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The Association of demographic factors with the integration and commitment of West Virginia's International University students

Amine Oudghiri
amine.oudghiri@marshall.edu

THE ASSOCIATION OF DEMOGRAPHIC FACTORS WITH THE INTEGRATION AND COMMITMENT OF WEST VIRGINIA'S INTERNATIONAL UNIVERSITY STUDENTS

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Amine Oudghiri
Approved by
Dr. Bobbi Nicholson, Committee Chairperson
Dr. Ronald Childress
Dr. Tammy Johnson
Dr. Bob Hong

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Approval of Dissertation

We, the faculty supervising the work of **Amine Oudghiri**, affirm that the dissertation, ***The Association of Demographic Factors with the Integration and Commitment of West Virginia's International University Students,*** meets the high academic standards for original scholarship and creative work established by the EdD Program in Leadership Studies and the College of Education and Professional Development. The work also conforms to the requirements and formatting guidelines of Marshall University. With our signatures, we approve the manuscript for publication.

Bobbi Nicholson		7.7.23
Dr. Bobbi Nicholson, Department of Education	Committee Chairperson	Date
Ronald Childress (Jul 7, 2023 17:39 EDT)		7.7.23
Dr. Ron Childress, Department of Education	Committee Member	Date
T Johnson (Jul 7, 2023 17:56 EDT)		7.7.23
Dr. Tammy Johnson, Department of Education	Committee Member	Date
Hyo Chang/Bob Hong (Jul 11, 2023 13:17 EDT)		7.11.23
Dr. Bob Hong, Department of English	Committee Member	Date

Dedication

To Almighty God: words fall short to express my gratitude for Your infinite bounties.

The reason you're reading this, and the reason I'm here: to my mom and dad.

To my sister and brother: far across the Atlantic but always in my heart.

To my wife and kids who inspire me to get up every morning and climb mountains.

To Marshall, Huntington, West Virginia, the US, Fes, and Morocco: not in my wildest dreams.

To my professors and mentors: I dedicate this modest work to you.

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Abstract

This study explored the association of four independent variables (i.e., sex, class standing, GPA, and living status) with the academic integration, social integration, and institutional commitment (the dependent variables) of international students attending seven public regional universities in West Virginia. A researcher-developed, Likert-type questionnaire was used to examine the potential relationships among the variables. Results from point-biserial correlations indicated the relationships among the four demographic variables and each of the three dependent variables were not statistically significant, although a few statistically significant correlations were noted among the dependent variables' sub-scale items. Results from independent samples *t*-tests also indicated a number of statistically significant mean differences among the sub-scale items. Implications and recommendations for future research were provided.

Keywords: academic integration, demographic factors, institutional commitment, international students, public regional universities, social integration

Chapter 1: Introduction

Globally, the American higher education system has placed among the best since the end of World War II. From quality degree programs to cutting-edge research, the U.S. higher education market is markedly branded as a decentralized system that is largely autonomous and free from federal regulations (Education USA, n.d.). This important characteristic makes American universities even more appealing to a significantly large pool of international college hopefuls. In 2017 (i.e., pre-pandemic year), American higher education institutions enrolled 24% of the total number of international students seeking postsecondary education away from their home countries (Study International, 2018), making the United States the world's top destination for international education. Following the United States in the ranking of the 4.6 million students studying abroad were the United Kingdom with 11% and China with 10%. The United States maintained its status as the top international education destination in 2020 with over one million international students enrolled in U.S. colleges and universities, followed by Canada and the United Kingdom with about half a million international students (Statista, 2023).

These may sound like record numbers, but the international student population is only projected to grow exponentially. The Organization for Economic Cooperation and Development (OECD) expects the number of students seeking postsecondary education abroad to rise to eight million and global mobility to hit 60% by 2025 (Hughes, 2019). It follows that international education is the fifth largest export service sector of the U.S. economy, with international students contributing $45 billion to the national budget (Institute of International Education [IIE], 2020a). Similarly, in 2019, international education added 458,290 jobs to the U.S. economy (NAFSA, Association of International Educators, 2020a).

Beyond the tuition benefits that come with enrolling international students, college campuses also benefit from the rich cultural and intellectual contributions of these students. Among other benefits, not only do the international students who are enrolled in different undergraduate and graduate degree programs add value to the classroom, but the domestic students they mingle with can also develop their cultural intelligence (Upton & Butters, 2019). The presence of international students in the American classroom expands domestic students' global intellectual competence and amplifies their interest in study abroad programs. Traveling abroad and experiencing foreign cultures will, in turn, give domestic students a competitive edge in the global market.

Study Context

In this section, the following challenges for international students will be introduced: academic integration, social integration, and institutional commitment (Bean, 1990; Woosley & Miller, 2009). Challenges higher education institutions face in retaining international students will follow. This section will conclude with important statistics about international students attending higher education institutions in West Virginia.

Challenges for International Students

The benefits of enrolling international students have been well documented, but like domestic students, the international students attending U.S. higher education institutions have historically faced a host of academic, social, and institutional challenges along the way to graduation (Can, 2015; Can et al., 2021; Chung-Eun, 2002; Jamelske, 2009; Okai, 2020; Salim, 1984; Shabeeb, 1997; Tinto, 1993; Wang, 2003; Zhao, 2013). Many international students may not make it to graduation day, and others struggle to persist from one academic year to the next.

Academic Integration

On the academic side, many international students, unlike their domestic counterparts, are challenged by their low level of language proficiency. This affects international students' academic performance as well as their ability to communicate with and understand their professors (Chen & Yang, 2014). The system and culture of the American higher education system pose another potent challenge. Many international students are accustomed to their home countries' academic educational systems and receive little guidance on the U.S. higher education system (e.g., choice of major, registration process, differing academic calendars, campus culture, student-professor relationship and interaction, interactive classroom setting, availability of and interaction with advisors, grading scales, etc.) prior to official matriculation into a new degree program. This unfamiliarity with the new academic system takes many international students by surprise (Wang, 2003).

Social Integration

Socially, the language barrier, coupled with cultural barriers (e.g., intercultural competence, interpersonal skills, etc.), may follow international students outside the classroom and may hinder their ability to establish friendships with local students (Andrade, 2005). The negative experiences created by these cultural barriers may intimidate international students, making them feel alienated and disinclined to participate in campus activities or join student clubs. Driven by a few important factors, like sudden changes in food choices, being thousands of miles away from home, and enduring changing weather conditions (Galloway & Jenkins, 2009), international students may also feel homesick and depressed in their new foreign environment, which affects their social adjustment.

Institutional Commitment

International students' academic and social challenges may be further amplified by a negative perception of and lack of commitment to the host institution. It has been argued that host institutions have invested little effort toward both understanding and addressing these challenges (Lee, 2007), which makes international students' academic journey more testing. Among other factors, many international students have cited the lack of or inadequate support services as one of the factors affecting their academic performance and social integration (Evivie, 2009; Lee & Rice, 2007). This is especially true of universities that have historically enrolled a low number of international students, including those in the Appalachian region, where support groups of students who share the same interests and belief systems may be scarce or non-existent (Lee, 2010). International students may also leave their host institutions because they lack ample employment opportunities, do not offer adequate first-year orientation sessions and support services, or lack communication across departments (Evans, 2001).

Institutional Retention Challenges

Student retention has become a pressing topic as host institutions attempt to address their international students' academic, social, and institutional challenges and scramble to keep their share of this special population on campus. Against the backdrop of increasing state budget cuts to higher education and dwindling enrollment numbers, colleges and universities across the United States have struggled to keep their operations afloat and doors open (Jackson & Saenz, 2021). Various economic and socio-political factors (e.g., dwindling high school graduation rates, rising tuition costs, etc.) have contributed to this trend, along with growing public skepticism about the value of a college degree (Schwartz, 2021).

Despite the renewed hope that state budget cuts were expected to retreat in 2022 caused by a rebounding economy (Whitford, 2021), higher education institutions have continued to bolster their recruitment and retention strategies. The reality is, unlike K-12 schools, public colleges and universities are perceived by many as "a low-hanging fruit" for budget cuts from most state legislatures (Mitchell et al., 2019). Colleges and universities are necessarily rethinking their enrollment strategies and attempting to expand the pool of student demographics, especially international students.

It follows that healthy graduation and retention rates are key to not only securing tuition money from incoming and current students but also maintaining state support. Recent funding formula models, specifically "performance-based funding," have dictated the way public funding ought to be directed (Ward & Ost, 2021). An institution of higher education receives public support on a competitive basis when it performs well (Cornelius & Cavanaugh, 2016; Kelchen & Stedrak, 2016; Nisar, 2015), and institutions are viewed to perform well when they graduate and retain students at above-average rates (Miao, 2012; Ortagus et al., 2020).

To maintain satisfactory performance at the domestic level, institutions of higher education are revamping their recruitment and retention strategies (Shah et al., 2021) and transforming their enrollment management practices (Harvey-Smith, 2022). These efforts, despite being overwhelmingly directed toward domestic students, have included international students for the academic and intercultural benefits they bring their host campuses (Spencer-Oatey & Dauber, 2019). Considering state budget cuts and dwindling domestic student numbers, colleges and universities are tapping into alternative revenue streams, especially the international student market, for the positive financial impact robust international student numbers have had on institutions' budgets (McKibben, 2018). In addition to financial challenges, colleges and

universities are increasingly mindful of the value of diversifying their student body (Cooper, 2009). A robust international student population could help college campuses achieve this diversification milestone.

Like domestic students, however, international students face a host of challenges on their way to graduation. While some international students may make it to graduation day, others will struggle to persist from one academic year to the next.

International Students in West Virginia

Although the West Virginia legislature has not written postsecondary globalization into the state code, the state's higher education institutions have recruited many international students over the years. The financial contribution of international students has helped boost the state public institutions' budgets. According to NAFSA (2020a), the West Virginia higher education institutions enrolled 4,152 international students in 2018, supporting 1,250 jobs and contributing $131.7 million to the West Virginia economy.

West Virginia University topped the list with more than half of the financial contribution, $77.6 million, and supported 855 jobs. Marshall University followed WVU with $16.9 million in additional revenues and 168 jobs. In Congressional District 2, a total of 959 international students attended Marshall University, Concord University, WVU Institute of Technology, and Bluefield State College. International students contributed $22.7 million to the district's economy, and colleges supported 197 jobs (NAFSA, 2020a).

Only a few studies, however, have documented the academic and social adjustment challenges faced by West Virginia's international students at the university level (Akintounde, 2009; Atebe, 2011; Gordon & Wyant, 1994; Konyu-Fogel, 1993; Okai, 2020; Vo, 2012; Yanagihara, 2017; Zhao, 2006). These studies, nonetheless, either may not reflect the realities of

contemporary international students or focus, for the most part, on the international students attending a single West Virginia higher education institution. The present study sought to expand the pool of students by inviting participation from multiple universities in West Virginia, hence giving a voice to a relatively larger, heterogeneous international student population.

Problem Statement

For various reasons, as is the case with domestic students, many international students leave their host institutions before degree completion (Bista & Foster, 2011; O'Conner, 2021), which may hinder their academic progress and affect the institutions' retention numbers. Many universities, especially in cities and states with low population diversity, struggle to retain international students (Olt & Tao, 2020) — including West Virginia's public higher education institutions — despite the low and affordable cost of attendance. If the students who contribute so much to their host institutions in both tuition and diversity are to meet their own degree aspirations, it is imperative institutions learn how to support them in that endeavor.

Purpose of the Study

International students' academic, social, and institutional challenges and integration at the higher education level have been understudied in areas of low population diversity (Alharbi & Smith, 2018), especially in the Appalachian region (Guyton, 2017; Jourdini, 2012). The purpose of this study was to contribute to the body of research that addresses international student persistence and institutional retention in higher education, focusing on the potential development of effective retention strategies for both current and future international student cohorts. The goal was to provide policy and other administrative recommendations based on possible associations between the demographic factors and the selected persistence variables.

Definition of Terms

Academic integration focuses on students' perceptions of the adequacy of their language skills in the classroom, the quality of instruction they're receiving, the extent to which course content aligns with their career goals, whether they find their courses difficult or stressful, whether they feel supported by their professors, and whether they feel they will graduate.

Social integration focuses on students' perceptions of whether they have good relationships with their classmates and professors, the extent to which these social interactions have helped them grow personally and intellectually, whether they are able to make friends (both domestic and international), whether being away from home makes their experience challenging, and the quality of social life on campus.

Institutional commitment focuses on students' perceptions of whether they feel welcomed and respected on campus, the extent to which they are satisfied with campus support services, and whether they feel they will continue their education in (and graduate from) the host institution.

Research Questions

To examine possible relationships between persistence variables identified in the extant research and selected demographic variables, the following research questions were asked:

RQ #1: To what extent do international students feel they've successfully integrated academically into the host institution?

RQ #2: To what extent do international students feel they've successfully integrated socially into the host institution?

RQ #3: To what extent do international students feel committed to the host institution?

RQ #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

Methods

This study followed a non-experimental, descriptive design to identify possible relationships between common persistence variables identified in the literature and selected demographic attributes among a representative sample of degree-seeking international students at various public regional universities in West Virginia.

A non-experimental design was appropriate because the independent variables (i.e., sex, country of origin, living status, and college major) could not be manipulated and the research questions focused on relationships (i.e., between the independent variables and the students' responses to survey items). A cross-sectional survey design was used, as all variables and outcomes could be researched at once and prevalence for all variables could be measured. The survey was distributed electronically to the international students attending various public higher education institutions in West Virginia.

Sample

The participants for this study were enrolled for credit at seven West Virginia universities in the 2022-2023 academic year and were not U.S. citizens. For the purposes of this study, the international students were in the United States on a temporary visa and were not immigrants (i.e., I-51 or Green Card holders), undocumented immigrants, or refugees. Residency in the state was a necessary condition, either.

The participants also had physical presence on campus (i.e., attend in-person classes) per U.S. immigration laws. Although U.S. immigration laws require that international students attend

college on a full-time basis, part-time students (i.e., enrolled under this status due to special circumstances like medical conditions) were included in the study. Participants were recruited with help from the office of international programs or international student services at the selected universities, including the relevant international student groups/organizations.

Limitations

The study findings were limited to the international students who agreed to participate from the selected public regional universities in the state of West Virginia, hence limiting the pool of participants and potentially decreasing the response rate. Therefore, generalizability to the international student population attending higher education institutions in the broader Appalachian region, which includes Appalachian states outside West Virginia, was limited. The response rate, 12.82%, was also deemed low. The study could benefit from a higher response rate, hence a robust sample that would be a much stronger representation of the population of international students attending public regional universities in West Virginia.

The length of the survey was an additional hurdle to securing stronger participation as some respondents decided against completion. Social and/or academic experiences, positive or negative, might also have affected participants' responses to certain questions, their perception of/approach to the whole survey, or both. Finally, while the researcher's own personal and academic experiences as a former international student might have encouraged some respondents to participate and allowed for a perspective that could enhance interpretation of responses, researcher bias might have been a potential limitation as well.

Significance of the Study

This study will add to the body of knowledge regarding factors affecting the retention of degree-seeking international students attending higher education institutions in rural,

Appalachian states like West Virginia. The West Virginia Higher Education Policy Commission (HEPC) reported that the average 2016-2019 fall-to-fall international student retention rate for the two largest campuses in the state at the undergraduate level was 66.6%, with a four-year graduation rate of 23.3% between 2012 and 2015 (Z. Georgieva, personal communication, April 18, 2022). West Virginia is also the only state, from a geographical standpoint, considered to be fully incorporated within Appalachia. Nationally, West Virginia has the lowest number of foreign-born residents at 0.1% (Migration Policy Institute, 2020) and one of the lowest populations of international students in the country (NAFSA, 2020a).

The findings can help West Virginia institutions devise practical strategies to rethink and better manage their retention practices, specifically as they relate to international students. In turn, the international students West Virginia higher education institutions are able to retain can help the institutions not only increase enrollment numbers in general but also enhance their respective campuses' diversity profiles and boost graduation rates. Higher education institutions in the rural Appalachian region may use the data from the subsequent survey responses to devise effective retention strategies for both current and future international student cohorts.

Chapter 2: Review of Literature

This chapter starts with a background section to contextualize the present study. Following the background section is a succinct review of the available literature on international student adjustment and persistence with a focus on academic integration, social integration, and institutional commitment.

Background

Many studies have documented the material and non-material benefits of attending college (e.g., Abel & Deitz, 2014; Brand & Xie, 2010; Day & Newburger, 2002; Institute for Higher Education Policy, 1998; Oreopoulos & Petronijevic, 2013; Perna, 2005; Powers, 2007; Schultz & Higbee, 2007). While these benefits have been well-supported, on-time graduation is an important priority for college students (Pike et al., 2014) as the ability to adapt to and navigate the process could pose a significant challenge to many (Dyson & Renk, 2006; Stover al., 2012). In addition to external and other institutional realities, factors affecting college students' adaptability to college could be personal (Meneghel et al., 2019). External and personal adaptability factors could affect an institution's retention efforts, including international student retention.

Although the body of literature on international student adjustment and persistence is small compared to the one on domestic students, the international recruitment boom that started in the early 2000s has boosted research in the area. Several studies have addressed international student retention practices, international student challenges, and factors predicting persistence among international students with important implications to host institutions' internationalization practices (e.g., Adams, 2017; Ammigan, 2019; Haverila & Haverila, 2020; Khanal & Gaulee, 2019; Martirosyan et al., 2019; Offurum, 2019; Sanders, 2009).

Findings indicate an overwhelming number of international students cite financial factors alone (namely cost of study and absence of scholarship opportunities) as the reason they leave their host institutions (Rubin, 2014). Most of these students, now referred to as "the new international student," transfer to public regional universities whose tuition they deem reasonable (Fischer, 2020). Most of these studies, however, approach international student challenges from a holistic and heterogenous perspective (Bista, 2019), and the findings may not reflect the challenges and needs of all international students in different parts of the country. International students attending public regional universities in the Appalachian and rural regions are one such population whose experiences most studies fail to account for.

There is a question, then, regarding whether key demographic factors (as they relate to select variables) could better address international students' perceptions of their educational experiences in rural Appalachia, which could in turn help explain their decision to remain in or leave their host institutions.

Review of Research

This study was, in large part, inspired by Bean's (1985 & 1990) and Tinto's (1993) student attrition model that focused on academic integration, social integration, and institutional commitment, as well as Tinto's (1975 & 1987) departure theory. As will be discussed in the definitions section of chapter #5, it's worth noting that, although academic integration and social integration were explored separately in this study, several studies explored the intersection between academic and social integration as potential indicators/predictors of persistence at the college level (e.g., Severiens & Wolff, 2008; Wilcox et al., 2005). Tinto (1975), for instance, measured academic integration based on students' grade performance and intellectual development. Social integration was simultaneously investigated based on interactions with

peers and faculty. Tinto's (1975) model also stresses that students' social and academic integration has a positive impact on their institutional commitment, which could in turn enhance students' persistence to graduate.

While the cultural and adjustment aspects of international students' higher education experience have been widely explored, research on international students' persistence is almost non-existent (Barbera et al., 2020). The scope of the present study could be viewed as a combination of both adjustment and persistence in the sense that the focus was on students' ability to continue on to the next term (and year), contingent upon their ability to integrate academically, socially, and institutionally. The researcher, however, did not seek to make predictions or establish causations but simply investigate possible associations between select demographic variables and key integration variables.

Notable focus in the available literature has been on the variables of academic integration, social integration, and institutional commitment. Each of these variables is examined below.

Academic Integration

Several studies have examined the phenomenon of academic integration among international students at the university level, especially the correlation between academic integration and sex. In studying academic adjustment, Lowinger et al. (2014) investigated the effect of academic self-efficacy, acculturation difficulties, and language abilities on procrastination using a convenience sample of 264 Chinese international students enrolled at three U.S. public universities. The authors found that, for males, "significant correlations with academic procrastination were found for discrimination […] and homesickness […]." For females, "significant correlations with academic procrastination were found for academic self-

efficacy […], English language ability […], and culture shock & stress […]" (p. 141). A major limitation of the study was the convenience sample of Chinese students that was obtained from three public universities only.

Grade point average (GPA) was also explored in several academic performance studies and was shown to be positively related to student persistence (e.g., Peng & Fetters, 1978; Thomas, 2000; Velez, 1985). Stoynoff (1997) examined factors associated with the academic achievement of 77 freshman international students during their first six months at a four-year institution. One major finding was language proficiency was found to correlate with students' academic performance (as measured by GPA, one of three dependent variables). Interview data from a sample subgroup of 18 students revealed that higher achievers spent ample time studying and remained up to date in their courses. A strength of the study was the combination of both qualitative and quantitative data, and although no major limitations were noted, a recommendation for future research was exploring other factors that are not measured by tests like the TOEFL (Test of English as a Foreign Language) or instruments like the LASSI (Learning and Study Strategies Inventory).

In terms of academic involvement in the classroom, a few studies investigated factors affecting international students' classroom participation readiness and frequency. Using a researcher-developed Likert-type questionnaire, Kao and Gansneder (1995) surveyed a sample of 188 international students enrolled in a U.S. university to examine their willingness and readiness to participate in the classroom. The participants represented 45 countries and were enrolled in five different academic programs. The authors reported that male international students spoke more often than did female international students, although the difference was not

statistically significant. Results suggested cultural factors affected Asian students' willingness to participate. One major limitation was the study being limited to graduate international students.

Similarly, Antwi and Ziyati (1993) conducted a phenomenological study on the "communication-based" experiences of seven male North African and West African international students attending Ohio University. More specifically, the authors investigated possible associations between culture and communication and sought to understand the difficulties international students encountered in their classroom interactions. Results suggested cultural obstacles and barriers complicated international students' classroom interactions and understanding, resulting in feelings of isolation, loneliness, and frustration, among others. Interview data also suggested the international students developed coping strategies that involved drawing closer to other international students and isolating themselves from the dominant culture, hence making fewer connections with domestic students and professors. A major limitation of the study was the convenience sample involving a low number of participants who were mainly male, impeding generalizability to a bigger population of international students.

Kuo (2011) examined international students' language proficiency and its effects on academic performance. A survey was administered to 152 international graduate students enrolled in an Alabama university, and results suggested the students faced listening comprehension and oral proficiency challenges that inhibited their ability to understand and engage with classroom lectures. In addition to the domestic students' (and professors') inability to understand international graduate students' English, the southern accent was identified as major impediment to listening comprehension. The international students reported the consequent feelings of low self-esteem affected their academic performance in the classroom.

