Mini Project Proposal

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DATA 400

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* Research Question: How can educational business owners in Pennsylvania’s top 5 cities prepare students by analyzing the relationship between educational attainment and earning potential?
  + This stemmed from widely known data for me: high college attainment in Korea compared to the US or other countries through private tutors or institutes. Over 75% of Koreans obtain a college or university degree making me wonder how you can distinguish yourself from the rest of the graduates. I feel like it is a lot more distinguishable in a country where college/university enrollment is just above half of Korea’s with just a little preparation with external help.
  + Additionally, I read headlines about how 41% of public school high school students have a GPA of 1.0 or below. In a system like this just a little more effort into education will be able to accelerate students further in their career hence the potentially profitable educational private sector business in the United States.
* Data Source
  + I will be using the US Census Bureau Public Use Microdata as my primary data source.
  + Allows me to filter it out to the county-level data of the different income and educational attainment that people have achieved. Additionally, economic data such as median income, and occupation types are available for further analysis. This will also be paired with general demographic data for a more concrete analysis.
* Analysis
  + I plan to use exploratory data analysis on the basic variables such as distribution of income by educational attainment level. The EDA will also include showing the professions/industries that the top income earners are a part of and the average educational attainment within those industries. I will have to find further data regarding the majors of people within those top industries if possible. Additionally, if possible I plan on running a regression model on the various variables for the income potential that a person can expect in these top 5 major cities.
* Impact on stakeholders
  + Students (High schoolers and College Students)
    - They can identify high-demand, high-earning professions within their city that they might potentially want to get into upon graduation.
    - They can better prepare the necessary knowledge/skills to go into this high-income profession.
  + Educational Business Owners
    - They can tailor programs to provide students with useful education, increasing their student number as well as the outcomes of the students.
    - EX: they can tailor computer science programs or diplomatic programs in their business if those are identified as high-income professions within these cities.
  + Parents of students
    - They can invest in a direct way that could increase their children’s earning potential.
* Ethical Implications
  + Money is the end goal for only a certain group of people. This is a very narrow focused goal for certain individuals.
  + This could further widen the wealth disparities in cities with only the higher-income families being able to afford the private education
  + No account is taken for the happiness or stress level of these occupations. Only taken in income is the dependent variable and the level of importance of this metric varies for everyone.