

Lecture 32: Chapter 12, Sections 1-2

Two Categorical Variables

Chi-Square

- Formulating Hypotheses to Test Relationship
- Test based on Proportions or on Counts
- Chi-square Test
- Confidence Intervals

Looking Back: *Review*

□ 4 Stages of Statistics

- Data Production (discussed in Lectures 1-4)
- Displaying and Summarizing (Lectures 5-12)
- Probability (discussed in Lectures 13-20)
- Statistical Inference
 - 1 categorical (discussed in Lectures 21-23)
 - 1 quantitative (discussed in Lectures 24-27)
 - cat and quan: paired, 2-sample, several-sample (Lectures 28-31)
 - 2 categorical
 - 2 quantitative

Inference for Relationship (*Review*)

- H_0 and H_a about **variables**: not related or related
 - Applies to all three $C \rightarrow Q$, $C \rightarrow C$, $Q \rightarrow Q$
- H_0 and H_a about **parameters**: equality or not
 - $C \rightarrow Q$: pop **means** equal?
 - $C \rightarrow C$: pop **proportions** equal?
 - $Q \rightarrow Q$: pop **slope** equals zero?