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Review Exercises 1: Pages 24-27

1. A) I say that the test result that says Minnesota has more law-abiding citizens is false. The population in Minnesota in 2001 was about 5 million people, while the population in Michigan at this time was about 10 million. By ratio this shows that Michigan has fewer crimes per person.

B) I do not think that people had necessarily become more law-abiding. I think there could have been factors that caused people in 1991 to commit more crimes. I think one of these factors could be that our country was involved in the Gulf War. The observer also should not look at how many crimes there are each year and make a decision. They should look at the ratio of crimes per person to fully understand.

4. A) They studied these groups separately to avoid confounding factors. If they included all ages and both sexes all in the same study then the results would be skewed. Also, they had to study different age groups because people who are older probably have been smoking for longer amounts of time.

B) I agree that no one should start smoking. I think the person who stopped smoking recently was going through nicotine withdraws and this was affecting their health. I think if they were to do a study on the people who stopped smoking maybe a year later then they would be healthier than the smokers. The people who stopped also may have had to stop because of health issues that came about from smoking.

5) No, I don’t think that zinc should be given because I think the doctors supported the use of zinc and they tampered with the results to make it seem like it really did work. When the doctors didn’t know who had it the results varied, which shows their opinions affected the results in the first test.

6) I think that the patients were psychologically affected because during the second half of the experiment they thought that they had received some sort of treatment (either in the first test or the second) so it made them think that they were getting better so it had a placebo affect.

7. A) This is an observational study.

B) The investigators adjusted in all of these categories to avoid any confounding factors that may come about from different groups. Cervical cancer is a sexually transmitted disease and all of the categories the people were separated by could affect their sexual activity.

C) Women who are using the pill are usually very sexually active. Cervical cancer is sexually transmitted, so this would make the women using the pill more likely to get cervical cancer.

D) No, the conclusions weren’t justified. The experiment was not controlled so the results cannot really be taken as factual. This was just an observational study.

8. The study does not show that burglars go to work between Labor Day and Memorial Day. Between these days is about 3 months. Three months is 25% of the year. If 25% of burglaries happened in this time period then there is nothing uncommon.

9. A) This statement is false. The observational studies said that eating these vitamins would decrease the chance of dying from colon or lung cancer. Eating these made no difference in the death rate from colon cancer and increased the death rate for lung cancer and that is the opposite of what the observational study said it would do.

B) This is true. People who eat fruit are usually very healthy people. The observers could see that there was less of a death rate for this cancer because they eat fruit, but the real reason they aren’t getting these cancers could be because of their healthy lifestyle.

C) This statement is false. The test really couldn’t reach the wrong conclusion because the test was completely randomized.

10. A) This is an observational study.

B) The study did find an association between mother’s behavior and her child’s level of body fat.

C) This would explain the association between a controlling mother and her child’s body fat if the controlling nature of the mother caused her kid to eat.

D) This would not explain the association. If there was a gene for obesity then the kid would naturally be overweight. And a controlling mother cannot affect her kid’s genes in any way.

E) I think a very plausible reason could be the mother is controlling and very protective of her kid and maybe won’t let him or her go outside and be active and the kid may just sit around in his house and play video games.

F) No it doesn’t. I don’t think that a controlling mother has anything to do with her kid’s weight directly. There is no scale or way to calculate how controlling a mother is and how it has to do with their kid’s body fat.

11. A) The treatment group is the group of prisoners who go through boot camp. The control group is the group of prisoners who are just let out of prison after serving their time.

B) This comparison is an observational study.

C) The data is false. I think the people who volunteer for boot camp want to get better and it would give them discipline that would cause them not to commit crimes when they were released.

12. This is false. Here is an example. There are two wards. The first ward has 270 registered republicans and 240 of them vote. The first ward also has 88 registered democrats and 82 of them vote. This gives the republicans an 89% voting count and the democrats a 93% voting count. The second ward has 80 republicans and only 57 of them vote. The second ward also has 270 registered democrats and only 194 of them vote. This comes out with a total of 71% of registered republicans voted and 72% of registered democrats voted. Both percentages for democrats are higher, but when all of the numbers are totaled 85% of registered republicans voted and only 77% of registered democrats voted.