

IS COLLEGE WORTH IT?

A brief study on weather college degrees affect employment.

DEFINING COLLEGE RATIO

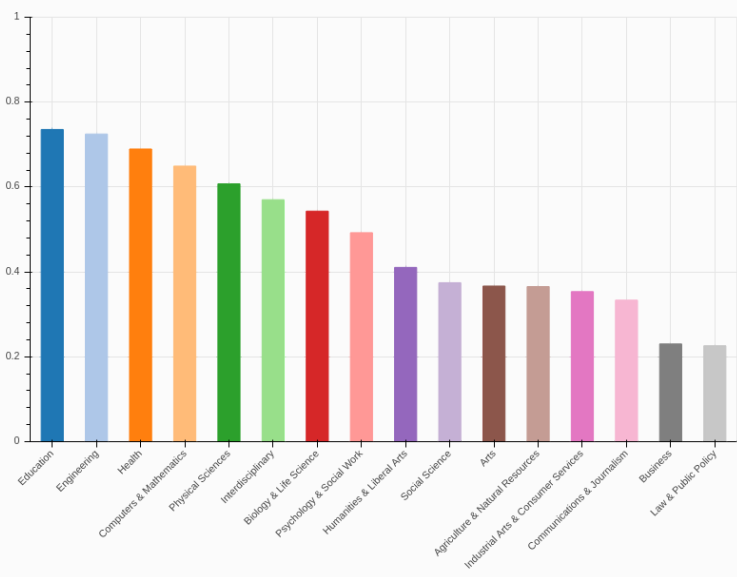
Within some major, we assume that, if there's a higher ratio of participants with a college degree than without, the jobs within that major *require* it, in the same proportion.

Therefore, we can define our ***college_ratio parameter as -***

$$\text{college_ratio} = \text{College_jobs} / (\text{College_jobs} + \text{Non_college_jobs})$$

Now, with that defined, we can compare the effect of college degrees on other variables such as unemployment and average salaries.

COLLEGE RATIO BY MAJOR CATEGORY



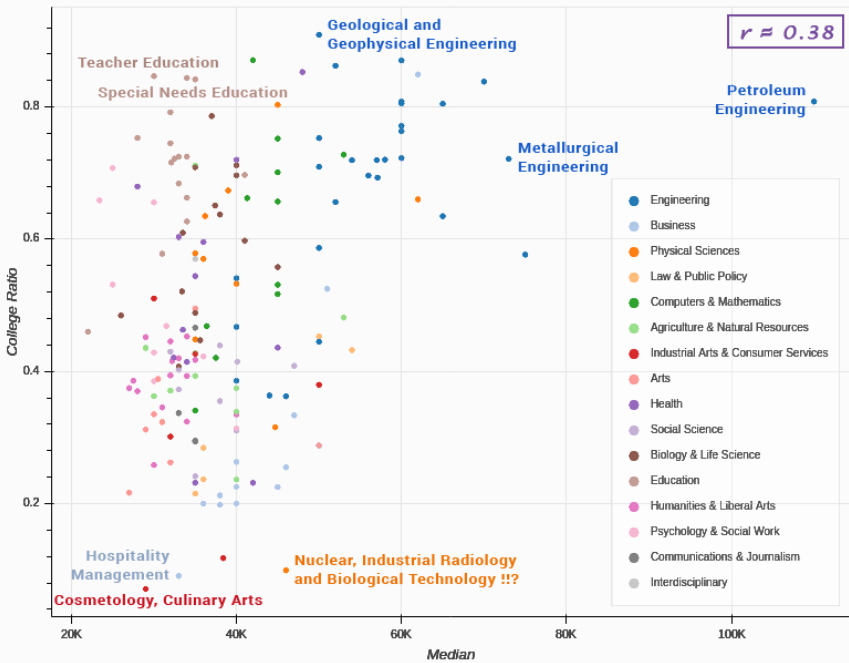
It makes sense that Education and Engineering majors require college degrees the most. On the lower end we find majors in arts, business and law and public safety categories.

The business category is heavily influenced by just two majors - General Business and Business Management and Administration. This could possibly be because businesses typically don't have strict college degree requirements -- especially entrepreneurial ones, or family businesses. Regarding the low ratio on Law & Public Policy, the number is highly affected by the major Criminal Justice and Fire Protection. I would opine that this is due to large number of police workforce, where typically a high school diploma is the minimum formal education needed.

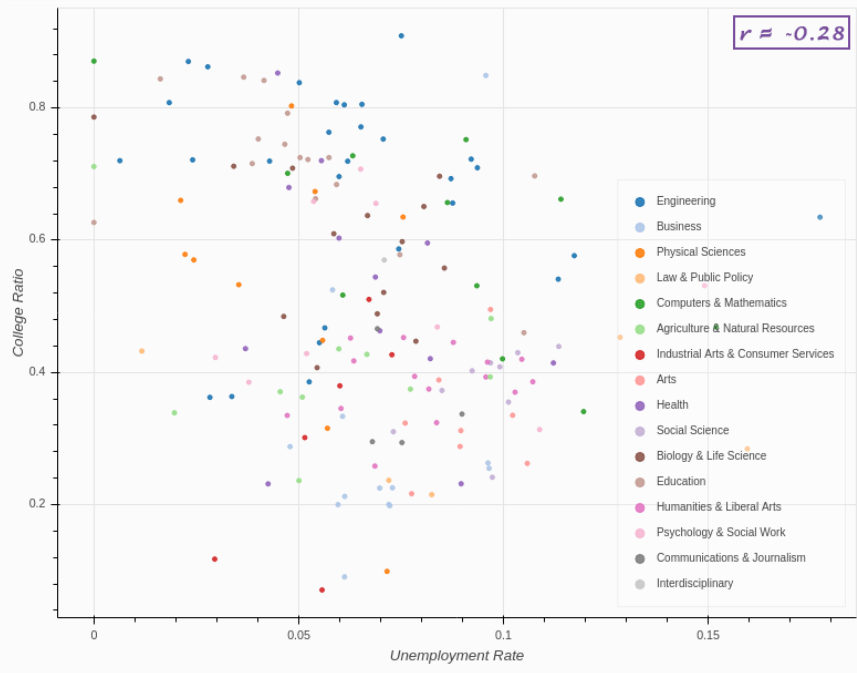
These data points, validate our assumption from earlier.

DEGREE VS SALARY

Here, we plot the median salary against college ratio. On the upper right, we find engineering majors that require degrees and pay very well. We also notice majors like Teacher education, Special Ed etc that need a lot of education themselves, but sadly, don't pay as well. On the bottom left end, we find Hospitality, Culinary etc which don't require a degree and apparently don't pay very well either. Surprisingly, we also find a physical Science major there - Nuclear, Industrial Radiology and Biological Technology, which likely is an anomaly. More interesting is the fact that there are no majors on the bottom right corner. No free lunch! **The takeaway being, to make good money, you need a good degree, but just having the degree doesn't guarantee anything.**



DEGREE VS UNEMPLOYMENT



Here, we plot the unemployment rate against college ratio. The objective of this is to see if the unemployment rate is higher or lower in jobs that require advanced degrees. However, with a weak correlation of ***-0.28***, we can't say anything for sure. In any case, it does hint that the unemployment rate is slightly higher in jobs within majors that don't need degrees.

THE VERDICT

College degrees don't guarantee a job or a higher pay. But they do indeed improve your odds.