Correlation vs. Regression


X


Y

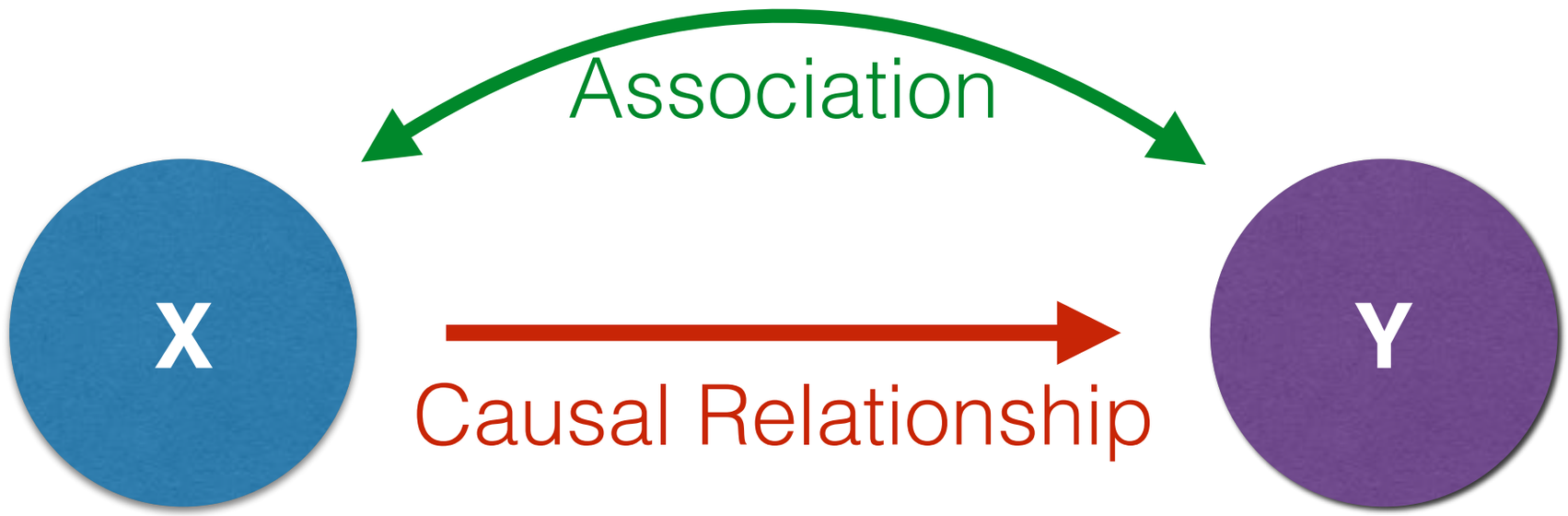
$$r_{xy} = \frac{\sum_{i=1}^{N}(x_i = \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{N}(x_i = \bar{x})^2 \sum_{i=1}^{N}(y_i - \bar{y})^2}}$$

Causal Relationship

$$R^2 = \frac{\sum_{i=1}^{N}(\hat{y}_i - \bar{y})^2}{\sum_{i=1}^{N}(y_i - \bar{y})^2}$$

Correlation vs. Regression

$$r_{xy} = \frac{\sum_{i=1}^{N}(x_i = \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{N}(x_i = \bar{x})^2 \sum_{i=1}^{N}(y_i - \bar{y})^2}}$$



$$R^2 = \frac{\sum_{i=1}^{N}(\hat{y}_i - \bar{y})^2}{\sum_{i=1}^{N}(y_i - \bar{y})^2}$$

the Mantel Test

Estimates correspondence between values in two or more distance matrices.