

Support Services: Insights from the Survey of Post-Traditional Undergraduate Engineering Students at a Hispanic-Serving Institution

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Abstract

Students beyond the traditional college age are becoming an increasingly prominent undergraduate population at colleges and universities, where most institutional services are typically designed to meet the needs of traditional college students. This trend brings challenges for institutions as they adapt their systems to better serve this growing student group. Understanding these students' experiences helps institutions to align resources and practices. In this study and consistent with recent scholarship, we refer to this group of students as post-traditional students. Post-traditional students are defined in the literature as individuals who meet one or more of the following criteria: delaying college enrollment by one year or more, attending college part-time, supporting themselves financially while enrolled, working full-time while enrolled, having dependents other than a spouse, being single parents, or having earned a GED or another equivalency certificate in place of a high school diploma. This study examines post-traditional undergraduate engineering students' experiences with institutional support services. It is a part of a previously funded collaborative, multi-year research project. Data for this study were collected and analyzed from a survey of 117 post-traditional undergraduate engineering students at a Hispanic-Serving Institution, a large public university located in a Southeastern state.

Key findings indicate that among ten types of student support services available on campus, students were most aware of *academic advising, tutoring, student organizations, and financial aid and/or scholarship services*, which were identified as the top four support services at the university. These were also the services students reported using *almost always*. In contrast, they were least aware of the *food pantry* and *writing center/lab services* on campus. Additionally, students reported that their three biggest challenges during the current school year were related to *managing stress, burnout, or other mental health-related issues, meeting financial needs, and keeping a balance between family, work, and study*. Besides family members, students most frequently discussed their academic interests, course selections, or academic performance with *academic advisors* and *assigned faculty*, which highlights the crucial roles of these individuals in motivating and retaining engineering students. The study offers important implications for improving institutional support services and policies to enhance learning and campus experiences of post-traditional engineering undergraduate students.

Introduction

In higher education, students outside traditional college-age groups have become a prominent population. Older students or adult learners, often referred to as students aged 25 or older, contribute to a growing student body [1], [2], [3], [4], [5], [6]. According to the American Council on Education, nearly 60% of enrolled undergraduate students are post-traditional learners. Compared to traditional students in higher education, post-traditional students tend to have full-time employment, financial independence, and family responsibilities [7], [1], [8], [9], [3], [6]. In this study and consistent with recent scholarship, we refer to post-traditional students as those who meet one or more of the following criteria: “(a) delaying college enrollment by one

year or more; (b) attending college part-time (i.e., fewer than 12 credits per semester); (c) supporting themselves financially while enrolled; (d) working full-time while enrolled; (e) having dependents other than a spouse; (f) being single parents; and (g) having earned a GED or another equivalency certificate in place of a high school diploma” [3].

Student support services, such as academic advising, financial aid, student organizations, and career guidance, provide students with personal and professional support, which can increase students’ enrollment and retention in higher education, particularly for post-traditional students [10], [11]. Institutional student support services also importantly impact STEM students’ experiences [12], [13]. Within the context of Hispanic-Serving Institutions (HSIs), the term *servingness* refers to a variety of indicators (e.g., academic, non-academic, curriculum, mission) that demonstrate whether an institution is serving its students [14]. In this study, we specifically focus on post-traditional engineering students and their perspectives on the student support services at an HSI. Using *servingness* as a theoretical framework, we address two research questions:

1. Which student support services available on campus do post-traditional engineering students perceive as most valuable?
2. How do student support services influence post-traditional engineering students’ commitment to engineering degree completion at an HSI?

Theoretical Framework

Through a systematic literature review, Garcia et al. [14] emphasized the consideration of multiple factors in conceptualizing *servingness* at HSIs. They provided a multidimensional conceptual framework consisting of “outcomes and experiences”, “structures for serving,” and “external influences on serving” [14] (p. 771). At the individual level, the outcomes (academic and non-academic) and experiences include individuals from both students and nonstudents (e.g., advisors, faculty, and administrators) within HSIs. At the organizational level, the HSIs’ structures for serving (e.g., organizational mission and value statements, programs and services for minoritized students) and HSIs’ external influences on serving (e.g., political, historical, and social forces) are the units to be considered in understanding the *servingness* at HSIs [14]. Within the multidimensional model, Garcia et al. [14] described the structures of *servingness* that shaped the capacity of HSIs to meet students’ needs. We draw on this framework to guide our examination of student support services at an HSI and post-traditional engineering students’ experiences.

