Statistics 480, Winter 2018: sampling project

The requirement for the project is to design, execute and analyze data from a sample drawn from some real-world population. This is a group assignment: teams of three people will be formed in class on March 28, and each team is responsible for independently conducting its own study. Cooperation between teams is allowed, but each team must collect its own sample dataset independently of every other team and prepare its own report on its work.

The first thing that will happen in class on March 28 is that there will be a vote about what procedure we’ll use to form the teams. Teams can form voluntarily, or I can randomly assign people to teams.

At the end of class on March 28 (or by 6pm the same day), each team will give me a paragraph describing in a preliminary way the project the team expects to complete. By 11:59pm on April 2, each team will send me a formal proposal describing the design and data gathering plan in more detail (earlier submission of these proposals is encouraged). I will promptly let each team know whether the plan is approved. The lab sessions of April 5 will be dedicated to work on the projects.

A written report about the project is due by 1:30pm on April 18. Each team will submit a single joint report, and all team members will receive the same grade for the report. The report should describe and justify the sampling design, and it should report inferences (with bounds) about at least three quantities of interest, including at least one ratio or regression estimator. All estimates must be based on the same sample (or perhaps on subsamples of one sample). All aspects of the design and analysis should be explicitly described and justified.

On April 11 or 16, each team will make a presentation to the class about the team’s project. The quality of the presentation will factor into the overall grade for the project. The specific date on which each team is to present will be randomly assigned on April 4.

On the final exam, at least one question will refer to and be based on the work done for the project. For example, you may be asked to justify your sampling design and explain why one or more other designs were not used. Or you may be asked to discuss, very specifically, the relative efficiency of estimates produced in your sample.

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