

Chi-Square Formulas

$$\chi^2 = \sum \left[\frac{(f_o - f_e)^2}{f_e} \right] \quad \text{Without Yates' Correction}$$

$$\chi^2 = \sum \left[\frac{(|f_o - f_e| - .5)^2}{f_e} \right] \quad \text{With Yates' Correction}$$

$$df = c - 1$$

$$df = (c - 1)(r - 1)$$

2 X 2 Table

$$\chi^2 = \frac{n[(AD - BC)^2]}{(A + B)(C + D)(A + C)(B + D)} \quad \text{Without Yates' Correction}$$

$$\chi^2 = \frac{n \left[|AD - BC| - \left(\frac{n}{2} \right) \right]^2}{(A + B)(C + D)(A + C)(B + D)} \quad \text{With Yates' Correction}$$

$$df = (c - 1)(r - 1)$$

Interval Estimation

$$\hat{p} \pm Z \sqrt{\frac{\hat{p}\hat{q}}{n}}$$