Overview of Class Exercise:

Students often have taken "personality" tests online or in magazines prior to beginning their study of psychology. These tests provide students with various scores that they often report describe them with a high degree of accuracy. We have found that students generally accept such test interpretation without any real awareness of how the scores were derived and what the numbers communicate from a mathematical perspective. In addition, in introductory classes students often report an understanding of the "bell curve" idea. When questioned directly, however, many are unable to relate the bell curve to the concept of statistical variation and fail to even note the idea that many traits are normally distributed. This in class-exercise is an attempt to overcome these student misperceptions and encourage critical thinking, particularly quantitative reasoning, in a very personally relevant context...the understanding of their own personality.

As part of the study of trait approaches to personality, students will take an online, standardized personality test (the NEO-PR-R). This in-class exercise will guide students in an exploration of what their scores truly mean (as compared to what?), emphasizing the norming process. Class norms for the NEO-PR-R will be developed and through this process students will gain an understanding of the normal distribution as well as the ability to calculate and interpret various measures of central tendency and variation. Their own scores will then be analyzed in relation to class norms (and potentially institution and/or national norms).

A written lab report *(see center panel)* will document student mastery of data graphing and computational skills and an individual written assignment will assess whether numerical data can be accurately interpreted to explain their own personality traits.

Quantitative Literacy Goals:

- Students will use and interpret numerical data to enhance their understanding of their own personality traits.
- Students will gain an understanding of the normal distribution (the "bell curve") and an appreciation of the norming process.

To demonstrate this understanding....

- Students will complete an in-class lab requiring the accurate presentation of class data in a frequency distribution and computation of mean, standard deviation and z- scores.
- Students will develop class norms using class data and will analyze their own personality scores in relation to class norms.
- Students will report and accurately interpret numerical data in an individual written product.

Topics Addressed:

Standardized personality assessment

Trait approach to personality

The "BIG FIVE" personality factors

Raw scores vs. Percentile scores

Normal Distribution ("BELL CURVE")

Norming

Measures of Central Tendency- MEAN

Measures of Variability-STANDARD DEVIATION Z-SCORES

Procedure:

- 1) Lecture/Reading assignment- The trait approach to personality is discussed, as part of a unit on personality theory and assessment.
- 2) Homework assignment- Students take the online NEO-PR-P and complete a score report which they bring to class.
- 3) Class exercise (individual or small group) and discussion- Class data is compiled and lab report is completed (see center panel).
- 4) Analysis/Personal reflection- Students analyze their own personality scores in relation to the class norms and are encouraged to think about how their understanding of the "bell curve" may have evolved due to the class exercise.
- 5) Writing assignment- Insights regarding the above are recorded in a written paper. A central component of this is the reporting and correct interpretation of numerical data
- 6) Exercise Evaluation- Students provide feedback in order that the exercise can be improved and the goals assessed.