**Stats Homework**

**Homework #1: Measurement and Variables**

1. A client rates her satisfaction with her vocational counselor as a 3 on a 4-point scale. The scale ranges from 1 = *not at all satisfied* to 4 = *very satisfied*. Identify the (a) variable, (b) possible values, and (c) client’s score.
2. Name the *scale of measurement* for each of the following variables: (a) ethnic group to which a person belongs, (b) number of times a mouse makes a wrong turn in a laboratory maze, and (c) position one finishes a race.
3. Describe the four levels or *scales of measurement* in your own words. Based on your descriptions, identify the scale for each of the following variables:
   1. Number of downloads of different bands’ songs on iTunes
   2. Names of the bands that were downloaded
   3. Positions on the iTunes download chart
   4. The money earned by the bands from the downloads

**Homework #1: Answers**

1. **Client data**
   1. The *variable* is the client’s level so satisfaction.
   2. The possible *values* are 1,2,3, and 4
   3. The client’s *score* is 3.
2. **Measurement scales** 
   1. the scale is nominal
   2. the scale is ratio; an absolute 0 exists
   3. the scale is ordinal (rank-ordered)
3. **Scales of measurement**

*Nominal Scale* - Variables with more than two qualitatively different categories.

*Ordinal Scale* - Variables that have ranked order only; numbers are not interval.

*Interval Scale* - Variables that have ranked order and equal intervals between values. No true zero.

*Ratio Scale* - Variables represent ranked order, equal intervals between values, and a true zero point.

* 1. Number of downloads of different bands’ songs on iTunes – Ratio, Discrete
  2. Names of the bands for the songs that were downloaded – Nominal/Categorical
  3. Positions on the iTunes download chart - Ordinal
  4. The money earned by the bands from the downloads – Ratio, Continuous