Group Q Research Question

Econ 3120

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The research question that we want to investigate is the relationship between student caffeine consumption and their educational success, measured by grade point average. This question is interesting for us to investigate because we are all students who consume caffeine to a certain extent. Additionally, we know that a large majority of students do consume caffeine on a daily basis, which is why we want to understand the relationship that may exist (if any) between caffeine and educational success. Does consuming caffeine make you more attentive to your work and therefore improve performance on educational assignments and assessments? Do students who drink caffeine wake up earlier and therefore have more time in the day to finish all of their work, therefore improving their outcomes? We hope that by investigating our question we hope to understand some of the possible implications for a relationship between student caffeine consumption and academic success.

We expect to find a positive causal relationship between the daily consumption of caffeine and students' grade point average. This expectation is based on the fact that drinks containing caffeine can increase mental focus and concentration, which may, in turn, contribute to improved academic performance. Because the sample is a group of high school students, we expect the length of time and frequency of their consumption of caffeinated drinks to be short and low enough that they do not develop severe withdrawal symptoms, which may have a negative impact on their academic performances.

We do not expect time-ordering to present a specific issue with respect to our research question because the sample is taken from high school students whose reports of caffeine consumption and grade point average took place simultaneously. Moreover, grades are usually calculated at the end of each semester (or in some cases,

at the end of the year), and therefore the coffee consumption would almost always have occurred before the student receives his/her final grade in a class.

Possible confounding variables for our analysis include: 1) People with higher disposable income would be able to afford more coffee/etc. and consume it more frequently, so it may be difficult to identify whether the student's GPA is a result of their caffeine consumption or benefits/lack of from their socioeconomic status, for example: being able to hire a tutor. 2) Is the student's (poor) GPA a result of Substance use/Gambling/Violence/Self-harm/other addiction issues? 3) The source of caffeine (coffee vs. red bull vs. soda etc.) and the difference in possible negative effects between sources

Comments:
1, A suggestion on measuring grades. If you are using the High School Risk Survey, one note on their measure of grade: HSRS does not have numerical scale grades, but asks about yes or no questions to measure their performance. In order to proceed, I'd suggest transforming the survey questions on grades into a 4.0 scale grade.

2, I would recommend thinking about the issue of reverse causality and developing your strategies to deal with the time order issue.

3, I can see a possible negative effect of caffeine consumption on health, which may depend on the amount of caffeine intake. It would be useful to check not only the extensive margin (whether consume caffeine) but also the intensive margin (how much/often caffeine one takes). There might be some non-linear relationship on the intensive margin.

Overall, this is quite an interesting and feasible research question. Look forward to seeing more analysis and your final results! Good luck!