Although no limitations were identified, the author provided a few recommendations to enhance international graduate students' communication performance inside and outside the classroom.

By the same token, several studies sought to investigate the effect of campus connectedness, language proficiency, and efforts to navigate campus resources on students' academic integration and adjustment. By means of hierarchical regressions, Bastien et al. (2018) examined factors affecting international students' academic and psychological adjustment. Results showed that while age and connection to the campus community predicted psychological adjustment, length of stay, language competence, and help-seeking predicted academic adjustment. A couple of limitations, however, were the small sample that lacked randomization and the study's being limited to one university.

Similarly, Lin et al. (2019) explored the relationship between the academic stressors and achievement goal orientations of international students (compared to their domestic counterparts). Multiple regression was conducted to investigate possible relationships between and among key predictors (i.e., student status and four academic stressors) and select achievement goal orientation (AGO) variables, namely purpose and motivation. Although, for the most part, the results showed certain academic stressors motivated the international students to perform at a higher level, excessive workload, long assignments, and anxiety related to a possible poor performance on exams (to name a few) were cited as key academic stressors. One key limitation of the study, nonetheless, was that most participants were enrolled in undergraduate programs and most of them were female students.

Many studies have measured international students' academic integration based on level of commitment to their degree program. Tinto (1975) refers to degree commitment as goal commitment and defines it as a student's determination and personal effort to attain a degree and

fulfill a career plan. The literature on degree commitment, however, is scarce, especially international student degree commitment. Several studies have been conducted to measure the degree commitment of domestic students.

In measuring commitment to degree, Chatzinikolaou and Tsirides (2020) explored a possible predictive relationship between college students' demonstration of academic self-concept and critical thinking dispositions. A correlational survey design was employed, and the multiple regression statistical analysis yielded a weak positive correlation (9.2%) between the predictors. Academic self-concept was the most significant predictor of degree commitment. Though the study was deemed value-effective and practically replicable, notable limitations included compromised validity, social desirability biases, and the small number of factors in the questionnaire.

Similarly, Sharma and Yukhymenko-Lescroart (2018) explored the relationship between students' sense of purpose and degree commitment. The Sense of Purpose Scale was employed, and results from the anonymous online survey, taken by 1,010 participants (75.9% female) from a large urban public university in the Western United States, indicated that factor loadings were statistically significant. Among others, a relatively high correlation between awareness of purpose and awakening to purpose was noted, suggesting sense of purpose factors can predict degree commitment, at least in theory. Although no limitations were noted, the authors recommended that future research examine potential relationships between sense of purpose, degree commitment, and degree attainment.

Social Integration

Unlike the literature on academic integration, the literature on international students' social integration is limited – at least in the context of U.S. higher education institutions.

Generally, most studies addressing international students' social integration challenges not only were conducted outside the United States but also overwhelmingly investigated associations between dependent variables (as opposed to relationships between dependent and independent variables). Many studies similarly investigated domestic students' social integration challenges on their local campus both within and outside the United States.

Mahmood and Burke (2018) analyzed acculturative stress and sociocultural adaptation levels (as they relate to select demographic characteristics) among international students at a nonmetropolitan university in the United States. Acculturative stress "encompasses different aspects related to the numerous challenges faced by individuals while living in a new culture" (Furnham, 2004, cited in Mahmood & Burke, 2018, p. 286). The correlation between sociocultural adaptation levels and acculturative stress was negative; the results, however, showed that increased competency in five sociocultural adaptation subscales (i.e., interpersonal communication, academic and work performance, personal interests and community involvement, ecological adaptation, and language proficiency) decreased acculturative stress levels among the students. Similar to Lin et al.'s (2019) research, one key limitation of this study was the difficulty in generalizing results to the bigger population of international students as the survey participants were from a single higher education institution in the south-central region of the United States.

By analyzing strategies students employed for social and academic integration, Jean-François (2019), in a similar study conducted at a university in the United States, gauged international students' perceptions of the campus climate at their host institution. Results from individual interviews and a focus group revealed that self-determination had the biggest influence on students' intercultural integration strategies. In addition to the lack of

generalizability, a major limitation of the study was that the findings resulted from data collection pertaining to a single university.

Abdul Mannan (2007) investigated the relationship between academic integration and social integration by analyzing potential differences among university students at a small higher education institution in Papua New Guinea. Using a stratified sampling procedure, the author conducted a survey to assess the academic integration and social integration of a sample of 560 students. Although the results indicated a strong negative relationship between academic integration and social integration, the relationship between the two dependent variables was compensatory. No limitations were noted as study findings validated both "the concept of the Tinto's model in respect of compensatory relationship between academic and social integration leading to students' persistence" as well as the "need for institution and group specific studies to assess the differences of social and academic integration leading to persistence" (p. 161).

Kraemer (1997) investigated the extent to which traditional operational definitions of academic integration and social integration in the extant persistence literature were applicable to Hispanic students at two-year colleges. A sample of 217 students from the 1990-1992 graduating classes of a private bilingual junior college in the Midwest completed a survey administered prior to graduation. Based on three contributing academic integration factors (i.e., formal faculty-student interaction, informal faculty-student interaction, and study behavior), results suggested that formal and informal faculty-student interaction strongly predicted college integration and had a strong influence on academic achievement and persistence. A major limitation of the study was the limited number of study behavior measures like use of the library which the author believed would significantly contribute to the academic integration of the adult Hispanic commuter student population.

In exploring the effects of personal, interpersonal, and situational variables on college students' social integration in the community, Herrero and Gracia (2004) used a two-wave panel data from a sample of 372 undergraduate students attending a Spanish university. Two waves of valid data from 310 self-reports (collected at the beginning and end of an academic semester) were used. Results showed that "personal determinants (higher levels of self-esteem and lower levels of perceived stress) were positively related to levels of Social Integration in the Community over time" (p. 716). However, no significant relationship was found between interpersonal determinants (i.e., perceived social support from interpersonal interactions in close relationships) and social integration in the community. The authors concluded that "the presence of a supportive network of close ties among college students is not associated with Social Integration in the Community over time" (p. 717). A final recommendation for further research was exploring other potentially relevant variables such as different education levels, early access to the labor market, or the influence of certain ethnic or cultural backgrounds.

Owens and Looms (2010) investigated the benefits of a social integration program for international students attending four separate metropolitan campuses of an Australian university. Survey responses from a sample of 446 international students who had access to the social integration program, in addition to data from focus-group discussion with staff and students, were analyzed. Results indicated that "interpersonal interactions with staff and other students in ranging contexts generate high levels of student satisfaction, enhance cultural transition and mitigate the negative effects of culture shock" (p. 285). No limitations or recommendations for further research were noted, but the authors valued the study findings as an incentive for institutions of higher learning to identify and address the various challenges international students face outside their home countries by using similar social integration initiatives.

Nicpon et al. (2006) examined the association between academic persistence and the variables of loneliness, social support, and living arrangements and decisions. A series of standardized instruments was administered to 401 college freshmen. Results revealed that although social support was positively related to decisions regarding academic persistence, it was negatively related to loneliness. GPA was not associated with loneliness or social support, either, although higher GPAs were associated with freshmen living on campus compared to those living off campus. In terms of support from friends and family, female participants had a higher perception compared to male participants. In addition to the sample being volunteer (i.e., not being random), a major limitation of the study was participants being predominantly White, which did not allow for an investigation of potential racial/ethnic differences. The study was also conducted at a single institution, limiting generalization to a bigger population of students.

Institutional Commitment

The literature on international students' institutional commitment is similarly limited as most studies focused on domestic students. Most studies on institutional commitment overwhelmingly investigated the effects of institutional retention efforts on domestic students' institutional commitment, especially as they relate to campus student services. The effect of robust on-campus student services on students' persistence was shown to be positive in some studies (e.g., Barbera et al., 2020; Webber & Ehrenberg, 2009), while the association between investing in student services and students' degree completion was not statistically significant in other studies (e.g., Ryan, 2004; Titus, 2006). A negative association was established between institutional investment on student services and student dropout behavior (e.g., the "return home without a degree" item from this study), though it's "unclear what specific student services are effective for reducing dropout" (Chen, 2012, p. 501). Academic advising was also found to

significantly improve international students' first-to-second-year persistence (Mamiseishvili, 2012b). Other studies found that orientation programs that included student-faculty and student-advisor interactions significantly boosted students' degree completion odds (e.g., Derby, 2007).

Using regression analysis and multiple surveys from the Making Achievement Possible (MAP-Works) assessment project, Woosley and Miller (2009) sought to investigate the extent to which institutional commitment, among other variables, could predict retention to the following year among a sample of 2,744 first-time, first-year students enrolled in a large public Midwestern institution. Results suggested institutional commitment has a positive effect on retention and grade point average (GPA). The authors reported that "students who feel as if they belong may be more likely to want to stay on a campus, and therefore, may be more likely to stay" (p. 1267). A major limitation of the study was the lack of generalizability to other types of higher education institutions like private colleges and community colleges. The sample was also overwhelmingly Caucasian, limiting the significance of the findings to other student populations.

In addressing attrition as a common phenomenon among college students, Wardley et al. (2013) sought to investigate possible differences in college students' perception of retention factors based on age, as well as to examine the influence of these factors on the students' commitment to their host institution. A questionnaire, composed mostly of questions from the 2009 Cooperative Institutional Research Program (CIRP) Freshman Survey, was piloted to 601 college students from two universities. Among others, an important result was the clear significant difference in institutional commitment between the two defined age categories (i.e., 17-21 and 22-55+). This study was one of the very few studies that examined institutional commitment based on age. The authors, however, noted that the variable of institutional commitment consisting of only three indicators represented a major limitation. Only two

institutions of higher education were included in the study, which the authors further argued was another major limitation.

It's worth noting that international students leave their home countries in search of an exceptional international study experience. Their satisfaction with campus services could be a deciding factor in their decision to remain in or leave their host institutions. Compared to examinations of degree and institutional commitment, the literature on students' satisfaction with campus support services is much more available. Studies about international students' experiences with campus support services, however, are scarce as most of the research on the topic concerns either domestic U.S. students or international students attending higher education institutions outside the United States.

Mavondo et al. (2004) developed a conceptual assessment model to gauge student satisfaction and students' likelihood of recommending their host institutions to future students. The authors used path modelling to analyze data pertaining to student satisfaction vis-à-vis the resources of teaching, learning, technology, library, student services, and student orientation. A total of 516 student, 382 domestic and 134 international (53% female and 47% male), from three campuses responded to a three-page questionnaire. For domestic students, the results indicated that student orientation had both a significant direct effect and indirect effect on satisfaction. For international students, however, a positive relationship between student orientation and student satisfaction was not established. Though the response rate was 97%, a major limitation was that fewer international students participated in the study.

In the same way, Ammigan and Jones (2018) assessed the degree to which international students were satisfied with various aspects of their campus experience as they related to arrival, living, learning, and support services. The study evaluated the experience of over 45,000 degree-

seeking, undergraduate international students at 96 institutions in Australia, the United Kingdom, and the United States. Using data from the International Student Barometer (ISB), multiple regression analyses revealed a positive association between the four satisfaction aspects and students' overall campus experience. A major limitation was the findings' being based on a single instrument that relied on self-reported data. The sample size of U.S.-based international students and number of participating U.S. institutions were also smaller than those from Australia and the United Kingdom. The authors, however, believed with confidence that their study was the first comparative meta-analysis of ISB data from institutions in the three countries.

Summary

There is no doubt the literature on international student persistence and institutional retention has been growing since the beginning of the 21st century. The number of international students attending U.S. higher education institutions, including public regional universities, however, has been declining for various reasons. Though not the focus of the present study, the Covid-19 pandemic has been identified as one main reason (NAFSA, 2020b). Research also shows international student recruitment and institutional retention have been challenged by significant changes in U.S. domestic and foreign politics, especially following the 2016 U.S. presidential elections (Tareen, 2020). Another concern among international education experts has been the U.S. government's placing a cap on the number of Green Cards issued to university graduates, making a direct path to permanent residence (like the one that competitors in the international education market like England, Canada, New Zealand, and Australia offer) extremely lengthy or almost impossible (Conrad, 2022). These circumstances and policies have complicated institutions' efforts to not only recruit foreign students but also retain them.

These factors (i.e., Covid-19, the 2016 presidential elections, and the Green Card cap) and more may affect international student retention. The literature provided in the present study, however, suggests less obvious, yet perhaps more relevant, variables like academic integration, social integration, and institutional commitment that could help explain integration and retention challenges locally (i.e., at the regional level, especially in Appalachia) as opposed to nationally or internationally. The holistic and heterogenous approach to international student challenges is a feature of the persistence and retention literature. The latter paints international student experiences with a broad brush, which justifies the need for more granular research that could help identify students who are at risk in regions of the United States where international student numbers are low.

Chapter 3: Methods

Information about research design, population, survey content, survey validity and reliability, data collection, data analysis, and limitations (along with research questions) are provided in this chapter.

Research Design

This study followed a non-experimental, descriptive design to identify possible relationships between common persistence variables identified in the literature and selected demographic attributes among a representative sample of degree-seeking international students at various public regional universities in West Virginia. A non-experimental design was appropriate because the independent variables (i.e., sex, class standing, GPA, and living status) could not be manipulated and the research questions focused on relationships or associations (i.e., between the independent variables and the students' responses to survey items).

A cross-sectional survey design was used, as all variables and outcomes can be researched at once and prevalence for all variables can be measured. The survey was distributed electronically to the international students attending various public higher education institutions in West Virginia.

Population

The participants for this study were enrolled for credit at the selected universities in the 2022-2023 academic year. They were not domestic students (i.e., native speakers) or U.S. citizens. For the purposes of this study, the international students were in the United States on a temporary visa and are not immigrants (i.e., I-51 or Green Card holders), undocumented immigrants, or refugees. Residency in the state was not a necessary condition, either.

The participants also had physical presence on campus (i.e., attend in-person classes) per U.S. immigration laws. Although U.S. immigration laws require that international students attend college on a full-time basis, part-time students (i.e., enrolled under this status due to special circumstances like medical conditions) were included in the survey. Participants were recruited with help from the office of international programs or international student services at the selected universities, including the relevant international student groups/organizations.

Survey Content

This study used a personal, researcher-developed questionnaire that was created following a meticulous review of the literature on student persistence, adjustment, and retention at the post-secondary level. The survey was, in large part, inspired by Bean's (1985 & 1990) and Tinto's (1993) student attrition model that focused on academic integration, social integration, and institutional commitment, as well as Tinto's (1975 & 1987) departure theory. The study and questionnaire were also inspired by the Michigan International Students Problem Inventory (MISPI) (Porter, 1966), the College Persistence Questionnaire (CPQ) (Davidson et al., 2009), as well as a number of studies addressing international students' adjustment and persistence challenges (e.g., Can, 2015; Can et al., 2021; Chung-Eun, 2002; Mamiseishvili, 2012a; Miller, 2019; Okai, 2020; Salim, 1984; Shabeeb, 1997; Wang, 2003; Wang, 2009; Zhao, 2013). The MISPI and CPQ, however, were not used as the main instruments.

The personal electronic survey was used to identify possible associations between key demographic factors (i.e., sex, class standing, GPA, and living status) and three persistence variables: academic integration, social integration, and institutional commitment.

Survey Validity and Reliability

The researcher-developed survey was composed of 27 items and divided into three sections based on three research-based factors: academic integration, social integration, and institutional commitment. Field testing was conducted with professional colleagues who are knowledgeable about international student recruitment, persistence, and retention. The subsequent feedback and revision recommendations were used to support the requisite measure of content validity.

Data Collection

In order to determine the most efficient way to distribute the survey, associate directors and programs managers at the offices of international student services from seven universities were contacted. The relevant international student organizations at West Virginia's largest campus were also contacted and invited to email their international members a link to the survey. Qualtrics software was used to construct the survey and gather survey responses.

The international students who agreed to participate were presented with a consent form on the first page of the Qualtrics survey to read prior to the beginning of the survey. Continuation of the survey itself constituted evidence of consent. Following initial contact, the researcher waited two weeks before emailing the first reminder. A second reminder was sent two weeks following the first reminder.

Data Analysis

Responses were collected, computed, and analyzed using Qualtrics and the current version of SPSS statistical software. A point-biserial correlation was used for analysis as it measured potential relationship(s) between a continuous dependent variable and a dichotomous independent variable – in this case between students' responses to items regarding the three

persistence variables and the selected independent variables of sex (male/female), class standing (undergraduate/graduate), grade point average (GPA: 2.00 – 2.99/3.00 – 4.00), and living status (on campus/off campus). Independent samples *t*-tests were also used to check for statistical significance in mean differences among variables.

The three survey sections – academic, social, and institutional commitment – were treated as subscales, and an overall composite score was calculated. Data were analyzed to answer the following research questions:

RQ #1: To what extent do international students feel they've successfully integrated academically into the host institution? Items from the academic integration section of the researcher-developed questionnaire were used to answer this question.

RQ #2: To what extent do international students feel they've successfully integrated socially into the host institution? Items from the social integration section of the researcher-developed questionnaire were used to answer this question.

RQ #3: To what extent do international students feel committed to the host institution? Items from the institutional commitment section of the researcher-developed questionnaire were used to answer this question.

RQ #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment? Demographic attributes, in addition to responses from the academic integration, social integration, and institutional commitment sections of the researcher-developed questionnaire, were used to answer this question.

Chapter 4: Findings

In this study, the researcher aimed to identify possible associations among the four independent variables of sex (male/female), class standing (undergraduate/graduate), grade point average (GPA), and living status (on campus/off campus) and the three dependent variables of academic integration, social integration, and institutional commitment. This chapter contains the results of the study based on both descriptive and statistical analyses of the data. A researcher-developed Likert-type questionnaire was used, and the study focused on the following four research questions.

RQ #1: To what extent do international students feel they've successfully integrated academically into the host institution?

RQ #2: To what extent do international students feel they've successfully integrated socially into the host institution?

RQ #3: To what extent do international students feel committed to the host institution?

RQ #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

Population and Sample

Despite the small population, West Virginia boasts 12 four-year public regional institutions and eight private colleges and universities, most of which are eligible to enroll international students. The WV international-student-eligible colleges and universities, both public and private, enrolled a total of 2,480 international students during the 2021-2022 academic year (NAFSA, 2023a). The survey invitation, however, was sent only to the students attending seven public regional universities. The population for this study, hence, did not include

international students from private four-year institutions; the rest of the public regional universities either did not forward the survey invitation to their international students or the students did not respond to the request.

A survey invitation was sent to a population of international students (N = 1,202), both degree seeking and part-time, enrolled in the seven universities that agreed to send their students an anonymous survey link generated by Qualtrics. The population of international students at these universities, which included students enrolled in English language programs (also known as EAPs) to meet the English proficiency required for matriculation into a degree program, was larger than 1,202. The study, however, did not include EAP students due to their language proficiency level and enrollment status. In essence, although EAP students must be enrolled either full time or part time and could choose to live on campus or off campus, they may not be enrolled as an undergraduate or graduate student before official matriculation into a degree-granting program. EAP programs could also have their own grade structure and may not operate under a regular GPA system.

Survey responses were collected over a period of 48 days and resulted in 202 responses. Analysis of the responses showed that 48 (23.77%) surveys were submitted blank and were hence not counted. The rest of the recorded responses were counted as the item-completion rate was at least 70%. The resulting sample was n = 154, which is 12.82% of the target population.

Demographic Data Description

Before statistical analyses were performed on the first three research questions, the researcher analyzed demographic data. Important demographic statistics are presented below.

Sex of Participants

Of the participants who answered demographic questions, 59.9% (*n* = 91) were female, and 39.5% (*n* = 60) were male. Only one respondent (0.7%) preferred not to answer (Table 1).

Table 1

Sex of Participants

Sex of Participants	Frequency	%
Male	60	39.5
Female	91	59.5
Prefer not to answer	1	.7

Registration Status of Participants

One hundred thirty-eight respondents (90.8%) were registered as full-time F-1 students (i.e., non-immigrant student visa), whereas 12 respondents (7.9%) were registered as part-time J-1 students (i.e., non-immigrant exchange visitor visa). Only two respondents (1.3%) indicated they were registered as part-time F-1 students (Table 2).

Table 2

Registration Status of Participants

Registration Status of Participants	Frequency	%
Full-Time F-1 Student	138	90.8
Part-Time J-1 Student	12	8.9
Other	2	1.3

Class Standing of Participants

At 55.6% (*n*=84), the majority of respondents were graduate students, while 44.4% (*n* = 67) were undergraduate students (Table 3).

Table 3

Class Standing of Participants

Class Standing of Participants	Frequency	%
Undergraduate Student	67	44.4
Graduate Student	84	55.6

Class Level of Participants

Of the 67 undergraduate students, 17 were freshmen, 16 were sophomores, 13 were juniors, and 21 were seniors (Table 4).

Table 4

Class Level of Participants

Class Level of Participants	Frequency	%
Freshman	17	25.4
Sophomore	16	23.9
Junior	13	19.4
Senior	21	31.3

Grade Point Average (GPA) of Participants

The overwhelming majority of respondents, 120 (80.5%), had a GPA of 3.5–4.0. Seventeen respondents (11.4%) had a GPA of 3.0–3.49, nine respondents (6%) had a GPA of 2.5–2.99, and three respondents (2%) had a GPA of 2.0–2.49 (Table 5).

Table 5

GPA of Participants

GPA of Participants	Frequency	%
3.50–4.00	120	80.5
3.00–3.49	17	11.4
2.50–2.99	9	6.0
2.00–2.49	3	2.0

The GPA data were further dichotomized by combining the 2.00–2.49 and 2.50–2.99 brackets as well as the 3.00–3.49 and 3.50–4.00 brackets to reflect two main GPA categories:

2.00–2.99 and 3.00–4.00. The overwhelming majority of respondents, 137 (91.9%), had a GPA of 3.0–4.0 while only 12 respondents (8.0%) had a GPA of 2.0–2.99 (Table 6).

Table 6

Dichotomized GPA of Participants

GPA of Participants	Frequency	%
3.00–4.00	137	91.9
2.00–2.99	12	8.0

Scholarship of Participants

Of the participants who answered demographic questions, 68.9% (*n* = 104) declared they had a scholarship while 31.2% (*n* = 47) declared they did not (Table 7).

