Hypothesis Testing: Introduction

We are in the middle of the part of the course that has to do with inference for one variable.

So far, we talked about point estimation and learned how interval estimation enhances it by quantifying the magnitude of the estimation error (with a certain level of confidence) in the form of the margin of error. The result is the confidence interval—an interval that, with a certain confidence, we believe captures the unknown parameter.

We are now moving to the other kind of inference, **hypothesis testing**. We say that hypothesis testing is "the other kind" because, unlike the inferential methods we presented so far, where the goal was **estimating** the unknown parameter, the idea, logic and goal of hypothesis testing are quite different.

In the first part of this section we will discuss the idea behind hypothesis testing, explain how it works, and introduce new terminology that emerges in this form of inference. The next two parts will be more specific and will discuss hypothesis testing for the population proportion (p), and for the population mean (μ).