PsychoSim 5: WHAT’S WRONG WITH THIS STUDY?

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In this activity you will review the basic methodology used in psychological research, practice applying research methodology to new situations, and consider specific pitfalls that could reduce the value of the research findings.

Thinking About Psychological Research

• What are the three types of research methods and what are their goals?
  1. Type: Descriptive Approach  
     Goals: document a particular behavior (observes, measures, and describes behavior)
  2. Type: Correlational Approach 
     Goals: predict the occurrence of a particular behavior (measures two different types of behavior and evaluates the relationship between them)
  3. Type: Experimental Approach 
     Goals: explain a behavior or why it occurs (cause-and-effect relationships by manipulating one aspect of the situation that is thought to change a particular behavior)

Experimental Control
• What is the benefit of conducting an experiment, rather than using a different type of study?

Study 1: Vocabulary Growth

• What is the broad goal of the study? 
  Jones wants to study Vocabulary Growth in Preschool Children.

• What is wrong with the study? 
  The sample is biased and does not represent the broad population.

• In your own words, describe the single most important flaw in this study’s design or interpretation. 
  In this study, the professor is only testing the children of academics. There are a number of unique genetic and social influences at play that would make this group not generalizable to the whole population.

• In your own words, describe how the study could be improved to eliminate the weaknesses (or at least the major flaw). 
  This professor could include children of more varied socio-economic backgrounds and increase the diversity in demographics of children studied.
Study 2: Learning to Share

• What is the broad goal of the study?
Okamoto wants to see the effects of prosocial TV on sharing behavior among preschool age children.

• What is wrong with the study?
The professor chose the groups and rated behavior. He has experimenter bias which would color results. I also see there is some cause-and-effect correlation that is made, but could be inaccurate.

• In your own words, describe the single most important flaw in this study’s design or interpretation.
I think that another problem he has is that the study needs to be longer term. Did the shows determine behavior, did the groups determine behavior, did the children determine behavior, did the background of the children determine behavior, or something else? I think that the cause he’s looking for can’t be definitively determined in the study he’s constructed.

• In your own words, describe how the study could be improved to eliminate the weaknesses (or at least the major flaw).
It is difficult to eliminate all other social influences, but I do think that as the children are monitored in their development over time, the experimenter can get a greater idea of what the important influences are that determine sharing behavior.

Study 3: Sleep and Academic Performance

• What is the broad goal of the study?
Rivera wants to see if lack of sleep is related to academic performance in Junior High School.

• What is wrong with the study?
The sample isn’t necessarily representative of a generalizable group of junior high students and the students are self-reporting. The study is reliant on volunteers who may be more academically inclined than those who do not volunteer.

• In your own words, describe the single most important flaw in this study’s design or interpretation.
The representative sample. This group of people is willing to record their sleep and report back to the experimenter. Would other typical junior high students make sure and participate to this degree in self-reporting? I think she needs a larger, more diverse sample to be sure.

• In your own words, describe how the study could be improved to eliminate the weaknesses (or at least the major flaw).
Expand the sample to other demographics, and rely on the evidence gathered first hand by the experimenter. This would help keep bias from changing the results and negating the experiment.

Study 4: Language Instruction
• What is the broad goal of the study?
Knudson wants to see if a new method of second language instruction is effective.

• What is wrong with the study?
There is no control group to compare.

• In your own words, describe the single most important flaw in this study’s design or interpretation.
The students in the German classes represent one group. Their achievement may be due to the new instruction method or to other determining factors (motivation, environmental, social, etc...)

• In your own words, describe how the study could be improved to eliminate the weaknesses (or at least the major flaw).
She could have classes who use the established method and classes that use the new method over time. The more students she includes in this study, the more telling the results can be.