Table 7

Scholarship of Participants

Scholarship?	Frequency	%
Yes	104	68.9
No	47	31.2

Of the 104 participants who had a scholarship, 86.3% (*n* = 89) had an academic scholarship, and 13.8% (*n* = 15) had an athletic scholarship (Table 8).

Table 8

Type of Scholarship

Scholarship Type	Frequency	%
Academic	89	86.3
Athletic	15	13.8

Living Status of Participants

Of the 151 participants who answered the demographic questions, 66.2% (*n*=100), or two thirds, lived off campus while 33.8% (*n*=51), or one third, lived on campus (Table 9).

Table 9

Living Status of Participants

Living Status of Participants	Frequency	%
On Campus	51	33.8
Off Campus	100	66.2

Analysis of Survey Reliability

This study involved assessing the internal consistency of the three integration scales (i.e., academic integration, social integration, and institutional commitment) measured by the 27 survey items. Analyzing the internal consistency of the survey is important as it would ensure the primary aspects of the survey are accurately measured and hence reliable. The 27 survey items reflected very good internal consistency and reliability ($\alpha = 0.8$) (Table 10).

Table 10

Survey Reliability

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
.80	.80	27

A separate Cronbach's alpha analysis was similarly conducted on each of the three integration scales (Table 11). The academic integration scale reflected acceptable internal consistency and reliability ($\alpha = 0.62$), with items 7, 11, and 12 correlating the least with the other items. Deleting these items could improve the alpha slightly. The social integration scale also showed acceptable internal consistency and reliability and was almost stable ($\alpha = 0.73$), with only item 19 correlating the least with the other items. Deleting item 19 could improve the alpha significantly. Finally, the institutional commitment scale demonstrated acceptable internal consistency and reliability ($\alpha = 0.64$), with items 24, 25, 26, and 27 correlating the least with the

other items. Unlike the academic and social integration scales, however, deleting these four items was not seen to improve the alpha.

Table 11

Cronbach's Alpha for the Three Integration Scales

Survey Item	Scale *M* if item deleted	Scale variance if item deleted	Corrected item total correlation	Cronbach's α if item deleted
Academic Integration				
Cronbach's α = .62				
1. Language satisfaction	47.92	36.87	0.41	0.57
2. Comfort in class discussion	48.35	35.11	0.36	0.57
3. Understand professor	47.67	37.28	0.47	0.57
4. Instruction satisfaction	47.87	35.64	0.52	0.55
5. Instruction improved English	48.30	35.94	0.32	0.58
6. Instruction job match	48.10	35.48	0.43	0.56
7. Homework stressful	48.79	42.24	-0.06	0.66
8. Professor moral support	48.50	33.86	0.47	0.55
9. Family moral support	47.77	36.18	0.34	0.58
10. On-time graduation	47.72	37.06	0.36	0.58
11. Procrastination	49.30	40.78	-0.01	0.66
12. Late homework	51.25	44.77	-0.19	0.66
Social Integration				
Cronbach's α = .73				
13. Socialize classmates	20.92	37.02	0.61	0.66
14. Socialize other students	20.32	35.09	0.63	0.65
15. Making American friends	20.97	37.29	0.60	0.66
16. Making international friends	19.74	41.78	0.41	0.71
17. Participate student clubs	21.06	37.04	0.58	0.67
18. Enjoy social life	20.13	35.94	0.59	0.66
19. Away from home challenging	19.88	53.91	-0.21	0.83
Institutional commitment				
Cronbach's α = .64				
20. University right place	26.88	23.69	0.76	0.65
21. Welcomed on campus	26.86	22.74	0.75	0.87
22. Respected on campus	26.81	23.46	0.72	0.84
23. Satisfied campus support services	26.98	24.46	0.64	0.57
24. Be here next semester	26.73	27.46	0.20	0.38
25. Graduate from this university	26.16	31.38	0.09	0.58
26. Transfer another university	29.89	35.05	-0.12	0.13
27. Return home no degree	30.03	35.74	-0.18	0.48

Although the 27 survey items, together, reflected very good internal consistency and reliability, Cronbach's alpha results showed the three scales, separately, demonstrated acceptable internal consistency. For the most part, items from each scale correlated with one another. Survey results, grouped by research questions, are presented next.

Results

Results from the first major section of the survey (i.e., the three dependent variables of academic integration, social integration, and institutional commitment – hence three sub-scales) were analyzed based on the first three research questions as follows:

Research Question #1: To what extent do international students feel they've successfully integrated academically into the host institution?

The first sub-scale of the survey (i.e., academic integration) was composed of 12 items, and the respondents were asked to rate their level of agreement with each item on a scale of 1 to 6 – with 1 being "strongly disagree" and 6 being "strongly agree." The academic integration questions included items asking about whether students were satisfied with their English language skills; whether they felt comfortable participating in class discussions; whether they understood their professors in the classroom; whether they were satisfied with the quality of classroom instruction; whether classroom instruction helped improve their English; whether there was a strong match between what they learned in the classroom and their future career plans; whether their homework was stressful; whether their instructors were supportive; whether their family provided the moral support they needed to graduate; whether they were confident they would see an on-time graduation; whether they often procrastinated; and whether they were late in submitting their homework.

The means and standard deviations for each individual item were computed and compared (Table 12). Respondents' level of agreement with each of the 12 items has been presented in descending order based on the individual means. Agreement among respondents was above the scale mid-point on SQs #3, #10, #9, #4, #1, #6, #5, #2, #8, #7, and #11, while it was below the scale mid-point on SQ #12 only.

Table 12

Academic Integration (AI) Means and Standard Deviations

Academic Integration Survey Items	*M*	*SD*
3- I understand my professors when they lecture in the classroom.	5.21	.90
10- I am confident I will graduate on time.	5.13	1.20
9- My family provides the moral support I need to graduate.	5.12	1.40
4- I am satisfied with the quality of instruction I receive in the classroom.	5.00	1.05
1- I am satisfied with my English language skills.	4.95	1.10
6- There is a strong match between what I am learning in the classroom and my future career/job plans.	4.79	1.23
5- The instruction I am receiving in the classroom has helped improve my English.	4.58	1.41
2- I feel comfortable participating in class discussions.	4.54	1.44
8- My professors provide the in-class moral support I need to pass my classes.	4.35	1.38
7- In general, my homework is stressful.	4.03	1.40
11- I often procrastinate.	3.56	1.64
12- I am often late in submitting my homework.	1.63	1.04

The responses indicated respondents thought well of their academic experience. Generally, respondents understood their professors in the classroom, they were confident in their

ability to achieve an on-time graduation, they were satisfied with the amount of family support they received, they thought highly of the quality of classroom instruction, they were satisfied with their English language skills, they saw a strong match between classroom materials and their future career plans, they believed classroom instruction helped improve their English, they felt comfortable participating in class discussions, and they felt their professors provided the in-class moral support they needed to excel.

The means for SQ#7 (i.e., homework difficulty level) and SQ#11 (i.e., procrastination), however, were at the bottom of the agreement list but still above the scale mid-point, indicating the two items could be an average concern. The mean for SQ#12 (late homework submission), however, was the only one below the scale mid-point, indicating that on-time homework submission could pose minimal concern for the respondents.

The 12 items were further divided into two experience categories, positive and negative. and a composite mean was computed for each experience category (Table 13).

Table 13

Academic Integration (AI) Positive and Negative Experiences

Academic Integration Composite Mean of Responses	
Positive Experiences	Negative Experiences
3- I understand my professors when they lecture in the classroom. 10- I am confident I will achieve an on-time graduation. 9- My family provides the moral support I need to graduate. 4- I am satisfied with the quality of instruction I receive in the classroom. 1- I am satisfied with my English language skills. 6- There is a strong match between what I am learning in the classroom and my future career/job plans.	7- In general, my homework is stressful. 11- I often procrastinate. 12- I am often late in submitting my homework.
4.87	3.08

It's worth noting that each experience was deemed positive or negative based on the language of the individual survey items, not on the mean scores. For the most part, it can be inferred the respondents felt they've successfully integrated in their host universities despite the composite mean for the two negative items (SQ#11 and SQ#12) being above the scale mid-point.

Research Question #2: To what extent do international students feel they've successfully integrated socially into the host institution?

The second sub-scale of the survey (i.e., social integration) was composed of seven items, and the respondents were asked to rate their level of agreement with each item on a scale of 1 to 6 – with 1 being "strongly disagree" and 6 being "strongly agree." The social integration questions included items asking about whether students often socialized with their classmates outside the classroom, whether they often socialized with students other than their classmates outside the classroom, whether it was easy to make American friends on campus, whether it was

easy to make international friends on campus, whether they often participated in student clubs/organizations, whether they enjoyed social life on campus, and whether being away from family and friends made their life as an international student challenging.

The means and standard deviations for each individual item were computed and compared (Table 14). Similar to the results from the academic integration sub-scale, respondents' level of agreement with each of the seven items under social integration was presented in descending order based on the individual means. Agreement was highest among respondents on SQs #4, #7, #6, and #2 (above the scale mid-point) but was lowest on SQs #1, #3, and #5 (below the scale mid-point).

Table 14

Social Integration (SI) Means and Standard Deviations

Social Integration Survey Items	*M*	*SD*
16- It is easy to make international friends here on campus.	4.10	1.48
19- Being away from family and friends makes my life here as an international student challenging.	3.95	1.63
18- I enjoy social life here on campus.	3.71	1.79
14- I often socialize with students other than my classmates outside the classroom.	3.51	1.81
13- I often socialize with my classmates outside the classroom.	2.92	1.64
15- It is easy to make American friends here on campus.	2.86	1.63
17- I often participate in student clubs/organizations.	2.78	1.69

The responses generally indicated respondents believed it was easy to make international friends, they enjoyed social life, and they often socialized with students other than their classmates outside the classroom. Although above the scale mid-point, the means for items #6

(social life) and #2 (socializing with students other than classmates) were significantly close to the mid-point, indicating that respondents' social lives and their ability to socialize with students other than their classmates could pose an average challenge. The means for items #1 (2.92), #3 (2.86), and #5 (2.78) were below the scale mid-point, indicating that socializing with classmates outside the classroom, making American friends, and participation in student clubs/organizations could be an area of average concern as well. The mean for item #1 (2.92), however, was considerably close to the scale mid-point, indicating that socializing with classmates outside the classroom might not present a big challenge. Still, the mean for item #7 (3.95) was almost one full point above the scale mid-point, indicating that being away from family and friends could pose a significant challenge.

The seven items were further divided into two experience categories, positive and negative, and a composite mean was computed for each experience category (Table 15).

Table 15

Social Integration (SI) Positive and Negative Experiences

Social Integration Composite Mean of Responses	
Positive Experiences	Negative Experiences
16- It is easy to make international friends here on campus. 18- I enjoy social life here on campus. 14- I often socialize with students other than my classmates outside the classroom. 13- I often socialize with my classmates outside the classroom. 15- It is easy to make American friends here on campus. 17- I often participate in student clubs/organizations.	19- Being away from family and friends makes my life as an international student here challenging.
3.32	3.95

From the table, the composite mean for the one negative item (SQ#7) outweighed the one for the rest of the items, which were positive. The two composite means, however, were close to each other and were not too far from the scale mid-point. Hence, respondents' social integration could be interpreted as being a larger area of concern, at least when compared to academic integration.

Research Question #3: To what extent do international students feel committed to the host institution?

The third sub-scale of the survey (i.e., institutional commitment) was composed of eight items. Like the academic and social integration sub-scales, the respondents were asked to rate their level of agreement with each item on a scale of 1 to 6 – with 1 being "strongly disagree" and 6 being "strongly agree." The institutional commitment questions included items asking whether students believed their university was the right place for them, whether they felt welcome on campus, whether they felt respected on campus, whether they were satisfied with the support services their university offered, whether they planned to be enrolled in their university the following semester, whether they planned to graduate from their university, whether they planned to transfer to another university, and whether they planned to end their academic studies and return home without a degree.

The means and standard deviations for each individual item were computed and compared (Table 16). Similar to the results from the academic and social integration sub-scales, respondents' level of agreement with each of the eight items under institutional commitment was presented in descending order based on the individual means. Agreement was highest among respondents on SQs #6, #5, #3, #2, and #4 (above the scale mid-point) while it was lowest on SQs #7 and #8 (below the scale mid-point).

Table 16

Institutional Commitment (IC) Means and Standard Deviations

Institutional Commitment Survey Item #	*M*	*SD*
25- I plan to graduate from this university.	5.30	1.43
24- I plan to be here next semester.	4.76	1.86
22- I feel respected here on campus.	4.68	1.35
21- I feel welcomed here on campus.	4.63	1.40
20- I believe this university is the right place for me.	4.61	1.28
23- I am satisfied with the support services my university offers.	4.51	1.35
26- I plan to transfer to another university.	1.59	1.11
27- I plan to end my academic studies and return home without a degree.	1.43	1.23

The responses generally indicated respondents planned to graduate from their host universities, planned to be enrolled at their host institutions the semester that follows, felt respected on campus, felt welcomed, believed their host institutions were the right places for them, were satisfied with their universities' support services, were not planning to transfer to another university, and were not willing to return home without a degree.

The eight items were further divided into two experience categories, positive and negative, and a composite mean was computed for each experience category (Table 17).

Table 17

Institutional Commitment (IC) Positive and Negative Experiences

Institutional Commitment Composite Mean of Responses	
Positive Experiences	Negative Experiences
25- I plan to graduate from this university. 24- I plan to be here next semester. 22- I feel respected here on campus. 21- I feel welcomed here on campus. 20- I believe this university is the right place for me. 23- I am satisfied with the support services my university offers	26- I plan to transfer to another university. 27- I plan to end my academic studies and return home without a degree.
4.75	1.51

The composite mean for the positive items (SQs #1, #2, #3, #4, #5, and #6) overwhelmingly outweighed the one for the negative items (SQs #7 and #8). The latter, however, though significantly below the scale mid-point, indicated the respondents were willing to stay enrolled in their universities and did not plan to transfer to another institution. The composite means also indicated the respondents were not willing to abort their studies and return home without a degree. Hence, respondents' institutional commitment could be interpreted as being positive for the most part and that any integration issues might not be attributable to the host institution.

Research Question #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

A correlation was used to assess whether each dependent variable (i.e., academic integration, social integration, and institutional commitment) was associated with the independent variables of sex, class standing, GPA, and living status. Because each demographic

attribute was dichotomous (or converted to a dichotomous variable, like GPA), point biserial correlations were performed to assess whether there was a significant association between the demographic attributes and each dependent variable.

Academic Integration

As part of RQ #4, the author investigated possible associations between the dependent variable of academic integration and the four independent variables of sex, GPA, class standing, and living status. Results from the four independent variables are reported below.

Sex of Participants

A composite score of the means for both male and female participants was calculated for academic integration (Table 18).

Table 18

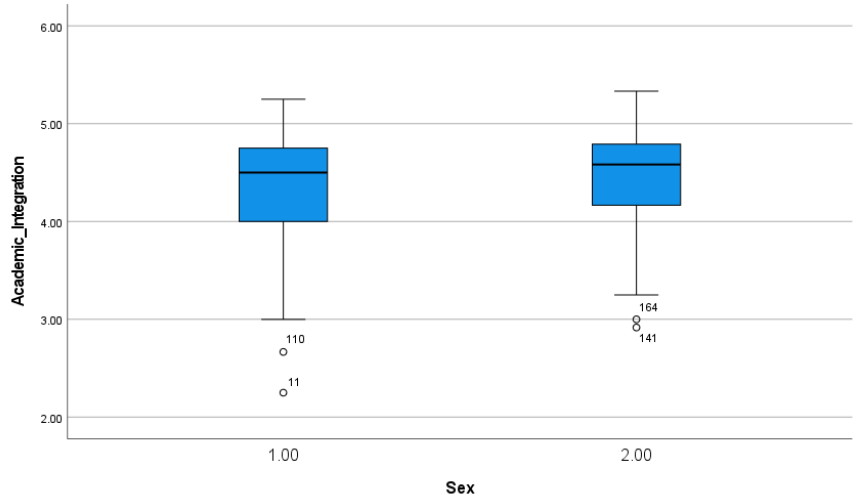
Academic Integration (AI) Based on Sex of Participants

Survey Section	Male		Female	
	M	*SD*	*M*	*SD*
Academic Integration	4.36	0.62	4.46	0.50

For the most part, both male and female participants reported academic integration means in the top half of the 6-point scale (i.e., > 3). Figure 1 shows male and female participants' means for academic integration. Females' responses showed higher academic integration means.

Figure 1

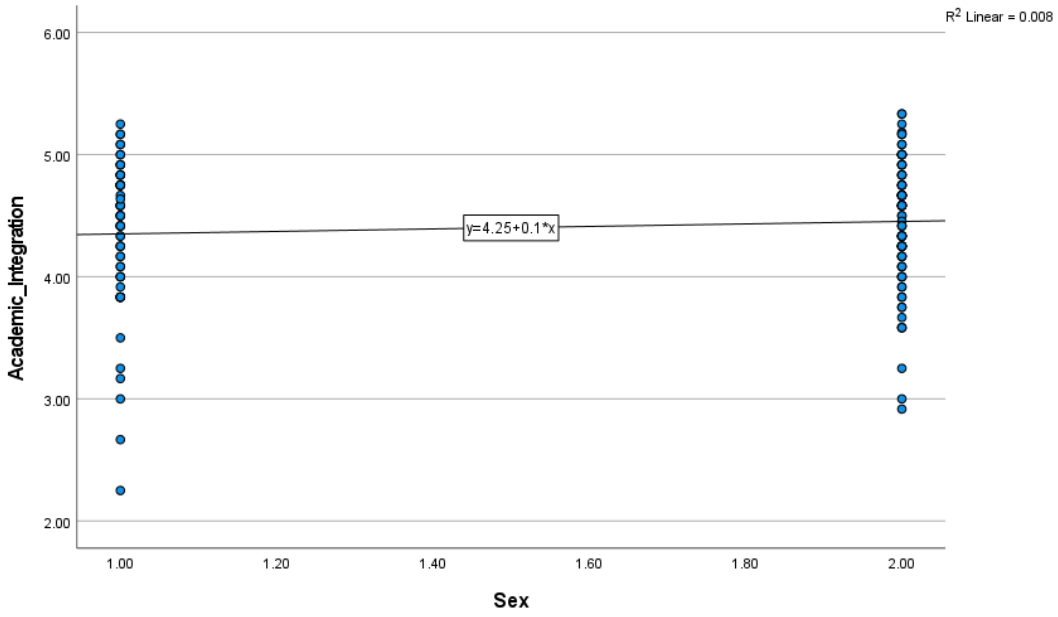
Academic Integration (AI) Means and Medians Based on Sex of Participants



Because the sex of participants was a dichotomous variable (i.e., male/female), point biserial correlations were performed to assess whether a significant association could be established between the sex of participants and academic integration (AI). Figure 2 shows the scatterplot for this analysis, reflecting a positive slope moving slightly upward to the right, indicating a positive relationship between academic integration and sex of participants.

Figure 2

Academic Integration (AI) Bivariate Correlations Based on Sex of Participants



When the independent variable was female alone, the AI items had higher ratings than when the independent variable was male. For the most part, however, correlations were not statistically significant (p = > 0.05) between academic integration and sex (r_{pb} [149] = .092, p = .264). They were statistically significant (p = < 0.05), however, for two AI survey items (i.e., item #2, comfort in class discussion and item #9, family moral support). These results can be seen in Table 19.

Table 19

Academic Integration (AI) Correlations Based on Sex of Participants

Academic Integration Survey Items	Sex r_{pb}	n	p
1. Language satisfaction	-.023	149	.780
2. Comfort in class discussion	-.195	149	.017
3. Understand professor	.063	149	.442
4. Instruction satisfaction	.125	149	.125
5. Instruction improved English	.077	149	.353
6. Instruction job match	.155	149	.057
7. Homework Stressful	.093	149	.256
8. Professor moral support	.087	149	.287
9. Family moral support	.164	149	.044
10. On-time graduation	-.077	149	.346
11. Procrastination	.064	149	.435
12. Late homework	-.060	149	.464

These results confirm that the associations between the sex of participants and most AI areas are not statistically significant (p = > 0.05). There was statistical support, however, from an independent samples *t*-test suggesting female participants showed significantly stronger perceptions of their academic integration (p = < 0.05) in one area (i.e., item #5, instruction improved English) compared to male participants, while male participants showed significantly stronger perceptions of academic integration (p = < 0.05) in two areas (i.e., item #2, comfort in class discussion and item #11, procrastination) compared to female participants (Table 20).

Table 20

Academic Integration (AI) Mean Differences for Sex of Participant

Academic Integration Survey Items	Male		Female			
	M	*SD*	*M*	*SD*	*t*	***p***
1. Language satisfaction	4.98	1.12	4.93	1.02	2.80	.662
2. Comfort in class discussion	4.90	1.27	4.30	1.51	2.43	.047
3. Understand professor	5.15	0.86	5.26	0.91	-0.78	.816
4. Instruction satisfaction	4.87	1.15	5.12	0.88	-1.55	.277
5. Instruction improved English	4.48	1.56	4.70	1.26	-0.94	.021
6. Instruction job match	4.60	1.26	4.97	1.08	-1.92	.070
7. Homework Stressful	3.92	1.30	4.18	1.42	-1.15	.267
8. Professor moral support	4.23	1.40	4.47	1.32	-1.07	.736
9. Family moral support	4.83	1.48	5.27	1.19	-2.04	.193
10. On-time graduation	5.23	1.16	5.05	1.12	0.95	.659
11. Procrastination	3.38	1.35	3.59	1.77	-0.79	<.001
12. Late homework	1.67	0.96	1.54	1.03	0.74	.883

Class Standing

Similar to the analyses of the sex of participants, a composite score of the means for class standing (i.e., undergraduate or graduate participants) was calculated for academic integration (Table 21).

