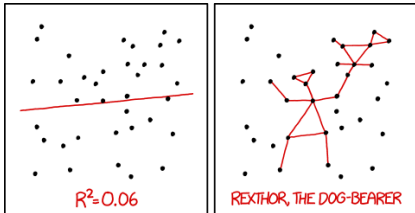
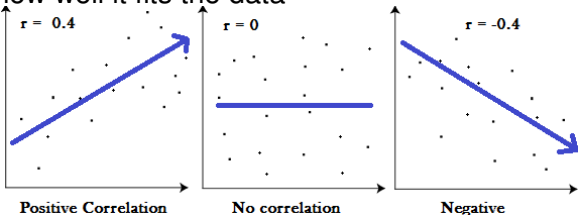


Inferences and Regression

- Karl Pearson statistics, eugenics
- correlation coefficient r gives sign of slope of best fit line and a measure of how well it fits the data



I DON'T TRUST LINEAR REGRESSIONS WHEN IT'S HARDER TO GUESS THE DIRECTION OF THE CORRELATION FROM THE SCATTER PLOT THAN TO FIND NEW CONSTELLATIONS ON IT.

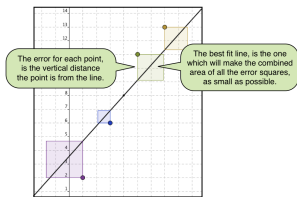
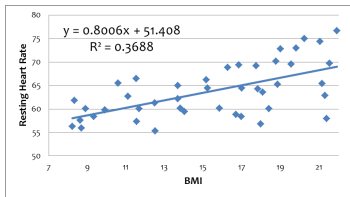
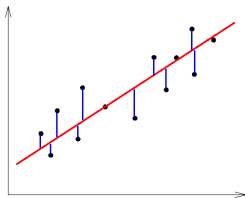
Picture citations: 1. Public domain

2. <https://www.statisticshowto.datasciencecentral.com/probability-and-statistics/correlation-coefficient-formula/>

3. <https://xkcd.com/1725/>

Strength of the Relationship: r^2 percent

- 0 to 10% **no**
- 10% to 25% **weak**
- 25% to 65% **moderate**
- above 65% **strong**
- NOT a probability for correct nor a likelihood of on the line
- measures the y -values distances via sum of squares as variation in the dependent variable explained by linearity



Picture citations:

1. <http://cs.wellesley.edu/~cs199/lectures/35-correlation-regression.html>
2. <http://www2.nau.edu/mat114-c/ch3a.php>
3. <http://math.maine121.org/welcome/chapter-5/>