

CHAPTER OVERVIEW

Chapter 3: Brief Review of Research Methods

Learning Objectives

After reading this chapter, you should be able to:

- distinguish between different types of variables (quantitative/qualitative, binary/integer/real, discrete/continuous) and give examples of each of these kinds of variables
- distinguish between the concepts of reliability and validity and apply each concept to a particular dataset.

Until now, our discussions have predominantly centred on statistics — however, it's also important to have a good understanding of research methodology to conduct effective statistical analysis. As one of my favourite lecturers in statistics used to say: “garbage in, garbage out”.

“Garbage in, garbage out” means that if your data is bad, your results will be bad. It's like cooking a fancy dish with spoiled ingredients — no matter how skilled the chef, the dish will still taste bad. In statistics, it's crucial to have accurate and reliable data to get valuable insights and conclusions and research design can play a big role in getting this accurate and reliable data for your analysis.

Research design is just as critical as data analysis, and this book will briefly cover research methods that you will mostly encounter in psychological research. Statistics provides a universal set of core tools useful for most types of research, but research methods are not as universal. While there are general principles to consider, much of research design is specific to the area of discipline. Therefore, we will only consider the general principles that we often see in psychological research.

[3.1: How do we Measure Variables in Psychology?](#)

[3.2: Introduction to Psychological Measurement](#)

[3.3: What Makes a Good Measure?](#)

[3.4: Some Complexities](#)

[3.5: The Role of Variables - Predictors and Outcomes](#)

[3.6: Research Design I- Experimental Designs](#)

[3.7: Research Design II- Non-Experimental Designs](#)

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