Table 21

Academic Integration (AI) Based on Class Standing

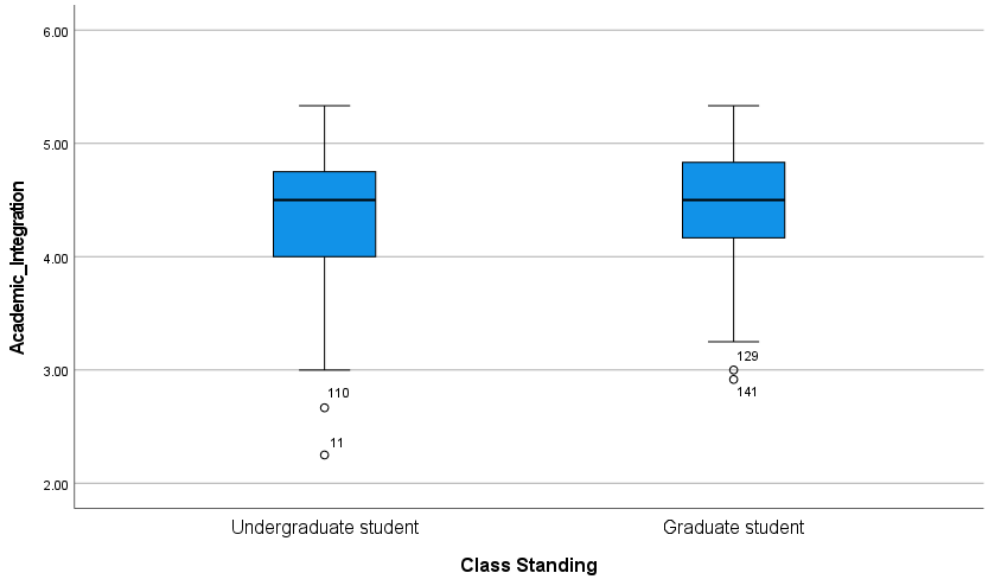
Survey Section	Undergraduate		Graduate	
	M	*SD*	*M*	*SD*
Academic Integration	4.35	0.60	4.47	0.51

For the most part, both undergraduate and graduate participants reported academic integration means in the top half of the 6-point scale (i.e., > 3) as can be seen in Figure 3.

Graduate participants showed higher academic integration means, whereas undergraduate participants showed higher medians.

Figure 3

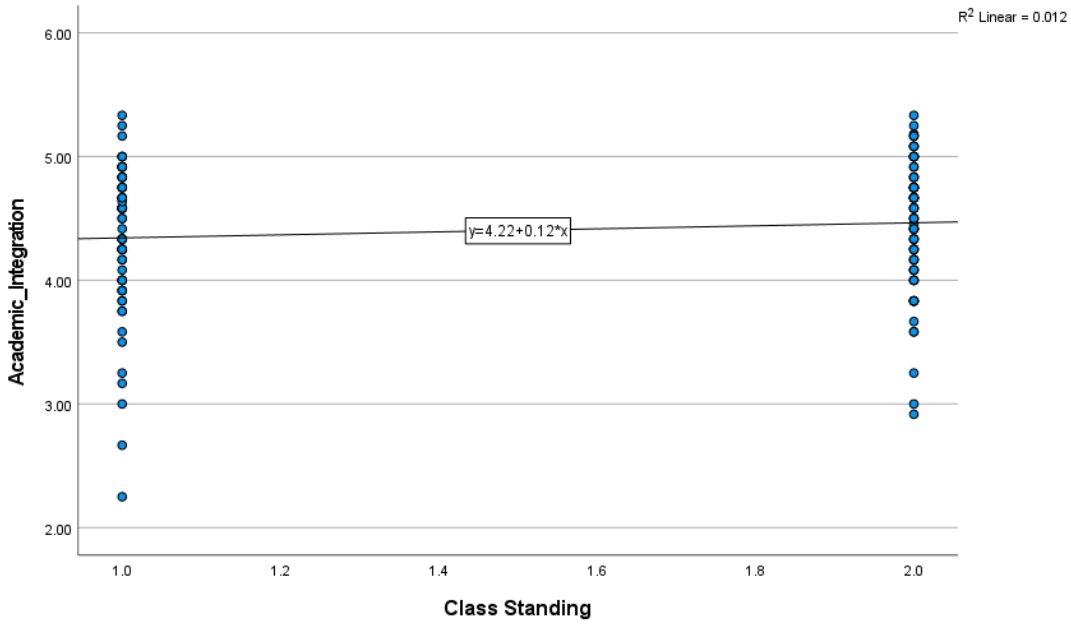
Academic Integration (AI) Means and Medians for Class Standing



Because class standing was a dichotomous variable (i.e., undergraduate/graduate), point biserial correlations were performed to assess whether a significant association could be established between class standing and the dichotomized dependent variable of academic integration. Figure 4 shows the scatterplot for the academic integration scale, reflecting a positive slope moving slightly upward to the right, indicating a positive relationship between academic integration and class standing.

Figure 4

Academic Integration (AI) Bivariate Correlations for Class Standing



When the independent variable was graduate participants alone, the AI items had higher ratings than when the independent variable was undergraduate participants. For the most part, however, the correlations were not statistically significant (p = > 0.05) between academic integration and class standing (r_{pb} [149] = .111, p = .175), as seen in Table 22. There were no statistically significant (p = < 0.05) relationships for the individual survey items.

Table 22

Academic Integration (AI) Correlations for Class Standing (CS)

Academic Integration Survey Items	CS r_{pb}	n	p
1. Language satisfaction	.156	147	.055
2. Comfort in class discussion	.111	147	.176
3. Understand professor	.137	147	.094
4. Instruction satisfaction	-.082	147	.316
5. Instruction improved English	.052	147	.532
6. Instruction job match	.136	147	.095
7. Homework Stressful	.097	147	.238
8. Professor moral support	.049	147	.551
9. Family moral support	.112	147	.170
10. On-time graduation	.010	147	.900
11. Procrastination	-.108	149	.188
12. Late homework	-.065	149	.129

There was some statistical support, however, from an independent samples *t*-test suggesting graduate participants showed significantly stronger perceptions of their academic integration ($p = < 0.05$) in five academic areas (i.e., item #1, language satisfaction; item #6, instruction job match; item #8, professor moral support; item #9, family moral support; and item #11, procrastination) compared to undergraduate participants. Results from the *t*-test can be seen in Table 23.

Table 23

Academic Integration (AI) Mean Differences for Class Standing

Academic Integration Survey Items	Undergrad		Graduate			
	M	*SD*	*M*	*SD*	*t*	***p***
1. Language satisfaction	4.79	1.17	5.12	0.93	-1.94	.036
2. Comfort in class discussion	4.36	1.59	4.68	1.31	-1.37	.087
3. Understand professor	5.07	0.96	5.32	0.84	-1.69	.267
4. Instruction satisfaction	5.09	0.99	4.92	1.10	1.01	.509
5. Instruction improved English	4.50	1.41	4.65	1.42	-0.63	.842
6. Instruction job match	4.61	1.30	4.94	1.12	-1.68	.033
7. Homework Stressful	3.93	1.47	4.19	1.28	-1.19	.086
8. Professor moral support	4.28	1.54	4.42	1.21	-0.60	.042
9. Family moral support	4.94	1.45	5.24	1.21	-1.38	.021
10. On-time graduation	5.12	1.27	5.14	1.04	-0.13	.101
11. Procrastination	3.73	1.47	3.38	1.73	1.33	.024
12. Late homework	1.69	1.04	1.55	1.01	0.80	.576

GPA

A composite score for the means of the dichotomized independent variable of grade point average (GPA) (i.e., 2.00 – 2.99 and 3.00 – 4.00) was calculated for academic integration (Table 24).

Table 24

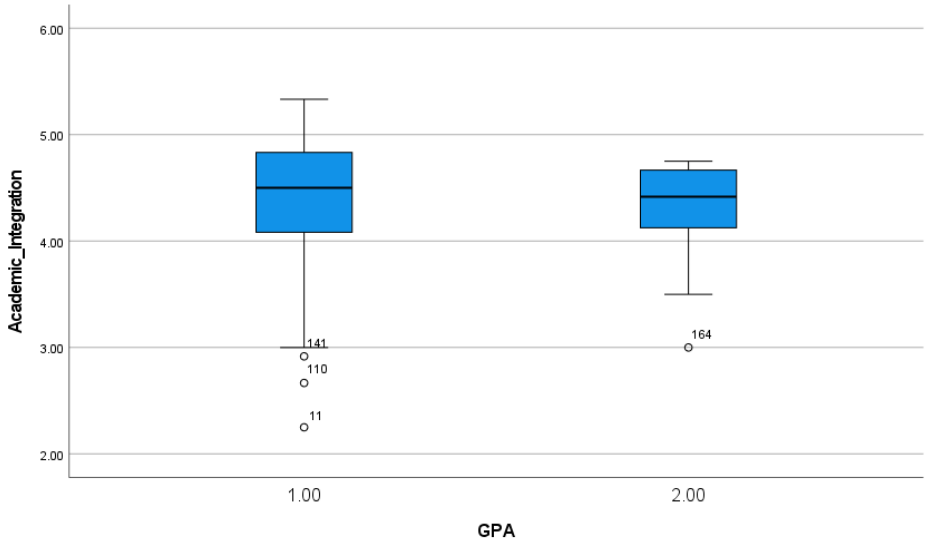
Academic Integration (AI) Based on GPA

Survey Section	2.00 – 2.99		3.00 – 4.00	
	M	*SD*	*M*	*SD*
Academic Integration	4.43	0.56	4.28	0.55

For the most part, participants from both GPA ranges reported academic integration means in the top half of the 6-point scale (i.e., > 3), as can be seen in Figure 5. Participants with GPAs in the 2.00-2.99 range had higher academic integration means.

Figure 5

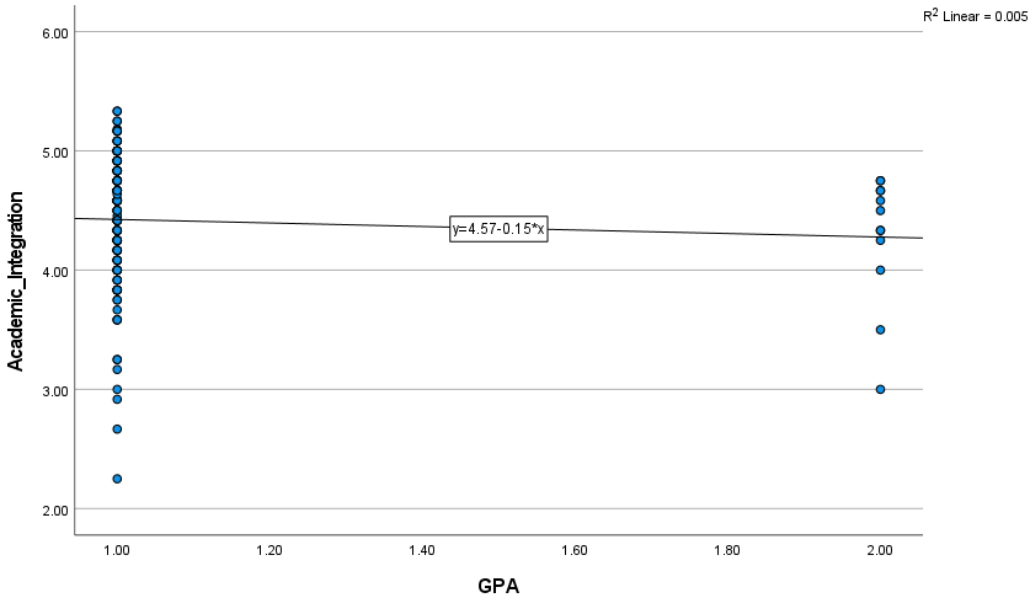
Academic Integration (AI) Means and Medians for GPA



Because GPA was converted to a dichotomous variable (i.e., 2.00 – 2.99 and 3.00 – 4.00), point biserial correlations were performed to assess whether a significant association could be established between the independent variable of GPA and academic integration. Figure 6 shows the scatterplot for academic integration, reflecting a negative slope moving slightly downward to the right, indicating a negative relationship between academic integration and GPA.

Figure 6

Academic Integration (AI) Bivariate Correlations for GPA



When the independent variable of GPA range was 3.00 – 4.00 alone, the AI items had lower ratings than when the independent variable was 2.00 – 2.99. Although most of the correlations were not statistically significant (p = > 0.05) between academic integration and GPA (r_{pb} [147] = -.073, p = .375), there was a statistically significant association (p = < 0.05) between GPA and one AI survey item (i.e., item #3, understand professor) (Table 25).

Table 25

Academic Integration (AI) Correlations for GPA

Academic Integration Survey Items	GPA r_{pb}	n	p
1. Language satisfaction	-.129	147	.117
2. Comfort in class discussion	-.112	147	.175
3. Understand professor	-.204	147	.013
4. Instruction satisfaction	.047	147	.569
5. Instruction improved English	.018	147	.831
6. Instruction job match	-.114	147	.165
7. Homework Stressful	.068	147	.408
8. Professor moral support	.083	147	.314
9. Family moral support	.069	147	.401
10. On-time graduation	-.144	147	.080
11. Procrastination	-.065	149	.432
12. Late homework	-.039	149	.634

There was statistical support from an independent samples *t*-test, suggesting participants from the 2.00 – 2.99 GPA range showed significantly stronger perceptions of their academic integration ($p = < 0.05$) in two academic areas (i.e., item #1, language satisfaction, and item #10, on-time graduation) compared to participants from the 3.00 – 4.00 GPA range. Participants from the 3.00 – 4.00 GPA range showed significantly stronger perceptions of integration ($p = < 0.05$), however, in one academic area (i.e., item #8, professor moral support). These findings are reported in Table 26.

Table 26

Academic Integration (AI) Mean Differences for GPA

Academic Integration Survey Items	2.00 – 2.99		3.00 – 4.00			
	M	*SD*	*M*	*SD*	*t*	***p***
1. Language satisfaction	5.00	1.00	4.50	1.63	1.58	<.001
2. Comfort in class discussion	4.59	1.45	4.00	1.35	1.37	.406
3. Understand professor	5.26	0.89	4.58	1.00	2.53	.409
4. Instruction satisfaction	4.99	1.08	5.17	0.72	-0.58	.302
5. Instruction improved English	4.57	1.43	4.67	1.44	-0.22	.832
6. Instruction job match	4.84	1.21	4.33	1.24	1.40	.690
7. Homework Stressful	4.07	1.36	4.42	1.63	-0.83	.274
8. Professor moral support	4.34	1.40	4.75	0.87	-1.01	.045
9. Family moral support	5.08	1.37	5.42	0.80	-0.85	.171
10. On-time graduation	5.18	1.08	4.58	1.68	1.77	.032
11. Procrastination	3.55	1.67	3.17	1.27	0.79	.051
12. Late homework	1.60	1.03	1.54	1.75	0.97	.803

Living Status

A composite score of the means for both living statuses (i.e., on-campus or off-campus living) was calculated for the dependent variable of academic integration (Table 27).

Table 27

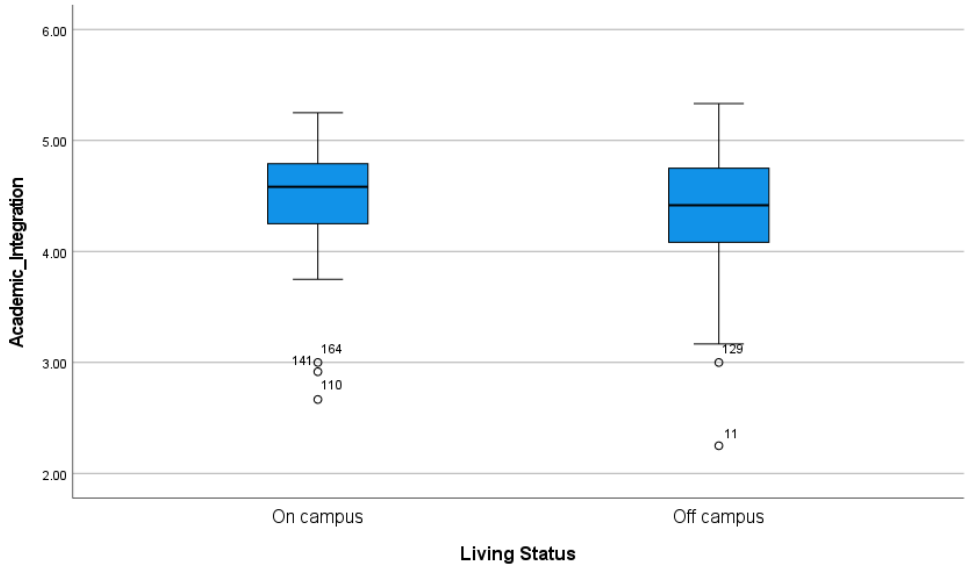
Academic Integration (AI) Based on Living Status

Survey Section	On Campus		Off Campus	
	M	*SD*	*M*	*SD*
Academic Integration	4.47	0.55	4.39	0.56

For the most part, participants living both on campus and off campus reported academic integration means in the top half of the 6-point scale (i.e., > 3), as can be seen in Figure 7. Participants living on campus showed slightly higher academic integration means.

Figure 7

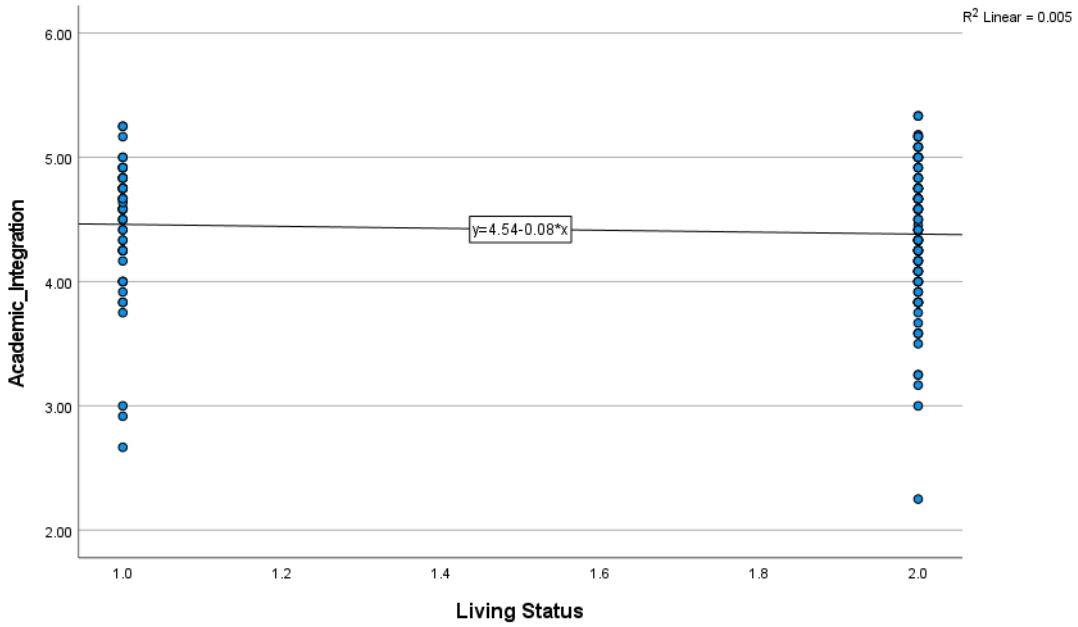
Academic Integration (AI) Means and Medians Based on Living Status



Because living status was a dichotomous variable (i.e., on campus/off campus), point biserial correlations were performed to assess whether a significant association could be established between living status and academic integration. Figure 8 shows the scatterplot for this analysis, reflecting a negative slope moving slightly downward to the right, indicating a negative relationship between academic integration and living status.

Figure 8

Academic Integration (AI) Bivariate Correlations based on Living Status



When the independent variable was off campus living, the AI items had lower ratings than when the independent variable was on campus living. For the most part, correlations were not statistically significant (p = > 0.05) between academic integration and living status (r_{pb} [149] = -.067, p = .410). There was a statistically significant (p = < 0.05) association, however, for one AI survey item (i.e., item #4, instruction satisfaction). These results can be seen in Table 28.

Table 28

Academic Integration (AI) Correlations Based on Living Status (LS)

Academic Integration Survey Items	LS r_{pb}	n	p
1. Language satisfaction	.022	149	.790
2. Comfort in class discussion	.049	149	.551
3. Understand professor	.038	149	.640
4. Instruction satisfaction	-.205	149	.011
5. Instruction improved English	-.097	149	.239
6. Instruction job match	-.041	149	.621
7. Homework Stressful	.096	149	.241
8. Professor moral support	-.132	149	.106
9. Family moral support	-.038	149	.641
10. On-time graduation	-.102	149	.213
11. Procrastination	-.055	149	.505
12. Late homework	.115	149	.161

There was statistical support, however, from an independent samples *t*-test suggesting that participants living on campus showed significantly stronger perceptions of their academic integration ($p = < 0.05$) in two academic areas (i.e., item #6, instruction job match, and item #12, late homework) compared to participants living off campus (Table 29).

Table 29

Academic Integration (AI) Mean Differences for Living Status

Academic Integration Survey Items	On Campus		Off Campus			
	M	*SD*	*M*	*SD*	*t*	***p***
1. Language satisfaction	4.92	1.12	4.97	1.03	-0.27	.456
2. Comfort in class discussion	4.43	1.39	4.58	1.48	-0.60	.697
3. Understand professor	5.16	0.95	5.23	0.89	-0.47	.896
4. Instruction satisfaction	5.29	0.79	4.84	1.14	2.56	.077
5. Instruction improved English	4.78	1.39	4.49	1.43	1.19	.591
6. Instruction job match	4.86	1.38	4.76	1.12	0.50	.021
7. Homework Stressful	3.90	1.54	4.18	1.29	-1.18	.105
8. Professor moral support	4.61	1.36	4.23	1.35	1.63	.820
9. Family moral support	5.18	1.17	5.07	1.41	0.47	.714
10. On-time graduation	5.29	1.07	5.05	1.17	1.26	.864
11. Procrastination	3.65	1.58	3.46	1.66	0.67	.341
12. Late homework	1.45	0.81	1.70	1.11	-1.41	.041

Social Integration

The author investigated possible associations between the dependent variable of social integration and the four independent variables of sex, GPA, class standing, and living status. Each of the four independent variables was analyzed below.

Sex of Participants

A composite score of the means for both male and female participants was calculated for social integration (Table 30).

