Summary
Each student will complete a small research project and paper by performing the early stages of test development, using a small survey test (2 items) which attempts to measure a specific construct. Every student's questions will be combined in one large survey on a website. The entire class will take this survey. The resulting data will be provided for every student to use. You will then individually analyze your test items and write up the results. You will submit the paper in two parts: The Proposal, and the Paper. The length of these papers and the opportunity for detailed feedback on your writing style serve to meet CSUSM's writing requirement for this course.

Format & Length:
    Proposal: APA format, 500 words (about 2 pages)
    Paper: APA format, 2000 words (about 8 pages, not including graphs or figures).

To Do: (see syllabus for due dates)
• Pick a field and subfield of psychology (e.g. "Clinical Psychology", "Anxiety Disorders")
  • Find one *Review* article that matches this topic (see lecture notes and refer to Exercise 3 for tips on finding *Review* articles). You may re-use your article from Exercise 3 if it's appropriate.
• Pick a Construct within this topic
  • Find one *Original Research* article that uses a *specific test* of the construct.
• Design two small one-item questions which both measure the construct.
  The test item(s) should be Ordinal or Numerical (Interval /Ratio). Don't use Nominal. Most students choose a Rating or Likert format. If you use a Likert format, be sure to provide numbers for your answer (e.g. 1=Strongly Agree, 2=Agree… etc.)
• Decide how to measure the Reliability of your measurements
• Decide how to combine the measures into a single test to increase reliability.
• Decide how to measure the Validity of your measurements (Convergent and Divergent)
• Write your Proposal (use the outline and review the sample below)
• Turn in Proposal for Grade & Feedback - see website for due date and upload information.
• Participate in taking the test battery (online)
• Analyze your data, creating at least two scatterplots with linear regression graphs.
• Write your final paper (following the outline from your Proposal)
• Turn in final paper for grade – see website for due date and upload information.

Predictors and Criteria -- Data Available
All students will take the online survey, which will include all test items from all students. In addition, we will collect additional demographic data and some other variables. If you want to collect additional data that is not on this list, please check with me.
    Age (years)
    Gender
    Score on Midterm Exam 1, Score on Midterm Exam 2
    Overall GPA
    NEO-FFI factors (N, E, O, A and C)

Frequently Asked Questions
Q: May I work with other student(s)? A: Yes, but your specific topic must be unique, at both journal articles must be unique, and your paper must be written by yourself. In other words, group papers are not allowed.
Q: Can I use another student's test data as a construct measure? A: Yes.
Q: Are there any topic areas/subject matter limits? A: Yes, we will discuss these issues in class.
Q: How do I analyze the data? A: You may use any software package you wish. However, GraphPad Prism is recommended since we will be using it in class.
Q: Can I include more than two test items? A: Possibly, but talk to me first about the need for this.
Q: Can I include other stimuli such as picture? A: Possibly, but talk to me first about the need for this.
Q: If my hypothesis doesn't work out, I don't get the results I expected, will that hurt my grade? A: No, you are graded on style, form, grammar, APA rules, and following the scientific method, but not on whether your results were as predicted.
Q: I'm having trouble with writing structure, grammar, style, etc. What do I do? A: talk to me, the TA, or get help from the CSUSM Writing Center for tutoring: http://www.csusm.edu/writingcenter/ or from PARL: https://www.csusm.edu/psychology/currentstudents/parl.html

Outline of Proposal:
Please use APA format and follow this outline format carefully. An example assignment is included at the very end.

Abstract

Write an APA-format abstract that summarizes your proposal. [Hints: Write this last, as the abstract is not an introduction, but rather summarizes each section of your paper with about 1-2 sentences per section. Make sure the abstract doesn't include any information that doesn't appear in the paper. Watch your verb tense: for the Paper, you "will" do things, for the Paper you "have" done things.]

Background

Construct and Factors
Describe the kind of psychology and the focus area you are interested in. Provide reference to a single *review* article and use it to describe and define the specific construct that you wish to measure. Summarize the important *factors* or *facets* of this construct as per the *review* article.

Research and Measurements:
Provide a reference to a single *original research* article and summarize how the author(s) measured this construct, and briefly summarize the results they found.

Rationale:
This paragraph should describe *why* you are proposing this particular study. Contrast your study back to the prior study in terms of subjects, methods, and especially the measure (the test). Explain clearly why you are choosing the two measurements for *Convergent* and *Divergent* validity.

Methods:
Test Questions:
Provide two test questions, both of which measure your *Construct* as defined above. The questions must be grammatically correct, easy to understand, and in a format that will translate easily website-based survey. The questions should both use either Ordinal or Continuous (numeric) measurement scales.   The two questions should be different, but should measure closely related *factors* or *facets* of your construct as defined in the Background.   It's useful to name your two factors and use those terms throughout the paper.

Establishing Reliability:
Indicate which *kind* of reliability you intend to measure, and specify the two variables that you will correlate with each other and what specific statistical test you will use.

