Choosing the Correct Statistical Test

Number of Dependent* Variables	Number of Independent** Variables	Type of Dependent Variable(s)	Type of Independent Variable(s)	Measure	Test(s)
1	0 (1 population)	continuous normal	not applicable (none)	mean	one-sample t-test
		continuous non-normal		median	one-sample median
		categorical		proportions	Chi Square goodness-of-fit, binomial test
	1 (2 independent populations)	normal	2 categories	mean	2 independent sample t-test
		non-normal		medians	Mann Whitney, Wilcoxon rank sum test
		categorical		proportions	Chi square test Fisher's Exact test
	0 (1 population measured twice) ***or*** 1 (2 matched populations)	normal	not applicable/ categorical	means	paired t-test
		non-normal		medians	Wilcoxon signed ranks test
		categorical		proportions	McNemar, Chi-square test
	1 (3 or more populations)	normal	categorical	means	one-way ANOVA
		non-normal		medians	Kruskal Wallis
		categorical		proportions	Chi square test
	2 or more (e.g., 2-way ANOVA)	normal	categorical	means	Factorial ANOVA
		non-normal		medians	Friedman test
		categorical		proportions	log-linear, logistic regression
	0 (1 population measured 3 or more times)	normal	not applicable	means	Repeated measures ANOVA
		normal	continuous		correlation simple linear

	1			regression
		non-normal		non-parametric correlation
		categorical	categorical or continuous	logistic regression
			continuous	discriminant analysis
	2 or more	normal	continuous	multiple linear regression
		non-normal		
		categorical		logistic regression
		normal	mixed categorical and continuous	Analysis of Covariance General Linear Models (regression)
		non-normal		
		categorical		logistic regression
2	2 or more	normal	categorical	MANOVA
2 or more	2 or more	normal	continuous	multivariate multiple linear regression
2 sets of 2 or more	0	normal	not applicable	canonical correlation
2 or more	0	normal	not applicable	factor analysis

* outcome

** predictor

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Page editor is Julia Hartman.

Last modified December 1, 2000.
The information in this site is current through August 15, 2000.