

T-Tests

One sample t-test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Sample mean and standard deviation
- Conclusions

Paired t-test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Sample mean difference and standard deviation of the difference – don't forget to report the direction.
- Conclusions

2-Sample t-test

Note: There are two tests being performed here:

1. Test for equal variance (can do a formal report with null and alternative hypothesis, variances of each group, etc. but we typically only report the following)

- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Conclusions

2. Test for equal means

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Sample means and standard deviations
- Mean difference and 95% confidence interval – don't forget to report the direction
- Conclusions

Tests of Proportion and Independence

One sample test of proportion

- Null and alternative hypothesis
- Level of significance α
- Sample proportion with 95% confidence interval
- Test statistic with pvalue
- Conclusions

Chi square test of independence

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Sample estimate of OR, RR or RD with interpretation and 95% confidence interval
- Conclusions

ANOVA and ANCOVA

ANOVA

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- R-squared – don't forget to interpret this value
- Sample means and standard deviations of each group
- Conclusions

If you reject the null hypothesis then you need to do a multiple comparison procedure using Tukey's test

- Null and alternative hypothesis
- Conclusions

ANCOVA

Note: There are two tests being performed here:

1. Global test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- R-squared and/or adjusted R-squared – don't forget to interpret the R-squared value (note that the interpretation of the adjusted R-squared is not the same as the R-squared and is not required)
- Conclusions

2. Individual test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Adjusted means of each group
- Conclusions

Correlation and Regression

Correlation (make sure you check for normality to determine which correlation test you report)

- Null and alternative hypothesis
- Level of significance α
- Pvalue
- Sample correlation with 95% confidence interval – don't forget to report the direction and strength of association
- Conclusions

Simple Linear Regression

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- R-squared – don't forget to interpret this value
- Estimated slope with standard error – don't forget to interpret the slope
- Conclusions

Multiple Linear Regression

Note: There are two tests being performed here:

1. Global test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- R-squared and/or adjusted R-squared – don't forget to interpret the R-squared value (note that the interpretation of the adjusted R-squared is not the same as the R-squared and is not required)
- Conclusions

2. Individual test (if null hypothesis of the global test is rejected)

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Estimated slope with standard error – don't forget to interpret the slope
- Conclusions

Simple Logistic Regression

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- OR with 95% confidence interval (or log-odds with standard error) – don't forget to interpret the OR (or log-odds)
- Conclusions

Multiple Logistic Regression

Note: There are two tests being performed here:

1. Global test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- Conclusions

2. Individual test

- Null and alternative hypothesis
- Level of significance α
- Test statistic with degrees of freedom and pvalue
- OR with 95% confidence interval (or log-odds with standard error) – don't forget to interpret the OR (or log-odds)
- Conclusions