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### Video 14 Causation

1. People who own more cars tend to live longer than people who own fewer cars. Why is this relationship not evidence that buying more cars increases life expectancy? **A lurking variable may be that people with more cars are wealthier and, therefore, may have access to better health care and healthier life.**
2. Heavy smokers are about 20 times more likely to get lung cancer than nonsmokers. Why isn't this link by itself good evidence that smoking causes lung cancer? **There is a strong association between smoking and lung cancer. Studies conducted when compared showed that smoking and lung cancer correlated, but correlation does not mean causation. There could be lurking variables such as pollution.**
3. What is the difference between a retrospective study and a prospective study? **A retrospective study compares a group of people with the disease against a similar group without the condition and asks questions to look for commonalities in habits. A prospective study observes and records outcomes from groups exposed to the factors.**
4. Why is a prospective study that compares a group of smokers with a similar group of nonsmokers not an experiment? **The smokers choose to smoke and therefore were not a forced factor by the researchers.**
5. Why do experiments with animals add to the evidence that smoking causes cancer in humans? **Animal studies showed that smoking caused cancer, and we can extrapolate that finding to humans.**