

PHIL 1600-91 W2020

Assignment 4: Causal Reasoning

Due Friday March 6th by 6 p.m.

This assignment is based on lesson 8 on evaluating causal reasoning, which draws on earlier material, especially lessons 4 and 6, and also lesson 1.

No collaboration: As with all assignments in this course, work on this assignment is to be entirely your own, with no collaboration, including **discussion**, with other students or anyone else. If you have not done so already, please familiarize yourself with the FAHSS *academic misconduct and plagiarism policies* posted on the course website in the Course Information section.

Format

Upload your Microsoft Word document as an attachment to the Assignment 4 area of the course website. Double space. Use as the filename *yourlastname*. No cover sheet. Label each question clearly (Example 1, Example 2, etc.).

The **maximum length** for the assignment, all questions combined, is 600 words.

Directions

Evaluate the causal reasoning in each of the four examples on the next page. For the sake of evaluating the causal reasoning in these examples, *assume the premises are true*. Present your evaluation of each example in a concise, well organized paragraph. Use the self-evaluation checklist on page 3 for guidance.

If a specific error or fallacy in causal reasoning has been committed (confusing correlation with cause, post hoc error, or slippery slope) explain how, and support your judgment. If an error occurs which doesn't fit one of these fallacy labels, explain the error and support your judgment. Note: None of the examples suffers from oversimplification.

In each of examples, the conclusion is a causal claim, and is underlined for you. However, you may need to rephrase the conclusion to make it clear what is claimed to cause (or prevent) what.

Refer to the self-evaluation checklist on page 3 of this document for details about how to present and adequately support your judgment.

EXAMPLES TO EVALUATE

Example One

Acupuncture has been adopted at an increasing number of veterinary clinics. It definitely relieved Max's dog's joint pain. His dog, Maybe, could barely move as a result of joint pain. After just three treatments three days apart, Maybe was back to normal, running and jumping to catch a frisbee. Acupuncture can relieve pain in dogs."

Example Two

Background: Researchers monitored 8,800 adults for six years to learn the impact of watching television on heart disease. In that six year period there were 284 deaths, 87 of which were from heart disease. Here's the inference:

Example: Watching television causes an increased risk of death from heart disease. For each hour a day spent in front of the television, there was an 18% increase in the risk of heart disease-related death. Compared with those watching less than two hours of TV, people who watched TV for more than four hours a day were 80% more likely to die from illness linked to heart disease.

Example Three

Bringing your dogs to work can make you feel better. Dog owners who brought their pets to work had lower stress levels throughout the day than workers who didn't bring their dogs to work. In the study, the stress levels of owners who did not bring their dogs to work increased steadily during the day, and nearly doubled by the end of the day compared to those who brought their dogs.

Example Four

Researchers at the University of Queensland in Brisbane, Australia conducted a study which showed that in those who regularly listen to "aggressive" music (e.g. heavy metal, hardcore, punk, emo, and scream), it decreased levels of hostility, irritability and stress, disproving the myth that "aggressive" music leads to anger or acts of violence. The researchers riled up the study subjects by getting them to talk about irritating things. Then they had half of the subjects sit quietly in silence for ten minutes. The other half of the subjects listened to ten minutes of music from their own playlists. The subjects who listened to aggressive music were as calm as those sitting quietly in silence. Their hostility, irritability and stress actually decreased. "Aggressive" music has a calming effect on those who listen to it regularly.

Self-evaluation checklist for evaluating causal reasoning

- 1) Clearly state the causal claim, expressing it explicitly as causal claim, stating what is claimed to cause what. E.g.: “The causal claim is that *Cold B Gone* prevents colds.”
- 2) Briefly summarize and characterize the reasons or evidence offered for the causal claim. E.g.: “The evidence provided is a survey that found those who took Cold FX regularly say when they felt a cold coming on and took *Cold B Gone*, the cold symptoms went away by the next day.”
- 3) State what error or fallacy in causal reasoning has been committed, if any (e.g. confusing correlation with cause, post hoc, slippery slope) or, if an error occurs which doesn't fit one of these labels, explain the error.
- 4) If there's an error/fallacy (confusing correlation with cause, post hoc, or slippery slope) explain why it's an error. This usually involves pointing out that alternative causal hypotheses have not been ruled out by the evidence. You could state, “the evidence for the causal claim is weak because alternative causal hypothesis have not been ruled out”. You must also support this claim, so see the next point.
- 5) Usually you support your claim that alternative causal hypotheses have not been ruled out by the evidence by suggesting at least one plausible alternative causal hypothesis. (Future causal predictions are one exception.)
- 6) When you give an **alternative causal hypothesis**, say *explicitly* that's what you're doing, and make it clear why. (What shows the evidence to be weak is that alternative causal hypotheses have not been ruled out. What supports your claim that alternative causal hypotheses have not been ruled out by the evidence is your provision of plausible alternative hypotheses.)
- 7) A good alternative causal hypothesis will make it clear that even though the premises may be true, no causal connection has been established between the alleged cause and effect. Remember the tip for looking for alternative causal hypothesis which have not been ruled out: If someone argues that x is correlated with y, ask whether y could be the cause of x, given the evidence; or that a third factor, z, could be the cause, given the evidence. **A good alternative causal hypothesis accounts for and is consistent with the evidence in the inference.**
- 8) Beware of charging *oversimplification* unless there's sufficient evidence that the alleged cause is **a** causal factor. Note that in the directions, I haven't listed it as one of the errors, and have said that none of the examples is a case of oversimplification. Oversimplification as an error in causal reasoning isn't the same as “oversimplifying” in the way we often use the term in everyday conversation. *If there's not enough evidence to show that one thing could be a cause of another, you should not charge causal oversimplification.*
- 9) Your evaluation of each example should be written as a coherent, well organized paragraph.