Will leading questions influence the treatment groups to give a specific answer? So will changing how a question is worded affect the way our data is produced meaning answers will be higher or lower?

According to this website http://www.busreslab.com/index.php/articles-and-stories/research-tips/general-research-tips/leading-questions/ a leading question is one which attempts to guide the person's answer. You are supposed to avoid using leading questions in questionnaires so that you get truthful answers.

①

I investigated whether people will be honest about how many times they used their phone in class. If I remind them that it is against the school rules - I think that they will give lower numbers.

Our experimental units will be two Year 12 physics classes of 58 students. Out of the 58 student 29 students will receive one survey and the other 29 will receive another, at random we will be handing out the survey.

②

One group will receive a survey asking "Even though using a cell phone class is against school rules, how many times did you use your cell phone in class last week?" and another group of students will receive a survey asking "How many times did you use your cell phone in class last week?" 29 students were given the survey which had the leading question about 'school rules' in it and the other 29 were given the question without any mention of 'school rules'. This makes the experiment design one of comparing two independent groups.

④

The response variable for our experiment will be the number of times the student writes down they used their cell phone in class over the last week. We chose the last week for the question so we would get range of answers – if we had just said yesterday, then maybe the answers would only range between 0 and 5 times (one time per lesson). The variables that we can control for the experiment include the following:

③

⑥

- Same test conditions
- Same time

The students will be given the same time of day to complete the survey. I will be telling both the groups the rules before handing out the survey so students don't copy other student's answers. They will also be told to hand in the survey straight after they have finished answering the questions so they don't change their answers.

⑤

Variables that we can't control include the following:

- A student's memory is a variable we cannot control because some students won't be able to remember how many times they used their cell phone in class.

The uncontrolled variables will be randomly assigned to the treatment groups to balance them.

The experiment will be conducted in the following way:

- The classes will randomly split evenly in to 2 groups. Two students will be handing out the survey and one student will collect them in.

I found the median number of calls for the group who were not reminded it was against the school rules and the median number for those who were reminded. The difference between the median was 2 and the difference between the means was 1.86.

I used the rerandomisation test with the means. This will re-randomise the answers to the two groups (leading question, no leading question) and record the difference between the means of the two re-randomised groups each of the 1000 times.

A difference of 1.86 or higher came up 332 times out of 1000.

In my investigation I found that the leading question I used wasn't effective in making people's answers higher or lower. I could have got a difference between the means of the two groups this size by chance without me doing anything (just by shuffling up the groups) because the value was 33.2%.

⑦