Table 30

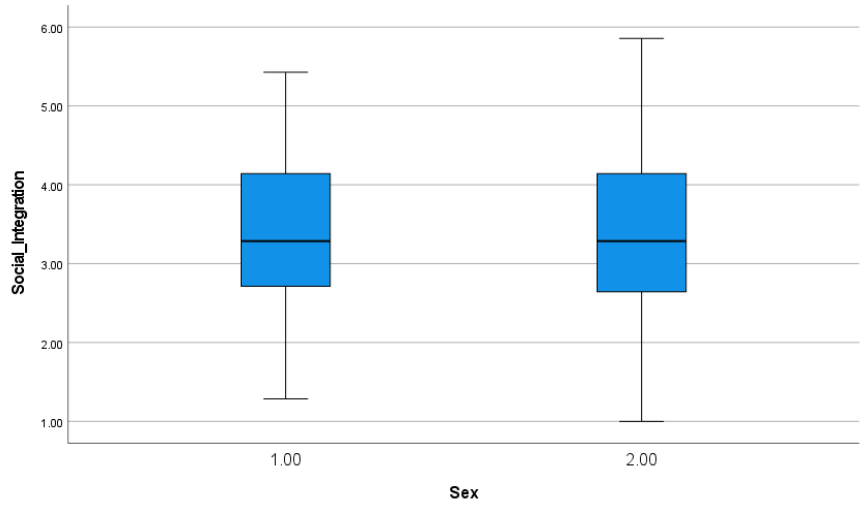
Social Integration (SI) Based on Sex of Participants

Survey Section	Male		Female	
	M	*SD*	*M*	*SD*
Social Integration	3.44	1.00	3.42	1.03

For the most part, both male and female participants reported social integration means in the top half of the 6-point scale (i.e., > 3), albeit only slightly above the mid-point line. Figure 9 shows male and female participants' means for social integration, which were almost equal, with males having a slightly higher social integration mean.

Figure 9

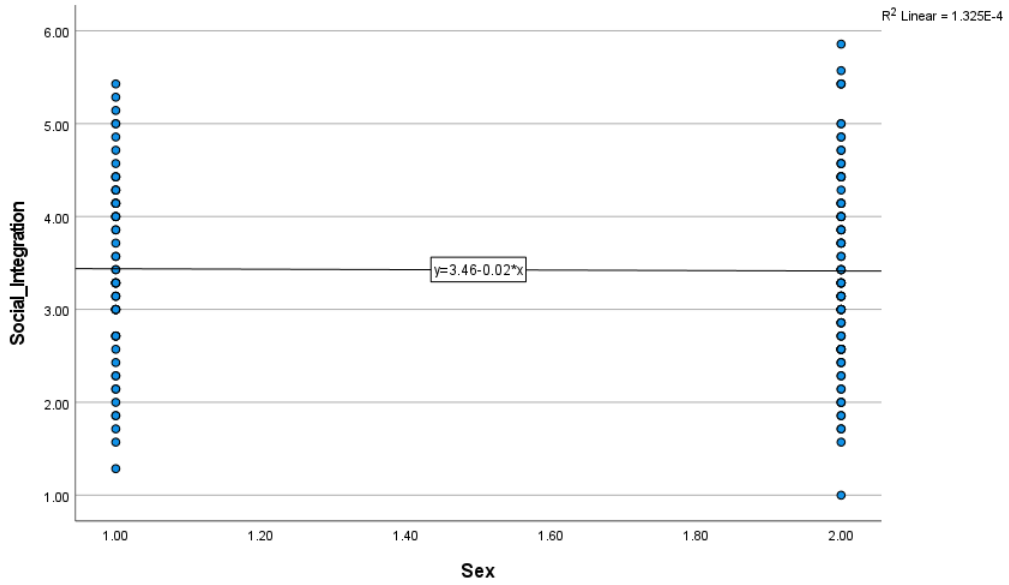
Social Integration (SI) Means and Medians Based on Sex of Participants



Because the sex of participants was a dichotomous variable (i.e., male/female), point biserial correlations were performed to assess whether a significant association could be established between the sex of participants and their perceptions of their social integration. Figure 10 shows the scatterplot for the social integration scale, reflecting a slightly negative (almost flat) slope moving slightly downward to the right, indicating a slightly negative relationship between social integration and sex of participants.

Figure 10

Social Integration (SI) Bivariate Correlations Based on Sex of Participants



When the independent variable was female alone, the SI items had slightly lower ratings than when the independent variable was male. For the most part, the correlations were not statistically significant (p = > 0.05) between social integration and sex (r_{pb} [149] = -.012, p = .888), nor were they statistically significant (p = < 0.05) for the individual SI survey items (Table 31).

Table 31

Social Integration (SI) Correlations Based on Sex of Participants

Social Integration Survey Items	Sex r_{pb}	n	p
13. Socialize with classmates	-.070	149	.392
14. Socialize with other students	.052	149	.530
15. Easy of making American friends	-.101	149	.217
16. Easy of making international friends	.088	149	.280
17. Participate in student clubs/organizations	-.093	149	.258
18. Enjoy social life	-.059	149	.473
19. Challenge being away from family	.145	149	.077

Statistical support from an independent samples *t*-test also failed to show significant differences ($p = > 0.05$) between participants' sex and their integration of their social integration. Results from the *t*-test are reported in Table 32.

Table 32

Social Integration (SI) Mean Differences for Sex of Participants

	Male		Female			
Social Integration Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
13. Socialize with classmates	3.07	1.69	2.84	1.58	0.86	.658
14. Socialize with other students	3.42	1.88	3.60	1.74	-0.63	.244
15. Easy of making American friends	3.07	1.65	2.74	1.58	1.24	.629
16. Easy of making international friends	3.97	1.52	4.23	1.43	-1.09	.795
17. Participate in student clubs/organizations	3.00	1.68	2.68	1.70	1.14	.897
18. Enjoy social life	3.85	1.67	3.64	1.85	0.72	.113
19. Challenge being away from family	3.70	1.69	4.18	1.54	-1.79	.382

Class Standing

A composite score of the means for class standing (i.e., undergraduate and graduate participants) was calculated for social integration (Table 33).

Table 33

Social Integration (SI) Based on Class Standing

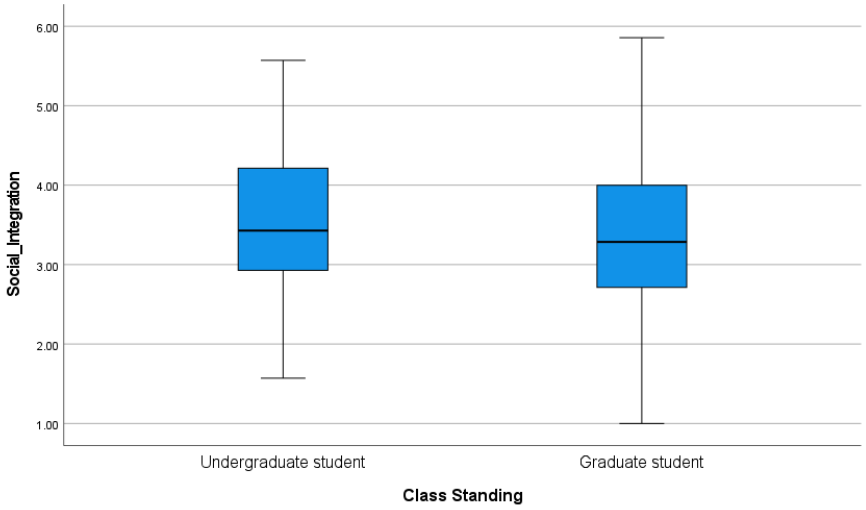
	Undergrad		Graduate	
Survey Section	*M*	*SD*	*M*	*SD*
Social Integration	3.51	1.04	3.33	1.02

For the most part, both undergraduate and graduate participants reported perceptions of their social integration in the top half of the 6-point scale (i.e., > 3), albeit only slightly above the mid-point line. Figure 11 shows undergraduate and graduate participants' means for social

integration, which were almost equal. Undergraduate participants had slightly higher social integration means, while graduate participants had higher medians.

Figure 11

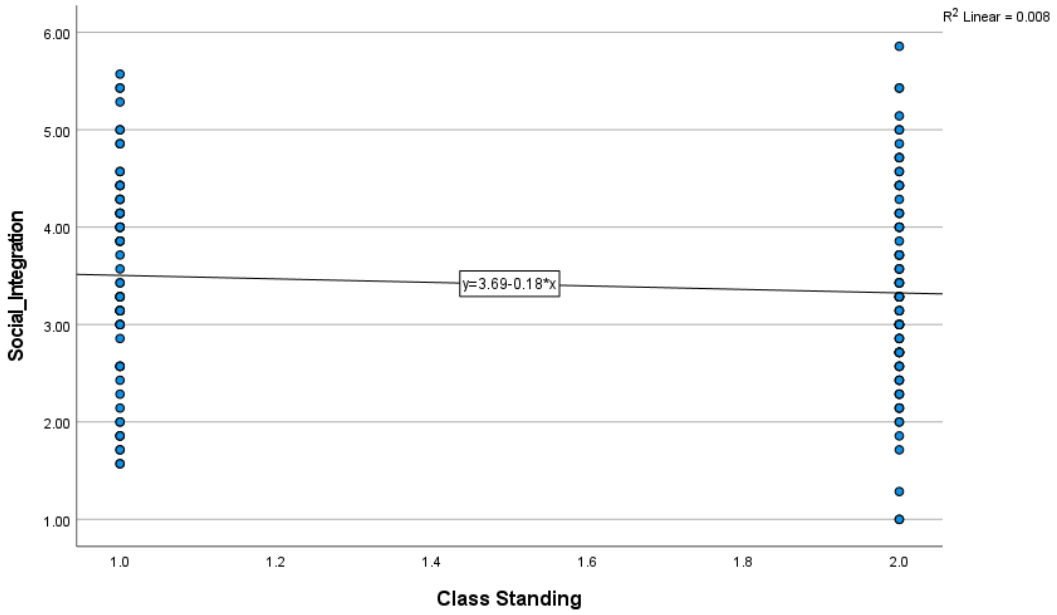
Social Integration (SI) Means and Medians Based on Class Standing



Because class standing is a dichotomous variable (i.e., undergraduate/graduate), point biserial correlations were performed to assess whether a significant association could be established between class standing and social integration. Figure 12 shows the class standing scatterplot for the social integration scale, reflecting a negative slope moving downward to the right, indicating a negative relationship between social integration and class standing.

Figure 12

Social Integration (SI) Bivariate Correlations Based on Class Standing



When the independent variable was graduate alone, the SI items had slightly lower ratings than when the independent variable was undergraduate. For the most part, however, the correlations were not statistically significant (p = > 0.05) between social integration and class standing (r_{pb} [149] = -.088, p = .285). They were statistically significant (p = < 0.05) for one SI survey item (i.e., item #14, socialize with other students). These results can be seen in Table 34.

Table 34

Social Integration (SI) Correlations Based on Class Standing (CS)

Social Integration Survey Items	CS r_{pb}	n	p
13. Socialize with classmates	.097	149	.236
14. Socialize with other students	-.192	149	.018
15. Easy of making American friends	-.143	149	.080
16. Easy of making international friends	.010	149	.904
17. Participate in student clubs/organizations	-.069	149	.399
18. Enjoy social life	-.157	149	.054
19. Challenge being away from family	.105	149	.201

Statistical support from an independent samples *t*-test also showed no significant differences (p = > 0.05) between the class standing means as they relate to social integration (Table 35).

Table 35

Social Integration (SI) Mean Differences for Class Standing

Social Integration Survey Items	Undergrad		Graduate		*t*	***p***
	M	*SD*	*M*	*SD*		
13. Socialize with classmates	2.73	1.70	3.05	1.57	-1.19	.341
14. Socialize with other students	3.90	1.85	3.20	1.72	2.39	.511
15. Ease of making American friends	3.10	1.64	2.64	1.58	1.77	.579
16. Ease of making international friends	4.09	1.61	4.12	1.41	-0.13	.210
17. Participate in student clubs/organizations	2.93	1.80	2.69	1.62	0.85	.190
18. Enjoy social life	4.01	1.81	3.45	1.75	1.94	.930
19. Challenge being away from family	3.78	1.52	4.12	1.72	-1.29	.106

GPA

A composite score of the means for grade point average (GPA) (i.e., 2.00 – 2.99 and 3.00 – 4.00) was calculated for social integration (Table 36).

Table 36

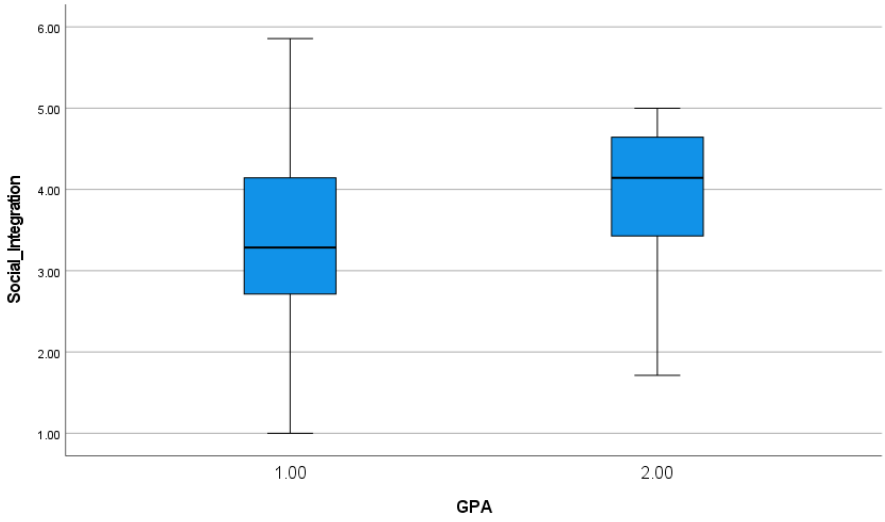
Social Integration (SI) Based on GPA

Survey Section	2.00 – 2.99		3.00 – 4.00	
	M	*SD*	*M*	*SD*
Social Integration	3.38	1.02	3.86	1.12

For the most part, participants from both GPA ranges reported perceptions of their social integration in the top half of the 6-point scale (i.e., > 3), albeit only slightly above the mid-point line. Figure 13 shows the two GPA means for social integration. Participants from the 3.00 – 4.00 GPA range had the higher social integration means and medians.

Figure 13

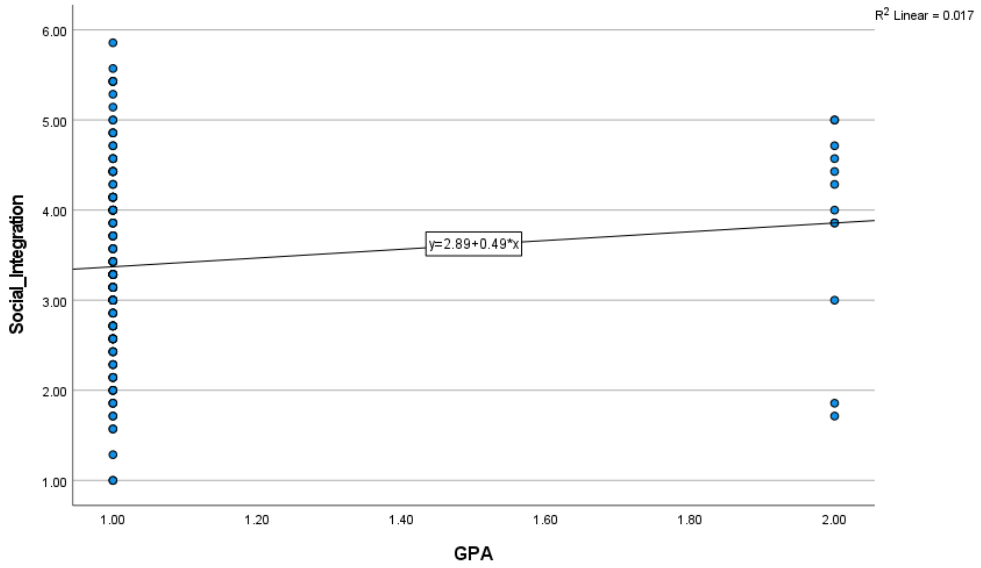
Social Integration (SI) Means and Medians Based on GPA



Because GPA was converted to a dichotomous variable (i.e., 2.00 – 2.99/3.00 – 4.00), point biserial correlations were performed to assess whether a significant association could be established between GPA and social integration. Figure 14 shows the scatterplot for the social integration scale, reflecting a positive slope moving upward to the right, indicating a positive relationship between social integration and GPA.

Figure 14

Social Integration (SI) Bivariate Correlations based on GPA



When the independent variable was the 3.00 – 4.00 GPA range alone, the SI items had higher ratings than when the independent variable was the 2.00 – 2.99 GPA range. For the most part, correlations were not statistically significant (p = > 0.05) between social integration and GPA (r_{pb} [152] = .129, p = .117), although they were statistically significant (p = < 0.05) for one SI survey item (i.e., item #15, ease of making American friends). These results are displayed in Table 37.

Table 37

Social Integration (SI) Correlations Based on GPA

Social Integration Survey Items	GPA r_{pb}	n	p
13. Socialize with classmates	.106	152	.199
14. Socialize with other students	.068	152	.413
15. Ease of making American friends	.254	152	.002
16. Ease of making international friends	.016	152	.848
17. Participate in student clubs/organizations	-.023	152	.780
18. Enjoy social life	.032	152	.699
19. Challenge being away from family	.112	152	.173

Statistical support from an independent samples *t*-test also failed to show significant differences (p = > 0.05) between the GPA means as they relate to social integration. These findings are reported in Table 38.

Table 38

Social Integration (SI) Mean Differences for GPA

	2.00 – 2.99		3.00 – 4.00			
Social Integration Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
13. Socialize with classmates	2.87	1.61	3.50	1.89	-1.29	.620
14. Socialize with other students	3.47	1.80	3.92	1.73	-0.83	.227
15. Easy of making American friends	2.74	1.56	4.25	1.72	-3.19	.784
16. Easy of making international friends	4.08	1.48	4.17	1.70	-0.20	.603
17. Participate in student clubs/organizations	2.81	1.73	2.67	1.31	0.28	.119
18. Enjoy social life	3.71	1.80	3.92	1.73	-0.39	.188
19. Challenge being away from family	3.91	1.66	4.58	1.32	-1.37	.154

Living Status

A composite score of the means for living status (i.e., on-campus or off-campus living) was calculated for social integration (Table 39).

Table 39

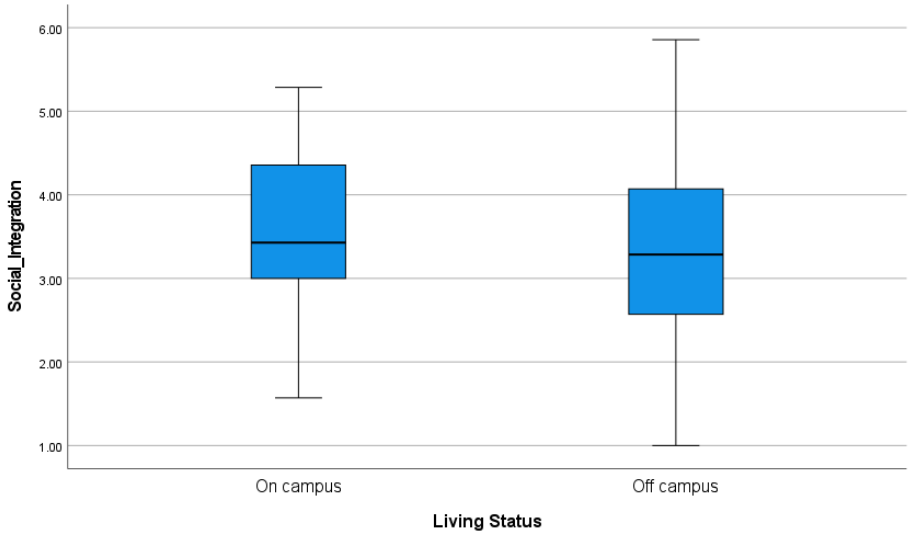
Social Integration (SI) Based on Living Status

Survey Section	On Campus		Off Campus	
	M	*SD*	*M*	*SD*
Social Integration	3.53	0.97	3.34	1.06

For the most part, both on-campus and off-campus participants reported perceptions of their social integration in the top half of the 6-point scale (i.e., > 3), albeit only slightly above the mid-point line. Figure 15 shows the living status means for social integration. On-campus participants had the higher social integration means, whereas off-campus participants had the higher medians.

Figure 15

Social Integration (SI) Means and Medians Based on Living Status

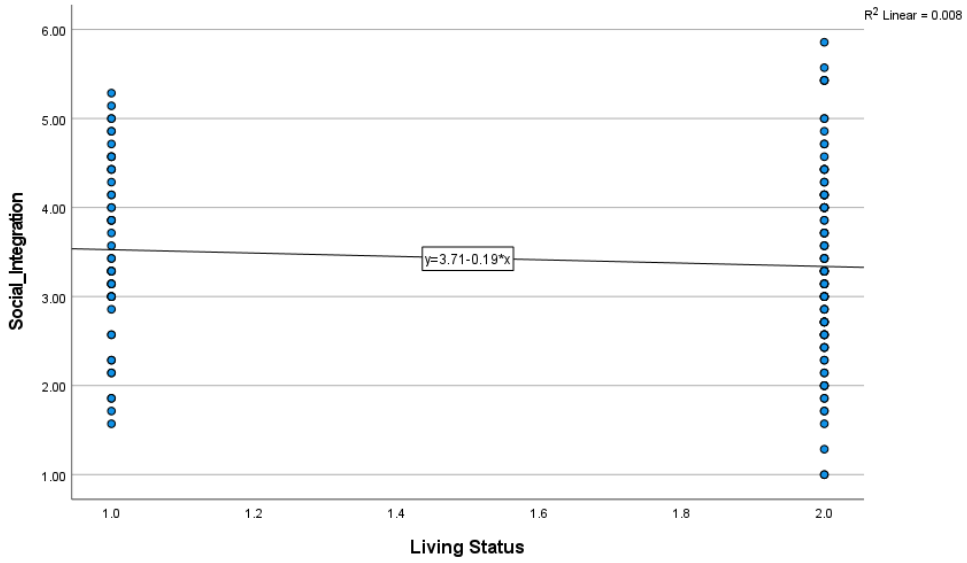


Because living status was a dichotomous variable (i.e., on-campus or off-campus living), point biserial correlations were performed to assess whether a significant association could be established between living status and social integration. Figure 16 shows the scatterplot for the

social integration scale, reflecting a negative slope moving downward to the right, indicating a negative relationship between social integration and living status.

