

SECTION OVERVIEW

10.1: Inference for Categorical Data

Chapter 6 introduces inference in the setting of categorical data. We use these methods to answer questions like the following:

- What proportion of the American public approves of the job the Supreme Court is doing?
- The Pew Research Center conducted a poll about support for the 2010 health care law, and they used two forms of the survey question. Each respondent was randomly given one of the two questions. What is the difference in the support for respondents under the two question orderings?

We will find that the methods we learned in previous chapters are very useful in these settings. For example, sample proportions are well characterized by a nearly normal distribution when certain conditions are satisfied, making it possible to employ the usual confidence interval and hypothesis testing tools. In other instances, such as those with contingency tables or when sample size conditions are not met, we will use a different distribution, though the core ideas remain the same.

10.1.1: Inference for a Single Proportion

10.1.2: Difference of Two Proportions

10.1.3: Testing for Goodness of Fit using Chi-Square (Special Topic)

10.1.4: Testing for Independence in Two-Way Tables (Special Topic)

10.1.5: Small Sample Hypothesis Testing for a Proportion (Special Topic)

10.1.6: Randomization Test (Special Topic)

10.1.7: Exercises

Contributors

David M Diez (Google/YouTube), Christopher D Barr (Harvard School of Public Health), Mine Çetinkaya-Rundel (Duke University)

This page titled [10.1: Inference for Categorical Data](#) is shared under a [CC BY-SA 3.0](#) license and was authored, remixed, and/or curated by [David Diez, Christopher Barr, & Mine Çetinkaya-Rundel](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.