Psychometric problems

Inductive reasoning problems

In chapter 9 of *Smart Thinking* I explained that, although this type of problem comes in different forms, they all assess our ability to draw reliable inferences. In the following version you are given conclusions that are the result of a completed process of reasoning. In other words, you start at the end of the process we examined in chapter 9 and work backwards to find the question or questions that were not asked when the ideas were generated.

The first four questions in the following list can be found on pages 152-3 thst.way of doing it thaat of *Smart Thinking*. What question or questions would you need to ask before you were able to safely draw the following conclusions? For some of these claims there are a number of relevant questions you *could* ask, but only one or two that you *need* to ask. For this exercise, just try to think of one that you need to ask.

Question 1:

Citing official data from different parts of the country showing that men are responsible for twice as many fatal car accidents as women, a reporter concluded that women drivers are twice as safe as men.

Answer:

Have these figures been adjusted to reflect the fact that there are more men than women drivers on the road?

Questions 2:

You are an attorney defending a man who has been charged with shoplifting. The prosecution’s case largely rests on a photograph alleged to show him caught in the act.

Answer:

Does the photograph indicate unequivocally the man’s intention to shoplift, rather than merely selecting an item that he was going to purchase?

Question 3:

Last year’s crime statistics for two boroughs in London show that in one reported rapes increased by over 20 per cent, whereas in the other they remained broadly the same. The Press are describing this as an example of crime running out of control in the first borough.

Answer:

These figures depend upon the willingness of victims to come forward and report the offence, so have there been initiatives introduced in the borough with increased rape figures to encourage more victims to report the offence?

Question 4:

A pilot attributed the successful completion of a hazardous mission to the mascot he was carrying.

Answer:

Are we able to eliminate every other factor that may have had a significant influence on the successful completion of the mission?

Question 5:

There are about 70 times more homicides committed using a firearm in the USA than in Canada, which shows that the USA is a much more violent country.

Answer:

What is the number of guns per capita in the USA compared with Canada?

Question 6:

The figures show that of those suffering from serious mental illness there are many highly educated people. It is clear, therefore, that education is one of the causes of mental illness.

Answer:

Is there another underlying causal factor that explains why educated people, along with others, are susceptible to mental illness?

Question 7:

If you introduce a policy designed to reduce the numbers of obese people on the grounds that over-eating is a dangerous thing to do, you might as well also try to reduce the numbers involved in watching football, in studying science, and in buying cars and electric can-openers.

Answer:

How many people suffer from obesity-related illnesses compared to those who are injured watching football, in studying science, and in buying cars and electric can-openers?

Question 8:

In the city three-quarters of those who contracted whooping cough had been vaccinated. This seems to show pretty clearly that vaccination has absolutely no value, whatever its supporters say.

Answer:

The protection that the vaccine offers fades over time, therefore, how long ago did the people who contracted whooping cough receive the vaccination?

Question 9:

There were people who objected to railways. There were people who objected to aeroplanes. Every invention beneficial to mankind has had its critics. No doubt somebody objected to the wheel. So those who object to atomic power should think again.

Answer:

Would the consequences of a disaster at an atomic plant be more serious and more widely felt than rail and plane disasters?

Question 10:

An Italian man has just celebrated his 106th birthday. Every day he has a glass of beer, which only goes to show that beer is good for you.

Answer:

Are there other causal factors that might have had a greater influence on his health?