Data Analysis 2 Assignment 1

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**Data**

* Business Operations Specialists (500 - 740)
* Sample: 1634 males and 2288 females.

**Distribution of Earnings**

* Analysis of both normal and log distributions.
* Earnings gaps due to varying pay scales across different professions in the food industry.
* Log distribution approximates normal distribution, useful for further analysis.

**Gender Gap with the Level of Education**

Gender gap of logarithm wage is divided into three group based on “grade92”, which means the highest educational grade completed.

* “grade92” = 32-36 (1) in the table below
  + Coeff is 0.0093. That is, earnings by women are 0.93% less than men.
  + |t| = 0.068 < 1.96, which means it is **not** statistically significant.
  + p = 0.946 > 0.05, which means it is **not** statistically significant.
* “grade92” = 36-41 (2)
  + Coeff is -0.1351. That is, earnings by women are 13.51% less than men.
  + |t| = 4.514 > 1.96, which means it is statistically significant.
  + p = 0.000 < 0.05, which means it is statistically significant.
* “grade92” = 42-46 (3)
  + Coeff is -0.2009. That is, earnings by women are 20.09% less than men.
  + |t| = 9.220 > 1.96, which means it is statistically significant.
  + p = 0.000 < 0.05, which means it is statistically significant.

**Unconditional Earnings Analysis by Gender**

* Overall, earnings by women are 18.7% less than men. (4)
* |t| = 10.230 > 1.96, which means it is statistically significant.
* p = 0.000 < 0.05, which means it is statistically significant.

**Summary**

* In terms of Business Operations Specialists, it seems the more grade they got, the wider the gender gap becomes.

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