

Assessment of International Graduate Student Recruitment and Retention in Sample STEM Programs

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International students play a significant role in education, culture, and economy for both the US and their native countries and are consistently positioned as a source of quality by bringing diversity and a variety of worldviews into classrooms. This research aims to investigate enhancing international graduate student recruitment and enrollment processes by analyzing and understanding sample STEM graduate student experiences and satisfaction levels at Kennesaw State University, specifically those of Construction Management graduate students. The experiences examined will focus on academic (educational) and non-academic (support) areas so that recommendations can be made to satisfy those needs better and thereby recruit and retain more international graduate students in STEM programs such as architecture and construction management.

The study will use a survey method to determine international graduate students' experience with essential issues related to academic and non-academic areas. This research explores several aspects relating to international students' recruitment, such as cultural differences and student needs regarding accommodation, university support, and recognition. Results will provide several key strategic recommendations to enhance international student recruitment in STEM graduate programs, focusing on Construction Management graduate programs.

Keywords: Students, Recruitment, International Students, Assessment, Satisfaction, STEM Graduate Experiences

Introduction

This study aimed to determine conditions that enhance international student recruitment in STEM graduate programs. Specific focus is given to evaluating students enrolled in the Construction Management (CM) graduate program (CIP Code 14.3301) at Kennesaw State University (KSU)—their perceptions, experiences, and satisfaction levels. Both academic (educational) and non-academic (support) factors are investigated so that recommendations can be made to the university on how to better address those needs and, consequentially, recruit and retain more international students.

International graduate students contribute significantly to US higher education institutions and economies by increasing cultural variety and introducing innovative perceptions. However, recruiting and retaining these students in science, technology, engineering, and mathematics (STEM) disciplines is difficult. From this point of view, this research evaluates the experiences and satisfaction levels of international STEM graduate students at KSU, with an emphasis on construction management students. This research identifies essential needs that must be better addressed to improve recruiting and retention outcomes by polling students and assessing their comments on critical academic and non-academic issues. Recommendations focusing on improving international STEM graduate enrollment strategies are generated based on empirical insights into student expectations regarding housing, institutional support, cultural integration,

and professional growth. These findings offer administrators and policymakers a framework for increasing student engagement in construction management and related programs worldwide. Finally, it is hypothesized that making STEM learning circumstances more open and welcoming to international students will catalyze innovation, productivity, and growth for all stakeholders.

Objectives

This research has two main objectives: (1) to conduct institutional surveys to investigate the factors influencing recruitment and retention from the perspectives of current international graduate students in STEM; and (2) to develop data-driven suggestions for increasing recruitment yields and retention rates in STEM graduate education. The motivators, barriers, and overall experiences that shape international student enrollment decisions in STEM fields are still not adequately understood. As a result, this study starts with an analysis of current recruitment techniques and retention outcomes for international students in STEM graduate programs at various universities.

Literature Review

The literature on international graduate student recruitment and retention in STEM programs is vast, with several noteworthy writers adding valuable insights. The assessment of international graduate student recruitment and retention in STEM programs is complex and involves multiple areas of higher education, as evidenced by the literature from diverse studies. The awareness that overseas students are critical to the diversification and enrichment of STEM programs is central to this conversation. However, these students frequently face several hurdles that can impact their recruitment and retention [1].

Universities around the world, including those in the United States, use a systematic marketing strategy with common key elements for successful international student recruitment, including securing funding, [2] developing a dedicated recruitment team, using targeted advertising, and creating a multicultural campus atmosphere. While precise recruitment techniques differ in each country, such as using fairs, offering incentives, and emphasizing local program characteristics, the underlying strategies remain consistent [3]. These initiatives include focusing on foreign student outreach and creating marketing materials that highlight the university's specialty areas. Emerging institutions that want to improve their foreign student recruitment efforts might benefit greatly from including these key elements in their recruitment plans [4]. This approach not only helps to attract a diverse student body but also helps to create an inclusive environment that appeals to overseas students.

The responsibility of recruitment agents is to direct international students into higher education, drawing on theoretical perspectives on mobility, migration, and communication ethnographies. [5]. According to Lomer (2017), [5] information on theoretical perspectives helps students and academics understand how policies shape perceptions. Investigating the motivations behind recruiting international students, and questioning those motivations, critically opens new ways of thinking about these issues—ultimately providing valuable insights into a complex and important topic. Hulme et. al (2014), [6] emphasizes the significance of rigorously analyzing the roles of education agents in creating student expectations to gain a deeper understanding of the agents'

function in recruitment and the broader context of higher education commercialization. Tas (2013), [7] emphasizes equal treatment and integration of international and domestic students in academic and non-academic aspects, recommending the full incorporation of the International Student Office in all campus activities and the development of comprehensive orientation programs by the ISO and Campus Life to foster diversity and enhance retention [7].

