

## Quick Study Guide

**Topic:** Research in Psychology – Experimental Design

**Related Course(s):** Psych 1100, 2800, 3000, 3200

### Experimental Design – Key Terms

**Scientific method:** the approach used by psychologists to systematically acquire knowledge about behavior and other phenomena of interest. There are 5 steps in the scientific method.

1. identify a question of interest 2. Develop a hypothesis 3. Design a research study 4. Collect data 5. Analyze/report on findings

**Experimental Research:** the researcher investigates the relationship between two (or more) variables by deliberately changing one variable in a controlled situation and observing the effects of that change

**Experimental manipulation:** The change that the researcher deliberately makes in an experiment

**Experimental and Control Groups:** research requires that the responses of at least two groups be compared.

**Experimental Group:** the group that will receive some special **treatment** or the manipulation of the independent variable

**Control Group:** a “comparison” group that will receive either no treatment or a different treatment. We would expect little or no change in this group.

**Experimental Bias:** factors that distort how the independent variable affect the dependent variable in an experiment

**Hypothesis:** A prediction of what may happen under a particular set of circumstances that can be tested

### Independent and Dependent Variables

**Independent variable:** the condition that is manipulated by an experimenter

**Dependent variable:** the variable that is measured and is expected to change as a result of changes caused by the experimenter’s manipulation of the independent variable. The dependent variable is dependent on

**Informed Consent:** research participants affirm that they have been told the basic outlines of the research study

**Operational definition:** specifying exactly what the variables are and how they will be measured

**Placebo:** a false treatment, such as a “sugar pill”, drug or other substance, without any significant chemical properties

**Random Assignment of Participants:** Participants are assigned to different experimental groups, or “conditions,” on the basis of chance and chance alone.

**Replicated Research:** research that is repeated, sometimes using other procedures, to increase the confidence in prior research findings.

**Theories:** broad explanations concerning observations of interest

**Variables:** behaviors, events or other characteristics that can change, or vary, in some way