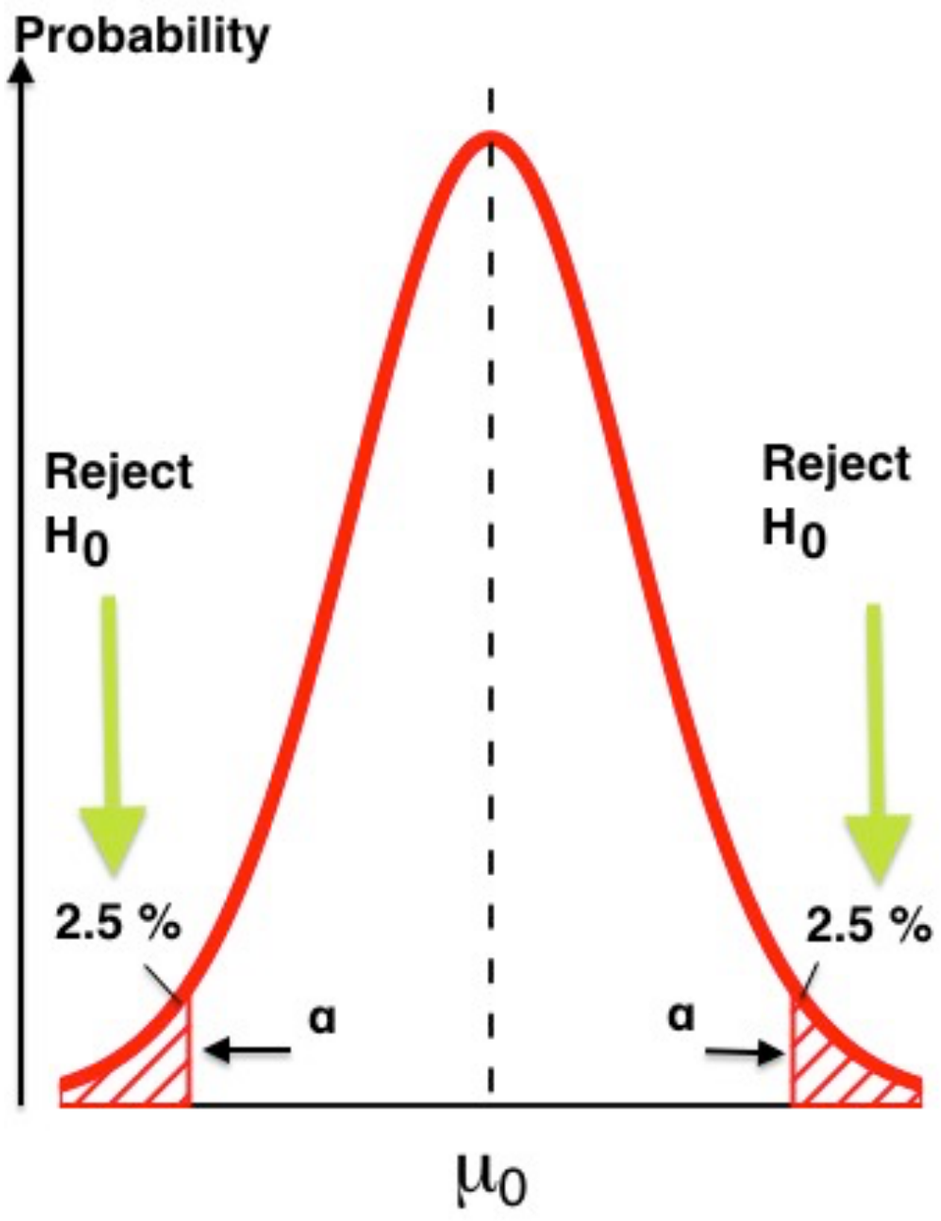
Hypothesis testing

Introduction

The probability value

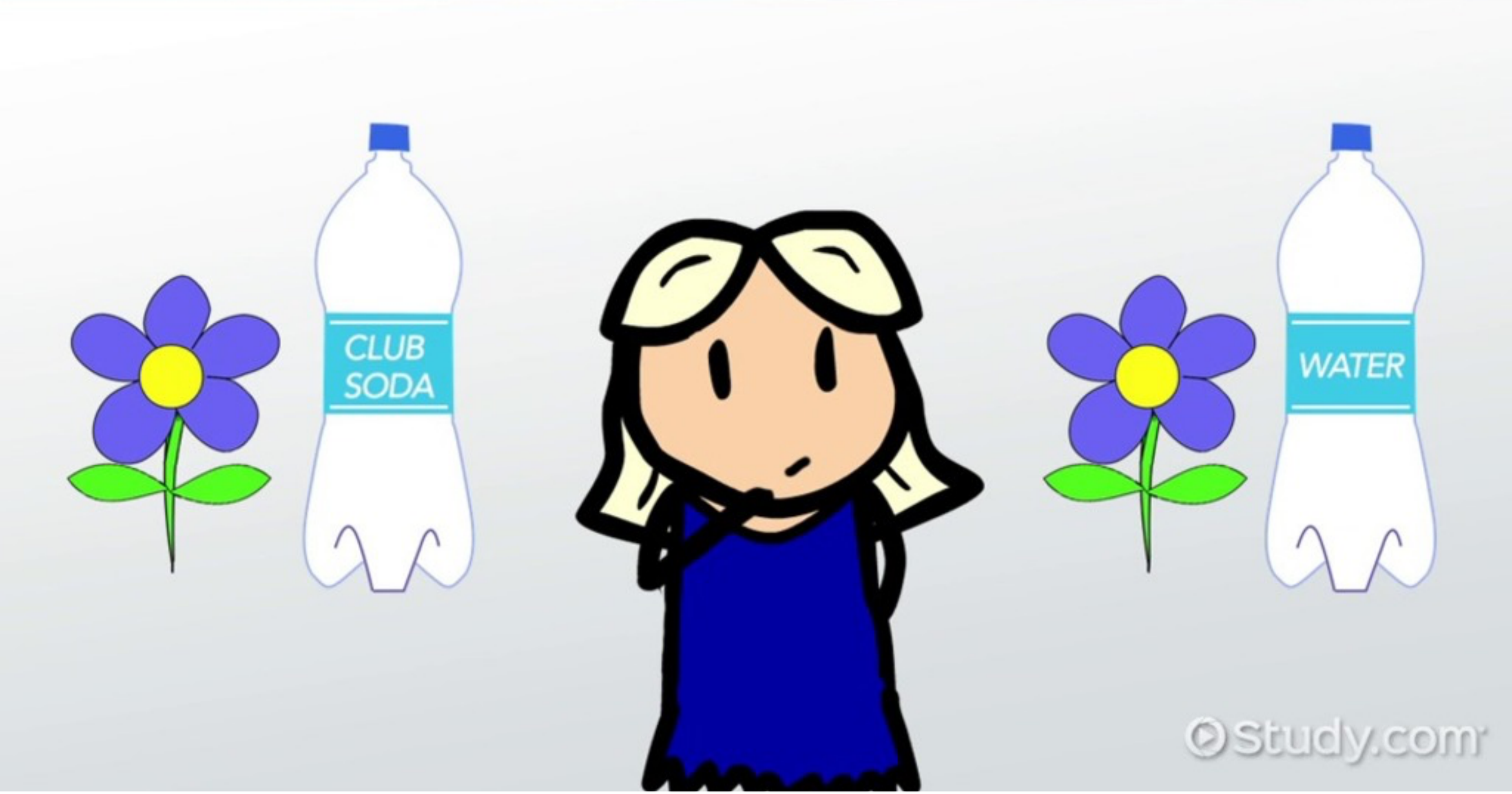


