

Week 5 Post-Lab

BIOE 320 Systems Physiology Laboratory

A student was curious about the relationship between resting heart rate and age. To investigate, they collected resting heart data from 20 people and had them report their age. The resulting data can be found [here](#). Conduct the necessary statistical test to determine if there is a relationship between resting heart rate and age.

1. Perform a linear regression on this data and state the equation of best fit. Explain your work.
2. What percentage of the variance is explained by the regression line? What percentage of the variance is unexplained by the regression line?
3. Based on this regression, do you think there is a meaningful correlation between resting heart rate and age? You do not need to perform a statistical test, but you must briefly justify.
4. Identify at least one problem with the data collection method and how it may be corrected for better results. Hint: visualize the data.