

Second Writing Assignment

Write a short paper (1-2 pages, double-spaced, typed) on the question assigned for your section. These are to be turned in by Noon on Friday, November 30. Papers should be submitted electronically to your TA in .doc or .rtf format. If this is not possible, you may deliver them to your TA's mailbox by Noon. The goal of this paper is to explain clearly the central concepts employed in the question you are to address. Assume that your audience is a fellow student not in this class. To explain the material to that person you cannot just use the concepts we have developed in class but *explain* them. Present your answers totally in your own words—do not quote material either from the website, the lecture powerpoints, or anyone else.

A-01 and A-02. For some abstract variables X and Y, design an experimental study to determine whether X is a cause of Y. Discuss all critical factors involved in designing a good experiment, including how X and Y are to be operationally defined, potential extraneous and/or confounding variables, etc. How will confounds be controlled for? Be clear about how you would reason from the possible results of the experiment to a conclusion about causation. What errors in reasoning might it be particularly important to guard against? What are the potential limitations of the study? Be sure to define and clearly explain all key concepts.

A-03. MTS Busses rarely run on time. Based on her experience, your friend thinks that rookie drivers try to keep to the timetable, while longtime drivers care less about it. This would make sense if we take into account that whereas rookies try to achieve perfection, veterans know that they do not have to do a perfect job, so they no longer pursue it. Design a retrospective study to determine whether working for many years as a driver is a causal factor in the frequent delay of his buss. Discuss all of the critical factors involved (operational definitions, values of independent and dependent variables, possible extraneous variables, possible confounding variables, etc.). Also, discuss what can be concluded from the study depending on its outcome and limitations.

A-04. Regarding life expectancy at birth, Japan is ranked 3rd in the list available at the website below, <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html>. It would not be surprising to think of Japanese food as one important factor that can explain that Japan has one of the world's highest longevity rate. Design a prospective study to determine whether eating Japanese food is a causal factor in well-above-average life expectancy. Identify the target group, the control group, and the independent and dependent variables. Discuss possible extraneous and confounding factors and how these might affect your findings. Also, identify under what conditions you will be able to conclude that eating Japanese food causes a long life expectancy.

