



# Intro to Stats

Chi square

## Uses

- Non-parametric test that's useful when your sample violates the assumptions about normality required by other tests
  - All other tests we've discussed require interval or ratio outcomes, but sometimes you have categories (yes/no)
  - Also chi-square does not require a normal distribution (only present in large samples)
  - Or equal variance between groups

## Chi-square

- ▶ Uses sample data to evaluate hypotheses about proportions of relationships that exist within populations
- ▶ Is the number of y equally distributed in the population?
- ▶ Test between what is observed and what is expected by chance

## Calculation

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

$\chi^2$  = chi square

O = observed frequency

E = expected frequency