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Ludmi Herath

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INTERNATIONAL FRESHMEN STUDENT SATISFACTION WITH CAMPUS
ENVIRONMENTS AT U. S. INSTITUTIONS THROUGH THE LENS OF THE NATIONAL
SURVEY OF STUDENT ENGAGEMENT (NSSE)

by

Ludmi V. Herath
Bachelor of Science, Minnesota State University Moorhead, 2005
Master of Science, Minnesota State University Moorhead, 2008

A Dissertation
Submitted to the Graduate Faculty
of the
University of North Dakota
In partial fulfillment of the requirements

for the degree of
Doctor of Philosophy

Grand Forks, North Dakota

December, 2018

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This dissertation submitted by Ludmi Herath in partial fulfillment of the requirements for the degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Dr. Steven LeMire (Chairperson)

Dr. Donna Pearson

Dr. Elizabeth Bjerke

Dr. Carolyn Ozaki

This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

Dr. Grant McGimpsey
Dean of the School of Graduate Studies

Date

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Department Higher Education

Degree Doctor of Philosophy

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Ludmi Herath
December 2018

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ABSTRACT

International students' enrollment has continuously increased over the past decade. According to the *Open Doors Annual Report*, published and distributed by Institute for International Education (IIE, 2016), more than one million international students studied in the United States from 2015-2016; according to the same report, international students generated more than \$36 billion to the United States (U.S.) economy making international students the fourth largest import sector to the U.S. economy. As U.S. institutions more aggressively recruit and retain international students, it is critical to learn how to serve this growing population—to learn of their needs and offer corresponding tools, programs and services. The purpose of this quantitative study is to identify international freshmen students' satisfaction toward *Campus Environment* through the lens of the most widely used survey, the National Survey of Student Engagement (NSSE). This study also explores student satisfaction as related to institutional control (public and private).

In order to study international freshmen student satisfaction, the author used the 2015 NSSE survey data. The author compared international freshmen students to domestic freshmen students at public and private institutions to better understand the experiences of international freshmen students. Based on the self-reported 2015 NSSE survey there was a significant impact on quality of interactions among international freshmen students attending private institutions and domestic freshmen students attending private institutions, and a significant impact on academic success of international freshmen students attending private institutions than of the academic success of domestic students attending private and public institutions. Compared to

quality of interactions and academic success, there was no significant difference on international freshman and domestic freshmen students' use of supportive environments. Both international freshmen students and domestic freshmen students' satisfaction with supportive environments was found to be the same, similar to the satisfaction with their entire educational experience at the same institution.

The significance of the study is in suggesting data-driven recommendations to administrators, policy makers, institutional decision makers, international student services professionals, and international students' parents to understand the institutional campus environmental practices that are effective in promoting international students' academic success and satisfaction during their stay in the United States.

CHAPTER ONE

INTRODUCTION

International students have become an increasingly important part of the higher education system of the United States. The Institute of International Education (IIE) was created after World War I to understand other nations and to join in together in better understanding of lasting global peace (IIE, 2018). According to IIE (2018), international students enrolled in the U.S. as early as 1920, and by 1946 more than 15,000 international students were studying in the U.S. In 2015-2016, the total international student population in the U.S. surpassed one million.

The Organization for Economic Cooperation and Development (OECD; 2009) and United Nations Educational Scientific and Cultural Organization (UNESCO; 2008) confirmed that economically developed Anglophone countries, such as the U.S., United Kingdom, Australia, Canada, and New Zealand, are the most sought-after core destinations for international students seeking higher education abroad, making international student recruitment competitive among other developed countries. Padlee and Reimer's (2014) study on international students in Australia confirmed the economic impact on the Australian economy; international students were listed as Australia's largest service-export industries, similar to the U.S. economy. Padlee and Reimer stated that "Australian institutions created strategies designed to attract and retain international students by providing high-quality services to their international students, converting international students into satisfied customers" (p. 70-71). The above studies are a few examples of how other developed nations are creating ways to recruit and retain international students. International student enrollment and retention is increasingly competitive

among developed nations as they target the same international student population across the globe. As other developed countries strategize ways to better “convert international students to satisfied customers” (Padlee & Reimer, 2014, p. 70-71), U.S. institutions are falling behind in enrollment of international students compared to other developed countries despite the increase in international student enrollment since 2005. According to the *Education Indicators Focus Report* (OECD, 2009), mobility of international students doubled within the past decade. In 2002, a total of 2.1 million students studied outside of their home country; by 2011, international students studying outside their home country was at an all-time high of 4.5 million. As other developed nations increased enrollment of international students—despite the increase in international student enrollment numbers in the U.S.—international students enrolling at U.S. institutions compared to other developed nations dropped from 17% to 14% from 2000-2010. By 2020, international student enrollment at U.S. institutions are predicted to drop to 11%, and by 2030 international student enrollment at U.S. institutions are predicted to drop to 8% (OECD, 2015).

Recent political shifts, anti-immigrant ideologies, difficulty with admissions, challenges in obtaining student visas, dramatic impact on global economy, fluctuations of the currency exchange rates, increase in the cost of education, and national security issues are now having an impact on the ability of U.S. institutions to keep up with other developed countries such as Australia, Canada, China, Korea, New Zealand, Taiwan, and United Kingdom. It is more challenging for U.S. institutions to recruit and retain international students (Lee, 2010) than other developed countries. Increased growth in world economies, global business and interconnected economies, rapid growth in access to the World Wide Web, and the ever-changing global technology industry are creating a strong emphasis among college-going students to consider and

select not only the U.S. but other developed nations as their top destinations for their academic career.

According to the report by U.S. Citizens and Immigration Services (USCIS, March 2018), as of March 2018, the U.S. had already begun to see the decline of international student enrollment for 2018-2019. Based on the data received by the Student and Exchange Visitor Program (SEVP), international students' enrollment from March 2017 to March 2018 declined 0.5%. Students from China and India accounted for the half of the international student population in the U.S. Compared to March of 2017, fewer students from Asian countries enrolled in March 2018. Compared to the 2017 academic year, U.S. international student enrollment from Asia declined 0.8%, international student enrollment from Europe declined 1.1%, and international student enrollment from North America declined 1.7%. According to the same USCIS (2018) report, Kentucky was the only state to report an increase in international students, while other states suffered the greatest decline of their international student population since 2005.

According to studies by Arthur (2004), Collondres (2005), Korobova (2012), and Scully (1993), international students face more difficulties on and off-campus than domestic students; supportive campus environments are critical for the academic and personal success of international students. The same studies by Arthur (2004), Collondres (2005), Korobova (2012), and Scully (1993) listed the importance of institutions identifying and recognizing international student issues and providing tools, programs, and services to recruit and retain international students. U.S. institutions take great pride in recruiting international students, but it is also important to retain those students by providing them with services critical to their satisfaction and success (Korobova, 2012).

This study not only analyzes empirical data about international freshmen students' and domestic freshmen students' use of campus environments, but it also provides educational administrators, international legislators, and staff and faculty working with international freshmen students much broader implications for understanding and offering much-needed services, programs, and activities through their respective schools, departments, and institutions. This study focuses specifically on international freshmen and domestic freshmen students' satisfaction of campus environments. In this study the author focuses on first year (freshmen year) students because freshmen/1st year is recognized as the key year of student learning and retention (Barefoot et al., 2005; Tinto, 2012; Upcraft, Gardner, & Barefoot, 2004). The first year is often the most difficult year for many undergraduate students (Li & Duanmu, 2009). According to Barefoot (2000), over the past decade higher education has focused more attention on first-year student retention by developing programs to improve first-year students' retention. The study by Upcraft et al. (2005) found that first-year student retention is too low, suggesting that U.S. institutions are failing to provide the services students need; they suggest making this population a priority. International enrollment is at the rise and international student retention is higher than domestic student retention. Even though international student retention rates are higher than domestic students, both international and domestic college freshmen have a difficult time navigating first year of their college life (Woosley & Shepler, 2011).

The first indicator that freshmen students are not been able to navigate their new college life is often a low grade point average (GPA; Folger, Carter, & Chase, 2004). Woosley and Shepler (2011) described GPA as the indicator for academic success. First-year students' grades are important in academic success and degree completion (Adelman, 1999; Pascarella & Terenzini, 2005). As Upcraft and Gardner (1989) suggested that in order for institutions to take

student success seriously the institutions must know the characteristics and backgrounds of their students prior to planning student success at their perspective institutions. When an international student enters the U.S. as a freshman student, they face similar challenges to the domestic freshman students. Compared to international freshmen students, domestic freshman students have internal, external, and alternative resources such as family or communities outside of the institution to provide support. However, international students are depending on the institution to provide them with the tools, programs, and services to help them cope with challenges they face as international freshman students (Cho & Yu, 2015; Yan & Sendall, 2016). U.S. institutions are finding it challenging to provide support and services for these unique challenges (Sawir, 2013; Sherry & Chui, 2010). Sweeton and David (2004) stated that even as institutions allocate funds for heavy recruitment of international students to their institutions, they have an ethical obligation to ensure that international freshmen students are offered the support programs they need to help navigate their challenges.

As international enrollment rises, revenue from international students means that international education is now the leading service-export industry with \$36 billion a year revenue gains to the U.S. economy through international students' expenditure on tuition, living, expenses, and other costs. International student enrollment and services at U.S. institutions supported more than 400,000 jobs in 2015-2016. Albach's (2002) study confirmed that economic interest plays a role in internationalization process in higher education in the U.S. Due to the economic impact and financial gain, international student enrollment has attracted attention at the state and federal level. States such as Minnesota, Missouri, and Tennessee have implemented strategies to attract international students to the entire state rather than to a few large institutions that have historically dominated the international student recruitment arena. In recognition of this

economic growth, universities and other higher education institutions (e.g., community colleges and English Language Training Programs) have adopted a variety of initiatives to recruit and retain international students. In addition to the economic benefit to the United States, international students play a critical role in contributing to a culturally diverse society by sharing rich and varying cultural perspectives and academic intelligence as they participate in research, classrooms, and communities of the United States.