Figure 16

Social Integration (SI) Bivariate Correlations Based on Living Status



When the independent variable was off-campus living alone, the SI items had lower ratings than when the independent variable was on-campus living. While most correlations were not statistically significant (p = > 0.05) between social integration and living status (r_{pb} [149] = -.087, p = .288), they were statistically significant (p = < 0.05) for two SI survey items (i.e., item #14, socialize with other students, and item #18, enjoy social life). These results can be seen in Table 40.

Table 40

Social Integration (SI) Correlations Based on Living Status (LS)

Social Integration Survey Items	LS r_{pb}	n	p
13. Socialize with classmates	.063	152	.444
14. Socialize with other students	-.162	152	.046
15. Ease of making American friends	-.108	152	.186
16. Ease of making international friends	-.109	152	.181
17. Participate in student clubs/organizations	-.015	152	.855
18. Enjoy social life	-.167	152	.041
19. Challenge being away from family	.137	152	.092

Statistical support from an independent samples *t*-test also failed to return significant differences ($p = > 0.05$) between the living status means as they relate to social integration (Table 41).

Table 41

Social Integration (SI) Mean Differences for Living Status

	On Campus		Off Campus			
Social Integration Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
13. Socialize with classmates	2.76	1.57	2.98	1.66	-0.77	.436
14. Socialize with other students	3.90	1.80	3.29	1.76	2.01	.825
15. Ease of making American friends	3.10	1.63	2.73	1.61	1.33	.919
16. Ease of making international friends	4.33	1.43	3.99	1.52	1.35	.740
17. Participate in student clubs/organizations	2.82	1.61	2.77	1.74	0.19	.610
18. Enjoy social life	4.12	1.70	3.49	1.81	2.07	.141
19. Challenge being away from family	3.65	1.50	4.12	1.69	-1.70	.236

Institutional Commitment

As part of RQ #4, the author investigated possible associations between the dependent variable of institutional commitment and the four independent variables of sex, GPA, class standing, and living status. Each of the four independent variables was analyzed below.

Sex of Participants

A composite score of the means for both male and female participants was calculated for institutional commitment (Table 42).

Table 42

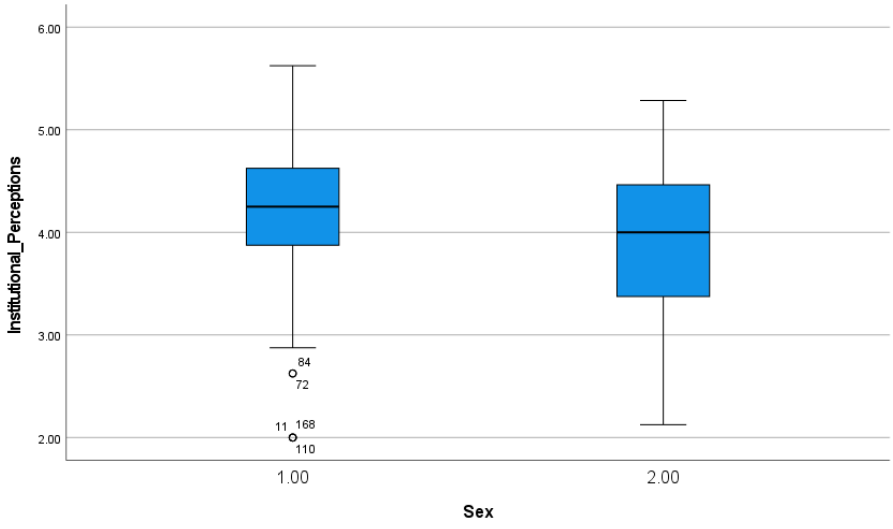
Institutional Commitment (IC) Based on Sex of Participants

Survey Section	Male		Female	
	M	*SD*	*M*	*SD*
Institutional commitment	4.09	0.73	3.88	0.72

For the most part, both male and female participants reported institutional commitment means in the top half of the 6-point scale (i.e., > 3), as can be seen in Figure 17. Males had slightly higher institutional commitment means, whereas females had the higher medians.

Figure 17

Institutional Commitment (IC) Means and Medians Based on Sex of Participants

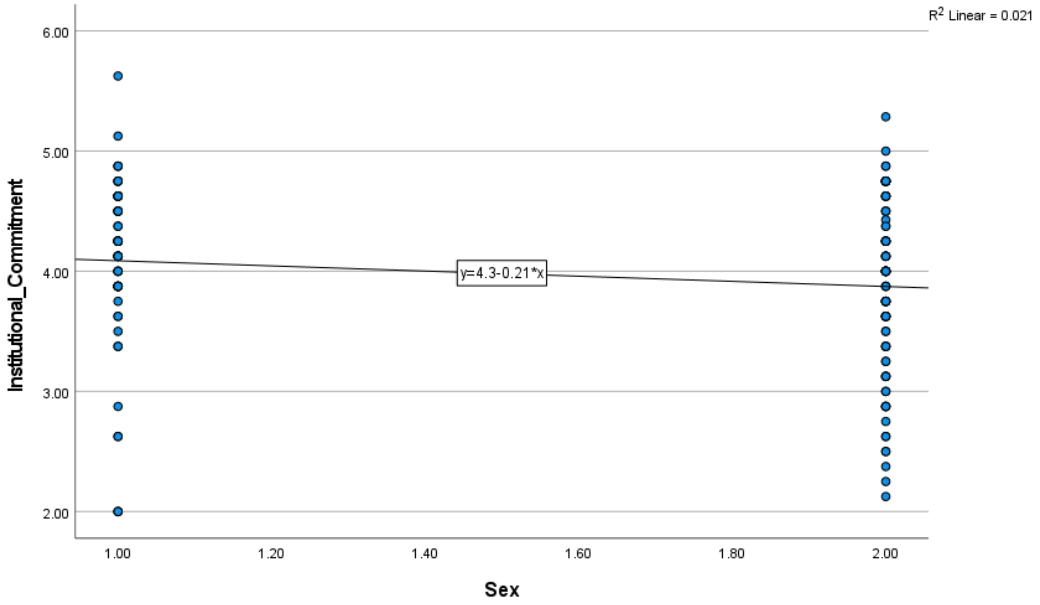


Because sex of participants is a dichotomous variable (i.e., male/female), point biserial correlations were performed to assess whether a significant association could be established between the sex of participants and institutional commitment. Figure 18 shows scatterplot for the

institutional commitment scale, reflecting a negative slope moving slightly downward to the right, indicating a negative relationship between institutional commitment and sex of participants.

Figure 18

Institutional Commitment (IC) Bivariate Correlations Based on Sex of Participants



When the independent variable was female alone, the IC items had lower ratings than when the independent variable was male. For the most part, the correlations were not statistically significant (p = > 0.05) between institutional commitment and sex (r_{pb} [149] = -.145, p = .077), nor were they statistically significant (p = < 0.05) for the individual IC survey items. These results can be seen in Table 43.

Table 43

Institutional Commitment (IC) Correlations Based on Sex of Participants

Institutional commitment	Sex		
Survey Items	r_{pb}	*n*	*p*
20. University right place for me	-.075	149	.362
21. Feel welcomed on campus	-.100	149	.224
22. Feel respected on campus	-.102	149	.215
23. Satisfaction with support services	-.080	149	.327
24. Plan to be here next semester	-.100	149	.220
25. Plan to graduate from this university	-.058	149	.478
26. Plan to transfer to another university	.008	149	.919
27. End school and go home without degree	-.130	149	.112

There was statistical support, however, from an independent samples *t*-test suggesting female participants reported significantly stronger commitment ($p = < 0.05$) in one institutional area (i.e., item #27, being less likely to end school and go home without degree) compared to male participants (Table 44).

Table 44

Institutional Commitment (IC) Mean Differences for Sex of Participants

	Male		Female			
Institutional Commitment Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
20. University right place for me	4.75	1.26	4.56	1.24	0.92	.558
21. Feel welcomed on campus	4.82	1.39	4.54	1.37	1.23	.598
22. Feel respected on campus	4.87	1.29	4.59	1.35	1.25	.088
23. Satisfaction with support services	4.67	1.33	4.45	1.32	0.99	.569
24. Plan to be here next semester	4.98	1.83	4.60	1.87	1.24	.356
25. Plan to graduate from this university	5.40	1.40	5.23	1.46	0.72	.388
26. Plan to transfer to another university	1.58	1.07	1.60	1.14	-0.11	.625
27. End school and go home without degree	1.63	1.53	1.31	0.98	1.60	.002

Class Standing

A composite score of the means for class standing (i.e., undergraduate/graduate) was calculated for institutional commitment (Table 45).

Table 45

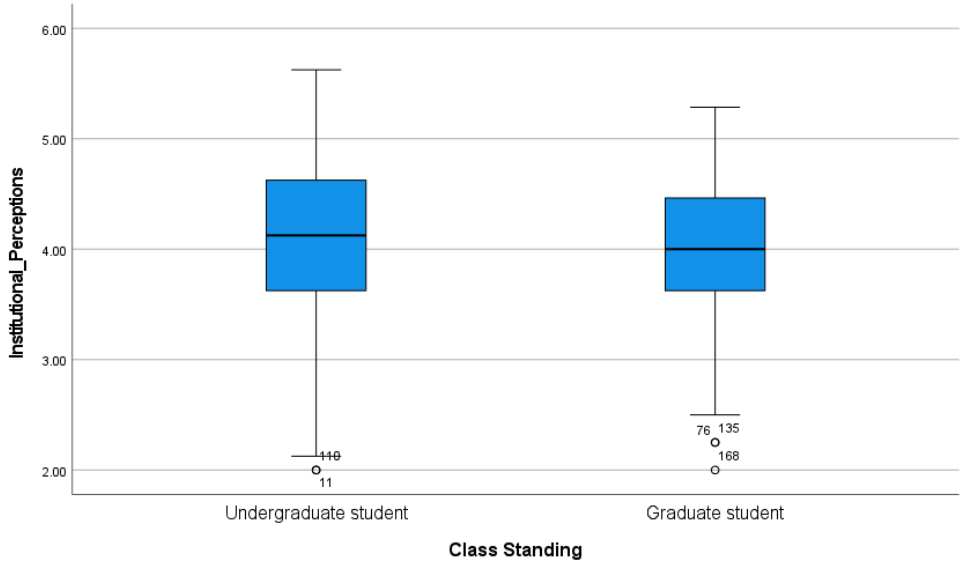
Institutional Commitment (IC) Based on Class Standing

Survey Section	Undergrad		Graduate	
	M	*SD*	*M*	*SD*
Institutional commitment	3.97	0.81	3.94	0.70

For the most part, both undergraduate and graduate participants reported institutional commitment means in the top half of the 6-point scale (i.e., > 3), as can be seen in Figure 19. Undergraduate participants had slightly higher institutional commitment means than graduate participants, as well as higher medians.

Figure 19

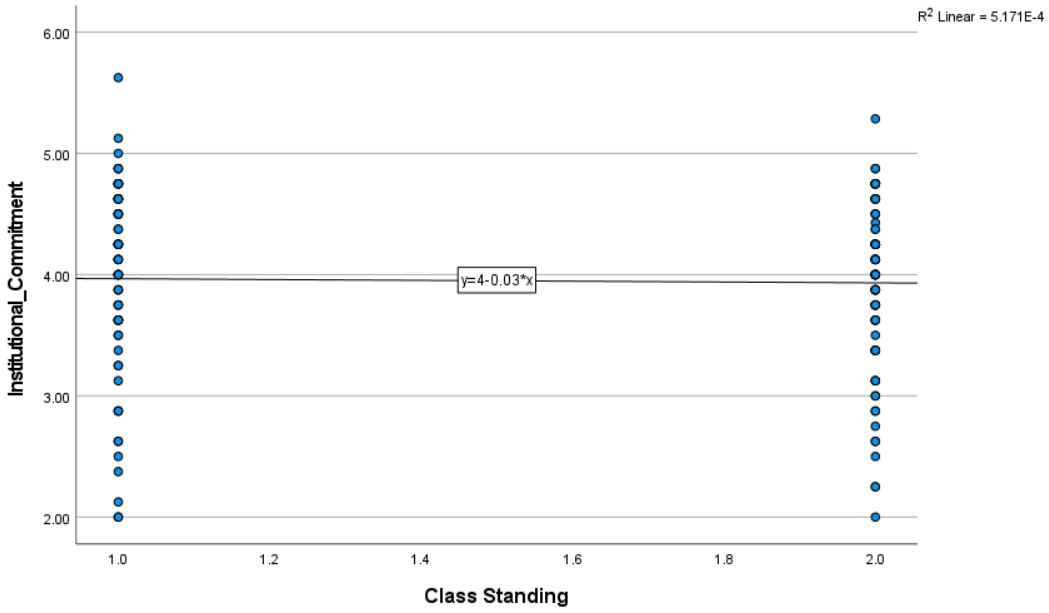
Institutional Commitment (IC) Means and Medians Based on Class Standing



Because class standing is a dichotomous variable (i.e., undergraduate/graduate), point biserial correlations were performed to assess whether a significant association could be established between class standing and institutional commitment. Figure 20 shows the class standing scatterplot for the institutional commitment scale, reflecting a slightly negative slope moving downward to the right, indicating a weak negative relationship between institutional commitment and class standing.

Figure 20

Institutional Commitment (IC) Bivariate Correlations Based on Class Standing



When the independent variable was graduate alone, the IC items had lower ratings than when the independent variable was undergraduate. For the most part, the correlations were not statistically significant (p = > 0.05) between respondents perceptions of their institutional commitment and their class standing (r_{pb} [149] = -.023, p = .782), although they were statistically significant (p = < 0.05) for four individual IC survey items (i.e., item #24, plan to be here next semester; item #25, plan to graduate from this university; item #26, plan to transfer to another

university; and item #27, end school and go home without degree). These findings are reported in Table 46.

Table 46

Institutional Commitment (IC) Correlations Based on Class Standing

Institutional commitment Survey Items	Class Standing r_{pb}	n	p
20. University right place for me	-.060	149	.465
21. Feel welcomed on campus	-.075	149	.361
22. Feel respected on campus	-.072	149	.379
23. Satisfaction with support services	-.152	149	.062
24. Plan to be here next semester	.213	149	.009
25. Plan to graduate from this university	.365	149	<.001
26. Plan to transfer to another university	-.205	149	.013
27. End school and go home without degree	-.323	149	<.001

There was additional statistical support from an independent samples *t*-test suggesting graduate participants showed significantly stronger responses ($p = < 0.05$) in four particular institutional commitment areas (i.e., item #24, plan to be here next semester; item #25, plan to graduate from this university; item #26, plan to transfer to another university; and item #27, end school and go home without degree) compared to undergraduate participants. These can be seen in Table 47.

Table 47

Institutional Commitment (IC) Mean Differences for Class Standing

Institutional Commitment Survey Items	Undergrad		Grad			
	M	*SD*	*M*	*SD*	*t*	***p***
20. University right place for me	4.70	1.21	4.55	1.34	0.74	.400
21. Feel welcomed on campus	4.75	1.47	4.54	1.35	0.92	.396
22. Feel respected on campus	4.79	1.40	4.60	1.32	0.89	.509
23. Satisfaction with support services	4.75	1.38	4.33	1.32	1.89	.841
24. Plan to be here next semester	4.31	2.09	5.11	1.57	-2.67	<.001
25. Plan to graduate from this university	4.72	1.87	5.76	0.66	-4.79	<.001
26. Plan to transfer to another university	1.84	1.25	1.38	0.39	2.53	.011
27. End school and go home without degree	1.88	1.70	1.08	0.42	4.17	<.001

GPA

A composite score of the means for grade point average (GPA) (i.e., 2.00 – 2.99 or 3.00 – 4.00) was calculated for institutional commitment (Table 48).

Table 48

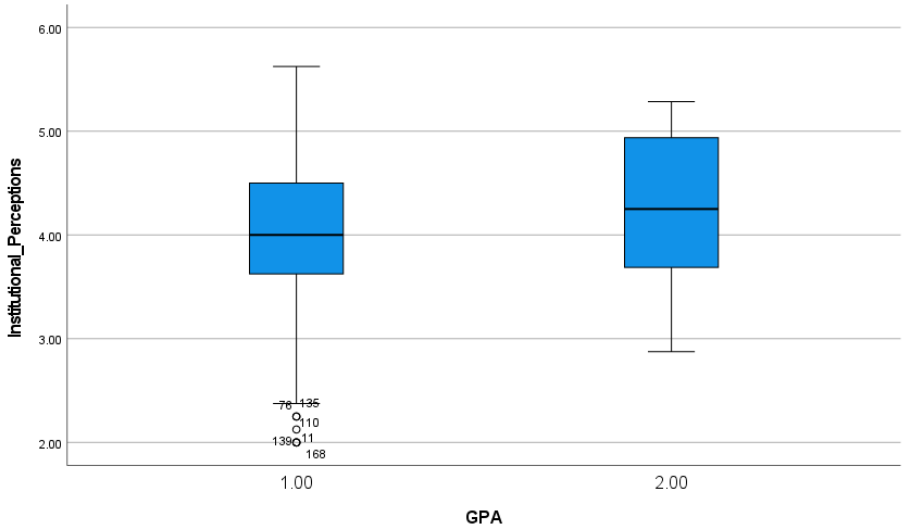
Institutional Commitment (IC) Based on GPA

Survey Section	2.00 – 2.99		3.00 – 4.00	
	M	*SD*	*M*	*SD*
Institutional commitment	3.94	0.74	4.23	0.78

For the most part, participants from both GPA ranges reported institutional commitment means in the top half of the 6-point scale (i.e., > 3). Participants with GPAs in the 3.00 – 4.00 range had higher institutional commitment means than participants with GPAs in the 2.00 – 2.99 range. The medians were almost equal, with participants from the 3.00 – 4.00 GPA range having only slightly higher medians.

Figure 21

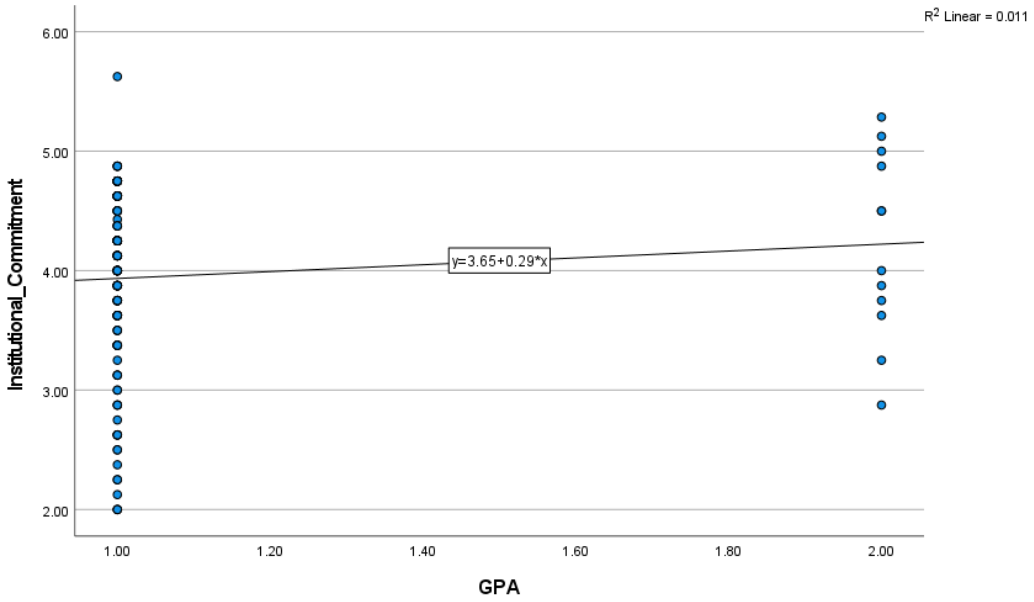
Institutional Commitment (IC) Means and Medians Based on GPA



Because GPA was converted into a dichotomous variable (i.e., 2.00 – 2.99/3.00 – 4.00), point biserial correlations were performed to assess whether a significant association could be established between GPA and institutional commitment and Figure 22 shows the scatterplot for this analysis. The figure shows a positive slope moving upward to the right, indicating a positive relationship between institutional commitment and GPA.

Figure 22

Institutional Commitment (IC) Bivariate Correlations Based on GPA



When the independent variable was the 2.00 – 2.99 GPA range alone, the IC items had higher ratings than when the independent variable was the 3.00 – 4.00 GPA range. For the most part, correlations were not statistically significant (p = > 0.05) between institutional commitment and GPA (r_{pb} [147] = .106, p = .197), nor were they statistically significant (p = < 0.05) for the individual IC survey items. These data are reported in Table 49.

Table 49

Institutional Commitment (IC) Correlations Based on GPA

Institutional Commitment Survey Items	GPA r_{pb}	n	p
20. University right place for me	.008	147	.920
21. Feel welcomed on campus	.025	147	.761
22. Feel respected on campus	.052	147	.525
23. Satisfaction with support services	.121	147	.141
24. Plan to be here next semester	.091	147	.271
25. Plan to graduate from this university	.002	147	.977
26. Plan to transfer to another university	.056	147	.505
27. End school and go home without degree	.037	147	.653

There was statistical support from an independent samples *t*-test suggesting participants with GPAs in the 3.00 – 4.00 GPA range showed significantly stronger institutional commitment (p = < 0.05) in one area (i.e., item #24, plan to be here next semester) compared to participants whose GPAs were in the 2.00 – 2.99 GPA range (Table 50).

Table 50

Institutional Commitment (IC) Mean Differences for GPA

	2.00 – 2.99		3.00 – 4.00			
Institutional Commitment Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
20. University right place for me	4.63	1.30	4.67	0.99	-0.11	.364
21. Feel welcomed on campus	4.62	1.41	4.75	1.49	-0.31	.857
22. Feel respected on campus	4.66	1.36	4.92	1.32	-0.64	.913
23. Satisfaction with support services	4.49	1.34	5.08	1.24	-1.49	.305
24. Plan to be here next semester	4.72	1.89	5.33	0.99	-1.11	.014
25. Plan to graduate from this university	5.32	1.41	5.33	1.24	-0.03	.676
26. Plan to transfer to another university	1.59	1.14	1.82	0.76	-0.67	.387
27. End school and go home without degree	1.42	1.22	1.58	1.51	-0.45	.390

Living Status

A composite score of the means for living status (on-campus or off-campus living) was calculated for institutional commitment (Table 51).

