

### Quiz 6 questions:

The language in the article on baby formula and leukemia suggests that the formula may **CAUSE** leukemia.

Which of the following are third variables that were MENTIONED in the article that might be the cause of the correlation between duration of formula feeding and leukemia?

Which of the following are third variables, that were NOT mentioned in the article, might in principle be the cause of the correlation between duration of formula feeding and leukemia?

In the Ken Robinson video on reforming education, a US map is shown with states colored according to the incidence of ADHD. What points are argued by Robinson about the pattern on the map? (Note: Do not worry about whether the option uses his exact language.)

In the Ken Robinson video on reforming education, for which of the following points were actual data given (as some form of numbers)?

In the Ken Robinson video on reforming education, he mentions data on the decline in divergent thinking with age (from Kindergarten to the teen years). Which are true?

### Quiz 7 questions

Both the NEJM article and the BBC writeup emphasize that the association between chocolate consumption and Nobel prizes is a correlation and that correlation does not mean causation.

The NEJM article discusses reasons why the association (between chocolate consumption and Nobel prizes) may be causal - that chocolate consumption leads to greater cognitive performance.

The NEJM article considers the possibility of causation by a third variable but fails to identify one that seems plausible.

As indicated in the NEJM article data were for all Nobel Prizes, from 1901-2011 (the Nobel Prize started in 1901), but only included chocolate consumption for the last 50 years in each of the 22 countries.

A statistically significant P value is reported for the correlation ( $P < 0.0001$ ). This small P value makes it more likely that the association between chocolate consumption and Nobel Prizes is causal, rather than just correlational.

Only the BBC writeup mentions studies done on chocolate or chocolate extracts in non-human animals.

### Quiz 8 questions

The primary study described in the article involved over a million individuals in the Swedish military. From what the article describes, this primary study was which of the following?

The correlation observed was that lower muscle strength as a teen resulted in reduced longevity. This is a negative correlation.

The article mentioned that, when some third variable were controlled, the correlation of longevity and 'muscle strength' remained. Which variables were controlled for this claim?

The article specifically cautioned that the data should not be interpreted as causal, and the article even mentioned a possible third variable (something other than muscle strength per se) that might provide the causal basis of the correlation.

The direction of the correlation between muscle strength and death by suicide was NOT the same as the direction of the correlation between muscle strength and death from all causes.

The part of the last paragraph that reads: 'trials of an intervention to increase exercise have not shown notable benefits' refers to what is likely an experimental study that is either underway or completed.