The Impact of University Student Services and Student Life Characteristics on Students' Perceptions of Online Education

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Student support services and student life have been an integral part of most institutions of higher education for decades. Academic advising, registration coordination, formal tutoring, and informal study groups are some of the more important venues that support academic success. This research fills in a critical gap in the higher education literature by reporting on how six university student support services and six student life characteristics impacted student perceptions of academic success in the online environment. The findings also document students perceived ability to move to the online platform, satisfaction with the online learning experience, and willingness to take future online courses by surveying business students at a comprehensive, AACSB-accredited business school. The results indicate a positive impact of services offered by the Academic Advising Office, Registrar's Office, and the Writing Center whereas a lukewarm response to the Tutoring Center and Peer Mentoring support services. Among student life attributes, campus technology solutions were most helpful to students in achieving their academic goals.

Keywords: higher education, student support services, student life, online education, academic advising, registrar services, financial aid, writing center, tutoring, peer mentoring, technology, COVID-19

INTRODUCTION

For decades there has been a gradual increase in the number of classes taught online, requiring student support services to adjust to the changing environment. Universities have had to provide grants, loans, counseling, administrative, and similar services to students not physically on campus. Student life also changed from one of on-campus activities to online interactions. One silver lining of the COVID-19 pandemic has been a surge in research investigating higher education, and in particular the sudden, almost abrupt, pivot to a remote and online format. Unfortunately, there has been a relative lack of research

regarding student support services and related student-life aspects of the college experience. This study fills in part of the void through a survey of students at a comprehensive AACSB-accredited business school located in Kingsville, Texas. We explore their perception of academic success concerning six student support services and six student life characteristics. Our research tests the following two hypotheses

Research Hypothesis 1: *Student support services are perceived to have an equal impact on student success in online education.*

Research Hypothesis 2: *Characteristics of student life are perceived to have an equal impact on student success in online education.*

The following section presents a literature review comprised of a brief review of online pedagogy studies, the impact of COVID-19 on delivery modality, and literature focused on university student services and student life. Information regarding how the sample was collected and sample demographics are presented next. The findings section includes information regarding student services and student life, including a statistical analysis of differences across Satisfied students, Dissatisfied students, and those on the fence with regard to the value of their online educational experience, referred here to as Neutral students. Finally, the conclusion summarizes our findings, identifies ways to improve online education based on the findings, and provides suggestions for future research.

LITERATURE REVIEW

Online Mobility

Online learning includes teaching synchronous or asynchronous formats using varying devices (e.g., mobile phones, laptops, etc.) and internet access. Previous empirical research asserts that teachers must adapt to new roles in order to create effective and meaningful learning experiences for online students. Goodyear *et al. (*2001), for instance, define online teaching competencies and roles as facilitator, advisor/counselor, assessor, researcher, content facilitator, technologist, designer, and administrator. Aydin (2005) articulates additional roles of online teaching faculty, such as content experts, instructional designers, and materials producers.

A large body of empirical research compares the effectiveness of online and face-to-face learning. Results have been mixed, with Blau et al. (2017) and Landrum et al. (2021) providing a comprehensive comparison of past studies. Gender, ethnicity, student preparation, and age have been found to be predictors of online learning success. For example, Bambara et al. (2009) and Figlio et al. (2010) find that students with lower levels of academic preparedness and lower GPAs are less successful in virtual classrooms. Xu and Jaggars (2013) reveal that males, younger students, African-American students, and students of modest means usually struggle to adapt more than others to virtual learning. In particular, these students experience difficulties taking online classes in subject areas such as English, social science (e.g., anthropology, philosophy, psychology), and the applied professions (e.g., business, law, and nursing). Professor skill, subject matter, and personal characteristics impacted the effectiveness of online education in the COVID-19 learning environment in an open-ended survey conducted by Davis et al. (2022).

