**Statistics for the Social Sciences**

**Assignment 4.4**

What percentage of variance in income is explained by knowing a person’s level of educational attainment? We’ll answer that question using a scatterplot in Excel. We’ll be using data taken from a Bureau of Labor Statistics chart. The chart looks like this:



You’ll need to translate that data into a spreadsheet. The columns will look something like this:

|  |  |  |
| --- | --- | --- |
| **Education** | **Earnings** | **Unemployment Rate** |
| 1 | 493 | 8 |
| 2 | 678 | 5.4 |
| 3 | 738 | 5 |
| 4 | 798 | 3.8 |
| 5 | 1137 | 2.8 |
| 6 | 1341 | 2.4 |
| 7 | 1730 | 1.5 |
| 8 | 1623 | 1.7 |
|   |  |  |
| Education Legend |
| Less than High school | 1 |
| High School Diploma | 2 |
| Some College | 3 |
| Associate's | 4 |
| Bachelor's | 5 |
| Master's | 6 |
| Professional | 7 |
| Doctoral  | 8 |

Note that I’ve converted (coded) the education level into numbers so we can use it to create a trendline. Here are the steps you should take:

1. Build and excel file using the data provided above.
2. Highlight the Education and Earnings columns.
3. Insert a basic scatterplot using the same steps you used for assignment 4.3.
4. Right click over the data points and select **Add Trendline**.
5. Select the “display equation on chart” option.
6. Select the “Display R-squared value on chart” option.
7. Use the border tool to “pretty up” your chart.
8. Save your file as YourLastName\_Your\_First\_Name\_4.4.
9. Submit your Excel file via Blackboard.

***The value for R2 that appears on the plot can be interpreted as the percentage of variance explained in income by knowing educational level.***

Your finished file should look like this:

