

## Statistics for Comparing Means

Goal	Statistic
Compare a sample mean to a population mean or other value	Use a $z$ for a sample mean if $\sigma$ is known  Use a single-sample $t$ if $\sigma$ is unknown
Compare two sample means	Use an independent measures $t$ if the two samples are independent of each other  Use a related samples $t$ if the two samples are related (either matched or repeated measures)
Compare three or more sample means	Use a one-way (single-factor) ANOVA if there is one independent variable  Use a two-way (two-factor) ANOVA if there are two independent variables

## Statistics for Doing Things Other Than Comparing Means

Goal	Statistic
Analyze frequency counts	Use a chi-square goodness-of-fit test if there is one IV/grouping variable  Use a chi-square test of independence if there are two IVs/grouping variables
Determine if two ordinal, interval, or ratio variables are related to each other	Use a Pearson correlation if both variables are interval/ratio and linearly related  Use a Spearman correlation if at least one variable is ordinal or if the relationship is not linear (but is monotonic)
Use one interval/ratio variable to predict another interval/ratio variable	Use regression