

Regression Analysis

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July 26, 2017

Correlation doesn't imply causation

<http://nymag.com/daily/intelligencer/2016/11/activists-urge-hillary-clinton-to-challenge-election-results.html>

<https://twitter.com/NateSilver538>

<https://www.amazon.com/Signal-Noise-Many-Predictions-Fail-but/dp/0143125087>

Ways to detect causality

- Rubin's model
- Random trial
- Natural experiments

Types of quasi-experimental approaches

- Differences-in-difference approach
- Regression discontinuity design
- Instrumental variables
- Twin studies
- Regression analysis. . .

Japan's crazy year

Romania's example

The Scatter Diagram

- A visual method to display the relationship between two interval-ratio variables
- Often a first step. It is suggestive of an association.

The scatter Diagram

Linear Relations

A relationship between two interval-ratio variables that can be approximated using a straight line

If all the data points lie on this line, the relationship is called perfect (or deterministic)

This is a very special person

<http://time.com/4742127/violet-brown-oldest-person-world/>