In order to maintain the growth in enrollment and retention of international students, it is critical for U.S institutions to develop an understanding of the services that have greatest impact on international students' academic success and satisfaction in the U.S. Developing programs and offering much-needed services suitable for international students have been a low priority for U.S. institutions (Lee & Rice, 2007). As international student enrollment at U.S. institutions increases, U.S institutions developed International Student Scholar Services and International Program Offices. These departments serve as a centralized location for all international student services to increase diversity and promote cultural interactions among the campus community.

Few studies have explored institutions' emphasis on providing tools, services, and programs to better serve the international students to create more satisfied international students. According to Garrett (2014), international student enrollment necessitates careful strategic planning as there will be a negative impact if institutions are not able to provide the basic student satisfaction academically and socially. A study by Zehner (2012) stated that less than 15% of the international students at Purdue University created friendships with American students, and less than 29% students identified limited to non-curricular involvement opportunities available for international students. Both Ward (2015) and Webber, Krylow, and Zhang (2003) confirmed lack of engagement and interaction between international and domestic students, as a result of

limited services available. An empirical study by University of Berkeley in California (2014) stated that California resident freshmen students have higher retention rate whereas international freshmen have lower retention rate, and international students reported “lower sense of belonging and are less satisfied with their social experience relative to their domestic peers” (p. 2).

A study by Fass-Holmes (2016) indicated that international students mainly struggle with issues such as acculturative stress, American academic standards, American teaching methods, campus climate, English languages, discrimination, family expectations, finances, homesickness, and interpersonal interactions, to name a few. Braskamp and Buss (2013) highlighted the importance of U.S. institutions focusing their attention and funding to improve services and support provided to international students. The study stated that as universities allocate and spend a large amount of funds for international student recruitment, the same amount should be matched for strengthening capacities to better serve the corresponding increasing population of international students, especially since many U.S. institutions rely heavily on international recruiting for enrollment numbers as well as revenue generated by this underserved population.

In this study, the author will focus on international freshmen students’ satisfaction on campus environments. Campus environment is an engagement theme in the National Survey of Student Engagement (NSSE) survey, a commonly used student survey among first-year students and senior-year students (NSSE, 2018). The NSSE survey data are collected annually (NSSE, 2018). NSSE is used among institutions because of its “explicit links to prevailing theory and research on student learning and institutions effectiveness” (Kuh et al., 2007, p. 6). The 2015 NSSE consists of four themes: academic challenge, learning with peers, experiences with faculty, and campus environments. This study focuses on the campus environment theme. Within

the campus environment theme there are two engagement indicators: (1) quality of interactions and (2) supportive environments. The researcher will compare students' satisfaction of campus environments, academic success, and satisfaction of their entire educational experience among international freshmen and domestic freshmen students, across institutional control (public and private). The findings provide recommendations to administrators, policy makers, institutional decision makers, international student services officials, and parents of international students regarding the satisfaction of institutional campus environmental factors that have an impact on international students' academic success and satisfaction with their entire educational experience in the U.S.

Statement of the Problem

As the number of international students increases in the U.S., this does not automatically increase the quality of programs, services, and support provided to this unique group of students. According to the *Open Doors Report* (IIE, 2017), China, India, South Korea, Saudi Arabia, Vietnam and Canada have the highest number of international students in the U.S., representing 65% of the international student body in the U.S. In order to enroll international students, institutions must have approval from the Student Exchange Visitor Program (SEVP), a division of the United States Citizenship and Immigration Services (USCIS). Approval by SEVP does not—in and of itself—improve international student services. International students at every campus encounter barriers for their development and success in the United States such as language, acclimation, culture shock, visa issues, academic challenges, financial issues and many other barriers (American Council on Education, 2018; Brankamp, Buss, & Glass, 2013). Mori (2000) stated that “despite the constant expansion of the international student population in the U.S., such students have always remained one of the most quiet, invisible, underserved groups

on the American campus" (p. 145). Joo's (2002) study indicated the racial and ethnic backgrounds within the international student community make institutions investigate the difference of quality of interactions with their college environments. Wang et al. (2014) highlighted the importance of campus climate surveys and the significance of those surveys to provide insights to university staff, faculty, counselors, researchers, administrations and decision makers regarding international student adjustments, acclimation, engagement, and their success in academic performance, leading to improved programs, services and interventions that assist all students. Wang et al. (2014) further indicated that campus surveys (including NSSE) are often not distributed to international students at smaller to medium size campuses as the enrollment numbers of the international student population is low compared to domestic students, eliminating responses from the international student population.

This study is a comparison analysis to seek further understanding of international freshmen students' and domestic freshmen students' engagement on quality of their interactions, satisfaction on supportive environments, academic success and satisfaction of their entire educational experience across institutional control (public and private) during their freshman year (or first year) at the current institution.

Purpose of the Study

The purpose of this quantitative study is to identify international freshmen students' satisfaction towards *Campus Environment* through the lens of the most widely used survey, the National Survey of Student Engagement (NSSE). This study will also test student satisfaction impact according to institutional control (public and private). For the purpose of this study, data from the 2015 NSSE survey were used. The study analyzed the 2015 NSSE data and compared how international freshmen students and domestic freshmen students responded to the 2015

NSSE survey regarding their satisfaction toward campus environments, academic success, and satisfaction of their entire education at the current U.S. institution. NSSE is a survey tool that is used for first-year and senior-year students to help institutions learn how undergraduate students spend their time at their institutions, their satisfaction levels, and how they perform academically and socially.

In this study the researcher explored key variables (see Appendix C) for both international freshmen and domestic freshmen students, as well as students' satisfaction with their entire educational experience at the institution correlated with institutional control (public and private). Second, the study explores international freshmen and domestic freshmen students' satisfaction of the NSSE engagement indicator quality of interactions across institutional control (public and private). Third, the study examines the student satisfaction of supportive environments across institutional control (public and private). Finally, the study looks at international freshmen and domestic freshmen students' academic success across institutional control (public and private). This study seeks to shed light on international freshmen students' satisfaction of campus environments and "what international students do while they are in college" providing institutional decision makers and international student service staff and professionals with information on "how to intervene in order to improve their experience while studying in the U.S." (Korobova, 2012, p. 34),

According to the National Survey of Student Engagement (NSSE, 2015), the campus environments theme consists of two engagement indicators: quality of interactions and supportive environment (see Appendix C). The engagement indicator quality of interactions consists of five questions: quality of interactions with students, academic advisors, faculty, student services staff and other administrative staff, and officers such as financial aid, registrar's

office and so on. The second engagement indicator under campus environments is supportive environment. This engagement indicator consists of eight questions, including institutional emphasis on academic support, institutional emphasis on use of learning support services, encouraging contacts between students from different backgrounds, institutional emphasis on providing opportunities to be involved socially, providing support for the students overall wellbeing, institutional emphasis on helping students manage their non-academic responsibilities, institutional emphasis on assisting students to attend in campus activities, and institutional emphasis on attending events that address important social and economic or political issues. According to the 2015 NSSE survey, academic success was measured by self-reported grades. To measure international and domestic freshmen students' satisfaction with their overall education at the institution, students' responses to the survey questions "how would you evaluate your entire educational experience at this institution" and "if you could start over again would you go to the same institution you are now attending" were analyzed.

This study examined how the 2015 NSSE benchmark on campus environment provides answers on international freshmen students' satisfaction of campus environment during their time at the institution. The independent variables of the study are international and domestic freshmen student status and institutional control (public and private); the dependent variables are the 2015 NSSE engagement indicators for *Campus Environment*, self-reported grades, and reported responses to the questions "how would you evaluate your entire educational experience at this institution?" and "if you could start over again would you go to the same institution you are now attending?"

For the purpose of this study, pre-existing 2015 NSSE data was used with the permission from The Indiana University Center for Postsecondary Research (see Appendix E). The following research questions guided this study:

1. How do key descriptive statistics compare between international freshmen and domestic freshmen students who responded to the 2015 NSSE?
2. Is there a difference in international freshmen students' and domestic freshmen students' satisfaction of quality of interactions as measured across institutional controls (public and private)?
3. Is there a difference in international freshmen students' and domestic freshmen students' satisfaction towards supportive environments measured across institutional controls (public and private)?
4. Is there a difference in international freshmen students' and domestic freshmen students' academic success measured across institutional control (public and private)?

Significance of the Study

International freshmen students and domestic freshmen students face countless challenges as they enter college or universities in the U.S. However, international students face unique challenges such as academic, social, financial, immigration, adjustment and acculturation among others. As international student enrollment rises (IIE, 2016), challenges need to be addressed at an institutional level, so that these students are not negatively impacted. Due to recent political shifts, there has already been a decline of international students to the U.S. for 2017-2018 (IIE, 2018). If institutions do not purposefully address international student related challenges, changes, and issues, the U.S. will see a dramatic decline in international student enrollment (USCIS; 2018). Cheatman and Phelps (1995) and Lee (2010) predicted the decline of

international students' enrollment in the U.S. and stated that other developing countries have better strategies in retaining international students the reason for their continued increase in international students.