The Null Hypothesis

$$\mu_{obese} = \mu_{average}$$

$$\mu_{obese} - \mu_{average} = 0$$

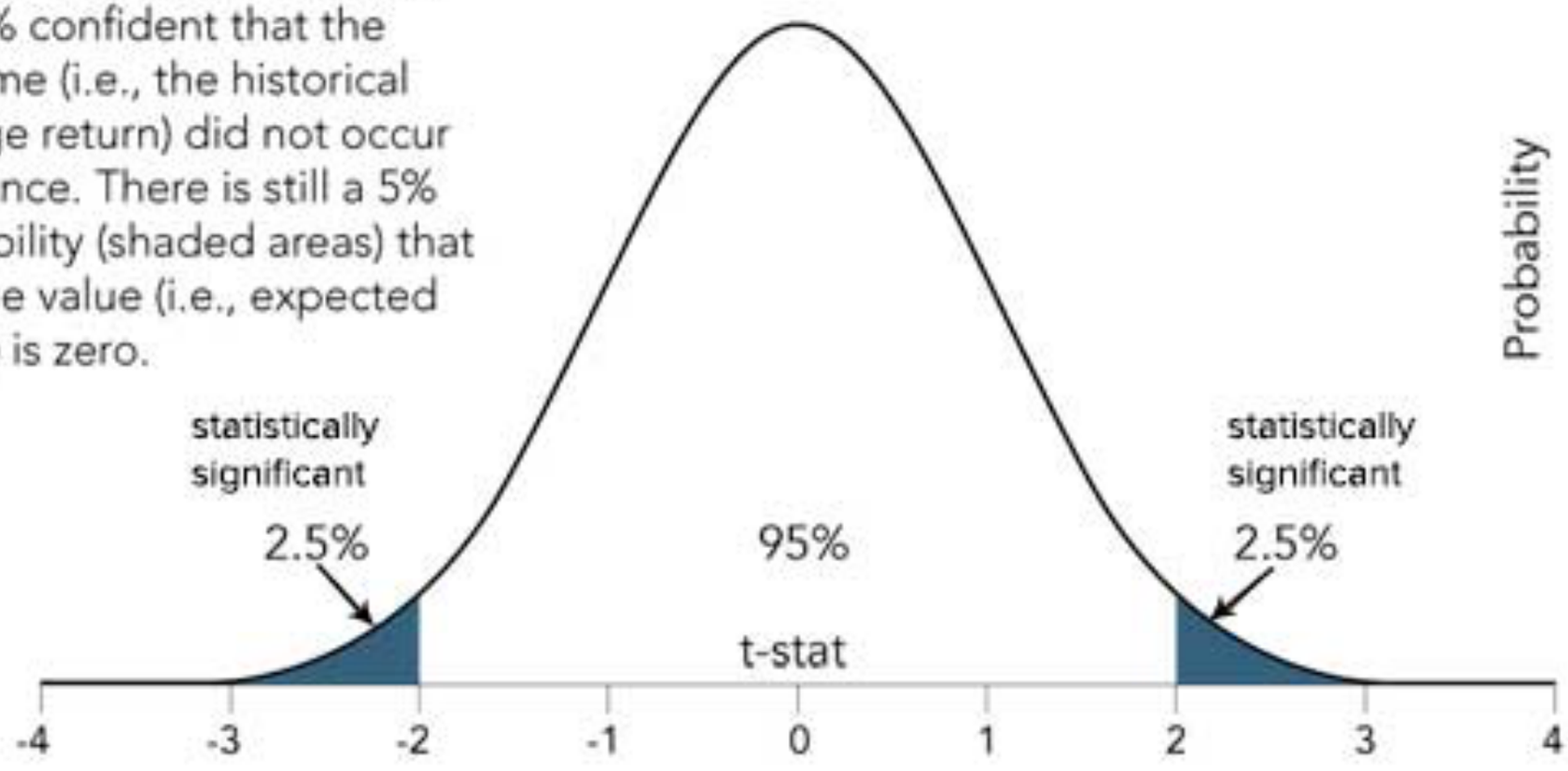
