

Important Terms and Concepts

- Inference, and the concept of a sample vs. a population
- Sampling distributions
- Alternative vs null hypotheses
- Directional vs nondirectional hypotheses
- Type I and Type II error; alpha and beta
- Power: what is it, how is it related, what influences it
- The difference between categorical IV (sample) designs and continuous IV (bivariate) designs
- Parametric vs nonparametric

INFERENCE TESTS

Single sample designs

z-test for single samples

t-test for single samples

Two groups/paired

Paired t-test

Wilcoxon signed ranks test

Two groups/independent

Independent t-test

Mann-Whitney U-test

INFERENCE TESTS, contd.

Multigroup/independent

Analysis of variance (ANOVA)

Tukey's honestly significant
differences test

Kruskal-Wallis H-test

Mann-Whitney U-test

X-Y/continuous IV

Correlation

Linear regression

Nominal

Chi-square

Simple

Goodness-of-fit

Contingency (two-way)

Seven Basic Skills for “Choosing the Appropriate Test”

1. Categorical IV vs. Continuous IV?
2. Nominal, ordinal, interval/ratio?
3. No. of samples: 1, 2, or 3+?
4. Known σ ?
5. Paired vs. independent two-sample design?
6. Sampling distribution normally distributed?
 - Raw scores normally distributed
 - Sample size
7. Homogeneity of variance: 4-fold rule for variances

