

VII. Sampling Distributions

Prerequisites

none

- A. [Introduction](#)
- B. [Basic Demo](#)
- C. [Sample Size Demo](#)
- D. [Central Limit Theorem Demo](#)
- E. [Sampling Distribution of the Mean](#)
- F. [Sampling Distribution of Difference Between Means](#)
- G. [Sampling Distribution of Pearson's r](#)
- H. [Sampling Distribution of a Proportion](#)
- I. [Exercises](#)
- J. [PDF Files](#) (in .zip archive)

The concept of a sampling distribution is perhaps the most basic concept in inferential statistics. It is also a difficult concept to teach because a sampling distribution is a theoretical distribution rather than an empirical distribution.

The introductory section defines the concept and gives an example for both a discrete and a continuous distribution. It also discusses how sampling distributions are used in inferential statistics.

The Basic Demo is an interactive demonstration of sampling distributions. It is designed to make the abstract concept of sampling distributions more concrete. The Sample Size Demo allows you to investigate the effect of sample size on the sampling distribution of the mean. The Central Limit Theorem (CLT) Demo is an interactive illustration of a very important and counter-intuitive characteristic of the sampling distribution of the mean.

The remaining sections of the chapter concern the sampling distributions of important statistics: the Sampling Distribution of the Mean, the Sampling Distribution of the Difference Between Means, the Sampling Distribution of r , and the Sampling Distribution of a Proportion.