The Null Hypothesis



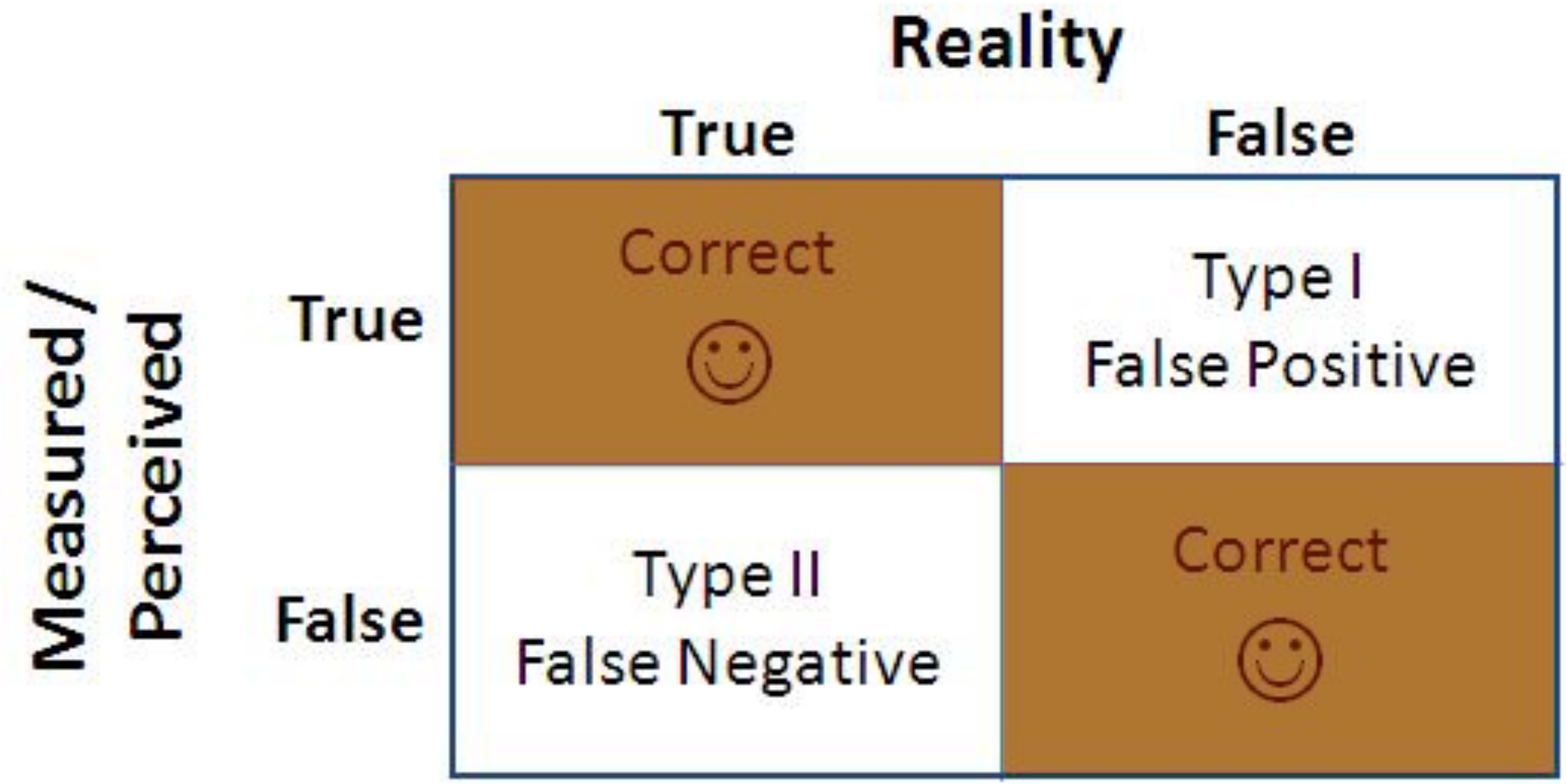
source: study.com

Significance Testing

