R^2

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R^2

- strength of the fit of a linear model is most commonly evaluated using R^2
- calculated as the square of the correlation coefficient
- tells us what percent of variability in the response variable is explained by the model
- the remainder of the variability is explained by variables not included in the model
- always between 0 and 1

practice

Which of the following is the correct interpretation of the R^2 for this model for predicting % living in poverty from % HS graduation rate? ($R^2 = 0.5625$)

X (a) 56.25% of the time % HS graduates predict % living in poverty correctly.

X (b) 43.75% of the variability in the % of residents living in poverty among the states is explained by the model.

X (c) 56.25% of the variability in the % of HS graduates among the states is explained by the model.

(d) 56.25% of the variability in the % of residents living in poverty among the states is explained by the model.

practice

The R^2 for the relationship displayed in the scatterplot is 92.16%. What is the correlation coefficient?

$\sqrt{0.9216} = 0.96 \rightarrow R = -0.96$