Adapting to new academic environments, which requires negotiating multiple teaching methods, curriculum systems, and classroom dynamics, is one of the most difficult hurdles new international students face. Language obstacles, particularly in English proficiency, have been shown in the literature to have a major impact on academic success and social integration [8]. Another major component is financial strain, with students from other countries frequently experiencing greater tuition and living costs. Colleges can provide strong support systems, such as thorough orientation programs, specialized language assistance, and culturally sensitive counseling services to help international students succeed and progress to graduation [9-10]. Furthermore, the administrative processes and bureaucracy connected with overseas education, such as visa requirements and academic equivalence concerns, are regularly highlighted as barriers to effective recruiting and retention [9-11]. According to Ammigan and Jones (2018), [11] streamlining these procedures and boosting access to clear, relevant information can dramatically improve the foreign student experience. International students experience substantial obstacles while transitioning to new academic contexts, particularly when adapting to alternative study methods and the need for additional coaching in areas such as referencing. Many of these students' home countries have more class-focused study methods, with less emphasis on independent study, offering a steep learning curve for students when adapting to education systems like those in the US, UK, and Australia [12]. Besides academic study focus, international students face other struggles, including difficulty fitting into social circles, financial strain, and finding suitable housing. These issues pose a challenge for advocating for a broader educational approach that embraces diversity and fosters global understanding [13].

Chen and Shaurette [14] explore the learning experiences of international graduate students in construction programs to focus on the use of job-shadowing as a learning method and found that language barriers, cultural differences, and lack of contextual knowledge made it difficult for the students to understand and participate in professional discussions and daily conversations fully. However, according to Chen and Shaurette's [14] study, the students who had longer job-shadowing experiences had more time to learn and understand the project and build relationships with team members, highlighting the importance of acculturation and relationship building in the learning process. Chen and Shaurette [14] suggest that further research is needed to explore the need for experiential learning experiences for international students in construction programs.

The significant findings of Gresham and Clayton [15], and Arkoudis et al. [16] suggest the necessity of encouraging interaction between local and international students, with efforts such as the "Interaction for Learning Framework" offering significant ways to boost intercultural engagement and understanding within university settings [15-16]. A case study done by Torres-Machí et al. (2023) [17] investigates graduate students' employability in the construction

industry, indicating areas of training gaps that affect employment and offering recommendations for skill enhancement. Additionally, the study by Torres-Machí et al. (2023) [17] highlights the value of language proficiency and the need to include transversal abilities in the curriculum. Although the study has limitations, it offers insightful information for further investigation, and their findings highlight the need to attend to graduate students' worries and enhance their employment opportunities. Construction management is considered part of engineering because it bridges the gap between theoretical design and real-world construction. Architects and engineers conceptualize and plan projects, but construction managers are the ones who bring those plans to life. They're the boots on the ground, overseeing every aspect of the construction process—from laying foundations to putting on the final touches. With their knowledge of engineering principles, they ensure that what's built matches the intended design while navigating challenges like material availability, labor issues, and unexpected site conditions. Ultimately, construction management adds the practical human touch to design projects, turning blueprints into functional structures that serve society.

Based on the literature review, there is an overall gap in creating comprehensive and compassionate student recruitment and retention strategies for construction management international graduate students. This research, therefore, emphasizes the importance of creating and implementing such strategies to meet international graduate students' immediate academic and financial needs and to create an inclusive, supportive atmosphere that respects cultural diversity and fosters the well-being and success of all students.

Methodology

The first step of this study was to identify the academic and non-academic experiences of international STEM students and any difficulties with cultural adjustment. The process included creating a detailed questionnaire based on suggestions from several KSU communities, such as the International Student and Scholar Services Offices and Graduate Program Coordinators. The questionnaire covered a wide range of topics, including the quality of instruction and course content, technological support services, and cross-cultural adjustment challenges.

Once the questionnaire was developed, it was disseminated to international graduate students in the sample STEM program, construction management. Responses were collected using a systematic approach, ensuring data integrity and confidentiality. The study's analysis phase was multifaceted, thoroughly examining both academic and non-academic experiences and investigating cultural differences and their impact on student experiences. Furthermore, the study intended to analyze the specific needs of these students.

After the collection of responses, both qualitative and quantitative analyses were performed, which aided in establishing a comprehensive picture of the experiences and requirements of international students. The final stage of the investigation was to summarize the findings and formulate conclusions. These findings are presented as recommendations for KSU administrators aiming to strengthen academic programs and support services and, consequently, increase international students' integration and overall experience in STEM programs.

The online distribution of the survey was selected as a method because it allowed documentation of responses at a faster rate compared to other survey methods. The survey consisted of multiple-choice, Likert scale, and slider scale questions. The survey questions were designed so that the respondents could complete the study within a short period of time (5 minutes on average). The survey was disseminated to students between the months of November and December of 2023 using the Qualtrics Software platform. At the completion of the response collection period, data was exported for analysis in the form of tables and graphs. Data was then compared and analyzed for differences and similarities within topic areas and between international and domestic respondents. The online survey was approved by the IRB of Kennesaw State University.

Data Analysis

The survey had 20 student respondents and all respondents were from the graduate (MS) construction management program at Kennesaw State University. Of the total 20 respondents, 16 were international students and four were from the United States. International student respondents were from Pakistan, Nigeria, Colombia, Bolivia, India, Jamaica, Ghana, and Mexico. Domestic student respondents self-identified as 75% male and 25% female, while international student respondents self-identified as 56% male and 44% female.

