

Confidence Interval of a Population Proportion

Given a sample population proportion

$$SE = z^* \left(\sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} \right)$$

$$\hat{p} - SE \leq p \leq \hat{p} + SE$$

\hat{p} = sample population proportion

p = population proportion

z^* = z - score for middle confidence level

n = population size

SE = Standard Error