Despite online learning challenges including learners' issues, educators' issues, content issues, technology issues, lack of standards quality issues, development of e-resources issues, and e-content delivery issues (Favale *et.al*. 2020; Mohd Yusuf and Ahmad 2021), virtual education represents an essential strategy in modern postsecondary education. While Engelhardt et al. (2022) note that grades have been rising for years, the arrival of COVID-19 appears to be an inflection point, with grade point averages rising from 2.77 before the pandemic to 3.18 during the first three semesters of the pandemic. However, first-year and first-generation students did worse, leading Engelhard et al. to recommend that student support services that these groups come into contact with be expanded. Slightly over 40 percent of respondents in a survey by Kazybayeva et al. (2022) were more dissatisfied than satisfied with online education, with motivational factors and technology being discriminating factors. The current study's assessment of variables beyond

classroom pedagogy provides additional insight regarding factors influencing student perception of online learning. While several researchers such as Mete, Das, and Chowdury (2022) provide an early generalized hypothesis of what higher education will look like, by surveying students two years after the onset of the COVID-19 pandemic we provide more specific insights into the path forward.

While online education increases access, it does not provide the same level of academic and well-being support according to Bettinger and Loeb (2003). Rapper and Brown (2020) contend that removal from the physical and social environment provided through face-to-face education impacts student well-being, study motivation, and academic success. Furthermore, they note that students from disadvantaged backgrounds will be impacted the most. Without picking out specific university divisions, Raaper and Brown highlight the problems that can occur when academic and social support is temporarily closed or transformed into a less personalized form of online service. However, they assert that communities, networks, and interactions should be transformed to cope with the COVID-19 crisis, and argue that there is a need to engage students and thereby create new support networks that lead to an enhanced student life experience accompanying virtual delivery.

Student Support Services and Student Life Dimensions

Kamssu and Kouam (2021) and others document the momentous impact COVID-19 has had on university choice and institutional resource allocation. Table 1 and Table 2 present multiple studies that individually assess no more than four of the twelve student support services and student life dimensions examined in the present research. By comparison, the current authors apply a comprehensive approach, as evidenced by the concurrent assessment of six attributes in each area. The authors hold that an attribute can interact with another attribute on behalf of students, thereby supporting the comprehensive, all-inclusive approach. Accordingly, subsequent processes will analyze pairwise t-tests between the attributes in the current study to evaluate the relative strength of the relationships with online education.

Research covered in Table 1 reveals that online students primarily value and expect support services to assist with their academic efforts and emotional experiences. Related studies consistently reported increased academic and emotional stressors on students because of COVID-19 (Lederer e*t al.*, 2021; Reyes-Portillo *et al*., 2022), which raised the importance of support services. The current study assesses students' perceptions of Table 1 support services' importance based on their use and experience through the pandemic shutdown and return to face-to-face instruction.

Findings in Table 2 show that the perceived importance of student life dimensions derives mainly from their benefits to the quality and satisfaction of online learning. In addition, student life dimensions provide motivations to perform academic activities, as discussed in the Kazybayeva et al. (2022) study. Nevertheless, the sudden push to online learning during the COVID-19 pandemic highlighted the need to assess influences on online learning and students' academic performance. Colvin et al. (2023) apply Kazybayeva et al.'s findings to those among U.S. students. The comprehensive approach in the current research will assess student perspectives of influence and importance across dimensions. Marandu et al. (2023) recently documented the connection between student intention to continue online learning and their performance, social factors, and satisfaction with online education.

TABLE 1
FINDINGS REGARDING STUDENT SUPPORT SERVICES IN PRIOR STUDIES

Service	Finding	Author
Academic advising	Online students identified the need for academic support services to help them learn.	Aguilera-Hermida (2020)
Financial Aid Services	Online students identified services of financial aid office as important for achieving their academic goals.	Trespalacios et al. (2021)
Peer mentoring	Online students' satisfaction with peer mentoring promoted a feeling of belonging and increased learning.	Baranik et al. (2017)
Registrar's office	Online students identified services of Registrar's Office as important for achieving their academic goals.	Trespalacios et al. (2021)
Tutoring Center	Online students identified the need for tutoring support services to help them learn.	Aguilera-Hermida (2020)
Writing Center	Study found the efficiency, functionality, and convenience of a virtual writing center supports a meaningful experience for students.	Harwood & Koyama (2020)

