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Design

CONTROLLING EXTRANEOUS VARIABLES

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Dependent variable is the variable that is measured by the experimenter.

Extraneous Variable is a variable that is not an independent variable in a study but has an effect on the dependent variable. There are two types namely:

- Situation variable: This involves the environmental aspect of the study such as noise, presence of others and physical characteristics of the environment like rain and temperature.
- Participant variables: This refers to variations between participants' characteristics such as mood, expectations, intelligence among others.

Extraneous variables must be controlled to ensure that the changes observed in dependent variables are due to the changes in independent variable.

Controlling for Extraneous Variables

The techniques for controlling extraneous variables include:

- Random assignment involves randomly placing subjects into groups to ensure similarity between groups on all variables such that the groups become mirror images of each other. It best applies in studies with large and adequate sample size.
- Within-subject design is used to control for variables associated with subject by ensuring each subject experiences all the experimental conditions.

- Matching involves controls for confounding extraneous variables by equating the comparison groups on one or more variables that are correlated with the dependent variable.
- Holding the extraneous variable constant involves ensuring that the participants in different treatment groups have the same amount or type of variable. E. g. if gender is the extraneous variable, one may study females only or males only.
- Building the extraneous variable into the research design by including it as an additional independent variable. This allows the study of its effect on the dependent variable separately from the original independent variable.
- Blinding controls placebo effect in an experimental design. It involves hiding from the participants the information on who is in control or experimental group. One can adopt a single –blind or double blind procedure.

- Counterbalancing can be applied to control for carry-over effects or order effects. It involves designing the study so that equal numbers of subjects experience the various possible orders of the conditions.

References

McLeod, S. A. (2008) Independent, Dependent and Extraneous Variables. Retrieved from http://www. simplypsychology. org/variables. html

Controlling Extraneous Variables - Chapter 5. Retrieved from http://www. sagepub. com/upm-data/36296_Chapter5. pdf