

Chapter 5 PRODUCING *Data*

OBSERVATIONAL STUDIES, SAMPLES, AND EXPERIMENTS

This chapter introduces you to the concept of collecting data according to a well-developed plan. This plan includes clarifying the question and deciding upon a method of data collection and analysis. You will learn how to design experiments and select sampling methods to collect valid, representative data.

Chapter Objectives

- Distinguish between, and discuss the advantages of, observational studies and experiments.
- Identify and give examples of different types of sampling methods including a clear definition of simple random sample.
- Identify and give examples of sources of bias in sample surveys.
- Identify and explain the three basic principles of experimental design.
- Explain what is meant by a completely randomized design.
- Distinguish between the purposes of randomization and blocking in an experimental design.

CHAPTER 5

Designing Samples

- Observational Study vs. Experiment
- Population vs. Sample
- Sampling Methods
- Simple Random Samples
- Cautions about Samples

Designing Experiments

- Experimental Units, Subjects, Treatments
- Randomized Comparative Experiments
- Blocked Design
- Matched Pairs Design

MON	TUE	WED	THU	FRI
		14	15 Sect 5.1	16 Sect 5.1
		• Part I Exam	• Observational Study vs Experiment • Population vs. Sample • Sampling Methods	• Simple Random Sample • m&m Sample Activity
		Read Section 5.1	5.1-5.8	5.9-5.13
19 Sect 5.1	20 Sect 5.2	21 No School	18 No School	19 No School
• Sources of Bias	• Randomized Comparative Experiments	Thanksgiving Break		
5.15-5.20, 5.21-5.25, 5.28	5.33-5.38, 5.40-5.44	Read "Damn Lies" Ch2		
23 Sect 5.2	24 5.2 Review	24 FRAPPY	25 Review	26 Exam
• Matched Pairs • Blocking	• Sample AP Problems	Free Response Problem	Decisions Through Data Video	Chapter 5 Exam
5.45-5.49	5.51-5.56	Case Closed		