Table 1: Demographic Data

	Respondents	Female	Male
International Students	80%	44%	56%
Domestic Students	20%	25%	75%

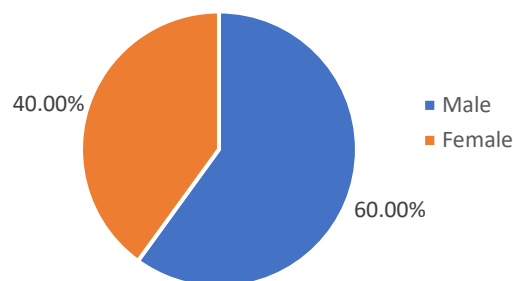


Figure 1: Total respondent demographics regarding self-identified gender

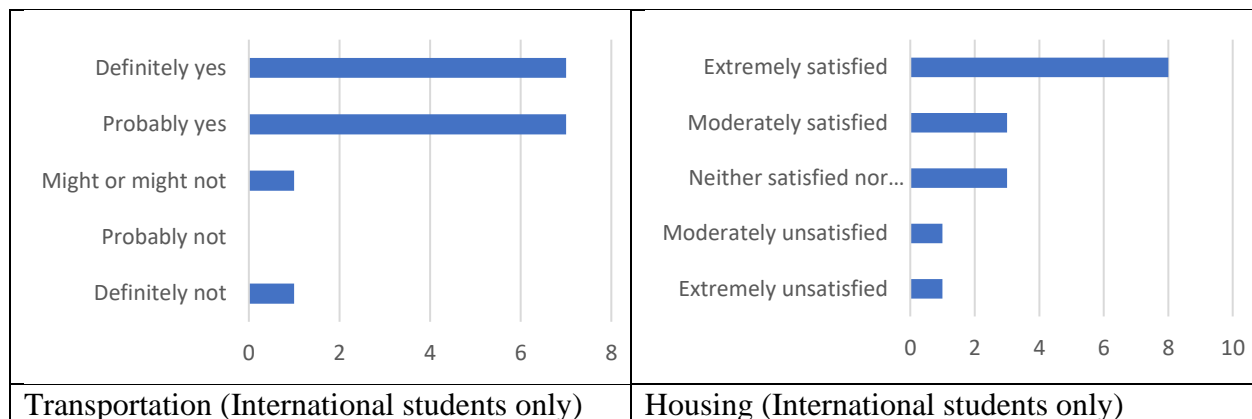


Figure 2: International Students' Satisfaction Levels with Transportation and Housing

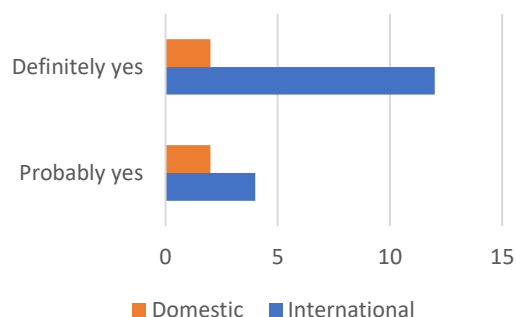


Figure 3: All Respondents' Satisfaction Levels with Campus Safety & Security

Figures 2 and 3 focus on levels of satisfaction with transportation, housing, and campus safety and security. Replies were divided into five levels of satisfaction—from “Extremely unsatisfied” to “Extremely satisfied” for the question “Are you satisfied with your housing accommodations (dorm, apartment, etc.)?” and “Definitely not,” “Probably not,” “Might or might not,” “Probably yes,” and “Definitely yes” for the questions “Are you satisfied with your method of transportation (to and from your residence, campus, grocery store, etc.)?” and “Are you comfortable with campus safety and security?” 68.75% of international student respondents indicated positive satisfaction with housing accommodations, with 18.75% neutral and 12.5% with some level of dissatisfaction. At 87.5%, a much higher rate of international respondents were satisfied with transportation methods. All respondents indicated comfort with campus safety and security, both international and domestic students.

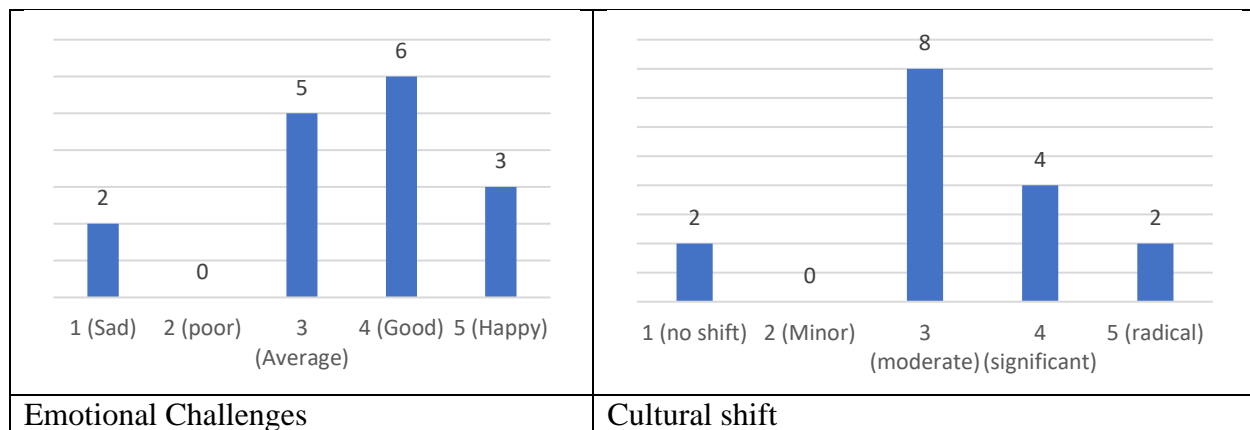


Figure 4: Comparison of international students' emotional challenges versus degree of cultural shift experienced

International respondents were asked to identify the status of any emotional challenges experienced due to being away from their home country, with the following five reply options: “1 (Sad),” “2 (Poor),” “3 (Average),” “4 (Good),” and “5 (Happy)”. International respondents were also asked to rate the degree of cultural shift experienced since joining the program with five reply options from “1 (No shift),” “2 (Minor),” “3 (Moderate),” “4 (Significant),” to “5 (Radical)”. Comparing these two items shows that while 87.5% of respondents experienced moderate to radical degrees of cultural shift, the experience of cultural shift does not have a negative effect on their emotional well-being—87.5% of respondents described their emotional status as average to happy.

