Week 8 – Lecture Notes

Measures of Association – Pearson product moment correlation (Metric variables) and Chi-squared test of independence between (Categorical Variables)

Associations vary in strength: Strong vs Weak. We can measure the association by partition the variation between two variables into two separate parts: Shared component (Covariance) and an independent component. Correlation vs Causation.

Almost z-scores: A set of z-scores have a mean of 0, and standard deviation of 1. Cross product just multiplies the two values together. Average of cross-products for the z-scores, is the same thing as correlation coefficient. Correlation runs from -1 to 1, near 0 indicates weak relationship, anything near 1 or -1 show strong relationship.

Correlation coefficient is standardized, from -1 to 1. You need to compensate for the variability to account for the two distributions. Cross product is only for z-scores.

Significance test of “r” is “t”. F