

A GENERAL GUIDE TO SELECT AN APPROPRIATE STATISTICAL TEST IN UNIVARIABLE ANALYSIS (BY PROF. SYED HATIM)

Number of group	Independent variable	Dependent variable	Parametric test	Non-parametric test
Two (independent)	Categorical (e.g. smokers and non smokers) Categorical (e.g. smokers and non smokers) Categorical (e.g. smokers and non smokers)	Categorical (e.g. CHD and no CHD) Categorical (e.g. CHD and no CHD) Numerical (e.g. PEFR level)	- - Independent t test	Chi-square test Fisher's Exact test Mantel Hanzel Test (if a third variable is controlled for)(e.g. age group is controlled for) Mann-Whitney test (Wilcoxon Ranked Sum Test)
Two (dependent)	Categorical (e.g. pre-intervention and post-intervention) Categorical (e.g. pre-treatment and post-treatment)	Categorical (e.g. behavioral changes) Numerical (e.g. blood pressure)	- Paired t-test	Mc Nemar's test Wilcoxon Signed Rank Test
> Two (independent)	Categorical (e.g. race) Categorical (e.g. race)	Categorical (e.g. diabetic and non-diabetic) Numerical (e.g. blood sugar level)	- One-way ANOVA	Chi-square test Kruskal-Wallis test

Two	Numerical (e.g. height)	Numerical (e.g. weight)	Pearson correlation & Simple Linear Rgression	Spearman correlation & Simple Linear Regression
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