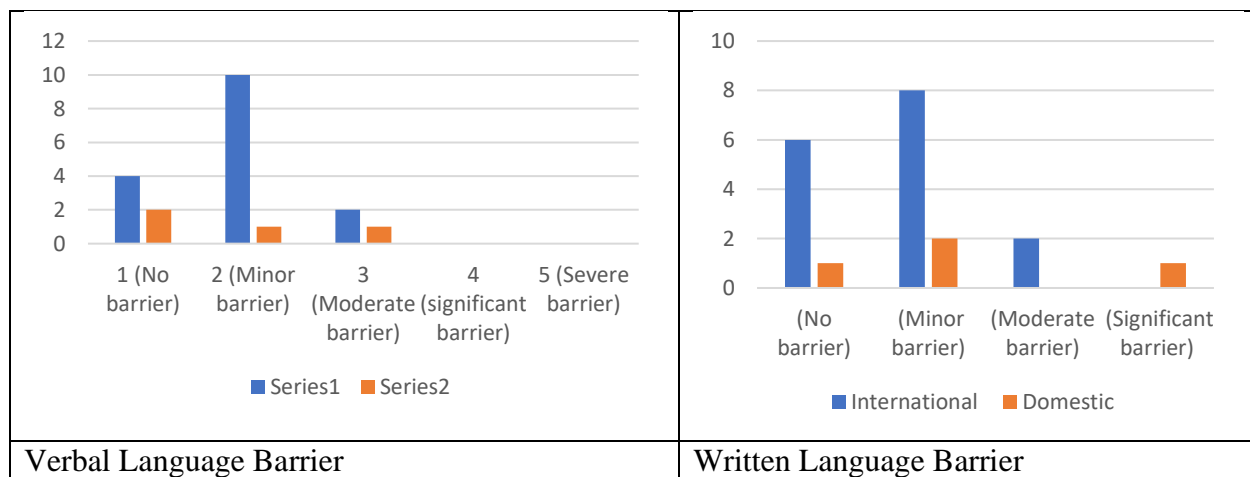


Figure 5: Comparison of all respondents' perceptions of language barriers – verbal and written

Figure 5 compares all respondents' perceptions of verbal language barriers versus written language barriers. Both items asked students to rate the degree of (verbal or written) language barriers experienced since joining the program with five reply options from “1 (No barrier),” “2 (Minor barrier),” “3 (Moderate barrier),” “4 (Significant barrier),” to “5 (Severe barrier)”. Results seem to indicate that verbal and written language barriers exist for both domestic and

international students. Most international respondents described experiencing both a minor verbal (55%) and a minor written (50%) language barrier. Further study is warranted to understand the circumstances of language barriers more precisely for both domestic and international students and to understand best practices in ameliorating minor language barriers.

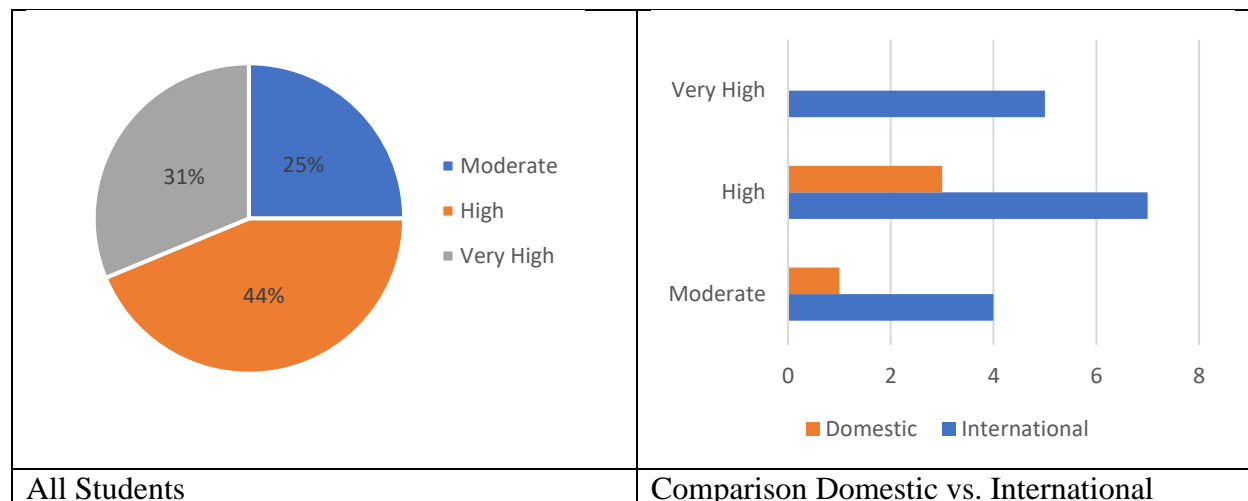
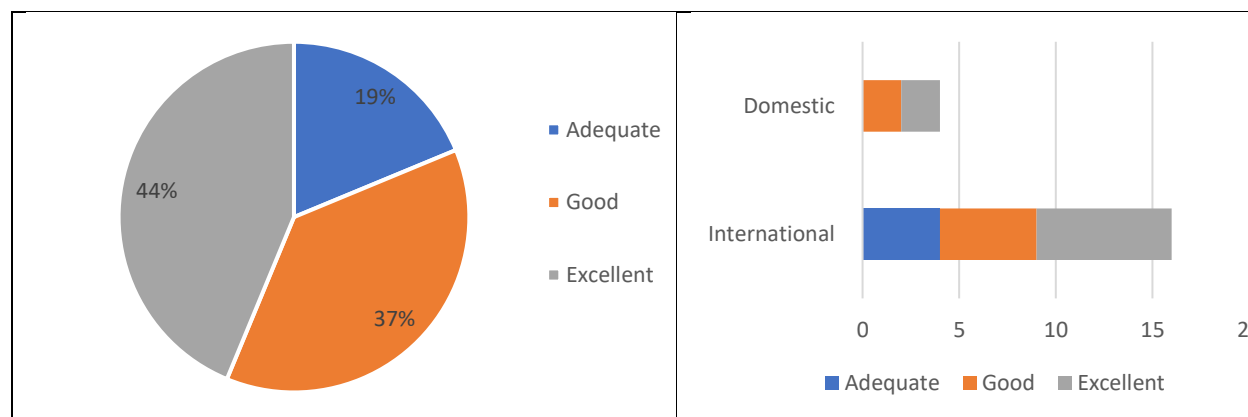