The significance of the study is to provide recommendations to administrators, policy makers, institutional decision makers, and international student services officials, in creating tools for examining and offering effective educational practices at the institutional level to improve international freshmen students' satisfaction and academic success (McCormick & McClenney, 2012). This study provides information that may assist institutions as they seek to address international students' needs, interests and academic challenges (Lau, 2003) and provides recommendations for more intentionally strategizing in offering programs, support, and services to build campus environments that would lead to transformative experiences, not only for domestic students but for all students. As Coates (2010) stated:

By monitoring student engagement and outcomes, institutions can identify areas of good practice as well as those areas in need of improvement. Institutions can allocate expensive teaching and support resources in a strategic fashion, and report the results of such actions in ways that demonstrate the efficacy of the feedback cycle. (p. 13)

There have been few studies (Korobova, 2012; Phillips, 2013; Zhao, Kuh, & Carini, 2005) comparing international and domestic students using NSSE data. However the past studies used data from the older version of the survey. In 2013, NSSE modified the question to receive accurate responses only from the international students (changing the previous question "are you foreign national?" to the new question "are you an international student?"). Prior to 2013, NSSE researchers were unable to accurately identify whether the students who responded to the NSSE survey were indeed international students on F-1, M-1, and J-1 temporary non-immigrant visa

holders or if the students were permanent residents, refugees or asylees who are on permanent immigrant status (still a foreign national as they are still citizens of their home country outside of the United States). This study uses the pre-existing data from 2015 NSSE, which provides an accurate snapshot of international students. Previous studies (Korobova, 2012; Phillips, 2013; Zhao et al., 2005) were studies on international students; however, these studies used NSSE data older than 2008 (i.e., more than a decade old). Since then, both the international freshmen student population and the domestic freshmen student population have changed. This study provides an accurate snapshot of current international freshmen students and domestic freshmen students for the year 2015-2016.

In summary, U.S. institutions are finding it challenging to maintain international students' programs, services, and support to accommodate the rapid growth of the international student population. As international student population continues to grow, it is the institution's responsibility to ensure this underrepresented student group is provided with a campus environment that supports their satisfaction in all areas. The goal of this study is to provide interventions in international student service and support areas that can assist institutional leaders to address these concerns on campus environments. As a result, U.S. institutions can offer international student-friendly curricula as well as pedagogical decisions, practices, programs and services that are more conducive to international students.

Definition of Key Terms

Campus Environment: The emphasis placed on physical characteristics; campus environment as characteristics created by humans organized by subcultures (Kolb, 1983).

Domestic Students: Students who are U.S. citizens; students who answered no to the 2015 NSSE survey question “Are you an international student or foreign national?”

Freshmen Students: Students their first year of college education.

Institutional Type: Institutional type is classified by the Carnegie Classification of Institutions of Higher Education. The Carnegie Classification was created in 1971.

Institutional Control: Institutional control list as public or private; as listed by Indiana University Center for Postsecondary Research.

International Students: Students on temporary student F-1 or J-1 visa with the sole purpose of studying only. Permanent residents and refugees are not considered to be international students.

Senior Students: Students at their fourth year of college or students who completed more than 72 credit hours at an institution.

Student Engagement: The amount of time and efforts students put into educational purposeful activities (Kuh, 2001). The engagement includes not only students' time and effort, but also includes the roles each institution plays in students' participation in meaningful activities (Kuh, 2003).

Student Involvement: According to Astin (1999), student involvement refers to the physical and psychosocial energy the student devotes to the academic experience (p. 518).

Student Success: A traditional measure of scores on standardized admissions test, grade point average, number of credit hours earned, enrollment in graduation programs, and performance on professional board exams and measure of student satisfaction (Kuh, 2007).

Theoretical and Conceptual Framework

For the purpose of this study, Kuh's (2001) student engagement theory as the theoretical framework and Astin's (1993) Input-Environment-Outcome (I-E-O) model as a conceptual framework were used as a map to guide the study. Kuh's (2001, 2007) work on engagement

refers to the time and energy students set forth in activities that will lead to student success; success is defined as academic achievement, engagement in educational purposeful activities, satisfaction, and acquisition of desired knowledge. Student success is dependent on the level of engagement the student dedicates to purposeful programs and activities. Student engagement is viewed as one of the key elements for low student performance and high dropout rate. An engaged student is more likely to attain academic success and college graduation and less likely to drop out. In this study, Kuh's (2001, 2007) research on engagement was used to connect student engagement on campus environments provided by different institutions to student satisfaction and intention to return to the same institution.

Astin's (1993, 1999) *Input-Environment-Outcome (I-E-O)* model is the most often referred to model for studying student impact as a direct result of institutional impact on institutional environment. Astin presented the I-E-O model to describe the relationship between institutional processes and student outcomes. In Astin's I-E-O model, "I" stands for input, referring to the characteristics of the students during the time of enrollment. The "E" stands for environment, referring to the programs, policies, faculty, students, educational and social experiences the students are provided or exposed to. "O" stands for outcomes, referring to student success, student satisfaction, and student achievement or growth (Astin, 1991; Pascarella & Terenzini, 1991). Student input characteristics have an impact on how students are involved in their campus environments. For the purpose of this study, input comprises student characteristics such as age, gender, race/ethnicity, and international and domestic student status; environments are referred to the NSSE engagement indicators under campus environments, institutional control (public and private); and outcome is referred to the student academic success and satisfaction of

their entire education at their current institution. Figure 1 portrays how Astin's (1993, 1999) Input-Environment-Outcome model was adapted for this study.

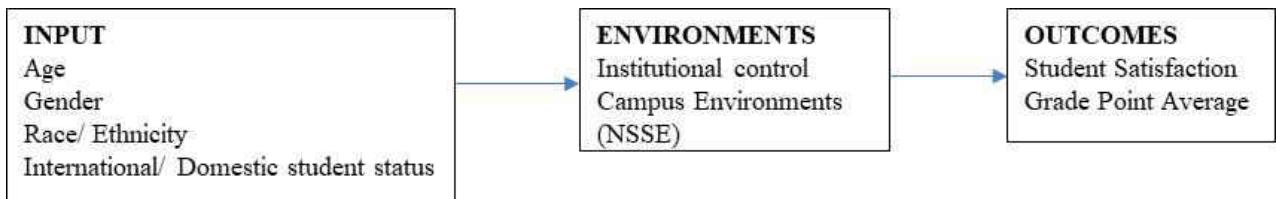


Figure 1. I-E-O model (Astin, 1993, 1999): Display of Variables of the Study

Chapter Summary

As international student enrollment increases in the U.S., the services provided for international students do not automatically change to account for the change in enrollment of this quiet and underserved student population. The purpose of this study is to learn of the international freshmen students' satisfaction toward *Campus Environment* through the lens of NSSE, across public and private institutions. The findings of this study may be helpful for institutional administrators, decision makers and international student services staff and parents of international freshmen students' related to the satisfaction of quality of interactions, satisfaction of institutional emphasis on student support, academic success, and satisfaction with their entire educational experience at their current institution. In doing so, the author compared both international freshmen students' satisfaction to domestic students' satisfaction to better understand differences and similarities of these two freshmen student groups.

CHAPTER TWO

LITERATURE REVIEW

The purpose of this study is to examine international freshmen students' satisfaction towards *Campus Environment* through the lens of National Survey of Student Engagement (NSSE). This study expanded more to test student satisfaction impact according to institutional control (public and private). Chapter two addresses relevant literature on international students' growth, economic impact, diversity and cultural impact, student challenges, unique challenges to international students, international students' experience in the U.S., student satisfaction, success, campus environments, and the National Survey of Student Engagement. Previous studies (Korobova, 2008; Phillips, 2013; Zhao et al., 2005) compared NSSE results between international students and American students in their freshmen year and senior year. Past research (Alzamel, 2014; Arthur, 2004; Aydinol, 2013; Bair, 2005; Bista & Foster, 2011; Eringa & Huei-Ling, 2009; Kuo, 2011; Lee, 2002; Lee & Rice, 2007; Lin & Scherz, 2014; McFarlane, 2013; Mori, 2001; Myles & Chen, 2003; Reid & Dixon, 2013; Yeh & Inoz, 2003) focused on American students as well as on international students' acculturation, barriers, and difficulties adjusting to the new environment; cultural difference; and language proficiencies. Very limited research has been conducted to learn about international freshmen students' satisfaction towards campus environments. In this study, the researcher compared both international freshmen students' and domestic freshmen students' satisfaction of campus environments, academic

success, and satisfaction of international freshmen and domestic freshmen students with their entire educational experience.

The purpose of chapter two is to provide an overview of the literature to support the study, methods, results, discussion, and recommendations. In this section, the literature is organized according to I-E-O model used as a conceptual framework. Outlining the literature according to the conceptual framework will allow the reader to better understand the variables of the study and map the connection between the variables according to the theoretical and conceptual framework. The first section of the chapter will describe the *Input* in the I-E-O model, race, ethnicity, gender, international student and domestic student challenges, unique international student challengers and first-year retention. The next section of the chapter is organized according to *Environment* in the I-E-O model: institutional control, student engagement, academic major, campus environments, and students' use of campus environments. The third section describes the *Outcomes* in the I-E-O model: student satisfaction and success. The fourth section presents literature related to student assessment, National Survey of Student Engagement (NSSE), NSSE findings on international and domestic students, and NSSE benchmarks.

Input

Age, Gender, Race and Ethnicity

According to the U.S. Census Bureau's *Current Population Survey* (2015), bachelor's degree attainment for young women across different races and ethnicities was greater than previous years. Between 1975 and 2014, the college completion gap between men and women narrowed, and in 2015 men and women completed college the same rate. However since 1997, women hold more bachelor's degree than men. Similar to the U.S. data on degree attainment,

according to UNESCO (2018), “Globally women outnumbered men at the level of the Bachelor’s, with men accounting for about 47% of graduates and women accounting for 53% of the graduates” (p. 1). According to the same report, women also share the same place for master’s degrees around the world: More women have master’s degrees than men. Even though data indicate that female students dominated the degree attainment compared to men, Umbach and Porter (2002) found that female students have lower satisfaction on college university experience to their male counterparts.