Methods

This study is a part of a previously funded collaborative, multi-year research project. We partnered with the research site (an HSI) to conduct this study. Through developing an online Qualtrics survey consisting of 34 questions, we seek post-traditional engineering students’ perspectives on their experiences with the student support services available on campus. The survey included screening questions aligned with the definition [3] of post-traditional students to ensure that all participants who fully completed the survey met the inclusion criteria. The research site is a large, public four-year HSI located in a Southeastern state, where about 25% of the undergraduates are 25 or older. The institution currently offers over 12 engineering and computing majors and enrolls more than 7,000 undergraduate students. The online survey was

distributed to engineering undergraduate students at the research site in Spring 2025. We received a total of 117 full responses, representing a 58% response rate. We analyzed the survey data using descriptive statistics (frequencies and percentages) generated through the Qualtrics reporting tool. According to the survey responses, student demographics revealed a high percentage of post-traditional engineering students who identified as Hispanic (50%), Black (20%), first-generation (41%), students who were financially responsible for supporting others (e.g., children or family members) (74%), students who work more than 20 hours per week (50%), and commuter students (85%).

Results

Students' Knowledge of On-Campus Services

When asked about their knowledge of student support services on campus, post-traditional students reported varying levels of awareness. Among ten types of student support services available on campus, students were most aware of *academic advising* (92%), *tutoring* (92%), *student organizations* (91%), and *financial aid and/or scholarship services* (91%), which were identified as the top four support services at the university. In contrast, students were least aware of the campus *food pantry* (see Figure 1).

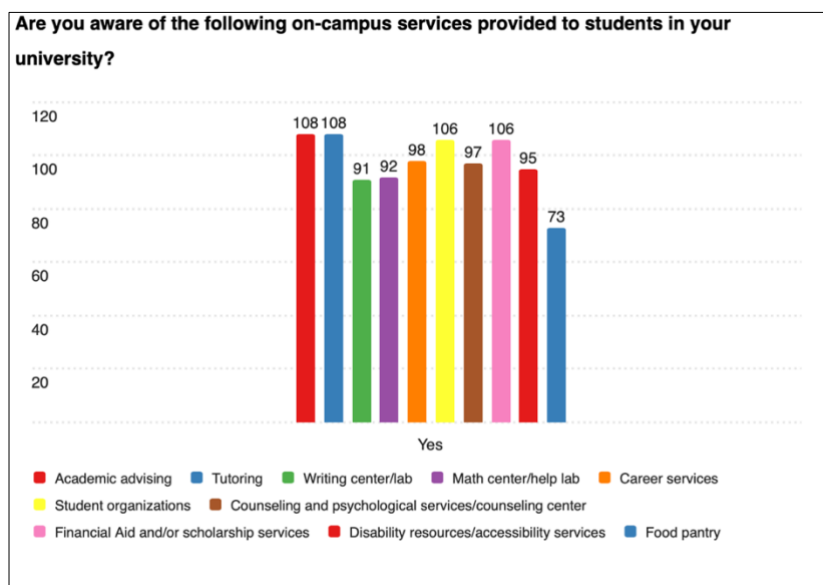


Figure 1. Students reported their knowledge of on-campus services

Students' Actual Use of Student Support Services

The highest frequency with which post-traditional engineering students used campus student support services was consistent with their reported levels of awareness. *Academic advising* (15%), *student organizations* (17%), and *financial aid and/or scholarship services* (15%) were resources that post-traditional engineering students used *almost always*.