TABLE 2
FINDINGS REGARDING STUDENT LIFE DIMENSIONS IN PRIOR STUDIES

Dimension	Finding	Author
Campus technology-hardware	Access and usability of campus hardware has a strong influence on students' perception of online learning quality.	Theresiawati et al. (2020)
Campus technology-software	The quality of systems and multimedia features has a strong influence on students' perception of online learning quality.	Theresiawati et al. (2020)
	Students' satisfaction with campus software has a significant influence on student satisfaction with online courses.	Rubin et al. (2013)
Informal study groups	Online students identified informal study group participation as a motivating factor for performing academic work.	Aguilera-Hermida (2020)
Student labs	Traditional lab students improved learning through application of theoretical concepts and perseverance to complete tasks, and they wanted additional labs.	Bouquet et al. (2017)
Student organization involvement	Students identified participation in school organizational activities as a motivating factor for performing academic work.	Aguilera-Hermida (2020)

RESEARCH METHOD

Survey Administration

Findings from Eom and Ashill (2016) and the survey conducted by Kazybayeva et al. (2022) provided input for a survey of 112 College of Business Administration (CBA) students during the spring of 2022. The CBA is a member of the Texas A&M University-Kingsville, a Carnegie Classified Doctoral University with High Research Activity, which is recognized by AACSB-International. Ethnically, the campus reflects the demographics of the South Texas area, however, the student body is geographically diverse, with students representing 40 states and 35 countries (Texas A&M University, 2022). The survey sample was similar to that of the CBA itself in terms of academic classification, gender, and age. The flexibility provided by asynchronous online classes is likely to be especially appealing to employed students, who comprised over 55 percent of the respondents.

Statistical Analysis

Means, medians, and standard deviations were computed using Excel software, as were correlation coefficients across the student services units or student life characteristics, independently. Pairwise t-tests were computed to assess statistical significance, with p-values exhibited in this report.

Texas A&M University-Kingsville Student Services

Before continuing, it is necessary to provide the reader with some information about Student Services at Texas A&M University-Kingsville. Academic Advising assists in course selection and monitors progress during the semester. The Office of the Registrar maintains the course catalog and assists in any issues related to academic records. The Office of Student Financial Aid identifies sources of financial aid and helps students obtain funding from a variety of sources such as grants, loans, scholarships, and work-study. The University Writing Center assists students in all aspects of report creation, from brainstorming topics to organizing verbiage, to polishing the final written product. The Tutoring Center provides supplemental instruction on general course topics by a student knowledgeable in the specific topic. Peer Mentoring is designed to help students make a successful transition to campus life, as well as provide informal academic, career, and professional guidance.

FINDINGS

Student Perceptions of Online Education

A variety of measures regarding the value of online education are provided in Table 3. Panel A shares the distribution of student perceptions on the question of how well they adapted to online learning. A plurality of over 42.6 percent stated there was an excellent transition to online education. Another 35.2 percent rated their adaptation to the online environment as being "good." Only seven students felt the transition to be less than satisfactory, while none of the students viewed their transition as being unsatisfactory. This is a very positive finding in light of the fact that in the Spring of 2020, the Texas A&M University-Kingsville campus switched to a fully online environment during spring break, which was extended to two weeks.

Panel B of Table 3 exhibits the response to the question, "Are you satisfied with online learning?" This is perhaps the key question being asked. Seventy-eight percent of students were satisfied with their online education experience, with only ten percent being unsatisfied. The remaining 12 percent were unable to provide an answer to this question. There are two views of this neutral group. One view is that these students have not found online education to be a positive experience and should be considered those for whom online education has been unsatisfactory. A counter view notes that these students are holding a neutral, somewhat uncertain opinion regarding the impact of online versus face-to-face education. This entails that students feel that one mode is as successful as the other. In other words, course content, delivery, and comprehension were not diminished by the online modality. By comparison, the satisfied students recognize an uptick in learning content, delivery, and comprehension. Given that both views have a logical basis for their opinion

regarding how to treat the unsure student, the findings for this neutral group will be reported separately from those of the satisfied and dissatisfied students.

TABLE 3
STUDENT PERCEPTIONS OF ONLINE LEARNING

Panel A. How well do you perceive that you have adapted to online learning?

	Excellent	Good	Satisfactory	Less Than Satisfactory	Unsatisfactory
Students	46	38	17	7	0
Proportion	42.6%	35.2%	15.7%	6.5%	0.0%

Panel B. Are you satisfied with online learning?