According to the American Council on Education (2011) report, 42% of the traditional college-age population were enrolled in college. According to the same report, White students had enrollment of 32% in 1990 to 46% in 2009, African American and Hispanic students made significant developments from 23% in 1990 to 35%. Asian Americans marked the highest rate of college enrollment (63%) whereas Native American registered as the lowest college enrollment (23%). According to the *U.S. Population Projections 2005-2050* report (Pew Research Center, 2008), “one in five Americans (19%) will be an immigrant in 2050 compared to one in eight (12%) to 2005. The Latino population will make up 29% of the U.S. population by 2050 compared to 14% in 2005, the white population will become a minority (47%) by 2050” (p. i).

A campus climate study done by Johnson et al. (2007) stated that White students indicate belonging to the campus more than African American, Hispanic American, and Asian students. Past research confirmed that quality interactions with diverse peers have a positive effect on students’ perception toward campus environments and can differ by race, ethnicity, and gender (Ancis, Sedlececk, & Moher, 2000; Chang, 1999; Cuyjet, 1997; Drew & Work, 1998; Hurtado et al., 1999; Laird & Niskode, 2016; Rankin & Reason, 2005). Labon’s (2013) study examined the quality of interactions with faculty, peers, and staff finding differences according to students’

age, gender, race and ethnicity, nationality, and school type. The findings indicate that students of minority race and ethnicity were not satisfied with the social aspects of their institution.

According to Pike and Kuh (2006), “minority students make up at least one third of the student body” (p. 425). Over the past decade studies have proven that minority students attending university have increased, and some minority groups have low academic success rates (Lau, 2003). The OECD (2009) predicted that in 2020, 40% of the graduates will be from countries such as Argentina, Brazil, China, India, Indonesia, Russia, Saudi Arabia, and South Africa (p. 1).

According to the *Open Doors Report* (IIE, 2017), China, India, South Korea, Saudi Arabia, Vietnam, and Canada sending the highest number of international students in the U.S. These destinations represent 65% of the international student body in the U.S. There are few studies that have provided empirical research regarding how the changing demographics of entering freshmen have changed; these will continue to change. In examining these data, institutions must pursue intentional ways of promoting student programs, services, and support to accommodate all students from different backgrounds.

Research by Nettles (1990), Nettles and Millett (2006), Neumann (2002), Umbach and Porter (2002), Lang (1987), and Leavell (2002) confirmed how students’ backgrounds can have an impact on students’ satisfaction toward their campus environment. Those studies confirmed the importance of U.S. colleges and universities intentionally developing programs, services, and support to accommodate all students from different backgrounds. Leavell’s (2002) study confirmed campus adjustment among American and international students and stated that American students could be considered well-adjusted to the college life, whereas international students did not feel they were adjusted to the college life. Studies by Quaye and Magolda (2007), Harper and Hurtado (2007), Evans (2007), Washburn-Moses (2007), and Cheatman and

Phelps (1995) confirmed the impact of student background on student success and graduation and demonstrates how higher educational institutions lack knowledge in serving minority students at U.S. colleges and universities.

As mentioned above, the demographics of entering college students are rapidly changing in the U.S. and among international students. Institutions must consider age, race, ethnicity, and gender differences between international and domestic students when implementing programs, services, and support. International students comprise 5.2% of the total U.S. higher education population, which is dominated by South Asian and East Asian students (IIE, 2016). Given the increasing global diversity among international students and domestic students, it is critical to examine the international students' demographic background (e.g., age, ethnicity, gender, and race). For the purpose of this study, the researcher will analyze student demographics of international freshmen students and domestic freshmen students.

International Freshmen and Domestic Freshmen Student Challenges

International students and domestic students face similar challenges such as academic pressure, financial problems, health issues, loneliness, interpersonal conflicts, difficulty in adjusting to the change, and problems with developing autonomy (Baker & Siryk, 1989). Simi and Matusitz (2016) used attachment theory to explain minority or underrepresented students' struggles adapting to the U.S. higher education environment as they leave behind their known environments. International students and domestic students deal with the similar issues when adjusting in a new environment. International and domestic students felt alienated and isolated as a result of a new environment (Gardner, 2013). Perry's (2016) study revealed that the challenges faced by both international and domestic students can necessitate tailored programs that can better suit the needs of multiple groups of students. Previous studies (Curtin, Stewart & Ostrove,

2013; Grayson, 2008; Hwang, Bennett, & Beauchemin, 2014; Mitchell, Greenwood, & Guglielmi, 2007; Perry, 2016; Rogers & Tennison, 2009) indicated that international and domestic students did not show significant differences in the importance of social experiences; both groups struggle with anxiety, depression, concerns over mental health issues, relationship problems, relationships concerns with faculty, and struggles over academic challenges such as studying. International students and domestic students struggle with similar challenges regardless of their age, gender, race, ethnicity, nationality, and temporary visa status.

Challenges Unique to International Freshmen Students

International and domestic students encounter many difficulties together as mentioned above. However, international students have additional unique challenges, and institutions are often not able to address and support all of these unique challenges. Studies by Kaczmarek et al. (1994), Yeh and Inose (2003), and Pascale (2008) confirmed that international students have more difficulties adjusting and transitioning to college than their domestic counterparts. As a college freshman faces challenges with life beyond high school, “international students must also deal with language issues, cultural barriers, loss of a supportive/family, social network” (Pascale, 2008, p. 2). Shenoy (2000) stated that international student stress creates acclimation challenges as “migration involves crossing language, communication, interpersonal, social and cultural boundaries” (p. 2).

The first unique challenge international students face is the English language barrier. According to the *Open Doors Report* (IIE, 2015), 60% of the international students in the United States are from China, India, Saudi Arabia, and South Korea—all countries where English is not the primary language. International students from the above-mentioned countries struggle with English grammar, pronunciations, vocabulary, and English writing (Fass-Homes, 2016). English

language challenges result in poor academic performance and poor social integration with students, which consequently threaten the students' GPA, graduation, and retention.

The second unique challenge international students face is their limited to zero experience over American educational systems, teaching styles and methods, and American higher education standards. Findings by Mori (2000) and Bista (2011) on international students' unfamiliarity with plagiarism standards and academic integrity indicate that this is one of the concepts international students struggle with, as some are from countries where photocopying a text or using another person's work is not penalized or subject to expulsion; it is treated as respect and compliment to the author. The Student Exchange Visitor Information System (SEVIS) immigration portal recognizes unfamiliarity with U.S. teaching methods as an acceptable reason for an international student on F-1 and J-1 visa to drop below their required full-time status during their first semester in the U.S. In addition, U.S. immigration acknowledges that international students are challenged by the U.S. educational standards, U.S. educational systems, and teaching methods.

The third unique challenge for international students is adjusting to the new culture, new environment and not having a support system to assist the students during the toughest time of their life. According to the grounded theory study conducted by Pascale (2008), "participants identified stressors as language, academic, loneliness, homesickness, etc." (p. 88). The term "culture shock" was first developed by Oberg (1960), who listed six negative characteristics of culture shock: strain or stress relating to psychological adaption; a sense of loss or deprivation resulting from the removal of friends, status, role and personal possessions; fear of rejection by or rejection of the new culture; confusion in role definition; unexpected anxiety, disgust or

indignation regarding cultural differences; and finally feelings of helpless, including confusion, frustration and depression. Crew and Bodycott (2001) described challenges of culture shock: participants sent abroad to enhance language competence and cultural understandings may in the course of their immersion suffer the negative, disabling effects of culture shock, which in turn may severely influence the likelihood of the programs achieving their stated aims. Put simply, the anxiety and stress induced by immersion in a foreign culture and language may have an adverse impact on the efficacy of language immersion programs. (p. 3)

The fourth challenge unique to international students is maintaining immigration compliance. Fass-Holmes's (2016) study highlighted maintaining mandatory immigration compliance as a challenge for international students. According to SEVIS, under the Department of Homeland Security (2018) all international students on F-1, M-1 and J-1 visas must maintain immigration status while in the U.S. This requires such tasks as reporting changes in address, major, academic level, marital status, fulltime status, employment status, and financial status. International students must maintain full-time status at all-time with few exceptions; they must also apply for proper authorization for internships or co-op programs, prepare for post-graduation, and maintain the immigration documentation at all times. Failing to maintain the immigration requirements results in violation of their immigration status. According to the immigration policies, failing a class is more acceptable than dropping the class, which can result in violation of their immigration status. An international student will accept the F letter grade over dropping a class, because, as an international student, they have to maintain a full-time course registration during the course of the semester. International students accepting a bad letter grade has more value than losing their immigration status. A poorly performed course can be re-

taken and the poor grade will be replaced if the student performed well, which in return impacts the GPA, graduation date, and retention (NAFSA: Association of International Educators, 2017). Maintaining immigration compliance is a stress-producing challenge that their domestic peers do not encounter. The American counterparts do have the same deadline and same regulations if they are recipients of financial aid, but financial aid consequences do not terminate their immigration status in the United States.

First-Year Student Retention

To better explain why this study focused on freshmen or first-year students, the author now explains the rationale that freshmen students are the most difficult students to be retained and transition to sophomore (or second year) student status, thereby keeping retention decline to a minimum (Osman et al., 2010). From an institutional perspective, it is more expensive to attract a new student than retain an existing student (Gemme, 1997). At U.S. institutions, freshmen students have the highest attrition rate (LaRocca, 2015). First to second year retention increases the student's persistence to graduation. (Kuh et al., 2008; Woosley, 2003). According to American College Testing (2014), 28% of first-year students attending four-year public institutions were not retaining to the second year in college. International student retention is higher compared to the domestic student population. International student retention is highest at private institutions than public (Meagher, 2014). International new student retention rate ranges between 85-94% (Fass-Homes, 2014). Even though the international student retention rates are slightly higher, this is a unique student population that issues surrounding the international students must be addressed especially during their first-year/ freshmen year as they are learning to acclimate to the new environment.

