# Spurious relationships and extraneous variables

Psychology

Spurious Relationships and Extraneous Variables Find one media example of a correlation that could be argued to be spurious (third variable). Explain your media example.

In an article on the web-site Culturemap, Sarah Byerley cites a new study by Green et. al. (2011) which has found that, height of women is significantly correlated with a risk of developing certain kinds of cancer growths. This study is part of the ongoing Million Women Study, which is an in-depth analysis of the various aspects related to health of women. According to this study, per four centimetre increase in the height of a woman, her chances of contracting 10 out of the 17 common types of cancer conditions increases by 16%.

The study did posit many possible reasons for this occurrence; but have no conclusive reasons why this should be so.

2. What is the predictor variable and what is the outcome variable? Is it a positive or negative correlation?

The correlation found by Green et. al. (2011) is a positive correlation that states that with an increase in the height of a woman; her chances of contracting certain types of cancer also increase.

The predictor variable for this study is the height of the woman in question. The outcome variable in this study is the chance or possibility that the woman will contract certain types of cancer.

3. What is YOUR proposed third variable?

A proposed third variable could be the levels at which growth hormones manifest themselves in the woman's body.

4. How does YOUR third variable (spurious variable) SIMULTANEOUSLY explain BOTH your outcome variable and predictor variable?

The amounts of growth hormones are seen to be correlated positively with height. Also, research has revealed that high amounts of growth hormones has been linked to rapid growth in the number of cells; and thus can lead to the formation of mutated cells, leading to cancer.

Thus, the amount of hormones in the woman's body is correlated to both her height, and her chances of contracting cancer.

5. Find another media example that illustrates a correlation that may have an extraneous variable. Explain this example.

On his Financial Times blog, Paul Donovan states that there is an inverse relationship between prejudice and economic development (Donovan, Jul 26 2011). Here, he is quoting the observations of economists over a number of years and then goes on to explain why he thinks that the relationship between the extent to which an economy is developed and copes with chances in market conditions and the amount of prejudiced behavior exhibited in the economy, is such an important one to understand. He goes on to emphasize how prejudice can be counterproductive.

6. What is the predictor variable and the outcome variable? Is it a positive or negative correlation?

The predictor variable is the extent of economic development in a particular economy or market.

The outcome variable is the extent of prejudiced behaviour exhibited by the traders in that economy.

The relationship between the two is an inverse or negative one. High levels of development in the economy are correlated with low levels of exhibited prejudice; and low levels of development in an economy are correlated with higher levels of prejudiced behaviour exhibited by individuals.

7. How does YOUR proposed extraneous variable explain your outcome variable and not the predictor variable?

A possible alternate variable that could be playing a role in this equation is the extent to which the players in a market or economy feel threatened of frightened by the market conditions.

The threat of fear experienced does not explain the extent of development; but certainly explains prejudiced behavior. The more threatened a player in the market feels, the more is that person likely to form a prejudice towards the source of the threat. In Markets where the players face little of no threat, there would be fewer instances of prejudiced behavior; as there would be little reason to form and nurture prejudices. On the other hand, in an economy where many players feel threatened by internal or external sources, the prejudices may prove to be safeguards at least the psychological if not economic level; and so there are far more instances of prejudiced behavior.

Thus, the extraneous variable of the perception of threat can also be used to understand the presence of prejudiced behavior on certain market conditions and economies.

References:

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