PSYC 402 : Psychological Testing
Fall 2010 Project Paper

Summary
Each student will complete a small research project and paper by performing the early stages of test development, using a small survey test (1 – 3 items). Every student's question(s) 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 item(s) and write up the results. There will be several deadlines for submitting your paper to give you plenty of feedback before the final paper is due. The length of the paper and the opportunity for detailed feedback on your writing style serve to meet CSUSM's writing requirement for this course.

Page Length:
Proposal: 250-500 words (about 1-2 pages)
Paper: 2000 - 2500 words (about 8-10 pages), not including graphs or figures.

To Do: (see syllabus for due dates)
- Pick a general subject area (e.g. "Gender differences in math skills")
- Find 3 journal articles on this topic.
- Identify your Construct(s) ("Self Esteem", "Gender Role Identification" etc.)
- Design a small test (one or two items) to measure each construct.
  The test item(s) may be any format you choose as long as it is amenable to group administration from a website – most students choose Multiple Choice, Category/Rating or Likert format.
- Decide which predictor / criterion variables you wish to correlate with your measure. If the variable is not on the list below, please check with me about adding it to the exam
- Decide on specific predictions/hypotheses
- Write your Proposal/Outline (see sample below)
- Turn in Proposal for Grade
- Participate in taking the test battery (via website)
- Analyze your data
- Write your rough draft, turn in for feedback
- Finish your final draft, turn in for final grade

Predictors and Criteria -- Data Available
All students will take the in-class test battery, which will include your test item(s), with data collected 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 (M,F)
Language status (Native English speaker, English as second language, equally bilingual)
Score on Midterm Exam 1, Score on Midterm Exam 2
Overall GPA

Frequently Asked Questions
Q: May I work with other student(s)? A: Yes, but your specific topic must be unique, at least two journal articles must be unique, and your paper must be written by yourself. In other words, group papers are not allowed.
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. We will do some in-class examples with Graphpad's Prism
Q: Can I include more than one test item? A: yes, 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, and following the scientific method, but not on whether your results were as expected.
Q: I'm having trouble with writing structure, grammar, style, etc. What do I do? A: talk to me, and/or make an appointment at the CSUSM Writing Center for tutoring: http://www.csusm.edu/writingcenter/

Sample Proposal and Outline:
This sample as written represents roughly a "B" effort. An "A" effort would include a longer background section with more discussion of existing tests which are similar to the one you are proposing. An "A" project would discuss in the methods section how you would measure Reliability, Validity or Item Characteristics of your test. Note that all content and references in this sample are fake.

Psychology 402 Project Proposal -- John Smith

My Test Question(s):

1. During this last summer (Jun, Jul, Aug) on average, how many ice-cream sandwiches did you consume per week. _____ (number from 1 to 10).
2. I am very bothered by hot weather: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree
3. During this last summer (Jun, Jul, Aug) on average, how many times did you go swimming per week _____ (number from 1 to 10).

Background:

Does ice cream cause drowning? Smith (1945) found that summer ice cream sales are positively correlated with the number of drownings and issued a frank warning to parents to lock up the treats. However, further research by Johns (1962) suggested that it was not the ice cream that caused the deaths, but rather a third factor, hot summer weather that was to blame. In Johns' view, the hot weather led to an increase in swimming behavior, which then naturally caused an increase in drowning deaths. In a review of the topic, Coctostan (1985) noted that children are "coo coo krazy" for ice cream, but did not go so far as to suggest that ice cream be outlawed, although it was not clear if they fully agreed with the "summer temperature" theory of Johns, et al., suggesting that this theory may break down in areas such as the Arctic where swimming is rare.

Theory:

I believe that Johns' 1962 "summer temperature" theory is probably the best explanation. In this theory, it is not the ice cream which causes the swimming, or the drowning, but rather that ice cream consumption is highly correlated with summer weather. This hot summer weather leads to "cold seeking behavior" in which children attempt to cool down by finding a place to swim. To expand on Johns' theory, I believe that "cold seeking behavior" will be strongest in those who suffer from "heat intolerance" – a psychological condition in which high temperatures are aversive.

Construct(s):

X1: Ice-cream consumption.
X2: Heat-intolerance.
Y: Swimming behavior.

Impact:

The importance of this research can be easily shown ; if we can understand the root causes of childhood drowning accidents, we may be able to prevent them in the future. Since ice cream is generally thought of as having positive qualities, knowing whether to ban ice cream or not could have impacts for overall level of childhood health and happiness as well.

Methods:

Subjects:

N=34 College undergraduates enrolled in an upper-division Psychology course.

Measures:

Subjects will be administered a test battery including the written version of the questions, and demographic questions such as age, gender, etc.
Predictor (X1): "Ice cream consumption scale" – a one item category scale
Predictor (X2): "Heat-intolerance"
Criterion (Y): Swimming behavior.

Analyses:

Analysis 1: Psychometrics: We will look at the univariate graphs and statistics to determine whether the items have good distributional properties, for X1, X2, and Y. Histograms will be created for each variable.
Analysis 2a: Scatterplots and linear regression predicting Swimming Behavior (Y) from Ice-cream consumption (X1).
Analysis 2b: Scatterplots and linear regression predicting Swimming Behavior (Y) from Heat-intolerance (X2).

Predictions:

Analysis 1: We expect all items to have a normal distribution and be free from ceiling or floor effects.
Analysis 2a: Based on Smith et al. and Johns et al., we expect to find a significant relationship between Ice cream consumption (X1) and Swimming behavior (Y).
Analysis 2b: Our theory suggests that we will find a significant, and stronger, relationship between Heat-intolerance (X2) and swimming behavior (Y). This correlation should be stronger than the one found in analysis 2a.

Results: [Not needed for proposal]

Analysis 1:
    Histogram of X1, X2, Y scores and Table showing mean, SD
Analysis 2:
    Scatterplot and linear regression of X1 vs Y, and X2 vs Y

Interpretation [not needed for Proposal]

Limitations of this study [not needed for Proposal]

Conclusions [not needed for Proposal]

Graphs and Figures [not needed for Proposal]

References:

Smith J (1945) Ice Cream – the silent killer, J Clin NPTRS (3, 145)
Johns S (1962) A new perspective: Heat, not Rocket Pops, may be the real killer, J Clin NPTRS (6, 234)
Coctostan J (1985) What's killing our kids? Sweet cream or the Sun, J Irr Rslts (8, 024)

Project Proposal/Outline (due Tuesday Oct 26th)

What to turn in:
1. Your project proposal / outline: Please follow the format above. You do not need to use APA format. This should be roughly 1-2 pages in length.

2. A list of references in APA format (3 or more journal articles, see instructions for details)

How to turn it in.
Please follow these instructions Exactly.

Proposal: send via email:
A. Attach a single Microsoft Word .DOC or .DOCX file containing your Proposal.

B. Rename the document file exactly like this:
Psyc402 Proposal yourname001.doc
replace **yourname001** with the first part your CSUSM email login name

C. Compose an email to me mdiehr@csusm.edu and attach your assignment.

D. The Subject of your email should be the same:
Psyc402 Proposal yourname001
replace **yourname001** with your CSUSM email login name

References: turn in printed copies
E. journal articles: Please print out the first page only of each of your references and being these to class, stapled together with your name on the first page.

Checklist before sending:
* Did you include your project proposal and test question in a single .DOC file?
* Did you Rename the .DOC file as instructed?
* Did you put the proper Subject line in the email?
* Did you attach the document to the email?
* Did you print out the first page of each reference and staple them together with your name, so you can bring them to class?

Thank you, it makes my job much easier when you follow these instructions...

-mike