Exam 1 Topics.

This list is \*\*\*not\*\*\* exclusive but meant to give you an impression of the kinds of topics you should be familiar with and help you steer your study of the readings, notes, and assignments.

Review Prisoner’s of Silence. Can you discuss some of the fallacious arguments put forth by Biklen and relate these to other examples we’ve discussed in the class? Can you fashion an account, based on tested cognitive processes, of why the FC phenomenon occurs at the facilitator-facilitatee level?

What are the major flaws of the best examples of research cited by Biklen and his center? Can you draw connections between these papers and Popper’s paper on falsification? For example, Popper stated that every good theory is a prohibition…how does this relate to the extremely varied etiology of subjects used in the Cardinal paper? Even if one took the findings and statistical results of Cardinal et al. at face value (bad idea), would these findings support the trapped minds hypothesis given the description of the students enrolled in the study?

Are you comfortable with the Burgess et al paper that tests the possibility that ideomotor effects underlie demonstrations of facilitator control? If I claimed that study was invalid because the student facilitators only received brief training before administering facilitation, could you fashion a counter argument? A related concern often raised about critical tests of FC that demonstrate facilitator control, is that these studies suffer from stereotype threat and the negative features of testing situations. Does this critique make sense given the nature of the findings we have seen under controlled tests of FC authorship (e.g., O.D. Heck study)? Howe does the Mook ‘In defense of external validity paper’ relate to the Burgess et al. paper? How about the ‘Drama of the Artificial’? Is the Burgess paper an ‘analogue’ or applied study? If not, then what was the goal?

Are you comfortable with the following R commands/structures and do you feel like you could anticipate the output of a few lines of simple R script? Can you figure out which elements of a data frame, matrix, or vector are being fetched using bracket notation (i.e., foo[,3])?

read.table(), for loops, rnorm(), c(), rbinom(), replicate()

For example, what will the following print to the console?

for (i in seq(from = 1, to = 10, by = 2){

print(i<5)

}

Can you describe some of the potential problems of the original Carney, Cuddy & Yap (2010) power posing study?

What is likely the most serious problem with that report?

Was the Ranehill et al (2015) replication attempt less or more powerful and how did the design of that report differ in terms of methods.

**What is an experimenter expectancy effect and can you think of a couple of ways to control for this potential confound?**

The presence or knowledge of an experimenter implicitly impacts the results of a study.

This can be prevented by:

* Double blind studies
* Limiting contact between the participant and experimenter
* Using blind coders
* Using standardized procedures as much as possible

**In thinking about the Simmons and Somonsohn (2017) p-curve analysis of power posing studies can you describe the shape of the p-value distribution one would observe if no effect is actually present (i.e., under the NULL hypothesis)? How about if a significant and robust effect is present…will this distribution be right skewed, left skewed or uniform….why?**

* If there was no effect, then the shape of the distribution would be uniform – all p-values are more or less equally likely
* If there is an effect, then the shape of the distribution should right skewed – we should see that there should be lots of really small p-values
* If there is publication bias or p-hacking, then we should see left skewed results – lots of results should be around .05 with small p-values less likely

**What is publication bias?**

Publication bias occurs when journals tend to only publish significant results, resulting in an inflation in only seeing studies that tend to confirm theories / expectations.

**What is a journal impact factor?**

Journal impact factor is a measure of the # of citations for a journal / the number of articles in the last 2 years. Essentially this number will be higher for journals that produce papers that are more likely to be cited multiple times over two year periods.

**If I claimed that the Tuzzi (2009) psycholinguistic paper provided a strong confirmation of autistic authorship during facilitation because it used fine grained statistical comparisons of language could you offer counter arguments?**

**Say we are conducting a research study together as a team and we hypothesize that one condition (A) will increase the range of each subjects’ reaction times across trials versus another condition (B) (i.e., range of A reaction times > range of B reaction times). We want to use a paired t-test to test this hypothesis but are unsure if ranges are cool to use this way, particularly since we have 40 trials in condition A and 20 trials in condition B. Can you describe broadly, how would we use Monte Carlo Simulation to find out whether the t-test would yield valid inference in this situation?**

**Reliability and Validity. Can you distinguish them?**

Reliability estimates the

**Are you familiar with different types?**

**How does one potentially constrain or limit the other?**

If an unreliable test is used to test the validity of a method, this could lead to the creation of a test that is neither reliable nor valid.

**Can you discuss the multi-trait multi-method approach to external validity at a broad level?**

Multi-trait, multi-method approaches mean to test the validity of an effect by separating method variance from true variance. In other words, can we test whether a specific construct is robust across different ways of testing it (e.g. behavioral task v. self-report v. observer report) and different operationalizations of it (e.g. if testing personality, related and unrelated constructs). If this works, we should see that divergent traits within methods shouldn’t be correlated than convergent traits across methods. Moreover, the reliability of any of these methods should exceed mulit-trait and multi-method correlations.

**Are you comfortable with the output of the alpha function from the psych package…for example, which column shows the item to test correlations with the item removed?**

**If given a small inter-item correlation matrix for items from a test can you hand calculate Cronbach’s alpha?**

Alpha =

**Does the Spearman-Brown prophecy formula make sense and can you use it to decide whether adding items to a test would make a worthwhile improvement in reliability?**

Spearman-Brown prophecy formula:

**What are the limitations of Cronbach’s alpha…for example, what two things does it conflate in its calculation?**

**Can you think of a few of ways that the FC program and the Microaggression Research Program are similar? For example, how do they approach falsifiability or divergent validity? How about case evidence or testimonial evidence? How about implementation outside of academia, do they have something in common here?**

**What was Baumeister et al’s (2007) general concern when it comes to behavioral observation. Under what type of validity would this concern generally fall?**

**Is there a potential for conflict between the Baumeister paper and the Mook (1983) paper…why?**

**Cunningham, Preacher and Banaji considered the reliability and convergent validity of implicit attitude measures. What was the impetus for this research? In other words, what problem or concern was it designed to address?**

**Does the work suggest any practical limitations of the reliability of the considered implicit measures?**

What does it tells us about the composites; that is, should we generally expect at least modest gains in reliability when we administer the same test multiple times?

Do you think that the sampling of implicit measures was sufficiently broad to cover questions of the reliability and validity of implicit attitude measures in general?