

Measuring the Effects of Increased Library Use on GPA Outcomes of FSU Undergraduates



Connor Holcombe, Igor Lukashevich, Julio Alvarez

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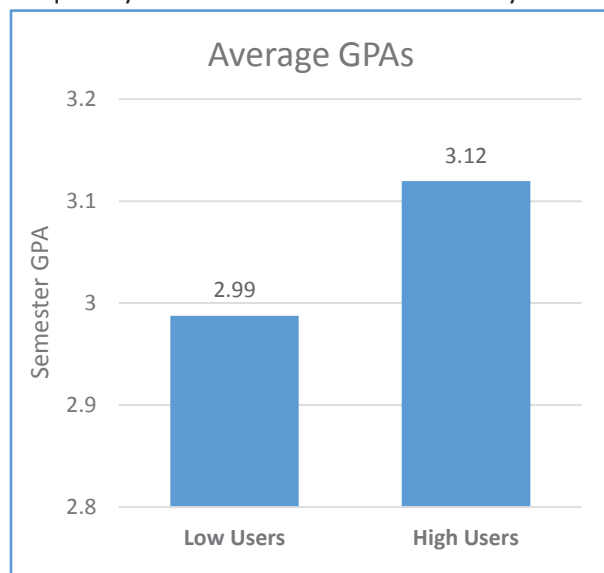
An Executive Summary

Purpose

Using first of its kind library turnstile data we evaluated the effect of the Florida State Libraries on student outcomes. We determined the best way to evaluate the impact of the library would be to measure the effect of library usage on student GPAs. To accomplish this, we applied econometric techniques to extract the effect of library use on semester grade point average while controlling for individual characteristics and past academic performance.

Methodology

Previous studies from a multitude of disciplines have attempted to measure the effect of libraries on student outcomes. Those studies have been limited to surveys of library use and simple correlation of GPA with the use of particular library services. Our study is unique in that we use entry and exit data from the turnstiles located in these libraries over the last two years. With this information we know how frequently a student would visit the library and how long they spend in the library.



Low Users of the library tend to have a lower average semester GPA

Each library has six turnstiles, two entrances and two exits plus a handicap entrance and exit. The turnstiles record the card number and time for each swipe in either direction. The library provided this swipe-in and swipe-out data for the four semesters over the past two years. Each swipe-in time was matched to the corresponding swipe-out time for each person to indicate a library visit. Those visits were aggregated for each semester to create a library visitation record for each person.

Each person's library visitation information was then matched to the registrar data for the corresponding semester. With this information we could see the individual characteristics of each student, their library usage information, and their corresponding semester GPA.

Controlling for the characteristics of each student (gender, family income, etc.) and the past performance of each student we ran a series of panel models which focused on capturing the effect that a change in library use from semester to semester would have on that student's semester GPA. The specifications of the panel models used account for intrinsic motivation letting us make causal inferences from our results.

Results

Our results indicate that increased library use has a modest positive effect on the semester GPAs of FSU students (on average). However, the magnitude of our results vary widely depending on the student's current library usage and current GPA. Increased library usage has a diminishing return to GPA; students with low library usage and low GPAs can see much larger academic gains from additional library usage than their high-GPA and high library-usage counterparts. These students account for approximately 14% of our dataset.

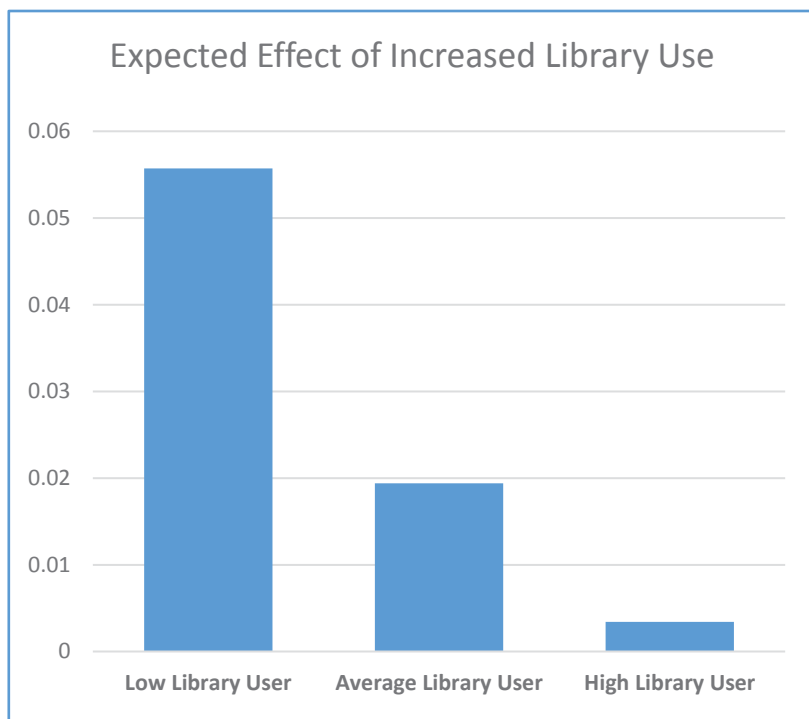


Figure 2 - Low library users receive a larger expected GPA increase from an equal increase in library usage

In addition, we find that the way students study can drastically alter the effectiveness of their studying. Students with the study habit of 'cramming' (as defined by a large portion of your study time coming from a small portion of your library visits) has a statistically significant negative impact on semester GPA.

Recommendations

We recommend that the Florida State University libraries should focus on converting infrequent library users with low GPAs, particularly those who are at risk of academic dismissal, into regular library users. Within the population of undergraduates in our study, we found about 138 individual low library users with GPAs near the academic probation threshold who dropped out or left the university per year. If these students began using the library productively once a week we believe the majority of these students could have been retained.

Of these students approximately 35% had earned Associate's degrees. The difference in lifetime earnings between an Associate's degree and a Bachelor's degree holder is estimated to be about \$540 thousand. The remaining 65% of these students would have neither an Associate's degree nor a Bachelor's degree. The difference in lifetime earnings for these students when compared to students with a Bachelor's degree is estimated to be about \$720 thousand¹ per student. If the library were able to compel these 'at risk' students to become regular library users, we would anticipate seeing a large boost to their expected lifetime earnings.

¹ Estimates for difference in lifetime incomes come from a Georgetown study "The College Payoff: Education, Occupations, Lifetime Earnings" by Carnevale, Rose, and Cheah on the average difference in expected lifetime incomes based on education level