

Data Analysis Methodology

Below is a summary of the methodology we used for our analysis of factors associated with positive postgraduate outcomes.

The analysis is based on self-reported, online responses from students and available student information system (SIS) data at five institutions. As often happens with such research, in some cases, institutional data was incomplete or inconsistent, preventing us from evaluating all the factors we wanted to include.

That said, we believe the sample size, strength of correlations, and consistency of our findings across different universities enable us to make conclusions about effects on student outcomes. We also used standard statistical methodology to investigate and correct for survey and analysis limitations, such as nonresponse bias and data aggregation issues.

To submit detailed questions about our methodology, please email datascience@eab.com.

Analyzed Five, Mostly Large, Publics from Across the Country

Characteristics of institutions that participated in the study included two large public institutions in the Midwest, a large public institution in the Northwest, a public flagship institution in the South, and a small public liberal arts institution in the South.

Surveyed Undergraduate Alumni from Classes of 2012 to 2016

We chose to focus on recent alumni in an effort to make sure their current job status was linked to their undergraduate experiences and not life experiences that occurred post-graduation. The survey collected self-reported employment, salary, and career engagement data. We also asked alumni about their experiences at their campuses and the resources they used for job searching.

Gave Each Respondent a Gainful Employment Score

The Gainful Employment Score took into account four factors: (1) information about full-time or part-time employment (0–2 points), (2) whether a job required a college degree (0–2 points), (3) salary as compared to the median salary in that state for someone with a bachelor’s degree (0–3 points), and (4) career engagement and fulfillment information (0–4 points). To eliminate variability in Gainful Employment Scores based on promotions, time since graduation, graduate school, etc., preference was given to information provided about a first job. If information about a first job was unavailable, information about a current job was used. If an alumnus was currently in graduate school and information about a first job was unavailable, information about a current job was used along with part-time or full-time student status.

Matched Alumni Scores to Undergraduate Data

We collected institutional data—and matched survey respondents and their scores to that undergraduate data—to identify factors associated with positive postgraduate outcomes. Specifically, we collected demographic (e.g., age, first-generation status) and academic (e.g., majors, minors, GPA) data from the schools’ SIS systems, as well as career services (e.g., timing, type, and number of career services appointments) and cocurricular (e.g., clubs, athletics) data.

Ran Significance Tests on Individual Factors

We used two significance tests (t-test and Anova) to identify the undergraduate experiences that had a significant impact on an alumnus's Gainful Employment Score. To avoid ramifications of the Yule-Simpson Effect when combining data from different universities with different employment prospects, we controlled for the impact of a university on the average employment outcome and adjusted the score averages at each school. This was done by imposing a fixed-effect assumption. By using significance tests, we were able to identify those experiences with a statistically significant impact on aggregate alumni employment outcomes. For these tests we adjusted statistical significance measures when needed to avoid problems due to multiple testing. We used the results from the significance tests to rank which significant factors had the largest impact on the employment score when looking at the overall survey population.

Analyzed Subpopulations (Academic and Demographic)

In addition to running significance tests for the full sample, we completed the same significance testing and ranking exercise for subpopulations. We focused on first-generation students, African American students, and academic subpopulations. The goal was to see if experiences or sets of experiences could have an outsized impact on the Gainful Employment Scores for the subpopulations.