Table 51

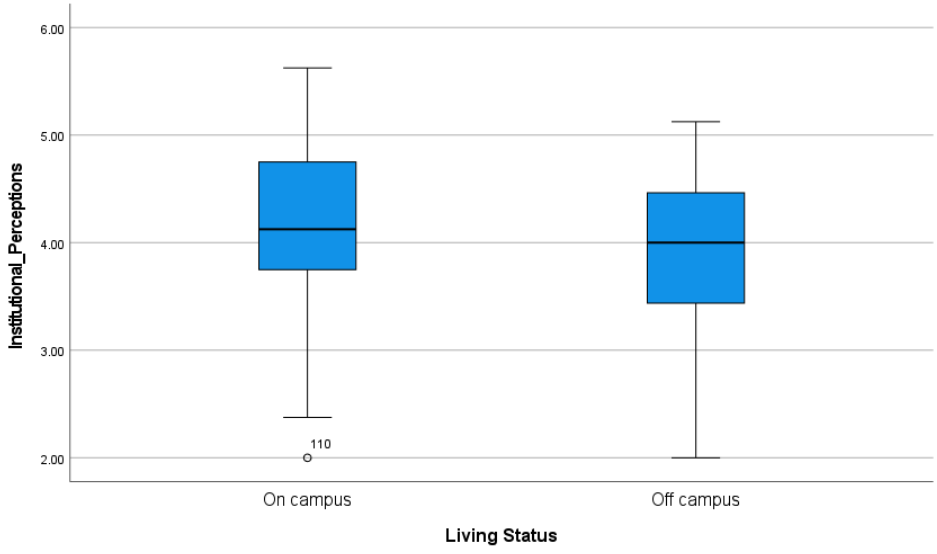
Institutional Commitment (IC) Based on Living Status

Survey Section	On Campus		Off Campus	
	M	*SD*	*M*	*SD*
Institutional Commitment	4.10	0.75	3.87	0.73

For the most part, both on-campus and off-campus participants reported institutional commitment means in the top half of the 6-point scale (i.e., > 3) as can be seen in Figure 23. On-campus participants had higher institutional commitment means while off-campus participants had higher medians.

Figure 23

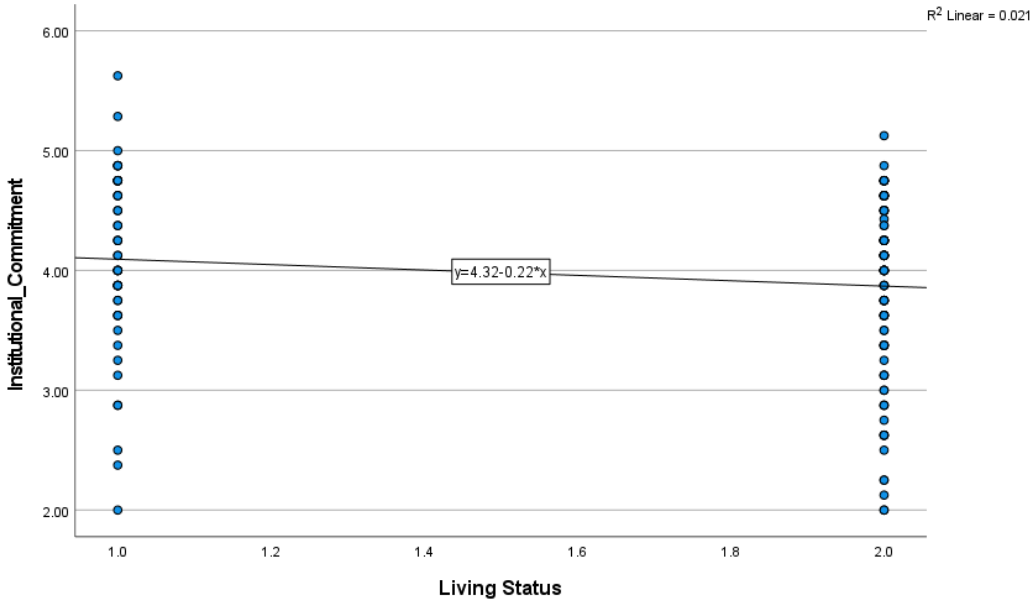
Institutional Commitment (IC) Means and Medians Based on Living Status



Because living status was a dichotomous variable (i.e., on campus/off campus), point biserial correlations were performed to assess whether a significant association could be established between living status and institutional commitment. Figure 24 shows the scatterplot for this analysis, reflecting a negative slope moving downward to the right, indicating a negative relationship between institutional commitment and living status.

Figure 24

Institutional Commitment (IC) Bivariate Correlations Based on Living Status



When the independent variable was off-campus living alone, the IC items had lower ratings than when the independent variable was on-campus living. Although, for the most part, correlations were not statistically significant (p = > 0.05) between institutional commitment and living status (r_{pb} [149] = -.144, p = .078), they were statistically significant (p = < 0.05) for seven individual IC survey items (i.e., item #20, university right place for me; item #21, feel welcomed on campus; item #22, feel respected on campus; item #23, satisfaction with support services;

item #25, plan to graduate from this university; item #26, plan to transfer to another university; and item #27, end school and go home without degree) (Table 52).

Table 52

Institutional Commitment (IC) Correlations Based on Living Status (LS)

Institutional Commitment Survey Items	LS r_{pb}	n	p
20. University right place for me	-.186	147	.022
21. Feel welcomed on campus	-.193	147	.018
22. Feel respected on campus	-.192	147	.018
23. Satisfaction with support services	-.198	147	.015
24. Plan to be here next semester	.117	147	.151
25. Plan to graduate from this university	.366	147	<.001
26. Plan to transfer to another university	-.185	147	.024
27. End school and go home without degree	-.282	147	<.001

There was additional statistical support from an independent samples *t*-test suggesting off-campus participants showed significantly stronger commitment ($p = < 0.05$) in three institutional areas (i.e., item #24, plan to be here next semester; item #25, plan to graduate from this university; and item #27, end school and go home without degree) when compared to on-campus participants (Table 53).

Table 53

Institutional Commitment (IC) Mean Differences for Living Status

	On Campus		Off Campus			
Institutional Commitment Survey Items	*M*	*SD*	*M*	*SD*	*t*	***p***
20. University right place for me	4.94	1.05	4.44	1.36	2.31	.079
21. Feel welcomed on campus	5.00	1.30	4.43	1.43	2.40	.308
22. Feel respected on campus	5.04	1.25	4.49	1.38	2.40	.330
23. Satisfaction with support services	4.88	1.28	4.32	1.36	2.46	.195
24. Plan to be here next semester	4.45	2.01	4.91	1.77	-1.45	.046
25. Plan to graduate from this university	4.57	1.97	5.67	0.86	-4.81	<.001
26. Plan to transfer to another university	1.88	1.24	1.45	1.01	2.28	.140
27. End school and go home without degree	1.92	1.71	1.19	0.80	3.59	<.001

Summary of Findings

For the most part, participants reported academic integration, social integration, and institutional commitment means in the top half of the 6-point scale (i.e., >3, above the mid-point line), indicating medium to high satisfaction with their college experience in West Virginia.

Data analysis, nonetheless, did not yield statistically significant results as the four independent variables (i.e., sex, class standing, GPA, and living status) were not fully associated with any of the three dependent variables (i.e., academic integration, social integration, and institutional commitment). Responses to several individual survey items, however, revealed some statistically significant relationships between certain independent variables and sub-scale variables. Data from independent *t*-tests also showed certain mean differences between dichotomous variables were statistically significant.

Research Question #1: To what extent do international students feel they've successfully integrated academically into the host institution?

The results indicated respondents felt they've successfully integrated academically in their host universities. Generally, respondents understood their professors in the classroom; they were confident in their ability to graduate on time; they were satisfied with the amount of family support they received; they thought highly of the quality of classroom instruction; they were satisfied with their English language skills; they saw a strong match between classroom materials and their future career plans; they believed classroom instruction helped improve their English; they felt comfortable participating in class discussions; and they felt their professors provided the in-class moral support they needed to excel.

The results, however, also indicated homework difficulty level and procrastination could be an average concern and that late homework submission could be a minor concern.

Research Question #2: To what extent do international students feel they've successfully integrated socially into the host institution?

The responses generally indicated respondents felt a moderate level of social integration into their host institutions. Respondents believed it was easy to make international friends, they enjoyed social life, and they often socialized with students other than their classmates outside the classroom.

The results, however, also indicated respondents' social lives and their ability to socialize with students other than their classmates could pose an average challenge. Socializing with classmates outside the classroom, making American friends, and participation in student clubs/organizations could also be an area of average concern. Finally, the results indicated being away from family and friends could pose a significant challenge.

Research Question #3: To what extent do international students feel committed to the host institution?

The results indicated respondents' institutional commitment could be interpreted as being positive for the most part and that any integration problems might not be attributed to the host institutions. The responses generally indicated respondents planned to graduate from their host universities, planned to be enrolled at their host institution the semester that follows, felt respected on campus, felt welcomed, believed their host institutions were the right places for them, were satisfied with their universities' support services, were not planning to transfer to another university, and were not willing to return home without a degree.

Research Question #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

The results indicated the associations among the four demographic attributes (i.e., sex, class standing, GPA, and living status) and the three dependent variables (i.e., academic integration, social integration, and institutional commitment) were not statistically significant.

The results, however, indicated some associations between certain independent variables and some individual sub-scale items. The association between the sex of participants and two of the AI sub-scale items, for example (i.e., item #2, comfort class discussion and item #9, family moral support), was statistically significant. The association between GPA and another academic integration survey item (i.e., item #3, understanding professor) was also statistically significant, as was the association between living status and the academic integration survey item of instruction satisfaction (i.e., item #4).

The association between class standing and one social integration sub-scale item (i.e., item #14, socialize with other students) was statistically significant, as was the association between GPA and the ease of making American friends (i.e., item #15). Similarly, the

associations between living status and two social integration sub-scale items (i.e., item #14, socialize with other students and item #18, enjoy social life) were statistically significant.

For institutional commitment, the associations between class standing and four institutional commitment survey items (i.e., item #24, plan to be here next semester; items #25, plan to graduate from this university; item #26, plan to transfer to another university; and item #27, end school and go home without degree) were statistically significant. Finally, the associations between living status and the majority (i.e., seven) of the institutional commitment items (i.e., item #20, university right place for me; item #21, feel welcomed on campus; item #22, feel respected on campus; item #23, satisfaction with support services; item #25, plan to graduate from this university; item #26, plan to transfer to another university; and item #27, end school and go home without degree) were statistically significant. Implications of these and other outcomes will be further explored in the next chapter.

Chapter 5: Discussion

This chapter contains the study's rationale, purpose, survey response rate, and a discussion of the primary findings. Conclusions, implications, and recommendations for future research are followed by concluding remarks.

Study Rationale

The United States is a popular study abroad destination as hundreds of thousands of international students from around the world enroll in degree-eligible programs at colleges and universities across the country (Institute of International Education [IIE], 2020b). In 2020, United States' higher education institutions enrolled the highest number of international students, followed by the United Kingdom, Canada, and Australia (Statista, 2023). Not only do international students contribute to their host countries' economic growth and innovation (Hegarty, 2014), but they also enrich their campuses' academic and cultural fabric (Zhang, 2016).

Consequently, American colleges and universities have invested heavily in recruiting international students and retaining them (Kaya, 2020; Wang & Freed, 2021). Most studies, however, focus on international students' financial and immigration challenges, and very few studies address institutional support services (Glass et al., 2013; Srivastava et al., 2010). Studies on international students have declined to address this population's academic, social, and institutional commitment challenges, especially in states with low population density like West Virginia and other areas in the broader Appalachian region.

Study Purpose and Definitions

For various reasons, as is the case with domestic students, many international students leave their host institutions before degree completion (Bista & Foster, 2011; O'Conner, 2021),

which may hinder their academic progress and affect their institutions' retention numbers. International students' academic, social, and institutional commitment challenges at the higher education level have been understudied in areas of low population diversity (Alharbi & Smith, 2018), especially in the Appalachian region (Guyton, 2017; Jourdini, 2012).

The purpose of this study was to contribute to the body of research that addresses international student persistence and institutional retention in higher education, focusing on the potential development of effective retention strategies for both current and future international student cohorts. The goal was to provide policy and other administrative recommendations based on possible associations between the demographic factors and the selected persistence variables. To this purpose, the researcher answered the following questions:

Research Question #1: To what extent do international students feel they've successfully integrated academically into the host institution?

Research Question #2: To what extent do international students feel they've successfully integrated socially into the host institution?

Research Question #3: To what extent do international students feel committed to the host institution?

Research Question #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

The following definitions and procedures explain how the researcher measured the three dependent variables:

- The definition of academic integration was based on two dimensions inspired by Tinto (1975): (1) structural, entailing "meeting the explicit standards of the college or

university" and (2) normative, pertaining "to an individual's identification with the normative structure of the academic system" (Braxton & Hirschy, 2005, p. 67). Schaeper (2020) proposes a third dimension, motivational dimension, representing "the affective dimension of academic integration and concerns identification with the major and enjoyment of studying" (p. 97). A number of studies (e.g., Bastien et al., 2018; Lowinger et al., 2014; Severiens & Wolff, 2008; Tinto, 1975; Wilcox et al., 2005) have also explored academic integration and social integration simultaneously as the latter has been argued to be an integral component of the former. Academic integration was measured by participants' responses to survey items 1-12.

- In addition to social integration's being directly and indirectly linked to academic persistence (Milem & Berger, 1997), it can be defined as "students' interaction and congruency with the social system of the institution" (p. 15). Social integration also "occurs primarily through informal peer group associations […] and semi-formal extracurricular activities within the college," and "the concepts of social integration are composed of students' levels of interaction with peers and involvement in campus life and participation in extra-curricular activities" (pp. 15-16). Social integration was measured by participants' responses to survey items 1-12.
- The definition of institutional commitment was closely related to students' opinions about, satisfaction with, and commitment to their brick-and-mortar host campuses. Students are committed to their institutions when they intend to continue being enrolled in and graduate from their host universities (Bean, 1990; Braxton et al., 1997). The institutional commitment variable, like academic integration and social integration, is multi-layered in that it encompasses elements of academic integration (Berger & Braxton,

1998) and social integration (Keup & Stolzenberg, 2004; Berger & Milem, 1999). Institutional commitment was measured by participants' responses to survey items 20-27.

Survey Response Rate

Participants were recruited from various public regional universities in West Virginia. The researcher contacted staff members working for the offices of international students at seven West Virginia universities, who sent an anonymous survey link to a population of international students (N = 1,202), both degree-seeking and part-time, enrolled in these universities. The survey invitation resulted in 202 responses, 48 (23.77%) of which were submitted blank and were hence not counted. The rest of the recorded responses were counted as the completion rate was at least 70%. The resulting sample was n = 154, which was 12.82% of the target population.

Discussion of Findings by Research Question

In order to contextualize the present study within the most recent graduation and retention statistics provided by West Virginia's state agencies, a discussion of findings based on each of the research questions follows.

Background

As outlined in a previous chapter, it's worth noting that the West Virginia Higher Education Policy Commission (HEPC) reported that the average 2016-2019 fall-to-fall international student retention rate at the undergraduate level for the two largest campuses in the state was 66.6%, with a four-year graduation rate of 23.3% between 2012 and 2015 (2022).

Across the board, however, though the four-year graduation rate among international students was reported to be lower than the six-year graduation rate from 2012 to 2019 at West Virginia's four-year public regional institutions (HEPC, 2022), the 48.12% six-year graduation rate was still considerably low compared to the national average. For all students (i.e., domestic

and international), the National Center for Education Statistics (NCES) reported "the overall 6-year graduation rate for first-time, full-time undergraduate students who began seeking a bachelor's degree at 4-year degree-granting institutions in fall 2014 was 64 percent" (2022). Schmidt (2020) also reported that "the undergraduate international student graduation rate [for 2015-2017] was 62.9% for doctoral institutions and 49.5% for master's institutions" (p. 654).

These numbers warranted a meticulous investigation and were deemed a cause for concern by the researcher as Ryan (2004) concluded graduation rates at four-year institutions had a significant positive relationship with both academic and instructional support. Toutkoushian and Smart (2001) also reported a significant relationship between graduation rates and institutional support. Hence, given the discrepancy in the six-year graduation rates (both among West Virginia's individual public regional institutions and between West Virginia's public regional institutions and the national average), it was critical for the researcher to identify pain points in fall-to-fall and graduation rates as well as recommend best practices for student satisfaction and institutional retention in West Virginia.

Research suggests most international students are enrolled full time (78.6%), have high GPAs (3.17), and live off campus (62.2%) (Mamiseishvili, 2012a). Contrary to any initial impressions from the graduation and fall-to-fall retention statistics provided by the HEPC, findings from the present study suggest international students attending West Virginia's public regional universities are generally satisfied with their college experience, at least academically and institutionally. The means for both the academic integration and institutional commitment survey items were substantially above the mid-point line on a six-point scale, unlike the one for the social integration survey sub-scale, which was only slightly above the mid-point line. The

findings, hence, suggest retention or graduation may not be an issue for West Virginia's international students attending four-year institutions.

Results also suggested associations between the four independent variables (i.e., sex, class standing, GPA, and living status) and the three dependent variables (i.e., academic integration, social integration, and institutional commitment) were not statistically significant, despite a few statistically significant correlations among a handful of individual survey items. Discussion of the results from each of the four research questions is presented below.

Research Question #1: To what extent do international students feel they've successfully integrated academically into the host institution?

Results from the first (i.e., academic integration) survey sub-scale demonstrated that international students are generally highly pleased with their academic experience. To this end, it could be concluded that international students attending West Virginia's higher education institutions feel they've successfully integrated academically in their host universities. For the most part, the responses indicated participants thought well of their academic experiences as the mean (4.87) for the six academic integration items reflecting positive experiences was almost two points above the mid-point on the six-point scale. Participants, for instance, were satisfied with their English language skills for the most part, lending support for previous research (e.g., Stoynoff, 1997; Xu, 1991) that identified a relationship between English language proficiency and academic performance, despite this being an area in need of further research (Martirosyan et al., 2015). International students, in fact, are generally challenged by their level of language proficiency in their academic, personal, and professional endeavors (Araujo, 2011; Darwish, 2015).

The mean for the three academic integration items reflecting negative experiences, similarly, was above the mid-point, albeit only slightly. Participants thought homework was stressful, they often procrastinated, and they were often late in submitting assignments. Although there is support from the research that learning certain academic strategies (e.g., study habits, time management, etc.) was associated with international students' academic success (Staynoff, 1997), results from the academic experience items in this study reflecting negative experiences were in concert with Lin et al.'s (2019) conclusions that key academic stressors such as excessive workload, long assignments, and anxiety related to a possible poor performance on exams.

Research Question #2: To what extent do international students feel they've successfully integrated socially into the host institution?

Unlike the academic integration sub-scale, results from the social integration sub-scale demonstrated that international students were only moderately pleased with their social integration experience, suggesting they felt they had not had as much success integrating socially into the host university as they had academically. The mean (3.32) for the six social integration items reflecting positive experiences was just slightly above the mid-point on the six-point scale.

The mean (2.86) for the ease of making American friends on campus, for instance, was below the mid-point, lending support for previous research indicating that it could be difficult for international students to establish social networks with domestic students (Trice, 2004). As some participants could come from collectivistic cultural backgrounds (e.g., Japan, Argentina, and India), it was suggested that these students could have trouble figuring out how to connect with domestic peers who happen to be assertive and self-reliant (Darwish, 2015). Some studies, for instance, concluded that certain cultural factors could influence Asian students' willingness and

ability to participate in the classroom (e.g., Garner, 1989; Kaikai, 1989). Negative interactions could similarly affect participants' psychological well-being (Lincoln, 2000). Participants generally thought connecting with other international students was much easier, lending support for Johnson's (1993) conclusions that international students felt more comfortable seeking advice from fellow students who share the same language, culture, and adjustment challenges. These findings are also consistent with Antwi and Ziyati (1993) who suggested that international students developed coping strategies that involved drawing closer to other international students and isolating themselves from the dominant culture, hence making fewer connections with domestic students and professors.

More importantly, the mean (3.95) for the social integration item reflecting negative experiences was almost one full point above the mid-point. Results suggested that being away from family and friends could make international students' lives in West Virginia challenging. These results from the social integration survey item reflecting negative experiences are in concert with Johnson's (1993) conclusions that international students were more comfortable approaching friends, parents, and relatives for help with personal issues.

Research Question #3: To what extent do international students feel they've successfully integrated institutionally into the host institution?

As was the case with the academic integration sub-scale, results from the institutional commitment sub-scale demonstrated that international students were generally satisfied with their institutional experiences, suggesting that international students attending West Virginia's higher education institutions feel they've successfully integrated into and are committed to their host universities. For the most part, the responses indicated participants thought well of their

institutional experiences as the mean (4.75) for the six institutional commitment items reflecting positive experiences was 1.75 points above the mid-point.

For instance, although some research suggests perceptions of prejudice and discrimination from the host communities could be associated with stress and negative educational experiences (e.g., Eimers & Pike, 1997; Nora & Cabrera, 1996), participants in the present study felt both respected and welcomed on their host campuses for the most part. Participants were also satisfied with the support services their universities offered, though further investigation regarding how often international students use these services is warranted as Abe et al. (1998) found international students rarely used the campus resources available to them.

Unlike the first two sub-scales, however, the mean for the two institutional commitment items reflecting negative experiences was 1.49 points below the mid-point, indicating the two negative experiences may be an inconsequential concern as participants did not plan to transfer to another university and did not plan to end their academic studies and return home without a degree. These results are consistent with Andrade's (2008) and Andrade and Evans' (2009) findings that international students were motivated to overcome challenges and persist because they saw the value in pursuing a post-secondary education, were motivated to finish their degrees, and planned to graduate because they believed in the value of a U.S. education.

Research Question #4: To what extent do the selected demographic attributes (i.e., sex, class standing, GPA, and living status) affect international students' perceptions of their academic integration, social integration, and institutional commitment?