Student satisfaction and retention studies are not a new phenomenon within U.S. higher education. Retention studies date back to the 1960s, and it was studied exclusively at four-year institutions (Upcraft, Gardner, & Barefoot, 2005). Tinto (2006) described student retention and graduation as requiring “availability of clear and consistent expectations about what is required to be successful in college” (p. 10). Student retention during the freshman year is a challenge for all institutions as more than half of the students drop out of college (Bennett & Kane, 2009; Cox et al., 2005; Meling et al., 2012; Osman et al., 2010). According to Tinto (1999), freshmen students can be retained and graduated on time when students are given clear communications on academic success expectations as early as their freshman or first year. This resonates with Bean (1980), Nora and Cabrera (1993), and LaRocca’s (2015) findings. Despite the early research on retention, according to American College Testing (ACT) the U.S. holds one of the lowest ratios for four-year college graduation rates (OECD, 2008). U.S. retention rates were 72% in 2013, a decline from 2004 (ACT, 2013).

According to Kuh (2008), retention is the key to student success. He further stated that the key for student success is student engagement in curricular, co-curricular, and pedagogical practices, which need to be studied further as they play a role in retention and overall student success. Pascarella and Terenzini (2005) stated a connection between the college experience and its effect on students’ success and retention. Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) confirmed that student retention, graduation rates, and student success information is used for accountability purposes, such as for management of funding for institutional planning, for recruitment, and for implementation of new programs and services.

U.S. institutions do expect some freshmen students not returning after the first year, but many U.S. institutions have made significant changes to keep the freshmen dropout rate to a

minimum by creating programs such as first-year experience courses, living and learning communities, student mentoring programs, counseling, and advising programs. Purposeful faculty interactions and faculty mentoring are important as faculty and staff relationships build meaningful connections for students and in return increase their chances of degree completion (Allen & Lester, 2012; Barefoot, 2000; Budget, 2006; Isler & Upcraft, 2005; Kuh & Hu, 2001; LaRocca, 2015; Schmidt & Wolfe, 2009). As institutions struggle to keep students enrolled beyond the freshman year, Okun, Benin, and Brandt-Williams (1996) stated that institutional environmental characteristics are indicators for student retention beyond the first year. Astin (1987) noted that successful retention efforts can only happen if institutions are focused on student experiences, which lead to student retention, instead of focusing on student retention over the student experiences.

The above-mentioned retention studies and theories do not target international students and their unique challenges (Fass-Holmes, 2016; Schulmann & Choudaha, 2014). However, international student retention studies by Fass-Holmes (2016), Meagher (2014), and Andrade (2005, 2009) identified why international students decided to leave their institutions before completion similar to the domestic U.S. population.

For the purpose of this study, first-year student retention was used to explain to the significance of studying freshmen students due institutional concerns over retaining freshman students beyond the first year. Student engagement improves student satisfaction, and academic success in return improves student retention. This study will focus on international freshmen students' and domestic freshmen students' satisfaction of campus environment variables, academic success and student satisfaction of their entire educational experience.

Environment

Institutional Control

U.S. colleges and universities define their institutions as public or private (U.S. Department of Education, 2008). Institutional control is referred to as the institution being public or private. The difference between the two controls is how the institutions are funded. In this study, IUCPR provided the data on institutional control (public and private). According to the U.S. Department of Education (2008), “Public institutions are governed by state authorities, and will receive state-allocated funds. Public institutions property [is] owned by the state, and is subject to state regulations. Public institutions are self-governing and autonomous with respect to academic decision making” (p. 2). Private institutions are “independent of state control even though they are licensed or authorized by state government. Private institutions can be non-profit or for-profit and may be affiliated with a religious community. Some private institutions may receive some state funds, and some function as land-grant institutions” (p. 2).

A comparison study by Lopez (2016) on public and private institutions confirmed that the cost of attending a public university is lower than a private institution, public schools offer few resources, private schools tend to have fixed rates regardless of the state budget whereas public institutions tend to increase cost as to supplement the shrinking state and federal funds available to the institutions. The most visible comparison between public and private institutions is the size of the campus. As the size and the student body grows larger, this can have an impact on the satisfaction and academic success of the student. At private schools, due to the small class sizes, students are given individual attention from faculty, staff, and other administrations. The services offered are readily available to the small group of students. Apart from the campus size, the services and resources available are different from public institutions to private institutions. It is

generally known that private institutions offer more costly services than public institutions. Public institutions offer a large variety of majors as private institutions generally have limited majors offered to students. Students seeking variety of majors tend to enroll at public institutions. However, Lopez's (2016) report confirmed that some stereotypical distinctions between the two institutional types (public and private) are no longer valid. More public institutions are offering excellent facilities and services similar to or greater than private institutions. Students enrolled in public and private institutions have different academic and social goals when enrolling at these institutions. This can generate different results on how students from these institutions view campus environment. In this study, institutional control will be used as an independent variable to test if institutional control affects student satisfaction on quality of interactions, student satisfaction on institutional emphasis on student supportive environments, student academic success, and satisfaction of the students' entire academic experience at the institution.

Student Engagement

Student engagement is defined as “the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in the activities” (Kuh, 2009a, p. 683). According to Kuh (2003), what students bring to higher education, or where they study, matters less to their success and development than what they do during their time as a student. Furthermore, Kuh et al. (2007) added that engagement is “participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes” (p. 5).

As first-year retention rates are plummeting at U.S. institutions, more and more institutions are focusing on student engagement; as mentioned in the literature, an engaged student is a retained student. Engagement is a key factor in first-year student retention, and

student engagement is an area of increasing interest educational institutions. Previous studies indicated that student-faculty interactions lead to an increase in engagement, which results in increased student motivation and achievement. It also plays a key role in marginalized student populations, and studies have documented differences between student-faculty interaction among students of different race, gender, class and first-generation status (Kim & Sax, 2009; Komaraju, Musulkin, & Bhattacharya, 2010).

Student engagement in high-impact practices varied according to student field of study or major. The NSSE (2009) study stated that three out of four seniors in nursing and physical education engaged in service-learning. According to the same report, “students who took part in learning activities as groups with peers participated in other effective educational practices and had more positive views of the campus learning environment” (p. 9).

In this study, the author uses the campus environment theme. The campus environment theme consists of two engagement indicators: quality of interactions and supportive environments. The engagement indicators consist of 13 questions in the National Survey of Student Engagement (NSSE).

Academic Major

According to the University of California-Los Angeles (UCLA; 2018), students deciding disciplines or areas of interest that they want to study involves a process of self-discovery. According to NSSE (2010), “results from specific major fields to show how disciplinary influences and student characteristics affect student engagement” (p. 9). Furthermore, NSSE (2010) study stated that students participation in high-impact practices opportunities vary from academic major. Comparative studies by Zhao, Kuh and Carini (2005) and Korobova (2012) on international students and domestic students found differences in students’ selection of academic

major. In 2005, a large population of international students enrolled in pre-professional majors and math and science, whereas large American student population enrolled in other majors and math and science. In Korobova's (2012) study, a large number of international students preferred to enroll in humanities as well as math and science, whereas a large number of American students preferred to enroll in other majors as well as math and science. Over the years, students' interest fields have changed. According to the *Open Doors Report* (IIE, 2016), the top three major among international students are engineering, business and management, and math and computer science.

This study explores current trends in academic major or field of study among international freshmen and domestic freshmen students. The previous studies were concluded in early 2000s. Student demographics have changed since those earlier studies and will continue to change in the future. Decision makers, policy makers, faculty, and staff should be aware of the current trends in students' selection of academic majors. International freshmen students' and domestic freshmen students' selection of majors have significantly changed over the years, and it is the institution's responsibility to be aware of these changes and provide high-impact practices to suit these growing majors.

Campus Environment

Laird and Nikode (2010) defined campus environments as "students' perceptions of their relationships with others on campus and how much their institutions emphasize supporting various academic and non-academic activities" (p. 335) and stated that campus environment is a "multidimensional construct" (p. 5). Past research highlighted campus environment as emphasis placed on physical characteristics (Miller & Banning, 1992; Stern, 1986), as characteristics created by humans and organized by subcultures (Astin, 1968; Kolb, 1983), and as "the extent

which students believe that their institutions are committed to their success” (Pike & Kuh, 2006, p. 432). Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) stated that “the single best predictor of student satisfaction with college is the degree to which they perceive the college environment to be supportive of their academic and social needs” (p. 40). Furthermore, Laird and Niskode (2010) stated that students’ satisfaction on campus environments should not be ignored as institutions provide support for students to be satisfied with their campus environments. Bermudez-Aponte et al. (2014) referred to institutional support as “efforts by universities to contribute to students’ social and academic integration” (p. 5). Satisfied students perform well academically, which results in graduation.

Firdaus’s (2005) study testing quality of service in higher education confirmed that “students’ perceptions of service quality can be considered as a six-factor consisting of the six dimensions” and listed the dimensions as “non-academic aspects, academic aspects, reputation, access, program issues and understanding” (p. 569). Firdaus also indicated that “quality improvement programs should address not only the performance of service delivery but also academics and various aspects surrounding the educational experience such as physical facilities, and the multitude of support and advisory services offered by the institutions” (p. 569). Alzamel (2014) listed “non-academic aspects of student satisfaction as facilities at the institution, institution recognition and reputation, employee competence, the nature of learning environment created by the institution and the cost of education relative to the services provided at the institution” (p. 19) and listed international student satisfaction according to seven independent variables. The independent variables included academic aspects such as the quality of education; facilities and employees; design, assessment and delivery of the service quality; cost of

education; nature of the learning environment; reputation of the institution; and home country recognition of the institution and its programs (p. 20).