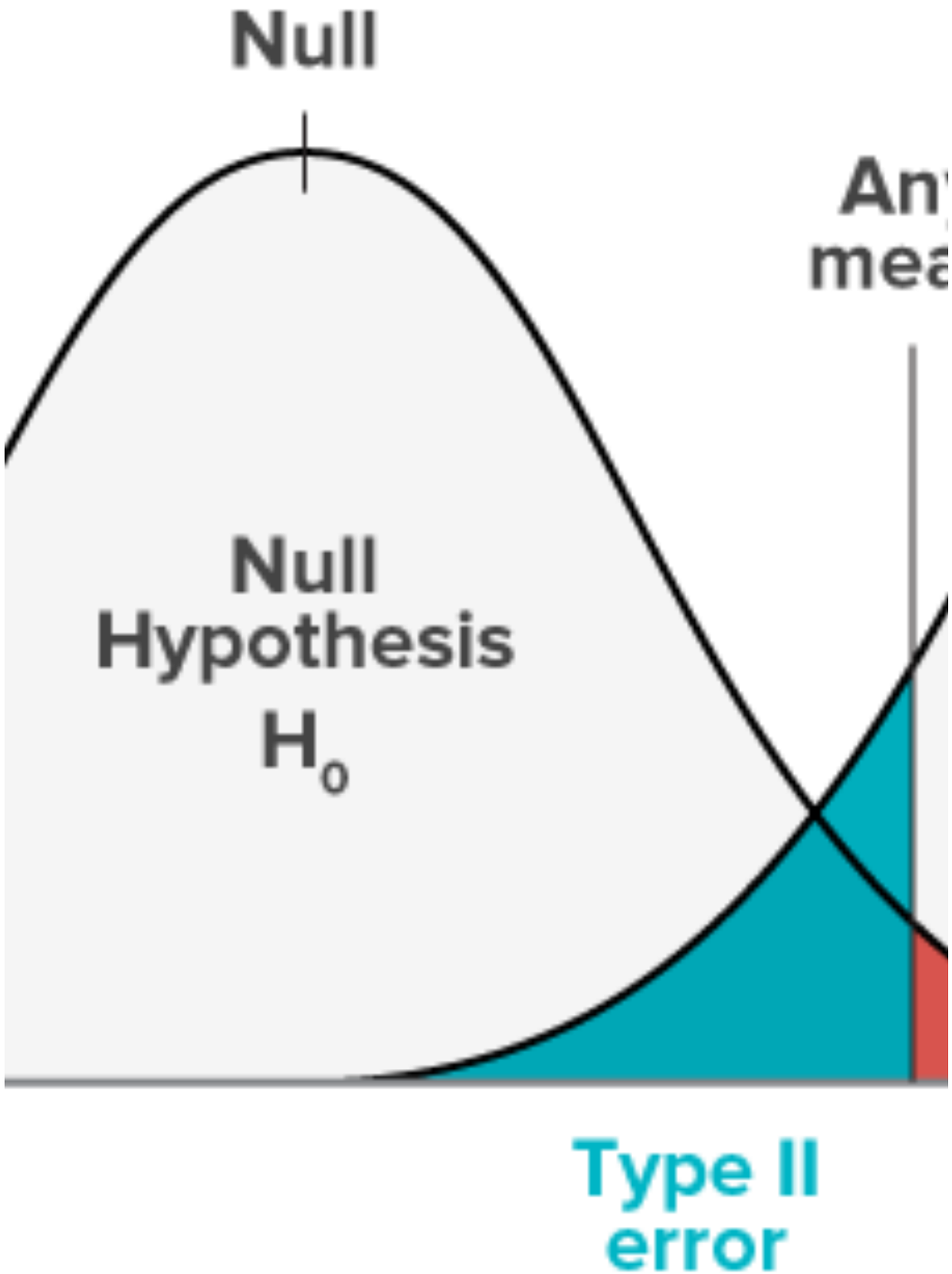
A t-stat of ±2 means you can be 95% confident that the outcome (i.e., the historical average return) did not occur by chance. There is still a 5% probability (shaded areas) that the true value (i.e., expected return) is zero.



