

## Social Background and Numeracy Skill Levels Among College Graduates: Social Mobility or Social Reproduction?

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While empirical research on first generation college students has tracked how students move into and through institutions, researchers rarely report on post-graduation outcomes of first generation students. By the time they graduate, first generation college students are considered part of a monolithic category of “college graduates.” This is for good reason: most theoretical and empirical work in sociology and education suggests that a college degree mitigates the early (dis)advantages of social origins. This project tests the assumption that first generation and multi-generation college graduates are indistinguishable across skill and labor market outcomes. We ask: ***Is there a difference in numeracy scores between first-generation college graduates and multi-generation college graduates? Also, is college graduate generational status related to employment outcomes after controlling for numeracy score?***

The PIAAC data provide a rich array of interesting labor market outcomes to investigate. We compared first and multi-generational college students on a number of measures, including monthly earnings, whether or not they were employed, the occupational prestige of the job they held and whether or not their job matched the major they studied in college. We employed multivariate ordinary least squares (OLS) and logistic regression modeling techniques. Our findings are as follows:

- 1) First generation and multi-generation college graduates have similar labor market outcomes in terms of monthly earnings, employment, occupational prestige and rates of holding a job that matches their college major.
- 2) However, we find significant differences in the literacy and numeracy scores of college graduates who are first generation and those who have a college educated parent. Multi generation college graduates outperformed their first generation college graduate peers by large margins on assessments of numeracy.

While first generation college graduates enjoy access to many of the same labor market outcomes of their multi generation college graduate peers, these two groups are not indistinguishable. First generation college graduates lag behind in measures of numeracy. This finding contributes to a more complicated picture of universities, not solely as places that confer middle class advantages, but as places that are themselves stratified and produce stratified outcomes. This work provides some empirical support to the recent scholarship that has begun to describe the ways that universities are stratified by class, both between and within universities (Mullen 2012; Armstrong & Hamilton 2013; Carnavale 2013). This emerging line of higher education research adds nuance to the post-college conversation: college may not be the great equalizer. Having parents with a college degree is a social advantage that is associated with higher numeracy scores for students in kindergarten through secondary school. Our work suggests that those numeracy skill differences persist after college and into adulthood, even among college graduates. This work has some early implications for policy. It supports expanding to higher education the equity agenda that shapes funding and assessment decisions in the K-12 sector. Universities that close the achievement gap between first and multi-generation graduates should be identified and rewarded.