

Presentation Assignment, BANA 5368, Darren Grant, Summer 2011.

Does school quality affect house prices? To decide, you are to gather data from a sample of 40 houses that lie within a single neighborhood that attends two different schools. You are then to conduct a statistical analysis, either an ANOVA or a regression, to answer the question, and create a presentation that will describe your approach to the problem, the data, your analysis, and your conclusion. These presentations will be turned in on the last class day; they will be reviewed while you take your final exam, and a selection invited to present to the class.

Here are the steps:

First, identify a neighborhood than spans both sides of a school attendance zone boundary. The school boundary may concern an elementary school or a high school; school district web sites should show these boundaries. Please e-mail me the neighborhood—in the rare event that you and a classmate choose the same neighborhood, it will be first come, first serve.

Second, choose a fairly random sample of houses from that neighborhood from both sides of the school attendance zone boundary. If you pick all the houses on one street—that's not a random sample.

Third, get information on the value and up to five basic characteristics (age, size, number of rooms, etc.) of each house. Zillow is one source of information; the county appraisal district web site is another. Put this information in a nicely organized sheet of a spreadsheet.

Fourth, create some plots and descriptive statistics to describe the neighborhood and to compare the houses on either side of the school boundary. Put these in another sheet of your spreadsheet.

Fifth, clearly formulate null and alternative hypotheses concerning the effect of the school zone on house prices.

Sixth, conduct an analysis to test your hypotheses. You may choose either an ANOVA or a regression. Either way, conduct your analysis at the univariate level first, that is, considering no other variables. Then add in some “blocking factors” for ANOVA, or “control variables” for regression, and conduct a multiple ANOVA or multiple regression. You get to choose these factors/variables, but not all choices are equally good. This should be placed in a third sheet of your spreadsheet.

Seventh, draw your conclusion. Either you reject the null or you don't! The null and alternative hypotheses, along with your conclusion, should be typed into the third sheet of your spreadsheet, so your analysis is there along with your conclusion.

Eighth, create a nicely organized, factual, nicely presented PowerPoint presentation that describes: 1) the problem, 2) the data & neighborhood in question, 3) your framework for analysis, including methods and null and alternative hypotheses, 4) your results, and 5) your conclusions. Your PowerPoint should be exactly eight slides, including slides for the title and conclusion. In the “notes” section of each slide, write out what you would say about that slide were you to give this presentation in public/to the class.

Ninth, print out this PowerPoint in the “notes pages” format. This will print out both the slide and the notes, one per page. Turn this in on exam day and be prepared to present this to the class if so requested. Because many of you are coming from work and you don't know for sure if you will be presenting, don't worry about dressing up for a presentation.