	Yes	No	I find this difficult to answer	
Students	85	11	13	
Proportion	78.0%	10.1%	11.9%	

Panel C. Are you satisfied with the online learning format?

	Very Satisfied	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Very Dissatisfied
Students	38	28	26	5	3	1
Proportion	37.6%	27.7%	25.7%	5.0%	3.0%	1.0%

Panel D. How has your level of motivation for participation in online courses changed since January 1, 2020?

	It has Increased	It has not changed	It has decreased	I find this difficult to answer	
Students	50	34	14	11	
Proportion	45.9%	31.2%	12.8%	10.1%	

The third question focusing on students' overall opinions dealt with the learning modality, or a comparison of synchronous, and asynchronous modalities. This question focuses on the learning modality and not what was necessarily learned or the style of individual faculty. A majority were either very satisfied (i.e., 37.6 percent) or satisfied (27.7 percent), as shown in Panel C of Table 3. Another quarter were somewhat satisfied, leaving only 9 percent for the somewhat dissatisfied, dissatisfied, or very dissatisfied perception categories. This percentage is similar to the 10 percent reported in Panel B of those who are dissatisfied with their online experience.

A related question is one of whether students' perceptions of online education have changed since the start of the pandemic is found in the fourth panel of Table 3. Here we see that 50 of 109 students (i.e., 45.9 percent) now have an increased interest in online education. Another 31.2 percent have not changed their perception regarding the desirability of online education. The motivation to take an online class has diminished for approximately one out of every eight students. One out of ten students are unable to answer this question, perhaps because they did not contemplate online education as a viable alternative or do not remember their opinion regarding online education two years ago. Many of the 11 students unable to answer the change question in Panel D of Table 3 are likely to be those who found the question regarding the overall value of online education, reported in Panel B, difficult to answer. In the analyses below, we examine the responses of the Neutral students as well as those who are satisfied and dissatisfied with their online education experience in relation to the components of student support services and student life in

order to elaborate on the difference in satisfaction level among students that could be attributed to these services.

The Impact of Student Support Services

Several factors can influence student learning regardless of modality. Many of the factors may be considered outside the control of either the faculty or the student. Universities offer a variety of ancillary services to help students excel academically, regardless of the delivery mode. At the same time, some of these services can become a distraction if either access to and/or quality of any of these services is not living up to their expectations. Six student support services available at Texas A&M University-Kingsville are listed in Table 4 in the order that they are viewed as aiding online education. Mean, median, and standard deviation values are shown in Panel A of Table 4, while Panel B lists a pairwise comparison of these student support services. Academic Advising is considered to be the most critical service in the support of online education, with a mean of 5.81 on a 7-point scale. The next most valuable service, in the perception of students, is the Registrar's Office (i.e., 5.67), followed by the Writing Center (i.e., 5.52), Financial Aid (i.e., 5.51), Tutoring Center (i.e., 5.20), and Peer Mentoring (i.e., 5.05). The rating across the six academic support services runs from 5.81 to 5.05, a difference of 0.76. All of the branches of student support services have a mean score exceeding the 4.0 middle level on a 7-point scale, implying that all are perceived to be making a positive contribution to student success.

TABLE 4
RELATIVE IMPORTANCE OF VARIOUS ACADEMIC SUPPORT SERVICE DIVISIONS

Panel A. Statistics

	Academic Advising	Registrar's Office	Writing Center	Financial Aid Services	Tutoring Center	Peer Mentoring
Mean	5.81	5.67	5.52	5.51	5.20	5.05
Median	6.00	6.00	6.00	6.00	5.00	5.00
Standard Deviation	1.29	0.94	1.45	1.60	1.78	1.75

Panel B. Distribution Difference Significance
t-statistic p-values
Significance difference highlighted: * = 0.05, ** = 0.01

	Registrar's Office	Writing Center	Financial Aid Services	Tutoring Center	Peer Mentoring
Academic Advising	0.55	0.20	0.22	**0.03***	0.00**
Registrar's Office		0.53	0.54	0.11	0.03*
Writing Center			0.98	0.27	0.09
Financial Aid Services				0.30	0.11
Tutoring Center					0.62