Figure 6: Level of respondents' academic expectations for classes, course content, teaching methodology, etc.

Students were asked to rate experiences with both academic and non-academic elements. Academic elements included respondents' academic expectations, availability of technological support, support available for research and literature reviews, availability of academic advising, and the availability of required courses. Non-academic elements included availability of help with financial resources, access to information on immigration, support from the Office of International Student and Scholar Services, and satisfaction with transitioning into the program.

Academic expectations of classes, course content, and teaching methodology were higher among international respondents with 43.75% noting high expectations and 31.25% noting very high expectations, compared to 18.75% of domestic respondents noting high expectations and no domestic respondents noting very high expectations.



Support Available for Technology	Support Available for Research and Literature Reviews
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Figure 7: Resources – perception of techonological support available (computing, printing, equipment, etc.), and of support for research and literature reviews

Respondents noted a high degree of satisfaction with the level of available academic support resources in the areas of technology and research & literature reviews. Respondents were asked to “rate the level of student support available for technology (computing, printing, equipment, etc.)” and to “rate the level of student support available for research and literature reviews (library, librarian assistance, writing center, tutoring, etc.)” with the options of “1 (very Inadequate),” “2 (Inadequate),” “3 (Adequate),” “4 (Good),” and “5 (Excellent)”. 80% of respondents described the availability of technological support as “good” or “excellent” and 70% of respondents described the support available for research and literature reviews as “good” or “excellent”.

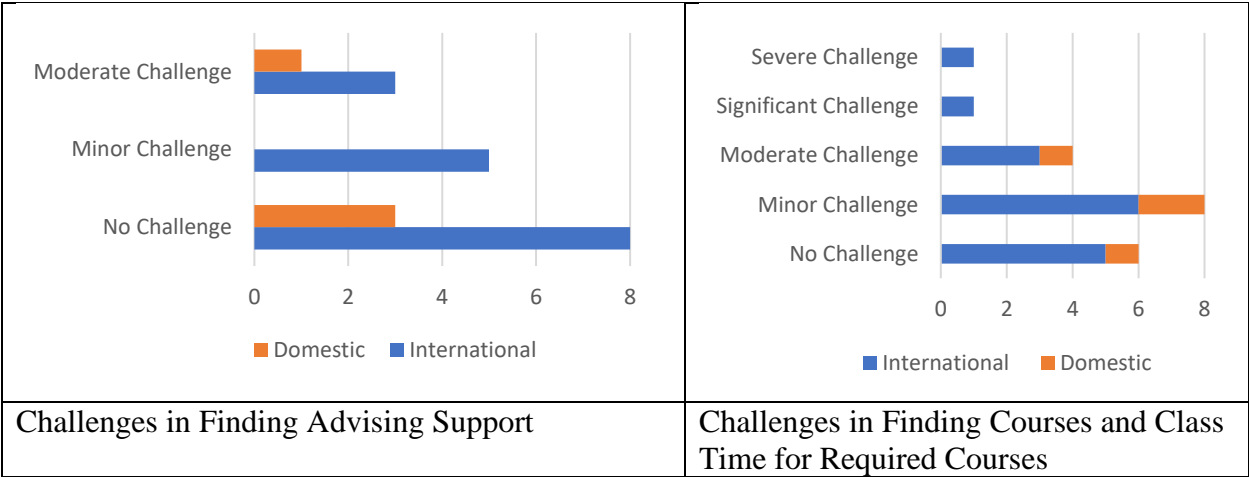


Figure 8: Progression challenges – academic advising and required course availability

Two key areas that affect student progression are access to high quality academic advising and the availability of required courses. Respondents were asked “to what degree have you experienced challenges in finding academic advising support from the program?” and “to what degree have you experienced challenges in finding the proper courses and class times for required courses in the program?” with the response options of “1 (No Challenge),” “2 (Minor Challenge),” “3 (Moderate Challenge),” “4 (Significant Challenge),” and “5 (Severe Challenge)”. The results in Figure 8 show a notable difference between the two areas. While most respondents (55%) indicated they had experienced “no challenge” and no (0) respondents indicated “significant” or “severe” challenges in finding academic advising support, responses were indicated in all five options to describe challenges in finding required course offerings. 40% of respondents described “minor” challenges in finding courses and class times and 30% described “moderate” to “severe” challenges, with only international respondents indicating

“significant” and “severe” challenges in this area. These findings promote the goal of improving course availability to support future growth in the program.

