

Research Manual

RESEARCH DESIGNS SECTION

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INTRODUCTION

This manual is not to substitute any statistics or research methods books or courses that may have been completed in the past. The purpose is to provide a quick reference for students to use to quickly complete a research project when a short review is necessary. It is not a complete reference of all statistical tests or research methods. The manual is written in a broad step-by-step manner as it reviews some of the most common topics in designing studies and the most common statistical tests that you will see while working in the lab.

RESEARCH DESIGNS

It is important to think about validity and reliability when designing your study. This will impact how they will be able to be generalized to the population.

Validity-How likely the measure you are using actually measures your dependent variable.

Reliability-How likely the measure you are using measures the dependent variable consistently (does it measure it each time).

The type of research project you are doing will depict the design you will use:

Within subjects-Used when the researcher is interested in determining whether or not one condition is better than another and is dependent upon having the same participants in both conditions. An example could be determining whether website A is more efficient than website B.

Between subjects-Used when the researcher is interested in determining whether or not one condition is better than another. An example could be determining whether using PowerPoint presentations help students get better grades compared to overhead projections.

Counterbalancing-The practice of randomizing the order of condition for participants (see Tables 1 and 2).

Table 1. Counterbalancing for within subjects design

Participant #	First Condition	Second Condition
1	A	B
2	B	A
3	A	B
4	B	A

Table 2. Counterbalancing for between subjects design

Participant #	Condition
1	A
2	B
3	A
4	B

RESOURCE

The following is an additional resource that you may find useful in addition to this manual:

Research Methods Resource:

Heiman, G. (2001). Research Methods in Psychology (3rd ed.). Cengage Learning.