

Technical Paper 21

Mann-Whitney U

- A. Used in situations similar to Student's t-test, you want to see if the two samples differ significantly in central tendency – medians.
- B. We do not use the actual measurements, but rather we use the rank of the measurements.
 - 1. If two or more measurements are tied then all of the tied values are assigned the average rank.
- C. Mann-Whitney is applicable to interval, ratio, and ordinal scale data.
- D. Assumptions
 - 1. Random samples.
 - 2. Independent samples.
 - 3. The two distributions that the samples are drawn from are of similar shape.

$$U = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - R_1$$

$$U' = n_1 n_2 - U$$