**Week 7 Applications**

1. A social scientist would like to analyze the relationship between educational attainment and salary. He collects the following sample data, where Education refers to years of higher education and Salary is the individual’s annual salary (in $1,000s):

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Education** | 3 | 4 | 6 | 2 | 5 | 4 | 8 | 0 |
| **Salary** | 40 | 53 | 80 | 42 | 70 | 50 | 110 | 38 |
| a. | | Use excel to find the regression equation for the model where educational level impacts your salary amount: | | | | | | | |
| b. | | Interpret the coefficient for Education, using the formula. | | | | | | | |
| c. | | What is the predicted salary for an individual who completed 7 years of higher education? | | | | | | | |
|  | |  | | | | | | | |

**Excel File: Happiness\_Age**

2. Refer to the accompanying data file on happiness and age to answer the following questions.

|  |  |
| --- | --- |
|  | 1. Preview your data using a scatter plot. Use Excel to estimate a simple linear regression model with Happiness as the dependent variable and Age as the independent variable. |
|  | 1. Use the sample regression equation to predict Happiness when Age equals 25, 50, and 75. |