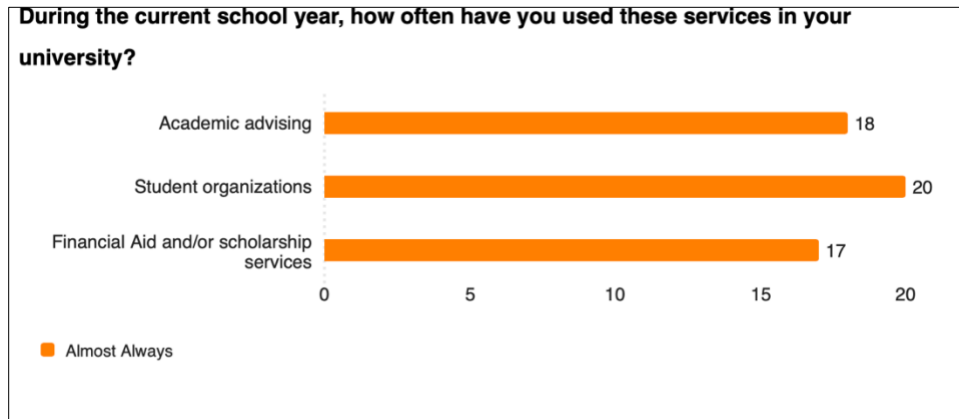


Figure 2. Students reported their actual use of student support services

Students' Perception of Challenges and Interactions with Others

During the current school year, post-traditional engineering students reported that their three biggest challenges were related to *managing stress, burnout, or other mental health-related issues* (32%), *meeting financial needs* (34%), and *keeping a balance between family, work, and study* (35%). Beyond family members, students most frequently discussed their academic interests, course selections, or academic performance with *academic advisors* (61%) and *assigned faculty* (51%), which highlights the crucial roles of these individuals in motivating, supporting, and retaining post-traditional engineering students. Regarding interactions with others, particularly during academic advising, students reported that they *almost always* experienced *respect for their identities and cultures* (38%), *care for their overall well-being* (26%), *notification of important policies and deadlines* (23%), and *active listening to their concerns* (22%).

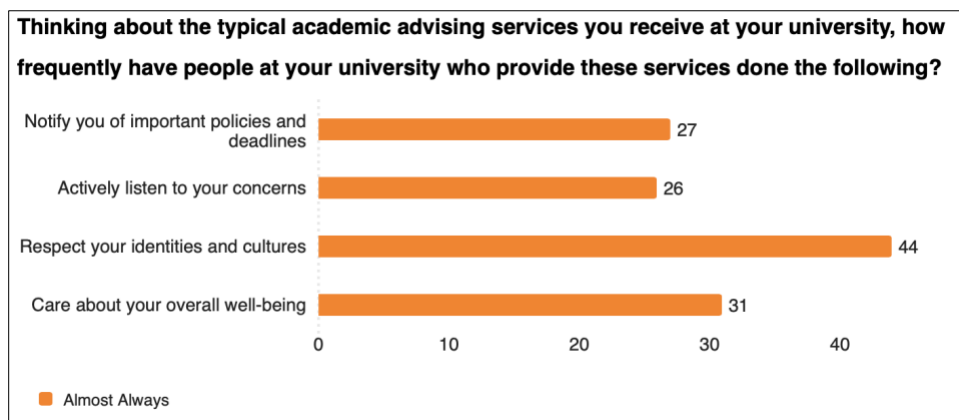


Figure 3. Students reported academic advising services

Students' Commitment to Engineering Degree Completion

When asked about the importance of graduating from this university with an engineering degree, 74% post-traditional engineering students rated it as *extremely important*, while 23% students rated it as *very important*. The high valuation of graduation shows students' strong commitment to completing an engineering degree at this university, which may be shaped in part by the availability and effectiveness of campus student support services.

