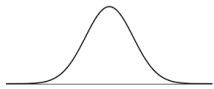


Categorical Data

p = population proportion , \hat{p} = sample proportion $SD = \sqrt{\frac{p(1-p)}{n}}$ Use z-distribution

Confidence Interval



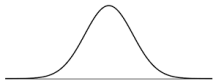
\hat{p}

STAT TESTS #A
1-PropZInt

$$SD = \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

$$z = \text{invnorm}(\text{area})$$

$$CI = \pm z * SD + \text{center}$$



$\hat{p}_1 - \hat{p}_2$

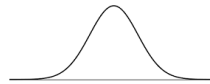
STAT TESTS #B
2-PropZInt

$$SD = \sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}$$

$$z = \text{invnorm}(\text{area})$$

$$CI = \pm z * SD + \text{center}$$

Hypothesis Testing



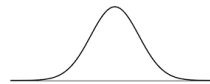
p

STAT TESTS #5
1-PropZTest

$$SD = \sqrt{\frac{p(1-p)}{n}}$$

$$z = \frac{\text{data} - \text{center}}{SD}$$

$$\text{pvalue} = \text{normalcdf}(z, z)$$



$p_1 - p_2 = 0$

STAT TESTS #6
2-PropZTest

$$SD = \sqrt{\frac{p_p(1-p_p)}{n_1} + \frac{p_p(1-p_p)}{n_2}}$$

$$p_p = \frac{x_1+x_2}{n_1+n_2}$$

$$z = \frac{\text{data} - \text{center}}{SD}$$

$$\text{pvalue} = \text{normalcdf}(z, z)$$


Quantitative Data

μ = population mean, \bar{x} = sample mean, σ = population SD, s_x = sample SD

$SD = \sigma$ Use z-distribution OR $SD = \frac{\sigma}{\sqrt{n}}$ Use z-distribution OR $SE = \frac{s_x}{\sqrt{n}}$ Use t-distribution


Confidence Interval

Hypothesis Testing


 \bar{x}


STAT TESTS #8
TInterval

$SD = \frac{s_x}{\sqrt{n}}$
 $df = n - 1$
 $t = \text{invt}(\text{area}, df) = \text{table}$
 $CI = \pm t * SD + \text{center}$


 $\bar{x}_1 - \bar{x}_2$


STAT TESTS #0
2-SampTInt

$SD = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$
 $df = \text{awful!}$


 μ

STAT TESTS #2
T-Test

$SD = \frac{s_x}{\sqrt{n}}$
 $df = n - 1$
 $t = \frac{\text{data} - \text{center}}{SD}$
 $pvalue = \text{tcdf}(t, t, df)$


 $\mu_1 - \mu_2 = 0$

STAT TESTS #4
2-SampTTest

$SD = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$
 $df = \text{awful!}$