

VassarStats for Statistical Computation
<http://vassarstats.net/>

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Statistics Revision

- The type of statistic used depends on the nature of the variables
 - Two continuous variables: Correlation
 - One categorical variable and one continuous variable
 - If two groups on the categorical variable: t-test
 - If three or more groups on one categorical variable: one-way ANOVA
 - If two (or more) categorical variables: Factorial ANOVA
 - If pre-test: ANCOVA
 - If two categorical variables: Chi-Square

Correlation

- Use the Hide function to ensure the two variables are side-by-side
- **VassarStats:** Basic Linear Correlation and Regression
 - Data-Import Version
- Copy both variables at the same time
 - Paste into *Data Entry*
- Check the two-tailed p

t-test

- Sort data by the independent variable
 - Use Hide to ensure the two variables are side-by-side
 - Use color fill to note the difference between the two levels of the independent variable
- **VassarStats:** Two-sample t-test for Independent Samples
 - Click Independent Samples
 - Copy and Paste the Dependent Variable into Sample A and Sample B
 - Remember which level of the independent variable is A and B!
- Check the two-tailed p

One-Way ANOVA

- Sort Data by the independent variable
 - Use Hide to ensure the two variables are side-by-side
 - Use color fill to note the difference between the levels of the independent variable
- **VassarStats:** One-way ANOVA
 - Enter number of samples (levels of the IV)
 - Click Independent Samples
- Copy and paste the Dependent Variable into Sample 1, 2, 3, etc.
 - Ensure you remember which level of the IV corresponds to which Sample
- Check the p

Factorial ANOVA

- Sort Data by the independent variables
 - Use Hide to ensure the three variables are side-by-side
 - Use color fill to note the difference between the levels of the independent variables
- **VassarStats:** Two-way Factorial ANOVA for Independent Samples
 - Enter number of rows and columns in analysis (level of each IV separately)
 - Click Setup
- Copy and paste the Dependent Variable into the appropriate row and column
 - Ensure you remember which level of the IV corresponds to which Sample
- Check the p for the Interaction Effect (rcx)
 - If the interaction effect is not significant, check the p for the two Main Effects (Rows and Columns)

ANCOVA

- Sort the data by the independent variable
 - Use color fill to note the difference between the two levels of the independent variables
- Use the Hide function to ensure the pre-test (CV) and post-test (DV) are side-by-side
- **VassarStats:** Click on the number of groups for data import (k=2, k=3, or k=4)
- Copy and paste the pre-test and post-test together
 - Paste into Sample A and Sample B by levels of the IV
- Check the p

Chi-Square

- Calculate the frequency of participants in each group in Microsoft Excel using *countif* or *countifs*
- **VassarStats:** Click on Frequency Data
 - Click on Chi-Square, Cramer's V, and Lambda
 - Select the number of rows and columns
- Enter the observed frequency in each column
- Check the chi-square