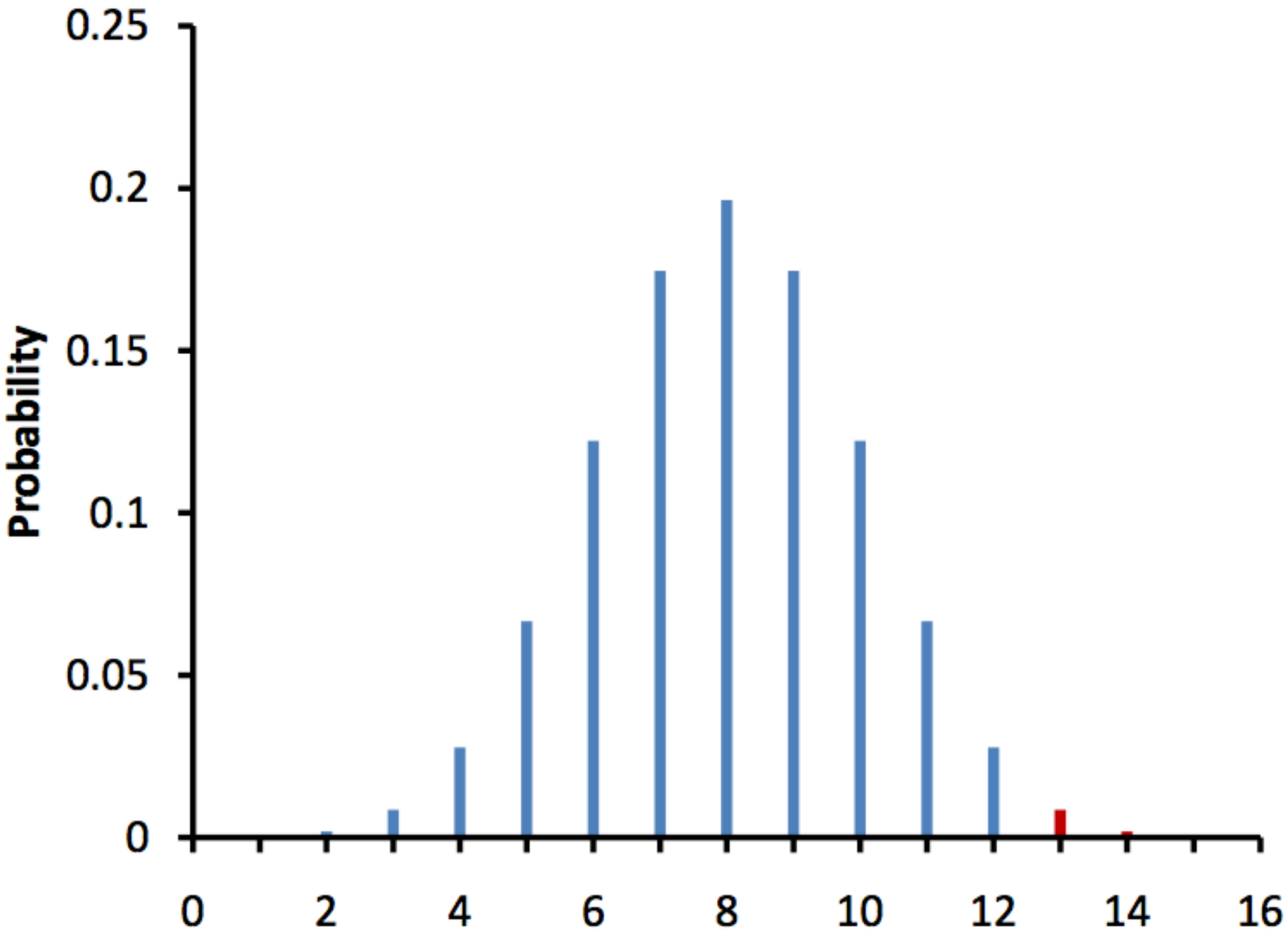
Type I Error


Reality
True
False
Measured / Perceived
True
False
Correct
Type I
False Positive
Type II
False Negative
Correct