The median value of responses regarding the importance of Academic Advising, Registrar's Office, Writing Center, and Financial Aid, is 6. The difference among these is reflected in standard deviation which is the least for the Registrar's Office (i.e., 0.94) and the most for Financial Aid (i.e., 1.60) reflecting the consistent quality of the perceived service experience offered by the Registrar's Office compared with

Financial Aid division of Texas A&M University-Kingsville. Tutoring and Peer Mentoring have a lower median of 5 paired with two of the highest standard deviation values observed among the support services (i.e., 1.78 for Tutoring Center and 1.75 for Peer Mentoring). It is noteworthy that the support services offered by Academic Advising and Registrar Office are used by most, if not all students whereas Tutoring Center and Peer Mentoring services are targeted towards the few who need this assistance. In order to assess whether any of the academic support service divisions were perceived to be providing a significant difference in support as students move to fully online delivery, pairwise t-tests were run. P-values displayed in Panel B of Table 4 indicate that the distribution of student preferences for the support supplied by Academic Advising was significantly different from the support supplied through the Tutoring Center and Peer Mentoring. The difference between Academic Advising and Peer Mentoring was statistically significant at the 0.01 level. In other words, to the extent that student perceptions are accurate, one can be confident at the 0.01 level in the assertion that advising played a larger role in online student success than Peer Mentoring. While Peer Mentoring is a program aligned with the first-year experience program that helps students with the transition to university life, Tutoring Center Services is an appointment-based, curriculum-focused interaction between students. Given its more general availability, it is not necessarily surprising that the Tutoring Center had a higher mean value than Peer Mentoring. However, the difference between Academic Advising and Tutoring Center was still statistically significant at the 0.05 level. Likewise, one can be confident at the 0.05 level in the assertion that the services provided by the Registrar's Office played a larger role in online student success than Peer Mentoring. The relative impact of none of the other pairwise combinations of ancillary services was found to be statistically significant.

To gain insight into the reported significance and detect any other variation in the importance of student support services, the sample was divided into those students who are satisfied with online education, those who are dissatisfied, and the rest who are unable to answer, referred to as being neutral. The mean score across each of the Student Support Services divisions is given in Panel A of Table 5, where we see that the rating given to the Academic Advising by satisfied students is 5.91. Those dissatisfied with the Academic Advising had a mean rating of 5.22, while those unable to answer had an average rating that was about midway between these two values at 5.60. This was the highest rating provided to any student support services division by the satisfied students and neutral students. The highest rating provided by the dissatisfied students was awarded to the Writing Center, which interestingly had the lowest rating among neutral students Peer Mentoring received the lowest rating given by both the satisfied and the dissatisfied students, which is unsurprising given the overall lowest rating of this service among all. It should be noted that none of the services received a rating below 4.0, the middle point on a 7-point scale, by any satisfaction-defined subgroup.

The statistical significance of the pairwise combinations of student groups is provided in Panel B of Table 5, where the four instances of statistical significance are highlighted in bold font. Two of these times are found in the Writing Center column, with the difference between the neutral students and either the satisfied students or dissatisfied students being significant at 0.01 and 0.05 confidence intervals, respectively. There is also a student group difference when considering the two student support services with the lowest overall ratings, the Tutoring Center and Peer Mentoring. Interestingly, the difference is not between the satisfied and dissatisfied students but between the satisfied students and those unable to answer. Looking back at the mean values presented in Panel A of Table 5, it is obvious that satisfied students have a much higher opinion of these two ancillary services. Interestingly, the group of students that seems to stand out as an outlier are those who are unable to assign a satisfied or dissatisfied label to their online experience. This group is one of the paired groups in each significant comparison. Satisfied students and dissatisfied students are in fairly consistent agreement on the importance of the various ancillary services, while neutral students appear to be signaling that the support of the Writing Center, Tutoring Center, and Peer Mentoring was less than they had anticipated.

