

## Experiments

## Math 222 - Workshop

1. In 2005-06, students taking the SAT had to write a 25 minute essay on paper for the writing portion of the exam. An article about the writing exam appeared in the October 11, 2006 issue of the Washington Post. Only about 15% of students wrote their essays in cursive, however the students who did use cursive scored significantly higher on the writing portion than students who did not use cursive.
  - (a) What are the explanatory and response variables in this example?
  - (b) Is it safe to conclude that writing in cursive caused students to get higher scores on the writing SAT? If so, why? If not, then what is a potential confounding variable?

The article also mentioned a different study in which the same one essay was given to all graders. But some graders were shown a cursive version of the essay and the other graders were shown a version with printed block letters. Researchers randomly decided which version the grader would receive. The average score assigned to the essay with the cursive style was significantly higher than the average score assigned to the essay with the printed block letters.

- (c) In this second example, is it safe to conclude that cursive writing causes students to get higher scores on a writing test? If so, why? If not, then what is a potential confounding variable?