Institutions provide programs and activities to ensure they are meeting the needs of the students of the institution and these programs are categorized as academic, financial, psychological, and administrative support (Bermudez-Aponte et al., 2014). Dietsche's (2012) study on campus support services stated that "identifying effective strategies to improve student persistence is of considerable interest to those who study and manage post-secondary institutions" (p. 66). Even though the campus support services were readily available to all students, poorly performing students were not utilizing these support services. University officials should strategize new ways of creating opportunities for students to utilize the services offered to them to increase their chances of graduation. Furthermore, Dietsche's (2012) study sought to "understand factors influencing students use of supportive campus services and the factors were demographics of students, attitudes, sources of stress, social interaction with faculty and peers and academic achievement" (p. 82).

Many researchers in the past stated that the increase in supportive campus environments will result in student persistence to graduation (Kuh, 2005; Pascarella & Terenzini, 1991; Tinto, 1987), and research by Cholewa and Ramaswami (2015) indicated student services such as counseling services that provided "assistance with transition issues, relationship difficulties, self-esteem and psychological distress" (p. 210) promoted student retention. Early support for students who are academically weak or underprepared through early interventions systems, counseling, and other campus support services can improve students' academic performance, which creates a pathway for graduation. Turner and Berry (2000) found that students with personal problems increased their academic performance as a direct result of supportive campus

environments. Institutions excelling in supportive campus environments not only offer students resources needed to be successful, these institutions are also creative in ways of having students use these resources, providing the students opportunities to excel in their academics and in the social aspects of a college student. Kuh, Kinzie, Schuh, and Whitt (2005) listed supportive campus environments: transition programs, first-year seminars, comprehensive programs, advising networks, peer support, academic support, multiple safety nets such as early warning systems, student government association, student success, academic support divisions, special programs, services available to historically underserved populations, commuter and adult students, transfer students, international students, women and men, and residential environment programs. For the purpose of this study, Laird and Niskode's (2010) definition of campus environment as "examining students' perceptions of their relationships with others on campus and how much their institutions emphasize supporting various academic and non-academic activities" (p. 335) will be used.

International and Domestic Students' Use of Campus Environments

The literature confirmed that international students and domestic students face similar issues when attending university or college outside of their comfort zones. International and domestic students face issues such as feelings of alienation, feelings of separation as they acclimate to a new college university environment, financial problems, interpersonal conflicts, and difficulty in adjusting (Baker & Siryk, 1986; Beehr, Christiansen & Van Horn, 2002; Burdette & Crossmann 2012; Gardener, 2013). In addition, both international and domestic students have significant challenges with their social experiences (Curtin, Stewart, & Ostrove, 2013). Literature also identified that international students are more concerned with their relationships with faculty, and increased access to interact with faculty members increased the

international students' experience and made international students have good relationships with faculty when compared to their American counterparts (Feng & Feng, 2013; Hwang, Benette, & Bauchemin, 2014; Luo & Jamieson-Drake, 2013). International students put effort into cultivating relationships with advisors and other support systems more than domestic students as it is important to international students from different cultural backgrounds, whereas domestic students put more weight on the advice rather than building a relationship with advisors and other support systems (Feng & Feng, 2013). Studies by Galloway and Jenkins (2005), Reynolds and Constantine (2007), and Curtin (2013) identified that the most problematic stressor for international students revolves around career-related concerns and that international students place a higher emphasis on career development compared to their American counterparts.

Many international students felt left out and preferred to make friends or communicate with people of their own nationality or from similar backgrounds, such as becoming friends with other international students (Zhao, Kuh & Carini, 2005). Grayson's (2008) study revealed that international students were more involved in groups, clubs, and other organizations based on religious and ethnic backgrounds. International students have a difficult time with their interactions with American students even after six months following their arrival to the U.S. as they have difficulty in social integration; this impacts the student's learning, adaptation to the new environment, and success. International students expect support from university staff and peers to assist them as they navigate their struggles in acclimating to the new environment. Despite the services available at some institutions to all students, international students are less likely to utilize these available services than domestic students when faced with issues (Bartram, 2007; Beehr, Christiansenn & Van Horn, 2002; Grayson, 2008; Olivas & Li, 2006; Yeh & Inose, 2003).

In a study by Demetriou, Meece, Eaker-Rich and Powell (2017), first-generation college students described their student experience to be “positively changing through activities with persons, objects, and symbols in their environment. Common activities students described included curricular activities, co-curricular activities, and employment activities” (p. 22). The findings resonated with Bronfenbrenner’s (1979) findings that “activities, roles, and interpersonal relations experienced by the developing person” (p. 22) assist students in accomplishing their goals of graduation. Demetriou et al. (2017) resonated with the policies set forth by the White House for first-generation college students (White House, 2015) that encouraged providing support for students in “evidence-based programs that encourage degree completion such as living-learning communities, academic mentoring, and co-curricular activities” (p. 34).

Research by Anderson, Balin, Chudasama, Kanagasingam, and Zhang (2016) confirmed the findings of others (e.g., Grayson, 2008; Hazen & Albert, 2006; Singaravelu, White, & Bringaze, 2005) that international students are mostly motivated by academic and career outcomes and international students are engaged academically and socially. At the same time, international students lacked engagement with services such as career services and other student support services. The study by Urban and Palmer (2016) on international students’ perception at U.S. institutions concluded that students received adequate academic support from faculty and staff, but international students did not think the institutions—especially faculty, administrators and staff—understood the international students’ needs, which resonates to the findings of Galloway and Jenkins (2005) and Sherry et al. (2004).

Comparative studies by Korobova (2012) and Zhao, Kuh and Carini (2005) confirmed that international freshmen and domestic freshmen students’ engagement in academic challenge,

student faculty interactions, and supportive campus environment was similar; however, international senior students scored high on enriching educational experience and supportive campus environments compared to their domestic counterparts. Zhao, Kuh and Carini (2005) stated that senior international students “tend to be more adapted to the cultural milieu and generally do not differ from American senior students” (p. 224). Curtin’s (2013) study revealed a correlation between the support students received from their advisor and academic self-concept. The study indicated that the students who utilized the supportive campus environments and had working relationships with their advisors and other support systems performed better academically.

Outcomes

Student Success and Student Satisfaction

Student success is a term that is used frequently in higher education. The Merriam-Webster (2018) dictionary defines “success” as “favorable desired outcome” and student success is defined as “favorable desired student outcomes.” Kuh et al. (2007) defined success as traditional measures (e.g., scores on standardized admissions tests, grade point averages, number of credit hours earned, enrollment in graduate programs, and performance on professional board examinations) and measures of student satisfaction on campus environments, institutional quality, and commitment to the institution. In higher education, student success is measured by grade point average and test scores. As Pascarella and Terenini (2005) suggested:

Grade point averages are the lingua franca of the academic instructional world, the keys to students’ standing and continued enrollment, to admission to majors and enrollment caps, to program and degree completion to admission to graduate and professional schools, and for employment opportunities. (p. 397)

Elliott and Healy (2001) defined student satisfaction as “a short- term attitude resulting from an evaluation of a student’s educational experience the impact that various dimensions of an educational experience has on student overall satisfaction” (p. 2) and confirmed students’ academic experience leading to high levels of satisfaction and dissatisfaction. The authors argued that their findings on student satisfaction were based on identifying what students perceived as high and low priorities. Elliott and Healy (2001) recommended that colleges and universities emphasize different aspects of educational experience based on the students perceived high and low priorities of importance. The study resonates with the current study: Learning about students’ satisfaction on campus environments will allow colleges and universities to offer programs, services, and support needed to all students of all backgrounds.

Philipps (2013) focused student success on theoretical perspectives on psychological, sociological, cultural, organizational, economic, and spiritual factors and categorized student success by student perspective and institutional perspective. According to Braxton (2003), students’ perspectives can be categorized by enrollment goals, academic experience goals, and social experience goals. Institutions must view student success as measurable in order for institutions to receive state and federal funding. Receiving state and federal funding requires evidence of accountability and transparency, which is measured by student achievement and student performances (Philipps, 2013). Philipps emphasized that “institutions are expected to be more intentional and precise in their definition of student success” (p. 43), similar to the study by Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) on student retention and graduation rates as important factors for student success. Kara and DeShields (2004) stated:

Successful completion and enhancement of students’ education are the reasons for the existence of higher educational institution, college administrators tend to focus

disproportionately more time of programs for attracting and admitting students rather than enrollment management ... importance of satisfying customers to retain them for profit-making institutions, satisfying the admitted students is also important for retention. (p. 1)

According to Astin (1993), student satisfaction is defined as “students’ subjective experience during the college years and perceptions of the value of educational experience” (p. 273). Student satisfaction with their entire college experience is a key factor in persistence. Students who are satisfied with their experiences on campus tend to persist to graduation, creating a positive relationship between student satisfaction and academic performance (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; Rode et al., 2005). A study by Sweeney (2016) on student satisfaction concluded two factors that impact on student satisfaction: (1) internal factors such as satisfaction with college, teaching staff and facilities and (2) external factors such as satisfaction with finances, accommodation and friendship, feeling interested, calm and in good spirits. Studies by Gibson (2010), Aritonang (2014) and Stukalina (2014) confirmed that satisfied students are more loyal to the university by remaining in the program, receiving the services, support provided by the university, maintaining contact even after departing from the institution after graduation. These studies also stated that understanding of student satisfaction should result in necessary tools needed for students to improve in academic success and student satisfaction.

