

## Statistics Assignments Using Excel® Assignment #4: Measures of Variability

### Part I

Below are ACT composite scores from 20 randomly selected college students.

15	33	20	25	21
24	17	16	20	25
26	21	21	17	28
21	24	19	19	24

Enter the data into a spreadsheet and calculate the following descriptive statistics: mean, median, range, interquartile range, sample variance, sample standard deviation, estimated population variance, and estimated population standard deviation.

- Calculate the variances and standard deviations using spreadsheet functions (VAR, VARP, STDEV, STDEVP) **AND** by creating your own formulas.
- Be sure all your work is shown and clearly labeled, and label the entire worksheet “ACT Scores”.

### Part II

The data below are the milliliters of alcohol consumed for 15 rats in an experiment investigating the effectiveness of a drug designed to inhibit the pleasurable effects of alcohol intoxication.

80	105	115
110	100	110
85	95	70
90	110	85
115	140	90

- Enter the data in a new worksheet (not workbook!)
- Calculate the same descriptive statistics you did for the ACT data (first using functions, then with formulas)
- Label the worksheet “alcohol data.”

When finished, you should have two worksheets in one spreadsheet file (workbook).  
Do a final save and submit.

Author contact and copyright information:

Michael J. Tagler, Ph.D., Department of Psychological Science, Ball State University, Muncie, IN 47304, [mjtagler@bsu.edu](mailto:mjtagler@bsu.edu)  
Copyright 2010 by Michael J. Tagler. All rights reserved. You may reproduce multiple copies of this material for your own personal use, including use in your classes and/or sharing with individual colleagues as long as the author's name and institution and the Office of Teaching Resources in Psychology heading or other identifying information appear on the copied document. No other permission is implied or granted to print, copy, reproduce, or distribute additional copies of this material. Anyone who wishes to produce copies for purposes other than those specified above must obtain the permission of the author.  
Microsoft Excel is a trademark of the Microsoft group of companies.

The following textbook contains detailed instructions for using spreadsheets in an introductory statistics class:  
Tagler, M. J. (2009). *Understanding basic statistics with spreadsheets*. New York, NY: Pearson Custom.