Ian Ayers, the author of a best-selling business book titled *Super Crunchers*, conducted a study to help him decide what to name his book. He placed an ad on google.com, with the ad sometimes (determined at random) giving the title as *Super Crunchers* and other times giving the title as *The End of Intuition*. Google provided Ayres with data on how often a person clicked on the ad to obtain more information, depending on the title given in the ad. It turned out that people who saw the ad were significantly more likely to click through on the *Super Crunchers* title than on *The End of Intuition* title, so that’s how Ayres chose the title.

1) Was this an observational study or an experiment? Explain how you know.

2) Identify the explanatory and response variables.

3) Was Ayres justified in concluding that the name *Super Crunchers* caused a higher click-through rate than the other name? Explain why or why not.

4) Is it legitimate to conclude from this study that spanking a child causes a lower IQ score? Explain why or why not.

5) Fill in the blanks to complete this sentence: Conducting a randomized experiment to investigate this issue (of whether spanking causes lower IQs) would not be feasible or ethical because it would require randomly assigning ________________________________ to ________________________________.