Human Behavioral Measurement Exam II Review Sheet

Exam Procedure. This exam will again be two parts--a conceptual component and an application component. For the first part of the exam (conceptual) all you need is a pencil/pen. When finished, turn in the first part and receive the second. The second part (application) is open book, open notes, calculator use. Students must do their own work.

Research Design and Experiment Issues

Theory vs. hypothesis
Correlational versus Experimental Studies
Research Question
Hypotheses and theories
independent and dependent variable(s)
    levels of the independent variable
Random sampling and random assignment (randomization)
operational definitions
control variables

Within vs. Between subject designs

why use one versus the other?
advantages/disadvantages of within-subject designs
advantages/disadvantages of between-subject designs
repeated measures design
    pre-post test design
carry-over effect and counterbalancing
symmetrical transfer
practice effects and ABBA design
matching studies
yoked-control studies

Correlational vs. Experimental Studies

Random assignment (randomization)
Gathered as it "exists in state"
3rd variables and confounding variable
Two-Group pre-post test design
Solomon Four-Group Design
Single and Double blind studies

Quasi – Experimental Designs

one-group posttest only
one-group pretest posttest
non-equivalent control groups design
regression-discontinuity design
interrupted time-series design
        removed-treatment design
Ways to improve quasi-designs

Internal vs. External validity

Threats to internal validity –

Confounding, Selection (bias), History, Maturation, Repeated Testing, Instrument change, Regression toward the mean, Mortality, Helping/Hurting, Experimenter bias

What are experimenter effects and how do you avoid them?

demand characteristics
single-blind studies
double blind studies

Characteristics of good dependent variables and by extension good studies

Reliability (repeatability & domain sampling)
Validity (construct vs. criterion)
Utility
Base-rate, Selection ratio, Success Rate
hits false-positives, false negatives
Sensitivity
floor effects
ceiling effects

What is the loss of subject problem (Drop out)and how can it affect the results?

Placebo effects

Interaction effects

Philosophy of science

What is Psychology?
What is Science?
Founding of Psychology.
Wilhelm Wundt and Gustav Fechner