

STAT 150 –Time Management Project

Recall that we asked you to gather data on your time management habits during every day of the quarter, including weekends and holidays. We asked you to begin on Monday, September 21 and conclude on Sunday, November 22, each day recording the times (to the nearest quarter hour) that you spent on coursework outside of class for Stat 150, coursework outside of class for all of your other classes, sleep time, and two other variables of your choosing. Also remember that we informed you that you will only be graded on the quality of your analysis and reflection on this assignment, not on how many hours you spend on any particular activity.

You are to submit an individual written project report by **Wednesday, December 9**. If you complete your report before then, we would greatly appreciate your turning in the report as early as possible. Please review the guidelines below, as well as earlier advice and feedback you have received throughout the quarter on your project reports.

You will be given substantial class time on Tuesday, December 1 and/or Thursday, December 3 to analyze your time management data. Please make sure that you have access to your data during class. You may also want to use this class time to enter/clean the data in a Minitab worksheet and/or ask us Minitab questions. The best way to enter the data into Minitab is to use each row as a different day (observational unit) and each column as a different variable.

Report Guidelines

I. Introduction

Give an overview of what your report will discuss (“spill the beans”), though you may not want to give *all* the “punch lines” away. Remember that the introduction is often easiest to write after you have written the main body of the report. Also keep in mind that this introduction should spark the readers’ interest and motivate them to continue reading.

II. Data Collection

Summarize the data collection process. Give lots of details and discuss any potential problems with how the data were collected. What decisions did you make early on in defining your variables? Are there any potential measurement issues? Are there any missing observations; if so, explain why. Do you believe the times were measured accurately and without bias? If not, explain any potential effects on the data interpretation. It is much better to admit problems with the data collection and how they impact your conclusions than to falsely pretend everything is ok. If the data collection period doesn’t match the above suggestion, that’s fine, but explain why.

III. Analysis (remember to incorporate well-labeled relevant graphs and numerical summaries into the body of the report)

(a) Univariate analysis on *three* variables you find most interesting. You must include your “coursework outside of class for Stat 150” variable and then two of the variables you chose yourself. This analysis should include appropriate graphical *and* numerical summaries for each variable and a paragraph summarizing the behavior of the distribution (e.g, shape, center, spread, and unusual observations) for each variable. Identify clearly and offer conjectures for any unusual observations.

(b) Pick one variable (which does not have to be one of the variables in part a) and make a comparison between two or more groups. For example, the groups could be days of the week or weekend vs. weekday, or day before homework is due vs. other days. You should include a graph and numerical summaries that compare the two distributions. Write a paragraph summarizing this comparison.

(c) Bivariate analysis for at least one pair of quantitative variables. These do not have to be the same variables as chosen for the univariate analysis, but the relationship should be roughly linear, perhaps after considering transformation(s). This analysis should include a scatterplot, and a paragraph summarizing the relationship. Also fit a regression line and interpret the values of the coefficients. Report and interpret the value of R^2 and also the p-value for your slope coefficient.

(d) Pick one variable and examine its behavior over the course of the quarter. We suggest that you create a variable 1, 2, ..., n where n is the total number of observations (days) in your data set and then create a scatterplot of your variable vs. this time variable. Look for overall trends, cycles, any other patterns, and any unusual observations. Write a paragraph summarizing the behavior of this variable over time and any explanations you have for how this variable is changing over time.


IV. Conclusion

Summarize what you have learned from these data. What did you learn about your time management this quarter? How do you think it will change in subsequent quarters? What did you learn from the data collection process? What would you do differently next time?

V. File submission

Please email to us the Minitab worksheet containing all of the (well-labeled) data you collected for this project as well as an electronic copy of your final report.

Some Minitab hints:

- To copy Minitab graphs into Word: Make sure the graph is the active window and then use ctrl-C to copy (or Edit > Copy Graph). Then in Word, use ctrl-V to paste (or Edit > Paste). If you have problems (e.g., the picture floating around in ways you don't want it to), use the picture toolbar (right click, select Show Picture Toolbar) to make sure the Text Wrapping style is "In Line With Text."
 - To trim excess white space: Right click on the Picture and choose Show Picture Toolbar from the drop down menu. In the Picture tool bar, the 7th button changes the mouse icon to . If you then click on the edge of the picture and drag and you reduce the extra white space around the picture.
 - To change the background color of a graph to white, in Minitab, double click in the area to get the Edit Graph box. Change the fill pattern to Custom, and at the top of the type pull down menu, select the box with N in the middle.
- If you do not see the MTB> prompt, you will need to click in the Session Window (the top window), and then choose Editor > Enable Commands.