

**BerkeleyX: CS110x Big Data Analysis with Apache Spark**

Bookmarks



Bookmark

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▼ Week 1 - Big Data and Data Science**Lecture 1: Big Data and Data Science**

Quizzes

**Setting up the Course Software Environment**

Setup

**Lab 1: Power Plant Machine Learning Pipeline**

Lab due Sep 13, 2016 at 04:30 IST

**Lab 1 Quiz Questions**

Quizzes



Data Makes Everything Clearer?

BERCS1102016-V001200



▶ 0:00 / 17:12

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Seven Countries Study Q1



(1/1 point)

What would Fischer say is a potential flaw of the Seven Countries Study?

☐ "Causation does not imply correlation"

☐ "Correlation implies causation"

☒ "Correlation does not imply causation" ✓

☐ "Causation implies correlation"

EXPLANATION

The Seven Countries Study incorrectly drew the conclusion that dietary fat causes heart disease, based on the apparent correlation between the percentage of diet that was from fat calories and the rate of degenerative heart disease deaths.

Seven Countries Study Q2

(1/1 point)

What other lessons can a data scientist take away from the Seven Countries Study?

☒ Use more data 

☐ Use less data

☒ Explore more types of data/factors 



Note: Make sure you select all of the correct options—there may be more than one!

EXPLANATION

The Seven Countries Study only studied a subset of 7 out of 21 countries with available data, and it failed to include other important factors such as annual sugar consumption in pounds. Including additional data or factors would have likely led Ancel Keys to a different conclusion.

Snow's Analysis

(1/1 point)

Was Snow's Spot Map a convincing scientific argument that contaminated water caused Cholera?

- ☐ Yes, the map along with his analyses of the anomalies proved that contaminated water caused Cholera
- ☐ Yes, and this is why scientists at the Centers for Disease Control ask each other "Where's the pump handle?"
- ☒ No, the map only demonstrated a correlation and provided a hypothesis as to the cause of Cholera ✓
- ☐ No, the map contained anomalies and this means it can not be used as scientific proof

EXPLANATION

While Snow's map was effective in convincing the authorities to remove the pump handle, it was only a hypothesis that contaminated water caused Cholera. Scientific proof required an unbiased observation that removed potential confounding factors.

Social Networking Paper

(1/1 point)

What are the flaws in the social networking paper?

- ☒ Correlation does not imply causation ✓

☐ Causation does not imply correlation

☒ You have to identify all the important factors ✓

☐ Princeton will have no students by 2021



Note: Make sure you select all of the correct options—there may be more than one!

EXPLANATION

The paper arrives at its erroneous conclusion because the authors only considered one factor, search terms, in developing their model. As the parody response from Facebook shows, it is possible to jump the wrong conclusion by not considering all the factors.

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