In this study, student success and student satisfaction variables will serve as dependent variables. The student success is measured by the self-reported grade for the question “what have most of your grades been up to now at this institution”; the student satisfaction is measure by the responses to the 2015 NSSE survey (see Appendix A) questions “how would you evaluate your

entire academic experience at this institution?” and “if you could start over again would you go to the same institution you are attending?”

Assessment and Survey

Student Assessment

According to Ewell (1987), higher educational reform set new governing and funding regulations for higher education to monitor student assessment and accountability. This movement was called the “assessment movement” (Ewell, 1987). Assessment is defined as the “process of providing credible evidence of resources, implementation actions, and outcomes undertaken for the purpose of improving the effectiveness of instruction, programs, and services in higher education” (Banta & Palomba, 2015, p. 2). Student assessment data of college students are gathered for two purposes—improvement and development of units and student learning, and accountability. In their report, Ewell and Kuh (2009) stated that

assessment data [is] collected for the purpose of accountability and primarily to demonstrate that the institution is using its resources appropriately to help students develop the knowledge, skills, competencies, and dispositions required to function effectively in the 21st century. The information is typically intended for external audiences. (p. 4)

Assessment provides opportunities for institutions to engage in intentional planning, evidence-based decision making, and reflecting on learning goals and learning outcomes. Student achievement, student success, and satisfaction are met by the curricula, programs, services, and support available to students. Accountability is to demonstrate results of students’ achievements, students’ success, and student satisfactions to groups such as accrediting and governing bodies, state agencies, legislators and other stakeholders (Ewell & Kuh, 2009).

National Survey of Student Engagement (NSSE)

The National Survey of Student Engagement (NSSE) is a survey distributed to U.S. colleges and universities to understand the “extent [that] undergraduate students, faculty, and institutions engage in effective teaching and learning activities, and to develop programs and practices that foster student engagement” (NSSE, 2016). The NSSE emerged in early 2000 as a way for U.S. institutions to measure accountability of students’ engagement in high-impact practices set forth by the institution and to measure institutional effectiveness (Kuh, 2003, 2009). According to NSSE (2018), findings of the survey provide critical information on how students spend their time, which influences their success and can be used as a tool to measure student learning, development, and outcomes indirectly. According to NSSE (2009):

NSSE is one out of four assessment instruments that can be used to report the experiences and perceptions of undergraduate students for the Voluntary System of Accountability (VSA), developed in collaboration with American Association of State Colleges and Universities (AASCU) and the Association of Public and Land-grant Universities (APLU). The VSA is designed to help institutions demonstrate accountability, measure educational practices and outcomes, and assemble information that is accessible, understandable, and comparable. (p. 7)

NSSE provides participating institutions with a report that includes frequencies and mean comparisons of how the students are engaged during their time at the university. Pascarella, Seifert, and Blaich (2010) highlighted that one of the key assumptions of NSSE is that undergraduate students’ engagement in high-impact practices directly measures students cognitive and development during college (p. 18).

The NSSE survey is used by many degree-granting institutions in the U.S., making it one of the largest survey tools used to study and monitor student experience of first-year and final-year undergraduate students in higher education. The year 2018 marks the 18th year of NSSE survey administration, and it is recognized as one of the most popular student surveys conducted with first-year and senior-year undergraduate college students. Since the inauguration of the survey in 2000, more than 2000 institutions have utilized the survey to gather data on first-year and senior-year students (NSSE, 2018).

For this study, the author will examine the *Campus Environment* theme under the NSSE which consists of two engagement indicators: quality of interactions and supportive environments. The campus environment theme consists of 13 questions that measure students' engagement in quality of interactions and supportive environments. Responses to the 13 questions provide institutions with answers how "students feel the campus helps them succeed academically and socially" and how the Campus Environments are able to "promote supportive relations among students and their peers, faculty members and administrative personnel and officers" (Pascarella, Seifert, & Blaich, 2010, p. 18).

NSSE Findings on International Students and Domestic Students

As NSSE is largely increasing their visibility among national and international higher education arenas, research on international students is limited. According to the comparative studies by Korobova (2012) and Zhao, Kuh and Carini (2005), international students were more engaged in academic challenge, student-faculty interaction, enriching educational experiences and supportive campus environments than their American counterparts. However, international students were less likely to engage in community service and time spent socializing compared to their U.S. counterparts. According to the study by Korobova (2012), international student

demographics changed from 2005-2008. Even though Korobova's (2012) publication was published in 2012, Korobova used the 2008 NSSE data. Between the time of Zhao, Kuh and Carini's (2005) study and Korobova's (2008) study, student demographics changed. Korobova (2012) analyzed student engagement according student's country of citizenship and found a larger population of international students were young Asian students, predominately from China, India, or East Asia, which confirms the *Open Doors* (IIE, 2008, 2012, 2016) data. The same study confirmed a large population of international students who majored in humanities as well as math and science, which is a change from Zhao, Kuh and Carini's (2005) study that found that international students majored in pre-professional majors and math and science. Both studies confirmed that international student enrollment was high among institutions with public control and in Masters I and II institutions, with a significant decrease in international students among Doctoral Research Universities. Both the studies echoed that international students were more engaged in level of academic challenge, enriching educational experiences, and quality of relationships during their senior year, while their domestic counterparts scored higher in student-faculty interaction and supportive campus environments. Korobova (2012) found that international freshmen students tend to have higher grades than their domestic counterparts during the freshmen year; however, during the senior year both international and domestic seniors performed equally, which is reflective of Zhao et al.'s (2005) findings. Both studies confirmed international freshmen students spent less time socializing compared to their domestic counterparts. Korobova's (2012) data of international freshmen students found them more engaged with students from different backgrounds than their domestic counterparts. Both studies (Korobova, 2012; Zhao et al., 2005) confirmed that international and domestic students evaluated their entire educational experience at the institution to be good and excellent.

NSSE Benchmarks

In 2015 NSSE survey, NSSE established four benchmarks. Figure 2 lists the four NSSE benchmarks as academic challenge, learning with peers, campus environment, and experience with faculty. The 2015 NSSE survey consisted of 88 questions, categorized into four themes. The four themes consist of 10 engagement indicators. For the purpose of this study the Campus Environment theme with quality of interaction and supportive environment engagement indicators was used to analyze international freshmen and domestic freshmen students' satisfaction of their campus environments, academic success and satisfaction of their entire academic experience.

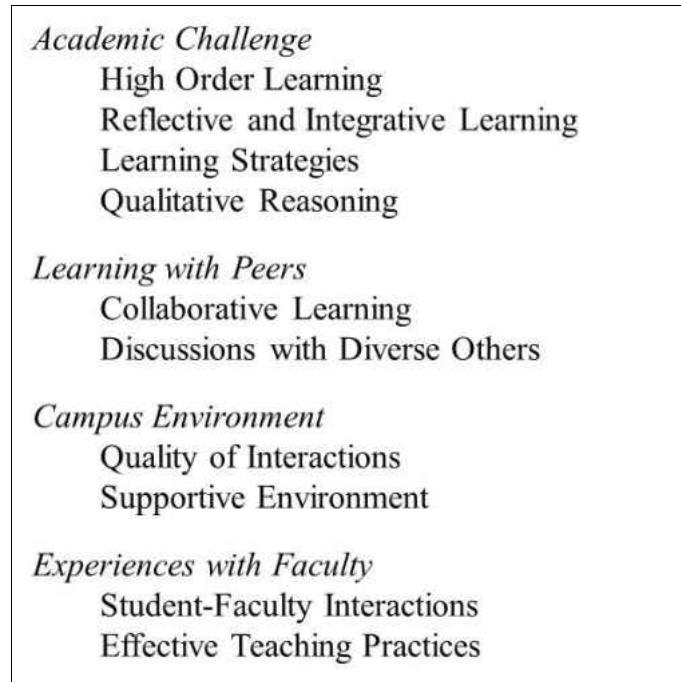


Figure 2. NSSE themes and engagement indicators (NSSE, 2015)

Chapter Summary

Chapter two provided a review of the literature to guide this study. The purpose of this study is to investigate international freshmen students' satisfaction of campus environments,

academic success, and the international freshmen students' satisfaction of their entire educational experience. In order to investigate international freshmen students, the author compared international freshmen students' data with domestic freshmen students' data. This chapter reviewed the international students' and domestic students' challenges, their use of campus environments, and a review of using National Survey of Student Engagement (NSSE) as a self-assessment tool to investigate international freshmen students' and domestic freshmen students' use of campus environments. The chapter also reviewed student success and satisfaction and other key variables in the study that will assist in mapping the study.

CHAPTER THREE

METHODOLOGY

This chapter provides an overview of the design and in-depth analysis of the study. The methodology section will also provide an overview of the research questions, justify the research design, and briefly explain how the results were analyzed. According to Creswell (2014), methodology is defined as “strategy or plan of action that links methods to outcomes—governs our choice and use of methods” (p. 5). This chapter is written in three sections: (1) discuss epistemology, theoretical framework, and conceptual framework, (2) describe the participants, instrumentation, NSSE administration, and validity and reliability of NSSE, and (3) discuss research questions, research design, data collection, variables of the study, method of data analysis, and ethical issues.

Epistemology, Theoretical Framework and Conceptual Framework

Epistemology

For the purpose of this study, a quantitative research design with a postpositivist philosophical worldview was used. According to Creswell (2014), this is referred to as the “scientific method of doing science research” (p. 7). Postpositivism holds “four major key elements: determination, reductionism, empirical observation and measurement and theory verification” (p. 6). Creswell stated that “the problems studied by postpositivism reflect the need to identify and assess the causes that influence outcomes such as found in experiments” (p. 7). According to Philips and Burbules (2000), the key assumptions for postpositivist worldviews are knowledge is conjectural, research is the process of making, refining, and abandoning claims;

knowledge is shaped by data, evidence and rational considerations, research continues to develop relevant and true statements; and objectivity is essential for competent inquiry by checking for bias through standards such as validity and reliability.

