Scatterplots and the "r" value

0:00 / 6:13

1.0x

SPEAKER: MICHAEL J. MAHOMETA, Ph.D.

Galton's first idea of showing a relationship between bivariate data,

with his "scattergraph," was pretty close to what

we call a scatterplot today.

He had counts that

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Comprehension Check

A researcher plotted the weights of each of his lab mice against their age (in days). This produced the following scatterplot:

Lab due Mar 15, 2016 at 18:00 UTC

Problem Set
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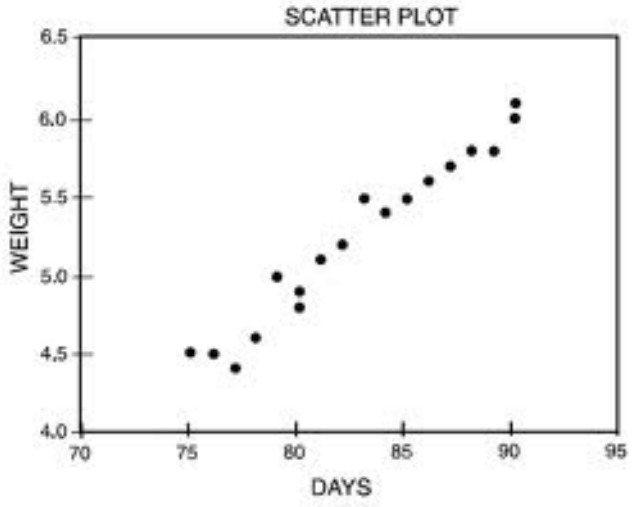
- Week 4: Bivariate Distributions (Categorical Data)



(4/4 points)

How would you describe the direction of the relationship shown in this scatterplot?

- (•) Positive ✔
- ( ) Negative
- ( ) There is no relationship

How would you describe the strength of the relationship in this scatterplot?

- ( ) Weak (the data points are widely scattered)
- ( ) Moderately strong (there is a clear pattern, but there are a few significant outliers)
- (•) Very strong (nearly all the data points sit on or near the linear trend line) ✔
- ( ) None (there is no visible relationship)

Which of the following best describes the relationship between these two variables?

- As mice age, their growth rate slows down.
- The mice get heavier as they age. ✔
- The mice do not appear to grow much during the first month of life.

Which would be the most likely value of the Pearson correlation coefficient, r, for this relationship between age and weight?

- -0.87
- 0.56
- 0.93 ✔
- 1.00

Below is a table of Pearson correlations (called a *correlation matrix)* for income, amount of education, age, and intelligence.

	Education	**Age**	**IQ**
Income	0.65	0.41	0.27
Education		0.11	0.38
Age			-0.02

(2/3 points)
Which variables have the strongest relationship?

- Age and Income ✖
- Age and IQ

- Education and Income
- Education and IQ

Which variables appear to have almost no relationship at all?

- Age and Education
- Age and IQ ✔
- IQ and Income
- There are no variables that are not related.

What would be the correlation of Education with Education?

- 0.00
- 0.50
- 1.00 ✔
- Cannot be answered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