STRINGFEST ANALYTICS

Intermediate Statistics in Excel: One-day workshop

Lesson 1: Comparing categories

Lesson 2: Comparing repeated measures

Lesson 3: Comparing multiple groups

Lesson 4: Parametric and non-parametric tests

Lesson 5: Correlations

Lesson 6: Linear regression

Recommended preparation: Introductory statistics in Excel, half-day workshop

Learning Objectives

- Student can compare the expected values of two categories
- Student can compare the means of dependent samples
- Student can compare the means of more than two groups
- Student can compare groups using non-parametric methods
- Student can correlate two or more variables and visualize the results
- Student can conduct and interpret a univariate linear regression

Lesson 1: Comparing categories
Objective: Student can compare the expected values of two categories
Description:

- T-tests, continued
- Chi-square independent samples test

Time: 35 minutes
Assets needed: A/B test results dataset

Lesson 2: Comparing repeated measures
Objective: Student can compare the means of dependent samples
Description:

- Repeated measures in statistics
- Dependent samples t-test

Time: 35 minutes
Assets needed: Patient records dataset

Lesson 3: Comparing multiple groups
Objective: Student can compare the means of more than two groups
Description:

- One-way ANOVA
- Visualizing & interpreting resultzs
- Post-hoc tests and Type II error

Time: 75 minutes
Assets needed: Abalone snails data

Lesson 4: Parametric and non-parametric tests
Objective: Student can compare groups using non-parametric methods

- Parametric versus non-parametric tests
- Statistically testing for normality
- Wilcoxon signed-rank test

Time: 75 minutes
Assets needed: Patient records dataset

Lesson 5: Correlations
Objective: Student can correlate two or more variables and visualize the results

- Correlations and covariances
- Testing for correlations
- Correlations and visualizations
- Spurious correlations
- From correlation to causation

Time: 90 minutes
Assets needed: Athlete records dataset

Lesson 6: Linear regression
Objective: Student can conduct and interpret a univariate linear regression

- Checking assumptions
- Conducting a regression
- Model interpretation & diagnostics

Time: 120 minutes
Assets needed: Athlete records dataset