I. Terms - The Experiment, experimental design, experimental protocol

II. Aspects of Experimental Design

A. Treatment Conditions

B. Three types of variables: Independent, Dependent, Nuisance

C. Confounding of treatment and nuisance variables

If treatment variables (the independent variables) and nuisance variables are systematically related, they are confounded.

*If TREATMENT and NUISANCE (time-, subject-, or environment-related) variables are CONFOUNDED, then the TREATMENT CONDITION is NOT an adequate test of the research hypothesis.*

D. Sample, Populations, Generalization

A sample is a subset of a study population.

Random sampling from a study population allows statistical generalization.

A study population must be a subset of one or more target populations

Nonstatistical generalization is the process by which results from a particular study are extrapolated to a specified target population.

E. Random Assignment

F. Restricting the Study Population

III. Between-Subjects vs. Within-Subjects Designs

A. Between-subjects - completely randomized designs

B. Within-subjects - repeated measures designs

C. Advantages and disadvantages of between-subjects vs. within-subjects designs

D. Dealing with general carryover effects in within-subjects designs - counterbalancing