

Table 14.1

Overview of Statistical Measures and Their Analytical Purpose

	Statistical Measure	Analytical Purpose
Univariate Statistics		Describes a single variable
	Measures of central tendency	Identifies the average value of the variable
	Measures of dispersion	Identifies how well the average describes the distribution of a variable
Multivariate Statistics		Analyzes the relationship between more than one variable
Statistical Significance		Identifies the probability that the null hypothesis is correct
	t-test	Compares a sample mean to a population mean for an interval-level variable
	ANOVA (F test)	Compares the distribution of an interval-level variable across multiple groups
	Chi-square	In a contingency table, compares observed and expected frequencies for each cell
Substantive Significance		Measures the strength of the relationship
	Cramer's V	Measure of association when at least one variable has a nominal level of measurement
	Lambda	Measure of association when at least one variable has a nominal level of measurement; has a PRE interpretation: the proportion of errors in the dependent variable explained by the independent variable
	Gamma	Measure of association for two ordinal-level variables
	ANOVA (eta and eta-squared)	Measure of association when the independent variable is categorical; eta-squared has a PRE interpretation: the proportion of variance in the dependent variable explained by the independent variable
	Pearson's r	Measure of association for two interval-level variables
	Regression	Identifies a linear relationship controlling for multiple independent variables; R-square has a PRE interpretation: the proportion of variance in the dependent variable explained by the model