

Getting familiar . . . with formal experiments

A. For each of the following causal claims, explain how you would set up a randomized experimental study. (i) Identify some relevant controls for your test group; (ii) explain a specific test implication; (iii) explain how you would conduct the experiment.

1. Eating a bag of potato chips every day leads to weight gain.
2. Regular exercise lowers blood pressure.
3. Taking large doses of vitamin C reduces the duration of a cold.
4. Yoga increases your overall sense of well-being.
5. Drinking protein shakes after weight lifting increases strength.

B. For each of the following causal claims, explain how you would set up a prospective study. (i) Identify some relevant controls for your test group. (ii) Explain a specific test implication. (iii) Explain how you would conduct the experiment.

1. Smoking marijuana causes short-term memory loss.
2. Drinking soda raises cholesterol.
3. Chevy trucks are safer in accidents than other models.
4. Going to church makes you a better person.
5. Cigars are much less harmful than cigarettes.

C. For each of the following observations, explain how you would set up a retrospective study to discover a relevant cause. (i) Identify some relevant controls for your test group; (ii) explain how you would conduct the experiment.

1. My allergy attacks have increased.
2. Chronic headaches.
3. An overall sense of well-being.
4. Students at school A score, on average, higher on their SATs than students at school B.
5. More white people are employed at company X than black people.