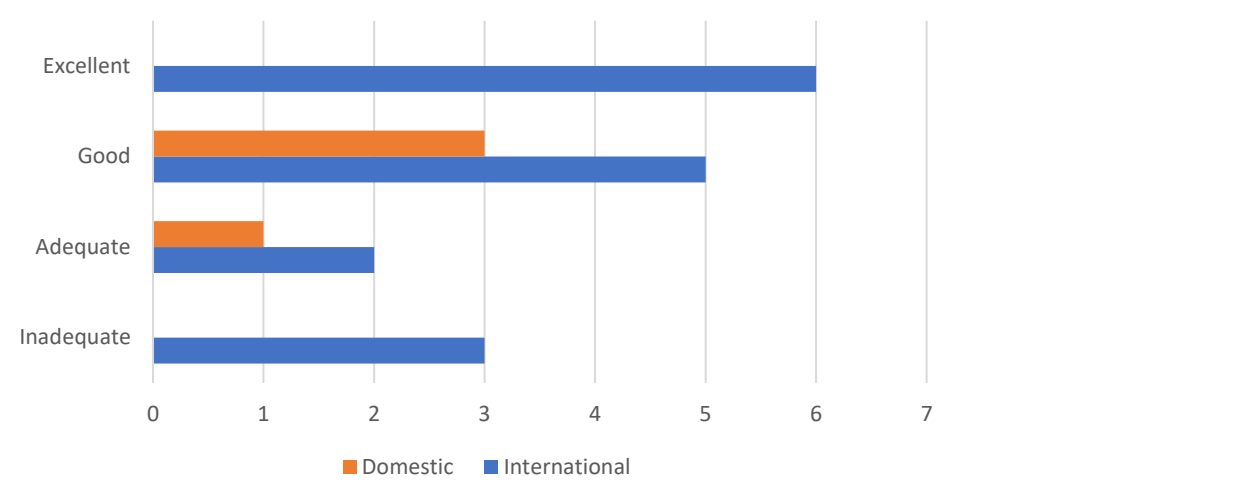


Figure 9: Support available for financial resources

Respondents were asked to “rate the level of student support available to help with financial resources (financial aid, scholarships, GTA/GRA positions, etc.)” with response options ranging from “1 (Very Inadequate),” “2 (Inadequate),” “3 (Adequate),” “4 (Good),” to “5 (Excellent)”. A key finding here is that while most domestic respondents (75%) indicated “good” levels of support were available, selections from international respondents covered a much broader range with 18.75% of international respondents indicating “inadequate”, 12.5% “adequate”, 31.25% “good”, and 37.5% indicating “excellent” levels of support. Further study is needed to tie ratings to specific aspects of financial resources (financial aid, scholarships, GTA/GRA positions, etc.) to better understand the range of responses.

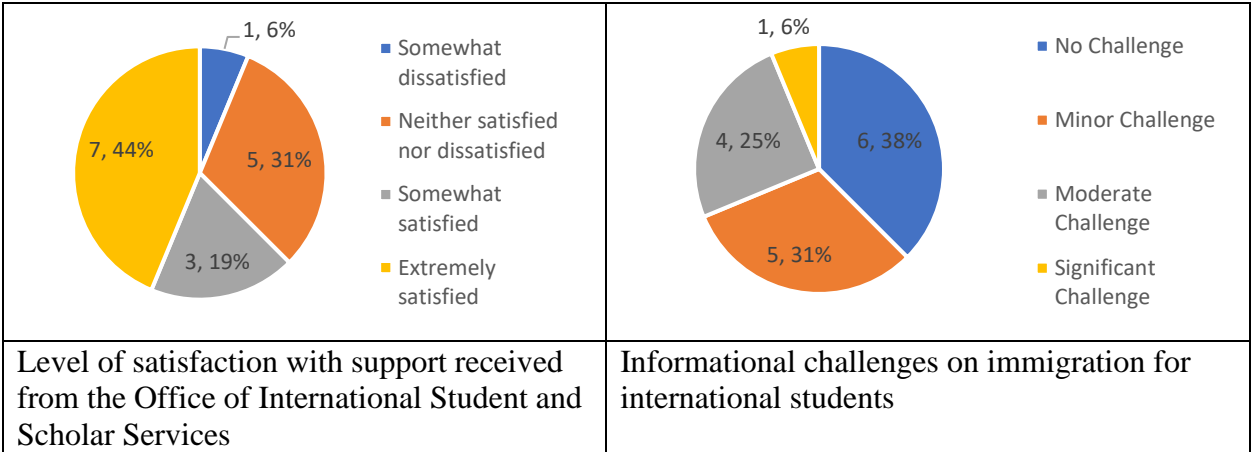


Figure 10: International respondents’ satisfaction with Office of International Student and Scholar Services and challenges finding information on immigration

Figure 10 shows a high degree “of satisfaction with the support received by international respondents from the Office of International Student and Scholar Services”, with 43.75% “extremely satisfied” and 18.75% “somewhat satisfied”. 31.24% of respondents were neutral. Correspondingly, 37.5% of respondents indicated “no challenge” “in finding important facts on immigration”. However, 31.25% indicated “minor challenge”, 25% “moderate challenge”, and 6.25% indicated “significant challenge” in finding important immigration information. While respondents indicated a high degree of satisfaction with the support provided, it is also clear that gaps exist in connecting international students with important information on immigration.

