Analysis of correlation and association

Politics

The correlation coefficient measures the strength and direction of a relationship by utilizing the geometric relationship of the dependent variable Y with the independent variable X. It is defined as " the measure of association between two interval variables" (Willnat, Manheim and Rich, 2011), also known as the Pearson product-moment correlation. This coefficient predicts the values of Y according to that of the corresponding values of X. Because of its higher accuracy and efficiency in predicting values of association between variables, the correlation coefficient is still reliable even when the samples to be used in the test vary in size.

Since the coefficient of association relies mainly on a specific sample size on guessing the measure of association instead of the whole population, the test for statistical significance is stronger using the correlation coefficient. The latter can accurately predict the association between variables based on any subgroups of a population, hence making it a reliable tool in any given statistical data scenario.