MIDTERM TEST REVIEW

PSYC 4371

I. Week 1
   Critical Reading
   present day attitudes toward the scientific method
   how is research commonly used
   five different ways of knowing truth
   basic propositions or presuppositions of the scientific method and how it is different
   from the other four ways of knowing
   advantages of the scientific method in research
   serious concerns regarding solely relying on the scientific method
   balanced attitude toward the scientific method in research
   logical progression in science (describe behavior, predict behavior, determining causes
   of behavior, explain behavior)
   see research process p. 10 (bullets and following critique)

II. Week 2
   Research Questions and Hypotheses
   7 parts of a research article
   Types of research questions (correlational vs. experimental; remember table from chalkboard)
   Ways of determining the relationship
   correlational method: research questions (1-5); 2+ measured variables
   experimental method: simple design (6), complex (7-8)
   **know the 3 criteria for experimental method**
   Causality: what do we mean; necessary cause; necessary and sufficient cause

III. Week 3
   Research Strategies and Variables
   definition of variables
   operationalization
   ways of determining the relationship (characteristics and problems of each)
   correlational method
   experimental method
   extraneous variables (experimental control, randomization)
   independent vs. dependent variables (definition, which axis on graph)
   manipulating the independent variable; subject variables
   techniques for establishing the levels of the IV (maximize the manipulation to show
   significant results)
   external validity and generalizability

IV. Week 4
   The Sample
   sampling techniques: definition of population, sample
   nonprobability sampling (two types)
   why it is used today; advantages and disadvantages
   probability sampling: define, what is the purpose
   simple random
   stratified random
cluster
assigning subjects to groups (selection vs. assignment; know the difference)
  independent groups (definition): simple random assignment, matched random
  assignment
repeated measures (definition): advantages, weaknesses (order effect:
  carryover, practice, fatigue, boredom)
counterbalancing: orders of presentation; know how to calculate how
  many orders
mixed factorial design (mixed combo)
minimum number of subjects required in a group using each of above
  assignment methods

V. Week 5 Confounding Variables and Their Control
Overview
  all extraneous variables are controlled (how?)
  When can the difference in data be attributed to the independent variable?
  unambiguous interpretation of results
  internal validity (definition, when do you have it)
  confounding variables
Sources of confounding variables: know each and how to control extraneous variables in
  each
  Participant/subject
    Demographics (6 ways to control)
    Changes in subjects over time
    Motivation and role perception (varying levels of motivation; subject
      expectancies; use of deception; response sets such as social
      desirability & respond arbitrarily
    Communication among participants
    Placebo effects
  Experimenter/researcher bias
Procedure/Treatment: can the way in which the manipulation be applied be a
  problem; manipulation check; setting issues
Measurement: technique and choice of instruments; measurement error
Murphy’s Law

Midterm Exam is worth 70 points.
You will need Scantron Sheet #882.