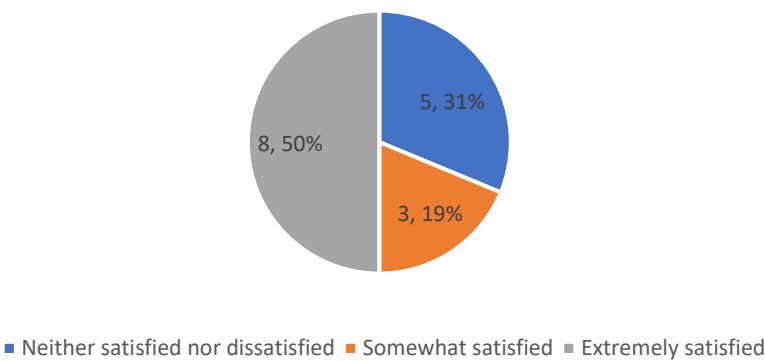


Figure 11: Level of satisfaction with your transition into the program

To better understand international student perceptions of the program onboarding process, international respondents were asked to “rate your level of satisfaction with your transition into the program (program communication, class registration, arrival to US, campus life, etc.)” with response options divided into five levels of satisfaction—from “extremely dissatisfied” to “extremely satisfied”. No students indicated “extremely” or “somewhat” dissatisfied. And while 50% were “extremely satisfied” and 18.75% were “somewhat satisfied”, 31.25% were neutral. Gaining a better understanding of the neutral respondents’ experiences is both an opportunity for further study and an opportunity to enhance international students’ first experiences with the program.

Discussion

International students:

Table 2 reports in bullet form the perception of international students and challenges in their student life.

Table 2: Perception of international students (IS) on their challenges in their student life

Challenges facing in graduate program (IS)	Challenges facing in academic life (IS)
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<ul style="list-style-type: none"> - Lack of variety in electives available. - Spaces available in classes to register. - Guidance regarding class registration to choose the relevant courses in continuous semesters. - Experiencing trouble with class schedules interfering with students who are in full-time employment. Classes are frequently right after getting off work or during work hours. - Difficulty in finding scholarships. 	<ul style="list-style-type: none"> - Understanding the graduate program, campus environment, and online portals. - Improving writing and Research skills. - Balance with work Schedule. - Cultural and social adjustment. - Adapting to various learning styles. - Academic pressure and competition. - Challenges to research and academic integrity. -Downloading software on personal devices. - The availability of diverse classes and schedules. - Limited number of courses offered each semester. The list of elective courses in the catalog is extensive, but classes offered are a few. - Selection of courses.
Personal life challenges (IS)	Social life challenges (IS)
<ul style="list-style-type: none"> - Mental Health concerns. - Financial. - Living alone in a foreign country while I still improve my communication skills with a second language. - Homesickness - Staying away from family. - Traveling to university from workplace. 	<ul style="list-style-type: none"> - Adaptation of culture. - Cultural differences. - No social life after work and course schedule. - Making new friends. - Balancing social interactions with other people from different communities. - Weather and food differences.
Challenges as an immigrant (IS)	Suggestions on concern for international students
<ul style="list-style-type: none"> - Hard to get the same opportunities as domestic people, being an immigrant and this apply to different fields like finding job, good residences with high prices, medical assistance. - Finding internships. - As an immigrant, navigating to a new culture and environment. - Language barrier occasionally presents communication hurdles, we are actively working to remove those gaps and improving their language skills. - Life style differences. 	<ul style="list-style-type: none"> - More Scholarship programs should be introduced. - To have monthly meetings with students to know about their status of work and level of satisfaction. - Implementing of international student forums where we can share [our] experiences, giving advice to new students and sharing some important tips. - No information about association or community for international students.so, create more information on the website for easy access.

<ul style="list-style-type: none"> - Job opportunities. Currently, most people hiring a candidate with no sponsorship. - Limited Opportunities 	<ul style="list-style-type: none"> - To enhance the experience for international students, fostering cultural integration programs and providing comprehensive support services, including language assistance and community-building initiatives, can significantly address their unique needs and challenges. - Create more streamlined and accessible process for immigration- related [matters] can contribute to a smoother transition and better overall experience for international students.
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Domestic students:

- Hard times with class times conflicting with my full-time job. Classes are usually right after I get off work or during work hours. Lack of variety in electives available.
- Challenges on writing and research skills.
- Balance of family and academic life
- No social life because of full time job and class

