

<b>Section Header</b>	<b>Description</b>
Institution Name	University of Illinois at Urbana-Champaign
Institution Characteristics	Public, 48,675 (Fall 2019), 327
CARLI Counts Participant Name + Job Title	Jen-chien Yu, Director of Library Assessment
Project Name/Title	The relationship between library space usage and student success
Single Sentence Abstract	The University of Illinois at Urbana-Champaign Library conducted investigation into the relationship between library space usage and student success topic using an undergraduate student survey and <i>t</i> -test and found participants who physically go to a library at least once or twice a year reported higher cumulative GPA.
Motivation(s) for Project	There are several projects related to library space, service points or buildings that are ongoing at the Library. In addition, the University recently established a campus-wide Student Success Initiative. Henceforth the Library and the campus administration are requesting space usage data as well as evidence of how, if any, the usage of library space impacts students' academic success.
Partners and Stakeholders	Library Administration: provided funding support and directions  Library Building Project planning working groups: The findings of this project will be shared with the Library Building Project planning working groups
Inquiry Question	Do undergraduate students' use of library physical spaces have effect on their cumulative GPA?
Study Participants/Population	Undergraduate students (18+ years old)
Method(s) of Data Collection and Analysis	The University of Illinois at Urbana-Champaign administered the Ithaka S+R Undergraduate Student Survey from October 23 <sup>rd</sup> to November 30 <sup>th</sup> , 2018. A random sample of 30% of the degree-seeking, full-time undergraduate students (over 18 years old) of

	<p>each level (freshman, sophomore, junior and senior) received an email invitation to participate in the online survey. 9,775 undergraduate students were invited in all and 974 completed the survey (10% response rate).</p> <p>The survey had 5 topical modules (e.g. Coursework and Academics, Library Space Planning, etc.) and a set of demographic questions. For the CARLI Counts project, a few survey questions about the frequency of library space use and the activities (e.g. Study for an exam, Work on a presentation, etc.) were selected and analyzed.</p> <p>An independent (unpaired) two-sample <i>t</i>-test was conducted using SPSS. The <i>t</i>-test was used to detect if the means of the dependent variable (self-reported cumulative GPA) of different groups (e.g. participants who use library space monthly vs. those who use it less often) are significantly different from each other.</p>
Findings	<p>The frequencies and the number of different activities were used as independent variables and the cumulative GPA (self-reported) was used as the dependent variable. The <i>t</i>-test analysis showed that participants who used library space “once or twice a year” reported higher GPA (3.4785) than those who had never been to a library on campus (3.3116) (<i>p</i>-value: 0.003).</p> <p>Other usage frequencies (weekly, monthly and once or twice a semester/quarter) had no statistically significant effect on the cumulative GPA.</p> <p>The number of different activities also had no statistically significant effect on the cumulative GPA.</p>

Use of Findings	The findings will be used in library planning documents. The findings also provide a foundation for future library space studies.
Next Steps and Other Results	Data collected through an off-the-shelf survey were used to complete the CARLI Counts project. As such the number of survey questions and the data analysis methods that could be explored were limited by the survey instrument. Also, the cumulative GPA were self-reported by the participants, which might not be accurate. We will be seeking different data sources (e.g. cumulative GPA from the institutional research or the registrar) or collecting more data in order to further examine the relationship between library space use and student success.
Additional Reflections	The “number of different activities” variable is extracted from adding up the use frequencies for different activities in a library: More than twice a week (recode the data with a numeric value ‘5’), Once or twice a week (‘4’), Once or twice a month (‘3’), Once or twice a semester/quarter (‘2’), Once and twice a year (‘1’) or Never (‘0’). For example, if Participant A identified the following 3 activities/frequencies: “Study for an exam” at a frequency of “Once or twice a week” (‘4’), “Work on a group project” for “Once or twice a month” (‘3’) and “Work on a presentation” for “Once or twice a semester or quarter” (‘2’), a value of “9” (4+3+2) would be recorded as the “number of different activities” for the Participant A. While the project did not find the “number of different activities” variable to have any effect on the participants’ cumulative GPA, this extracted variable did take use frequencies into account. A potential next step using the same data could be assigning different activities with a different numeric values in order to represent the nature or impact of each activities. For example, a value ‘1’ could be given to activities that other places on a campus can also

	<p>support (less mission critical), such as “Eat a snack” or “Take a nap”, and a value ‘2’ could be given to unique activities that only a library can/should support such as “Use a physical resource such as reserve reading” or “Conduct research”. Exploring different ways to recode the activities and frequencies or applying other statistical methods might produce interesting findings.</p> <p>A lot of work went into data exploration, data cleaning and data modeling before <i>t</i>-test could be conducted. This part of work was labor-intensive and I was fortunate to have a graduate student to help me with it. Two important notes to share here: 1) Most survey data need cleaning/modeling; even data from well-designed surveys; 2) It is helpful to acquire some graduate student or undergraduate hourly help with data entry and cleaning.</p>
Timeline	<p>Survey administration: October 23<sup>rd</sup>, 2018 – December 1<sup>st</sup>, 2018</p> <p>Survey summary report and results received: January 7<sup>th</sup>, 2019</p> <p>Data analysis: July - October, 2019</p>
Bibliography/Works Cited	NA
Appendices	<p>More information about the University of Illinois at Urbana-Champaign Library’s implementation of the Ithaka S+R Undergraduate Student Survey can be found at <a href="https://www.library.illinois.edu/staff/assessment/libsurv/ithaka-sr-undergraduate-survey-faq/">https://www.library.illinois.edu/staff/assessment/libsurv/ithaka-sr-undergraduate-survey-faq/</a></p> <p>A infographic of key findings from the survey is available at <a href="https://odos.illinois.edu/assessment/pulse/2018/library/">https://odos.illinois.edu/assessment/pulse/2018/library/</a></p>

Note: Report will be submitted as a single PDF.