large effect size and a narrow confidence interval.

**A.** What sort of claim is being made by the researchers of this study (frequency, association, or causal)? Why do you say so?

**B.** What information above helps inform you about the internal validity of the study? What about the statistical validity?

**C.** Evaluate this study in terms of external validity. How important is that in this study and why or why not? How much, if at all, does the artificiality of the setting matter in this specific study? Why? Which validity is of paramount importance in this study and why?

**5.** What is the difference between random selection and random assignment and when do you need to use each one? Make sure to explain what each technique is designed to accomplish.

**6.** Evaluate Dr. Andrew Weil’s claims below about firewalking using (a) falsifiability and (b) making “risky” predictions, (c) conservatism/connectivity, and(d) parsimony. (e) Next, identify/apply two characteristics of pseudoscience evident in his claim. (f) Given your evaluation, is his claim justified/reasonable?

"*I’ve done firewalks myself, … and my experience has convinced me that the only variable that prevents getting burned is the mindset of the firewalker, which is strongly influenced by the group energy.”*

**JAMOVI OUTPUT**

Graphical user interface

Description automatically generated with medium confidence

Graphical user interface, application

Description automatically generated

Graphical user interface

Description automatically generated

Table

Description automatically generated

**SPSS OUTPUT**

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