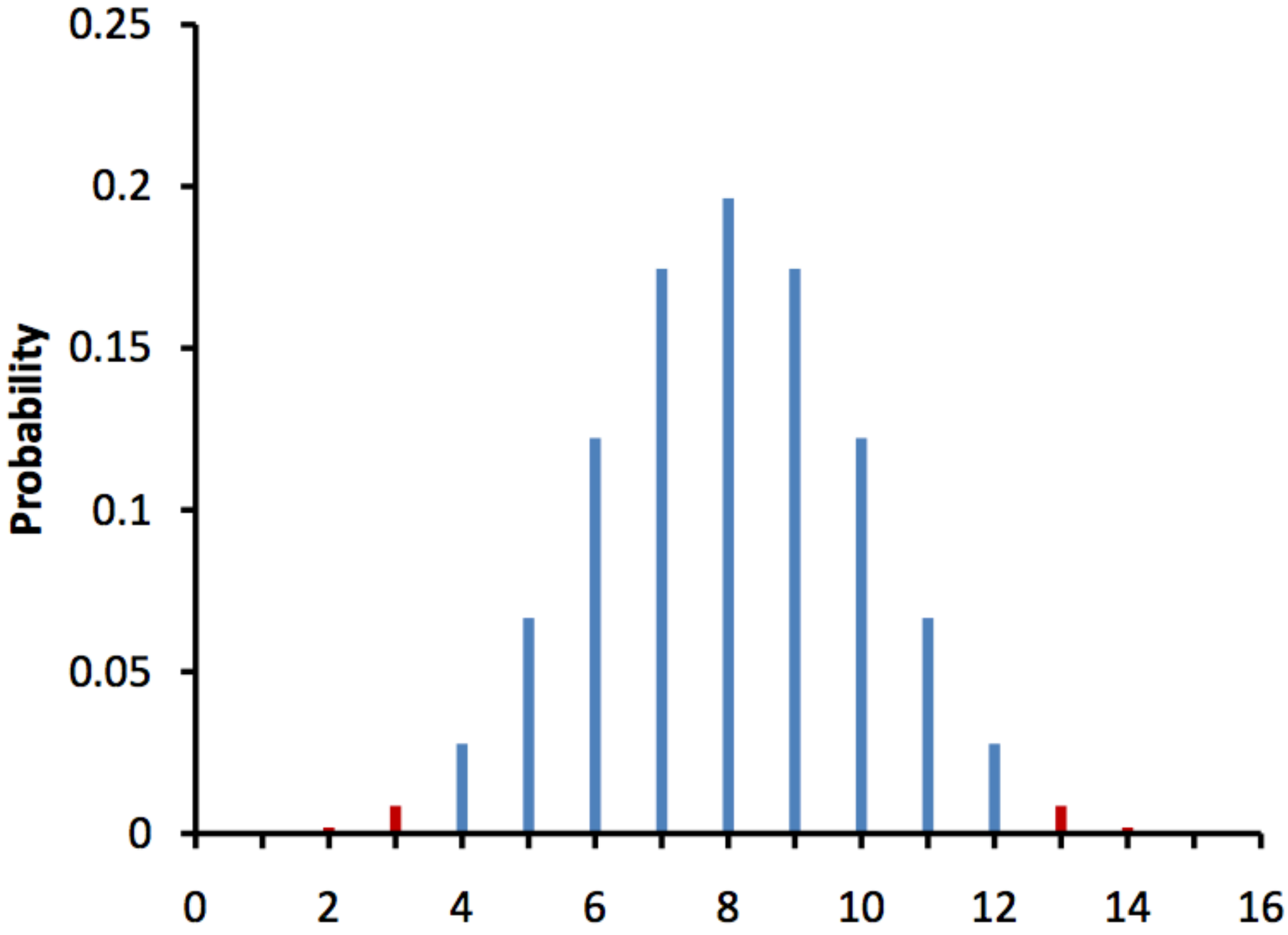
Type II Error



One and Two tailed tests



One and Two tailed tests



Steps in hypothesis testing

- Specify the null hypothesis
- Specify the α level
- Compute the probability value
- Compare the probability value with α level

the end