TABLE 5
IMPACT OF ACADEMIC SUPPORT SERVICES ON

Panel A. Student Support Services: Rating						
Overall Perception of Online Learning	Academic Advising	Registrar's Office	Writing Center	Financial Aid	Tutoring Center	Peer Mentoring
Satisfied	5.91	5.84	5.68	5.67	5.41	5.26
Dissatisfied	5.22	5.26	5.50	5.38	5.17	4.40
Unable to answer	5.60	4.90	4.00	4.70	4.11	4.11
Panel B. Statistical Significance t-statistic p-values Significance difference highlighted: * = 0.05, ** = 0.01						
Satisfied v. Dissatisfied	0.23	0.26	0.64	0.60	0.80	0.39
Satisfied v. Neutral	0.46	0.14	**0.10****	0.12	**0.04***	**0.5***
Dissatisfied v. Neutral	0.56	0.59	**0.03***	0.37	0.34	0.78

A score of 4 is a response that the service neither positively nor negatively impacted performance.

Impact of Student Life

Beyond student support services, there is another realm of campus interaction that exists outside the classroom. Six of these environmental factors are studied in this report, with students rating those components of student life that they felt able to assess. Students could select "not applicable" for any or all of these components resulting in a range of assessments provided from a low of 50 responses for virtual study abroad to a high of 70 for informal study groups, as shown in the first row of Panel A in Table 6. As with student support services, aspects of student life were listed in terms of their mean score, from largest to smallest. In retrospect, it appears as though there is a technical versus a non-technical bifurcation of the characteristics. Technical components are rated higher, with campus technology–software (i.e., 5.34), campus technology-hardware (i.e., 5.14), and student labs (i.e., 4.96) having a higher set of rankings. The soft, less-technical components of student life earned lower mean scores, with informal study groups having a score of 4.91, virtual study abroad earning 4.74, and student organizations a 4.66. Median scores are 5.00, with the lone exception of virtual study groups which earned a 4.5 across 50 students. There tends to be greater diversity in scores than that which exists for student support services, with the highest single standard deviation in this report found among perceptions of student organizations (i.e., 1.82).

Pairwise comparisons were made across the six student life characteristics. Statistically significant differences only existed in two instances, both of which can be found in the first row of Table 6's Panel B. There is a significant difference in student opinions regarding the online support supplied by the software aspect of campus technology compared to student organizations, which is significant at the 0.01 level, and to virtual study abroad at 0.05 level.

TABLE 6
RELATIVE IMPORTANCE OF VARIOUS STUDENT LIFE DIMENSIONS

Panel A. Statistics

	Campus Technology – Software	Campus Technology - Hardware	Student Labs (Bloomberg)	Informal Study Groups	Virtual Study Abroad	Student Organization Involvement
N	66	62	58	70	50	66
Mean	5.34	5.14	4.96	4.91	4.74	4.66
Median	5.00	5.00	5.00	5.00	4.50	5.00
Standard Deviation	1.54	1.50	1.78	1.49	1.77	1.82

Panel B. Pairwise t-statistics
t-statistic p-values
Significance difference highlighted: * = 0.05, ** = 0.01

	Campus Technology – Hardware	Student Labs (Bloomberg)	Informal Study Groups	Virtual Study Abroad	Student Organization Involvement
Campus Technology – Software	0.45	0.20	0.07	**0.02***	**0.01****
Campus Technology – Hardware		0.55	0.29	0.21	0.10
Student Labs (Bloomberg, VITA)			0.86	0.51	0.36
Informal Study Groups				0.57	0.39
Virtual Study Abroad					0.82

The importance of student life components to those students satisfied with online education was also compared to the importance assigned to these components by those who were dissatisfied and those unable to classify themselves as being satisfied or dissatisfied with online education. Satisfied students provided a higher rating for all but the Student Labs characteristic that was rated higher by dissatisfied students, as displayed in Panel A of Table 7. Regarding the lowest rating of the six student life components, there is a fairly even split between the dissatisfied and neutral students. Perhaps the most interesting, and distressing for those responsible for student organizations is the low rating of this component of student life. In fact, the mean student rating of both the dissatisfied students and neutral students is a rating below the median of 4.00 on a 7-point scale. Nonetheless, the lowest single mean rating was a rating of 3.44 assigned to virtual study abroad by those who were unsure of their overall opinion of online education.

Insight regarding the statistical significance of the student life characteristics across pairwise combinations of students identified by their online education satisfaction level is provided in Panel B of Table 7. Unlike the results presented in Table 5 for student support services, significant variations are now observed between satisfied and dissatisfied students. In fact, satisfied students are always one of the two paired student groups. Satisfied students provide significantly higher ratings to informal study groups and virtual study abroad than dissatisfied students, the latter being significant at the 0.01 level. Satisfied students

also provide significantly higher ratings to virtual study abroad and student organization involvement than neutral students, the latter again being significant at the 0.01 level.