Increasing Reliability:
One of the easiest ways to increase reliability is by making a test longer. Since you have 2 test questions, it makes sense to combine these into a single measure (by averaging or adding the scores together). Explain how you will do this and name the new factor.

Establishing Validity:
Describe how you will establish *convergent* validity (by showing that some variables are correlated).   Describe how you will establish *divergent* validity (by showing that some variables are not correlated). Double check that these two variables are justified in the

Sample Proposal and Outline:
The sample on the next page represents roughly a "C+" grade.   The abstract and background are short and somewhat vague. Grammar is poor and the verb tense is inconsistent. The two test questions appear to have no Content Validity for the Construct and are poorly constructed. Some references are missing.   An "A" effort would include a longer background section with more discussion of the existing test, and would contrast the proposed test with the existing test from the literature. The two test items would be constructed more carefully and more related to the construct. An "A" effort would include a reference for all tests used (such as the NEO-FFI) and do a better job of explaining why the particular constructs (such as Neuroticism or Agreeableness) were chosen for convergent & divergent validity. [Note that all content and references in this sample are fake.]

A new, better, and briefer measure of Anxiety

Proposal for Psychology 402 Project

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Abstract

Smith (1945) reviews clinical psychological measure of worry and concludes that anxiety is an important construct that has both beneficial and detrimental effects on people.   Smythe & Wesson (1986) describe their *anxiosimian* scale and show that it has acceptable reliability and validity. In our proposed study, 42 college-age students will receive the NEO-FFI, as well as two new questions of Anxiety that we have created (Q1 and Q2). We will measure parallel-forms reliability of the measures by correlating Q1 with Q2.   I then combined the two questions into one combined measure which I will call Q.   We will calculate construct validity by showing that Q correlates with the "N" (neuroticism) factor from the NEO-FFI, but does not correlate with the "A" (agreeableness) factor.

Background

Does the construct of Anxiety exist, and can we measure it?   In a review article, Smith (1945) reviews the field of Clinical Psychology and focuses on the state of measurements of anxiety, noting that many clinicians consider anxiety and fear to be related, but independent constructs that can be experienced independently by patients. Smith (1945) discusses the different factors that make up anxiety.

One such measure of Anxiety is described by Smythe & Wesson (1986). Their *anxiosimian* scale is a 10 item self-report measure which is written on banana peels and is scored by trained monkeys. In their study, they administered the scale to two groups of subjects, a "normal" control group (N=34) and a patient group suffering from monkey phobia (N=17). They found the control group scored much higher than the patient group and concluded their measure "is good as gravy."   This is a somewhat puzzling conclusion, since the authors report that no actual gravy was used in the experiments.

Although Smythe & Wesson's scale was claimed to be both reliable and valid, we believe that the materials required make it difficult to use in non-tropical locations. It would be useful to have a shorter scale that is both

reliable and valid and more convenient to administer. We therefore propose to create a new scale which we will validate on some subjects. Our scale will not use bananas, gravy, or require any monkeys.

Methods

Subjects

Students in an undergraduate psychology class will be given the survey.   *(Your final paper should include a standard description of the research subjects including basic demographics of Age, Gender.)*

Materials and Measures

Question Q1 : Do you like monkeys? Choices: Likert scale with values (1 = Strongly Disagree, 2 = Agree, 3 = Neutral)

Question Q2 : Do you rate your love for simians? Choices: Category Rating scale (1-10, 1 = "not at all", 10 = "very much")

Neuroticism: the N scale from the NEO-FFI will be used.

Agreeableness: the A scale from the NEO-FFI will be used.

Analyses

Analysis 1 : Reliability. In order to measure the test-retest reliability, answers on Q1 will be correlated with those on Q2 using a Pearson Product-Moment correlation.

Analysis 2 : Combined test. To increase reliability of the measure Q1 and Q2 will be combined into a single measure, called "Q".

Analysis 3 : Validity : to measure convergent validity, Q will be correlated with the N and A scales of the NEO-FFI.   We predict a strong correlation between Q and N, but a weak or zero correlation between Q and A.

Results

(not needed for the proposal. Final paper should include full Results sections including five graphs: 2 histograms and 3 scatterplots with linear regression lines.) Please refer to class-discussions and additional lecture notes on how to write this section.

Discussion

(not needed for the proposal. Final paper should include a full Discussion section that summarizes the findings, relates them back to the literature, and suggests directions for future research.) Please refer to class-discussions and additional lecture notes on how to write this section.

References

Smith J (1945). Anxiety, Fear, and Panic: Why do I feel like I got a monkey on my back when you put a banana peel under my feet? *J Rev Clin Psych*, 3, 145-147.

Smythe S & Wesson Z (1986). The Banana Scale of Anxiety, *J Clin NPTRS,* 6, 234-299.

(other references should be included in this section as appropriate – most papers will have at least 3

references)