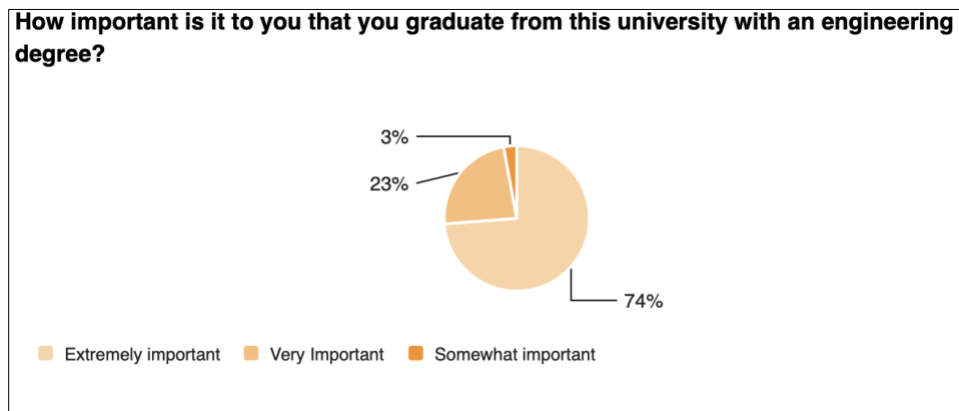


Figure 4. Student reported their commitment to complete an engineering degree

Discussion and Implications

This study examined post-traditional engineering students' experiences with campus support services at an HSI, guided by two research questions: which services students perceive as most valuable (RQ1), and how those services relate to their commitment to completing an engineering degree (RQ2). With respect to RQ1, academic advising, tutoring, student organizations, and financial aid and/or scholarship services emerged as the most widely known and most frequently used resources, with awareness above 90% for each. Students also identified academic advisors and assigned faculty as their primary conversation partners, besides family members, for decisions about course selections, academic interests, and performance. With respect to RQ2, the descriptive nature of the data limits causal inference, but the patterns are suggestive: 97% of respondents rated graduating with an engineering degree as extremely or very important. Notably, experiences in which students feel respected for their identities and cultures, cared for their overall well-being, notified of important policies and deadlines, and actively listened to their concerns play a critical role in improving their academic performance, coping with challenges, and enhancing overall campus experience. These elements align with the concept of *servingness* [14] that enables the institution to meet students' needs. Together, the findings suggest that the availability and perceived effectiveness of support services are tied to post-traditional students' commitment to engineering degree completion, which may in turn contribute to persistence and retention in engineering programs.

These findings offer practical implications for institutional decisions about where to invest staffing, outreach, and programming for post-traditional engineering students. Future work from this project will extend the analysis in three directions: (a) disaggregating responses by gender,

race and ethnicity, first-generation status, and weekly work hours to examine where experiences diverge across subgroups; (b) inferential analyses, such as chi-square tests or logistic regression, to examine more directly the relationship between service awareness, service use, and commitment to degree completion; and (c) follow-up qualitative interviews with a purposive subsample to understand why specific services reach some students and not others. These next steps are intended to move beyond descriptive patterns toward a fuller account of the serving structures at HSIs that matter most to this student population.

Conclusion

Post-traditional engineering students are no longer a peripheral population at HSIs; they are a growing share of the undergraduate body, and the services they encounter on campus shape whether they persist to degree completion. The patterns reported in this study suggest that students in this population know where to turn for help, use those resources at meaningful rates, and tie their commitment to graduating in engineering to the quality of those interactions, especially with academic advisors and faculty. What is less clear, and what this project intends to examine next, is how those relationships operate across demographic subgroups, how structural features of HSIs either reinforce or undercut the individual-level experiences students describe, and how institutions can translate awareness of services into measurable gains in retention and graduation for post-traditional engineering students.

These questions matter beyond a single institution. As engineering programs across the country enroll more students who work full-time, support dependents, and commute rather than live on campus, the traditional playbook for student support, built around residential, full-time, eighteen-to-twenty-two-year-olds, will leave a widening portion of the engineering pipeline underserved. The practical implication is that *servingness* at HSIs, and at any institution enrolling large numbers of post-traditional engineering students, cannot be treated as a mission statement alone. It has to be operationalized through the everyday services students actually use and through the advising relationships they rely on to navigate the degree. Continued inquiry into how those services function, for whom they work, and where they fall short is essential for building engineering programs that can retain the full range of students now entering them.

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