Exploring challenges and suggestions provided by international students unveils multifaceted issues. From academic concerns such as class availability and registration guidance to personal challenges like homesickness and financial strain, the spectrum of difficulties faced by international students is broad. These challenges necessitate a holistic approach to support, including targeted financial assistance, comprehensive orientation programs, and mental health services. The data also highlight the need for enhanced social integration initiatives. International students express challenges in making new friends, balancing social interactions, and adapting to diverse learning styles. This points to an opportunity for the university to cultivate a more inclusive and supportive social environment, fostering interactions between local and international students. Initiatives such as the Interaction for Learning Framework [18] could serve as valuable tools for enhancing intercultural engagement within the university community. Specifically:

- Beginning with the demographic data, it is evident that the international student cohort in the Construction Management graduate program is diverse, representing countries such as Pakistan, Nigeria, Colombia, Bolivia, India, Jamaica, Ghana, and Mexico. The gender distribution among international student respondents reflects a balanced representation, with 56% male and 44% female, contributing to a dynamic and inclusive learning environment. In contrast, domestic student respondents were predominantly male, with 75%, highlighting potential gender disparities within the program that merit further exploration.
- Examining satisfaction levels among international students sheds light on crucial aspects of their experiences. Transportation and housing, critical components of student life, are areas where the majority of international students express satisfaction. Notably, 87.5% of respondents are satisfied with transportation methods, showcasing the effectiveness of the university's support in this regard. However, housing satisfaction exhibits a more varied landscape, with 68.75% indicating positive satisfaction, 18.75% remaining neutral, and 12.5% expressing dissatisfaction. This indicates a potential area for improvement, urging

the university to explore ways to enhance the quality and accessibility of housing options for international graduate students.

- Further exploration into campus safety and security reveals a unanimous positive response from both international and domestic students, indicating the effectiveness of the university's safety measures. This aspect is crucial for fostering a conducive learning environment and contributes significantly to the overall satisfaction of the student body.
- The emotional challenges and cultural shifts experienced by international students present an intriguing contrast. While a substantial 87.5% of respondents acknowledge experiencing a moderate to radical degree of cultural shift, the impact on emotional well-being is surprisingly positive, with 87.5% describing their emotional status as average to happy. This suggests resilience and adaptability among international students, underscoring their ability to navigate and thrive amidst significant cultural transitions. However, further qualitative exploration might provide deeper insights into the coping mechanisms and support structures contributing to this positive emotional state.
- Language barriers, both verbal and written, represent another critical aspect of the international student experience. The data reveal both minor verbal (55%) and minor written (50%) language barriers for international respondents. Further study is warranted to understand the circumstances of language barriers more precisely and to understand best practices in ameliorating minor language barriers to enhance international students' academic and social integration.
- The comparison of academic expectations between domestic and international students illuminates interesting patterns. International students exhibit higher expectations regarding classes, course content, and teaching methodology. This divergence in expectations emphasizes the necessity for tailored academic support and orientation programs that align with the specific needs and aspirations of international graduate students.
- Analysis of support services reveals varying levels of satisfaction among international students. While the majority express contentment with technology support and research assistance, challenges emerge in the areas of academic advising and availability of required courses. These findings underscore the importance of refining academic support structures to cater to the unique requirements of international students, ensuring their seamless integration into the program.

A final point of discussion is that data seems to align with the broader literature on international student recruitment and retention. It emphasizes the pivotal role of comprehensive and compassionate strategies in ensuring the success and well-being of international graduate students in STEM programs. Some of the recommendations derived from the findings include the development of cultural integration programs, streamlined immigration processes, and increased scholarship opportunities, which converge to form a roadmap for institutional improvements. Additional aspects are provided in the following concluding paragraph.

Conclusion

The data presented in this study provides a nuanced understanding of the international graduate student experience in STEM programs, particularly in Construction Management at Kennesaw State University. The insights gleaned from demographic details, satisfaction levels, academic expectations, and challenges faced by international students offer a foundation for informed

decision-making and strategic enhancements to recruitment and retention efforts. The multifaceted nature of the findings underscores the importance of holistic support structures that address academic, social, and personal dimensions, ultimately contributing to a more enriching and inclusive educational environment.

The study, which focuses on international graduate students in STEM disciplines such as Construction Management, promotes the critical role these students play in enhancing the educational, cultural, and economic landscapes of both their host and native nations. The study supports the richness and range of worldviews that international students bring to the classroom. It demonstrates that factors such as educational quality, resource availability, and the extent of university support services substantially impact international students' experiences and satisfaction levels. According to the findings, focusing on these individual demands and developing cultural integration programs and stronger support systems is critical for improving recruitment and retention.

Based on this study, recommendations for further research are: (a) to expand with further qualitative explorations of the emotional challenges and cultural shifts experienced by international students to reach deeper insights into the coping mechanisms and support structures contributing to this emotional state; (b) to explore tailored academic support and orientation programs that align with the specific needs and aspirations of international graduate students in order to level academic expectations between domestic and international students; (c) to investigate students' satisfaction with the level of student support available to help with financial resources with a greater degree of specificity; (d) gain a better understanding of students' expectations of the program onboarding process to enhance students' first impressions and retention; (e) to expand this study to other Colleges and academic units to understand if the finding of this study can be extrapolated to other areas or are discipline specific. And specific recommendations to enhance international student recruitment in the sample STEM graduate program are: (a) to review course offerings to ensure timely availability of required courses; and (b) address gaps in connecting international students with important information on immigration.

Data-driven tactics have been suggested for increasing recruitment and retention rates while adjusting to the changing needs of international students. Implementing these proposals could help institutions reach diverse global enrollment targets while also creating a more comprehensive and richer educational environment that benefits the entire university community.

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