The researcher sought to investigate the association of select demographic characteristics with key integration variables. The literature on demographic variables as predictors of satisfaction with college life, however, has been limited as much of the research has explored

challenges unique to a limited pool of minority groups based largely on gender and disability status (e.g., Adams, 2007). Hence, most of the discussion regarding the significance of the associations between each of the independent and dependent variables (as it pertains to the international students attending four-year institutions in the Appalachian region) is mostly exclusive to this study. The present study, in fact, is one of only a few studies investigating the relationship of multiple demographic variables with more than one integration variable.

Given the dearth of research linking each and all four demographic variables (i.e., sex, GPA, class standing, and living status) to each of the three dependent variables (i.e., academic integration, social integration, and institutional commitment) that were selected for this study, the researcher was not able to link all results from the associations among the four independent variables and the three dependent variables to the available literature. Most of the associations, however, have been noted among one or more of the four independent variables used in the present study and persistence (e.g., on-time graduation), a key characteristic of institutional commitment as defined by the researcher in the first chapter.

Additional Statistical Findings by Sub-Scale

Measures of central tendency as well as explorations of potential associations were conducted in relationship to each sub-scale. Those findings are reported below.

Academic Integration

While the scatterplot for biserial correlation indicated a positive association between the dependent variable of academic integration and the demographic characteristics of sex and class standing, neither these associations not associations between academic integration and the remaining independent variables of GPA and living status were statistically significant. A few statistically significant correlations with individual scale items were noted, however. Comfort in

class discussion and family support, for instance, were significantly correlated to sex of participants, with males more likely to report a stronger sense of comfort in class discussions (M = 4.90; SD = 1.27), while females were more likely to perceive family support as important to their academic integration (M = 5.27; SD = 1.19). Understanding professors in the classroom was significantly correlated to GPA, with participants from the lower GPA range (i.e., 2.00 – 2.99) more likely to characterize that understanding as important (M = 5.26; SD = 0.89). Satisfaction with classroom instruction was also significantly correlated to living status, with participants living on campus more likely to report satisfaction with their instruction (M = 5.29; SD = 0.79).

Research has suggested that the effects of sex on academic self-efficacy are not significant (Vuong et al., 2010). In terms of mean differences for sex of participants, however, results from an independent samples t-test indicated female participants in this study reported significantly stronger perceptions of the extent to which classroom instruction improved their English proficiency, while male participants showed significantly stronger levels of comfort related to class discussion and on-time homework completion (i.e., being less likely to procrastinate). These findings partially lend support to research that has reported academic integration had a significant effect on retention among male students (Pascarella & Terenzini, 1983). For class standing (i.e., undergraduate vs. graduate), graduate participants reported significantly stronger perceptions of language satisfaction, classroom instruction matching job options, professor moral support, family moral support, and on-time homework completion (i.e., being less likely to procrastinate).

In terms of grade point average (GPA), participants in the 2.00 – 2.99 GPA range showed significantly stronger perceptions of language satisfaction and the likelihood of on-time graduation, while participants from the 3.00 – 4.00 GPA range showed significantly stronger

perceptions of the moral support received from professors. This finding is in concert with research that has suggested formal and informal faculty-student interactions strongly predicted college integration and had a strong influence on academic achievement and persistence (Kraemer, 1997). From a general perspective, this is also consistent with GPA being significantly associated with academic persistence, especially among first-year students, lending support for the importance of the academic component of university life for international students (Mamiseishvili, 2012a). In addition to academic self-efficacy being positively related with GPA and persistence rates in college (Pajares & Schunk, 2001; Zimmerman, 2000), research has also shown that high-GPA achievers spent ample time studying and remained up to date in their courses (Stoynoff, 1997).

Regarding living status, participants living on campus were more likely to report their classroom instruction matched job options and that they submitted their homework on time, lending support for research that has reported on-campus living boosts academic performance (Tinto, 1987). These findings are also in concert with higher GPAs being associated with freshmen living on campus compared to those living off campus (Nicpon et al., 2006).

Social Integration

While a scatterplot of biserial correlation results indicated a positive association between the dependent variable of social integration and GPA, neither that association nor others between social integration and the four demographic characteristics (i.e., sex, class standing, GPA, and living status) were significant in this study. These results are inconsistent with Tinto's (1987) finding that on-campus living increases students' social connections and interactions and with Christie and Dinham's (1991) report that living on campus facilitates the social integration of first-year students. Unlike the case with academic integration, mean differences among the

independent and dependent variables established via a series of independent samples *t*-tests were not statistically significant either. Findings from mean differences among male and female participants as they apply to the present study were not consistent with findings that suggest social integration had a greater influence on persistence for females (Pascarella & Terenzini, 1983).

A few statistically significant relationships with individual scale items, however, were noted. Socializing with other students, for instance, was significantly correlated with class standing, with undergraduate participants more likely to report having good relationships with other students (M = 3.90; SD = 1.85). The ease of making American friends was also significantly correlated with GPA, with participants in the 3.00 – 4.00 GPA showing a stronger sense of ease (M = 4.25; SD = 1.72). Socializing with other students and enjoying social life were also significantly correlated with living status, with participants living on campus more likely to report positive perceptions in both cases, (M = 3.90; SD = 1.80; and M = 4.12; SD = 1.70 respectively). This is consistent with research that has reported that living on campus and participating in special academic and social programs in the residence foster social integration (Braxton & McClendon, 2001).

Institutional Commitment

As was the case with social integration, scatterplot results from a biserial correlation related to the dependent variable of institutional commitment indicated a positive association with GPA. Research suggests sex and GPA are related to institutional persistence and have a direct effect on the persistence of college students (Peltier et al., 1999; Robbins et al., 2004).

It’s worth noting that results from previous research investigating the association between sex and institutional persistence, however, have been conflicting. First, it was found that sex is

"largely unrelated to adjustment to college, although the relatively large variability in social adjustment for minority students is notable; possibly a function of variability in the degree to which different institutions are welcoming to minority students or the proportion of the student body being comprised of minority students" (Credé & Niehorster, 2012, p. 148). Some studies also concluded the relationship between sex and persistence (i.e., the decision to drop out or continue) was not significant (Moores & Klas, 1989; Walton, 1992). Christensen (1990), however, saw a strong association between sex and retention.

In the present study, although none of the associations between institutional commitment and the four demographic attributes (i.e., sex, class standing, GPA, and living status) were statistically significant, a few statistically significant associations with individual scale items were noted. Participants' reports of their plans to be enrolled in their universities the following semester and graduate from their universities, or to transfer to another university or end school and go home without a degree, for instance, were significantly related to the independent variable of class standing (i.e., undergraduate vs. graduate). Graduate participants showed higher means for enrolling in the next term (M = 5.11; SD = 1.57) and graduating from the current institution (M = 5.76; SD = 0.66) and lower means for transferring (M = 1.38; SD = 0.39) and going home without a degree (M = 1.08; SD = 0.42).

Statistically significant associations were also established between seven individual institutional commitment survey items (i.e., participants' perceptions of their universities being the right place for them, feeling welcomed on campus, feeling respected on campus, being satisfied with campus support services, planning to graduate from their universities, planning to transfer to another university, and ending school and going home without a degree) and the dependent variable of living status (i.e., on-campus vs. off-campus living). Out of the seven scale

items, on-campus participants showed stronger perceptions in the first four items (i.e., the university being the right place, feeling welcomed on campus, feeling respected on campus, and being satisfied with campus support services). Off-campus participants showed stronger perceptions in the last three items (i.e., planning to graduate from the host universities, being less likely to transfer to another university, and being less likely to end school and go home without a degree).

In terms of mean differences for sex of participants, results from an independent samples *t*-test indicated female participants showed significantly stronger institutional commitment, particularly in terms of being less likely to end school and go home without a degree. Tinto (1987), however, reported that female students are more likely to drop out voluntarily due to social forces (as compared to academic ones), and men are less likely to drop out and more likely to persist until they are asked to drop out due to poor academic performance. Tinto's work, nonetheless, was mostly limited to domestic students.

These results are not consistent with previous findings that suggested on-campus living, as opposed to off-campus living, boosted students' chances of graduating in four years (Astin, 1973), although Astin's findings concerned domestic students. Research has also suggested that living on-campus during the freshman year increased freshmen's graduation chances by 12% (Astin, 1977). In general, the effect of on-campus living was found to be significant (Herndon, 1984; Pascarella, 1985). It was also found that living on campus increased students' graduation odds by 43% (Velez, 1985). Research in this area, however, is at least 30 years old, and new research is warranted.

Recommendations for Further Research

Recommendations for both researchers and institutions are presented in this section. Recommendations for future research include, but are not limited to, incorporating additional dependent and independent variables to expand findings and strengthening the reliability of survey items. For institutions, campus-level, state-level, and federal level recommendations are provided.

Results from this study suggested the associations among the four independent variables (i.e., sex, class standing, GPA, and living status) and the three dependent variables (i.e., academic integration, social integration, and institutional commitment) were not statistically significant. Associations among the four demographic variables and a number of individual items from the survey's three integration sub-scales, however, were statistically significant. Results from independent samples *t*-tests also indicated statistically significant mean differences among the sets of variables.

From the broad perspective, the results seem to suggest international students enrolled in West Virginia's public four-year higher education institutions do not struggle academically, socially, or institutionally, although composite means from the answers to a few survey items could point to a few areas of concern (e.g., procrastination, socializing with classmates outside the classroom, the ease of making American friends, and participating in student clubs/organizations). Persistence and retention data from the West Virginia HEPC (2022), however, suggest that integration could be a challenge for international students and that institutions are facing a number of challenges in their retention efforts. This discrepancy between the HEPC's data and the study's findings warrants further investigation. The researcher, however, noted that social integration and institutional commitment both showed a positive

association with GPA, and that academic integration showed a positive association with sex and class standing. Further examination of these relationships could perhaps lead to strategies to improve student persistence, students' perceptions of campus climate, and institutional retention practices.

Expanding Dependent Variables

The survey items used in the present study were inspired by a meticulous review of the available literature but were by no means exhaustive. In addition to the survey items indicating negative experiences under each of the three sub-scales (i.e., academic integration, social integration, and institutional commitment), the researcher recommends future studies' surveys include additional items reflecting financial and psychological stressors (Adams et al., 2016) to expand the findings from the present study. Those variables could include age, financial status, and study habits (e.g., how international students study and prepare for exams), among others. Prior research has shown that age could predict psychological adjustment (Bastien et al., 2018), and that certain academic stressors could motivate international students to perform at a higher level while others could be related to a possible poor performance on exams (Lin et al., 2019).

The survey could also benefit from additional dependent variables to further examine the extent to which these additional variables could affect the academic, social, and commitment variables. A number of survey items, especially under the academic integration and institutional commitment sub-scales, could potentially constitute their own separate sub-scales. Several studies, for instance, have investigated the effects of degree commitment on academic integration (e.g., Davidson et al., 2009; Davidson et al., 2015; Ellis, 2001; Graunke et al., 2006; Sharma & Yukhymenko-Lescroart, 2018; Tinto, 1993). Other studies have explored the effects of academic conscientiousness on classroom performance (e.g., Chamorro-Premuzic, 2006; Conrad & Patry,

2012; Davidson et al., 2009; Kertechian, 2018; McIlveen et al., 2013; Richardson & Abraham, 2009). A number of survey items in this study could fit under either (or both) degree commitment and/or academic conscientiousness (e.g., survey items #6, #9, #11, #12, and #27). Degree commitment and academic conscientiousness could be added as dependent variables and used as two separate sub-scales in future studies, separate from the academic integration and institutional commitment sub-scales, to further boost survey validity and reliability.

Adding Independent Variables

Additional independent variables reflecting the personality traits of extroversion, agreeableness, openness, conscientiousness, and neuroticism (Harsha et al., 2015; Wang et al., 2023) could be added to future studies' surveys to investigate possible associations among these traits and international students' academic integration, social integration, and institutional commitment. Laskey and Hetzel (2011) used these five personality traits to measure student success, which yielded promising results. Self-determination was also shown to have an influence on students' intercultural integration strategies (Jean-François, 2019). Surveys from future studies could encompass items reflecting these personality traits to better understand international students' college experience**.**

Comparing Findings to the International Student Barometer (ISB)

To check and support findings from this study, the researcher recommends using data from the International Student Barometer (ISB) (Yu et al., 2016). The ISB "tracks and compares the decision-making, expectations, perceptions and intentions of international students from application to graduation" (Dalhousie University, n.d.). A comparative analysis of the two data sets (i.e., the study's survey responses and the ISB data) could help shed light on possible

similarities and/or differences in student persistence and institutional retention challenges and opportunities both within and outside Appalachia.

Implications for Institutions

Findings from the present study have important implications for institutions of higher learning as well as for state and federal agencies. Although results from this study suggested off-campus participants showed significantly stronger commitment in three institutional areas (i.e., planning to be enrolled in the university next semester, planning to graduate from the host university, and being less likely to end school and go home without a degree) when compared to on-campus participants, existing research suggested living on-campus increased freshmen's graduation chances by 12% (Astin, 1977). These findings, however, concerned domestic students; similar research should be conducted with international students. Though a bit outdated, these findings warrant further investigation into the possibility that freshman international students could also benefit from living on campus.

Attracting international students in larger numbers, improving their college experience, and retaining them takes a collective effort beyond the one exerted by the students and the host institutions. As mentioned in a previous chapter, a major concern among international education experts is the cap the U.S. federal government has in place on the number of Green Cards (i.e., permanent resident cards) issued to university graduates, making a direct path to permanent residence – similar to the one that competitors like England, Canada, New Zealand, and Australia offer – extremely lengthy or almost impossible (Conrad, 2022). This is a legitimate concern for colleges and universities seeking to diversify their student demographics and internationalize their curricula as the absence of a clear federal policy on international education could make it harder for state institutions to attract and retain international students. In terms of

policy, the United States could benefit from a strong national strategy on international education to boost international student numbers, encourage more domestic students to participate in study abroad programs, and boost institutional partnerships (NAFSA, 2023b)

Internationalization efforts should similarly be pursued at the state level by inviting state legislatures, especially in Appalachian states with low foreign-born residents like West Virginia, to consider sponsoring a post-secondary global talent bill similar to the one Ohio has in place. As part of Ohio's global talent bill, "The chancellor of the Ohio board of regents shall designate a postsecondary globalization liaison to work with state institutions of higher education, […] other state agencies, and representatives of the business community to enhance the state's globalization efforts" (Ohio General Assembly Archives, 2016). John Kasich, Ohio's former Governor, directed the Ohio legislature to "better position the state to attract international students seeking to earn a college degree here and to encourage those students to remain in the state after graduation." The Chancellor would then "submit recommendations on future efforts to promote postsecondary globalization in the state to the Governor, the Speaker of the House of [Delegates], and the President of the Senate" (Ohio Board of Regents, 2016, p. 2).

A similar bill by the West Virginia state legislature could be a game changer for the state's higher education institutions' internationalization efforts as well for the international students themselves. Similar states (i.e., Appalachian/rural) with similarly low numbers of international students should pursue similar legislative initiatives.

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Appendix A: Exemption from the Marshall University Office of Research Integrity (With Amended Title)

MARSHALL UNIVERSITY
www.marshall.edu

Office of Research Integrity
Institutional Review Board
One John Marshall Drive
Huntington, WV 25755

FWA 00002704

IRB1 #00002205
IRB2 #00003206

May 30, 2023

Bobbi Nicholson, PhD
Leadership Studies, COEPD

RE: IRBNet ID# 1998160-3
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Nicholson:

Protocol Title:	[1998160-3] The Association of Demographic Factors with the Integration and Commitment of West Virginia's International University Students
Site Location:	MUGC
Submission Type:	Amendment/Modification APPROVED
Review Type:	Exempt Review

The amendment to the above listed study was approved today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair. This amendment is an update to the study title and an updated consent form that reflects that title change.

This study is for student Amine Oudghiri-Otmani.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/ Behavioral) Coordinator Lindsey Taylor at (304) 696-6322 or l.taylor@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

Appendix B: Exemption from the Marshall University Office of Research Integrity (With Original Title)

MARSHALL UNIVERSITY
www.marshall.edu

Office of Research Integrity
Institutional Review Board
One John Marshall Drive
Huntington, WV 25755

FWA 00002704

IRB1 #00002205
IRB2 #00003206

December 16, 2022

Bobbi Nicholson, PhD
Leadership Studies, COEPD

RE: IRBNet ID# 1998160-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Nicholson:

Protocol Title:	[1998160-1] Investigating the Effects of Key Demographic Factors on the Academic Integration, Social Integration, and Institutional Perceptions of International Students Attending West Virginia's Public Regional Universities: A Correlational Study
Site Location:	MUGC
Submission Type:	New Project APPROVED
Review Type:	Exempt Review

In accordance with 45CFR46.104(d)(2), the above study was granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee. No further submission (or closure) is required for an Exempt study **unless** there is an amendment to the study. All amendments must be submitted and approved by the IRB Chair/Designee.

This study is for student Amine Oudghiri-Otmani.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/ Behavioral) Coordinator Lindsey Taylor at (304) 696-6322 or l.taylor@marshall.edu. Please include your study title and reference number in all correspondence with this office.

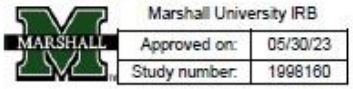
Sincerely,

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

Appendix C: Participation Consent Form (With Amended Title)

The Association of Demographic Factors with the Integration and Commitment of West Virginia's International University Students

Participant Consent



You are invited to participate in a research project designed to identify international students' academic, social, and institutional integration challenges in West Virginia's public universities. The study is being conducted by Amine Oudghiri-Otmani, a doctoral student at Marshall University and has been approved by the Marshall University Institutional Review Board (IRB).

This survey is comprised of 38 items and will take **5 to 6 minutes** to complete. Your responses will be anonymous, and you will not be asked to provide your name. Do not type your name anywhere on the form.

There are no known risks involved with this study. Your participation is completely voluntary, and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose to not participate, you may leave the survey site at any time. You may also choose to not answer any question by simply leaving it blank.

Your IP address will not be collected, and once you complete the survey, you can delete your browsing history for added security. Your responses will remain anonymous. No one will be able to identify you or your responses, and no one will know whether you participated in the study. Completing the online survey indicates your consent for the answers you supply to be included in the pool of responses.

If you have any questions about the study, you may contact Dr. Bobbi Nicholson at 304-746-2094 or Amine Oudghiri-Otmani at 304-696-6449. If you have any questions concerning your rights as a research participant, you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey, you are also confirming that you are **18** years of age or older.

You may print this page for your records. Thank you in advance for your willingness to share your knowledge and experience.

Sincerely,

Amine Oudghiri-Otmani, EdD Candidate – Co-Investigator
Dr. Bobbi Nicholson, Advisor – Principal Investigator

Appendix C: Researcher-Developed Questionnaire

Survey Part #1

On a scale of 1 to 6, with **1** being **strongly disagree** and **6** being **strongly agree**, what's your level of agreement with the following statements?

> ***Academic Life*** (These first 12 statements are about your **academic** interactions with your classmates and professors **inside** the classroom.)

1- I am satisfied with my English language skills.
1 2 3 4 5 6

2- I feel comfortable participating in class discussions.
1 2 3 4 5 6

3- I understand my professors when they lecture in the classroom.
1 2 3 4 5 6

4- I am satisfied with the quality of instruction I receive in the classroom.
1 2 3 4 5 6

5- The instruction I am receiving in the classroom has helped improve my English.
1 2 3 4 5 6

6- There is a strong match between what I am learning in the classroom and my future career/job plans.
1 2 3 4 5 6

7- In general, my homework is stressful.
1 2 3 4 5 6

8- My professors provide the moral support I need to pass my classes.
1 2 3 4 5 6

9- My family provides the in-class moral support I need to graduate.
1 2 3 4 5 6

10- I am confident I will graduate on time.
1 2 3 4 5 6

11- I often procrastinate (i.e., wait until the last minute to do my homework).
1 2 3 4 5 6

12- I am often late in submitting my homework.
1 2 3 4 5 6

> ***Social Life*** **(**These next 7 statements are ***not*** about your academic interactions inside the classroom. Think about your **social** and interpersonal relationships/interactions **outside** the classroom.)

13- I often socialize with my classmates outside the classroom.
1 2 3 4 5 6

14- I often socialize with students other than my classmates outside the classroom.
1 2 3 4 5 6

15- It is easy to make American friends here on campus.
1 2 3 4 5 6

16- It is easy to make international friends here on campus.
1 2 3 4 5 6

17- I often participate in student clubs/organizations.
1 2 3 4 5 6

18- I enjoy social life (e.g., extracurricular activities, student organizations, friendship opportunities, etc.) here on campus.
1 2 3 4 5 6

19- Being away from family and friends in my home country makes my life as an international student here challenging.
1 2 3 4 5 6

Institutional Perceptions **(**These last 8 statements are about your opinions of the university.)

20- I believe this university is the right place for me.
1 2 3 4 5 6

21- I feel welcomed here on campus.
1 2 3 4 5 6

22- I feel respected here on campus.
1 2 3 4 5 6

23- I am satisfied with the support services my university offers (e.g., academic support options, career services assistance, social opportunities, emotional and/or mental health support, etc.).
1 2 3 4 5 6

24- I plan to be here (i.e., enrolled in this university) next semester.
1 2 3 4 5 6

25- I plan to graduate from this university.
1 2 3 4 5 6

26- I plan to transfer to another university.
1 2 3 4 5 6

27- I plan to end my academic studies and return home without a degree.
1 2 3 4 5 6

Survey Part #2: Demographic Questions

I identify myself as:
- Male
- Female
- Non-binary
- Prefer not to answer

I am from (country of origin):

I am currently a student at (list of universities to be provided):

I am registered as a:
- Full-time F-1 student
- Part-time J-1 exchange visitor
- Other (e.g., part-time F-1 student, etc.)

I am a(n):
- Undergraduate student
- Graduate student

If undergraduate, my class level is:
- Freshman
- Sophomore
- Junior
- Senior

College major (please specify):

Cumulative GPA (i.e., sum of grade points for all classes divided by total number of credits for those classes):
- 3.50 – 4.00
- 3.00 – 3.49
- 2.50 – 2.99
- 2.00 – 2.49

Do you have a scholarship?
- Yes
- No

Which scholarship do you have?
- Academic scholarship
- Athletic (i.e., sports) scholarship

I live:
- On campus
- Off campus