TABLE 7
IMPACT OF VARIOUS STUDENT LIFE CHARACTERISTICS ON STUDENT PERCEPTIONS OF ONLINE EDUCATION

Panel A. Student Life: Rating						
Overall Perception of Online Learning	Campus Technology – Software	Campus Technology - Hardware	Student Labs	Informal Study Groups	Virtual Study Abroad	Student Organization Involvement
Satisfied	5.45	5.24	5.05	5.07	5.11	4.96
Dissatisfied	5.33	4.60	5.43	4.25	4.00	3.60
Unable to answer	4.80	4.88	4.22	4.40	3.44	3.56
Panel B. Student Life Statistical Significance: p-values t-statistic p-values Significance difference highlighted: * = 0.05, ** = 0.01						
Satisfied v. Dissatisfied	0.83	0.21	0.58	**0.03***	**0.00****	0.15
Satisfied v. Neutral	0.21	0.44	0.25	0.11	**0.02***	**0.01****
Dissatisfied v. Neutral	0.44	0.64	0.19	0.73	0.33	0.96

A score of 4 is a response that the service neither positively nor negatively impacted performance.

CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

Understanding the adaptability of faculty and students has garnered a lot of attention with little focus on attributes outside the scope of the virtual classroom. This research focuses on the relevance of student support services and student life attributes in promoting student learning, which provides important information on whether we are there is a continued growth of online education or a switch to an online modality caused by a health emergency. Based on responses collected from a diverse student body at a comprehensive AACSB-accredited College of Business Administration, the study identifies the support services that students believed contributed positively to their online learning experience. With 78 percent of all respondents being satisfied with online, we find that two of the most consequential support services were Academic Advising and Registrar services, whereas student interaction with Tutoring and Peer mentoring had less impact. These differences were consistent across subgroups of students who are satisfied, dissatisfied, or neutral in their perceived satisfaction with online learning. A cursory review reveals that both the Tutoring and Peer Mentoring services were scored relatively poorly by seniors and juniors compared to sophomore and freshmen students.

The Writing Center and Financial Aid services were in the middle of the pack with the latter being used by many, especially during the financially-trying times caused by the pandemic. Further looking at Financial Aid Services, the preference enhanced significantly when freshmen are excluded which is concerning but unsurprising given that freshmen students are more likely to be unfamiliar with the office procedures and policies which could lead to a sub-optimal user experience. This finding offers insight for campus administrators to enhance the service interactions for incoming freshmen. Overall, the services that are typically used by most students (i.e., Advising, Registrar, and Financial Aid with freshmen excluded) score consistently higher compared to targeted ones such as Peer Mentoring, Tutoring, and the Writing Center. Surveying the quality and range of interactions offered by certain services, and assessing differences

in resource allocation to service providers would be a natural next step in expanding our understanding of these topics.

Within student life attributes, campus technology software was significantly better at promoting success in online learning than student organizations and virtual study abroad. All students must engage with campus technology when courses are online, so it is reassuring to see that the technology solutions provided to students were at a level consistent with their expectations of success in online learning. It is conceivable that under the stress of the rapid pivot to online learning, the majority of students had to adjust in their academic and personal lives leaving little time to focus on student engagement opportunities. This can be said for both the leaders of student organizations and for those interested in pursuing organizational affiliations. The travel restrictions put in place due to the Pandemic made physical study abroad impossible, and this resulted in an innovative solution of a virtual study abroad program offered by the College. Seniors and juniors, who were aware of the physical travel experience enjoyed by others, rated the virtual option relatively poorly while freshmen and sophomores viewed the flexibility of a virtual option as a benefit resulting in higher ratings.

The study focused on a student's comprehensive experience through an analysis of the environment in which education is made available. One example is the thorough analysis of technology factors, akin to the report by Colvin et al. (2022). Conducting this study at other institutions, either again inside a College of Business or for other disciplines, in a university within a different region or nation would demonstrate the robustness of these results which are relevant for all online programs.

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