According to Leedy (1993) quantitative research methods are used to find answers on relationships within variables with an intention to explain, predict, and control a phenomenon. For the purpose of this quantitative study, the research method used was pre-existing data of survey questionnaire called the National Survey of Student Engagement (NSSE).

Theoretical Framework

A theory, in quantitative research, “is an interrelated set of constructs (variables) formed into propositions, or hypotheses, that specify the relationship among the variables” (Creswell, 2014, p. 54). The theoretical framework will help to define the purpose of the study and limit the relevant data by focusing on specific variables and defining the specific viewpoint that the researcher will take in analyzing and interpreting the data. It also facilitates the understanding of concepts and variables according to given definitions and builds new knowledge by validating or challenging theoretical assumptions. Kuh’s (2005) theory on engagement was used as a theoretical framework. Research by Hu and Kuh (2001) referred to student engagement as the time spent by the student on educational activities that contribute to the desired outcomes. For the purpose of this study, the above student engagement theory was used to explain the success of a student in higher education as a result of the students’ engagement and student involvement.

Theory of Student Engagement

Student engagement is “meaningful student involvement throughout the learning environment provided to the student or in other words student engagement is referred to as the relationship between the student development and learning environment” (Martin & Torres,

2016, p. 2). Kuh's (2001) work on engagement refers to the time and energy students set forth toward activities that lead to student success. Also Kuh (2003) defined student success as academic achievement, engagement in educational purposeful activities, satisfaction, and acquisition of desired knowledge. Furthermore, Kuh stated that student success is dependent on the level of engagement the student dedicates for purposeful programs and activities and highlighted that "what students bring to higher education, or where they study, matters less to their success and development than what they do during their time as a student" (p. 2).

Previous research indicated that best educational practices that provide student engagement resulted in positive student achievement and student success; however, the authors suggested that the students' efforts on engagement resulted in different levels of satisfaction and student success (Astin, 1984; Carini, Kuh & Klein, 2004; Chickering & Gamson, 1987; Kuh, Kinzie, Schuh, & Whitt, 2005; Pascarella & Terenzini, 2005). Kuh, Kinzie, Schuh, and Whitt (2005) stated that "what students do during college counts more for what they learn and whether they will persist in college than who they are or even where they go to college" (p. 8).

The best identified student engagement indicators were listed by Chickering and Gamson (1987) as student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. As specified above student success is a result of two components: the time and effort students engage in academics and activities that lead to student outcomes and success. In order for students to have achievements and success, "institutions must provide support by allocating resources to implement services and learning opportunities for students to foster student engagement can be thought of as a margin of educational quality" (Kuh, 2009a, p. 685). In discussing resources, Kuh et al. (2007) highlighted the importance of "how the institution deploys its resources and

organizes the curriculum, other learning opportunities and support services to induce students to participate in activities that lead to the experiences and desired outcomes such as persistence, satisfaction, learning and graduation” (p. 44). Resonating with Kuh (2007), Markwell’s (2007) study emphasized the importance of “creating an inclusive environment—one in which women and men of all cultural, national, socio-economic and other backgrounds will, so far as possible, feel able to engage on equal terms” (p. 15). Krause (2005) depicted that subgroups of students mentioned in Markwell’s statement perceive their success at engagement negatively by stating:

As a subgroup, international students score high on the usual measures of engagement. They spend more time on campus and in class than their domestic peers. They engage in online study far more than domestic students and devote relatively little time to paid employment. Nevertheless, they are having difficulty engaging with study and learning and are feeling overwhelmed by all they have to do. The finding points to the need for multiple indicators of engagement and a theorizing of the concept which allows for multiple perspectives. To understand engagement is to understand that for some it is a battle when they encounter teaching practices which are foreign to them, procedures which are difficult to understand, and a ‘language’ which is alien. Some students actively engage with the battle and lose. (p.10)

Students who failed to create meaningful connections with their faculty and peers or fail to take advantage of the learning opportunities or services offered to the students resulted in students’ departure from the institution prematurely (Kuh, 2005). A study by Svanum and Bigatti (2009) found that highly engaged students were more likely to attain a degree at a higher rate than the students who were not engaged. High levels of engagement display high rates of

persistence. Kuh et al. (2007) stated “student engagement is represented by variables corresponding to time spent” (p. 7).

For the purpose of this study, the survey design was used. The National Survey of Student Engagement is a survey distributed among freshmen and senior students. The campus environment theme consists of two engagement components comprised of responses to 13 items from the NSSE survey. The measure represents student interactions with students, academic advisors, faculty, student services staff, and other administrators' staff under quality of interactions. According to the supportive environments measurements it measures: (1) Institutional emphasis on academics, (2) Institutional emphasis on use of learning support services, (3) Institutional emphasis on connecting students from different backgrounds, (4) Institutional emphasis on opportunities to be involved socially, (5) Institutional emphasis on providing support for students overall well-being, (6) Institutional emphasis on managing non-academic responsibilities, (7) Institutional emphasis on attending campus activities and events, and (8) Institutional emphasis on attending events that address important social, economic, or political issues. The responses to these 13 items measure satisfaction of their engagement on campus environments. For the purpose of this study, student engagement theory was used as a theoretical framework to map students' engagement satisfaction on campus environment, which leads to students' academic success and overall satisfaction of their experience.

Conceptual Framework

The most frequently used model to study student impact due to institutional environmental impact is Astin's (1993, 1991) Input-Environment-Outcome model. Earlier studies by Astin (1984) on theory of involvement stated that the more effort students set forth on being involved with campus environments and more energy students place on academic work,

the more meaningful the students' academic experience will be resulting better academic results (e.g., higher grade point averages) and better satisfaction of their entire educational experience. He also stated that students' impact on involvement has an impact on student outcomes in college. Astin's (1984) theory on involvement, Kuh's (2001) student engagement, and Astin's (1993, 1999) I-E-O model are interconnected when considering that student involvement and engagement on institutional environments impacts student satisfaction, academic success and graduation. In fact, Astin's (1984) theory of student involvement connects with Kuh's (2005) student engagement theory on institutional emphasis: Creating opportunities for students to engage in high impact practices directly affects students' academic success.

Input-Environment-Outcome (I-E-O) model

For the present study, the conceptual framework was based on Astin's (1993, 1999) Input-Environment-Outcome (I-E-O) model. Astin (1993, 1999) presented the model in order to understand the relationship between institutional processes and student outcomes: Institutions must consider input variables such as student characteristics that they bring with them. In Astin's (1993) I-E-O model, input refers to the characteristics of the students during the time of enrollment; environment refers to the curriculums, programs, policies, faculty, students, educational and social experiences provided to student or exposed to; and outcomes refer to the students' results after the following through the environment, which results in student success, student achievement, or growth (Astin, 1991; Pascarella & Terenzini, 1991). The I-E-O model explains how student characteristics and campus environment have an impact on student outcomes and highlights "the impact of various environmental experiences by determining whether students grow of change differently under varying environmental conditions" (Astin, 1993, p. 7).

Astin (1993, 1999) introduced the input-environment-outcome model as an assessment model to allow practitioners, researchers, and policy makers of higher education to be knowledgeable that campus environmental factors influence students' academic success. In his study, he called the I-E-O model a "simple, powerful framework for the design of assessment activities and for dealing with even the most complex and sophisticated issues in assessment and evaluation" (Astin, 1993, p. 16). In the present study, the I-E-O model serves as a conceptual framework to examine how NSSE campus environment engagement indicators impact college outcomes of international freshmen students and domestic freshmen students in the United States.

International freshmen students and domestic freshmen students attending U.S. higher education are students with different ethnic, racial, socioeconomic and other background characteristics. Once they arrive in the U.S. or start their program at an U.S. institution, changes in environment, such as institutional control, and support provided by the institutions affect their acclimation to the new environment, which in return may influence student achievement and success. For the purpose of this study, inputs are the characteristics of the student entering U.S. institutions, such as age, gender, race, ethnicity, and domestic or international student status. Environment factors are institutional control (public and private) and NSSE engagement indicators for campus environments. The campus environment theme consists of two engagement indicators. The 13 questions under the campus environment theme will measure students' satisfaction of quality of interactions and students satisfaction of the institutional emphasis on supportive environment. The final component of the model, the outcome factors, are student success measured by grade point average and satisfaction is measured by how the student responds to the student satisfaction question (How would you evaluate your entire educational

experience at this institution?). Figure 3 is adapted from Astin's (1993, 1999) Input-Environment-Outcome model to better conceptualize variables according to the I-E-O model.

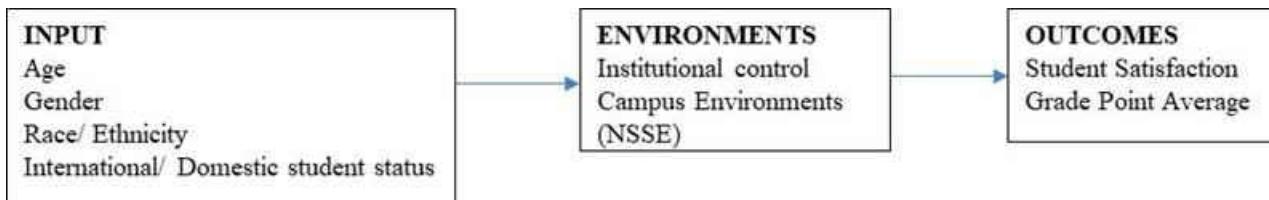


Figure 3. I-E-O Model adapted by Astin (1993, 1999), to map the variables of the study

Participants and Instrumentation

Participants

According to the data sharing agreement with Indiana University Center for Postsecondary Research (IUCPR), the author was provided with 20% of the students' responses of the 2015 NSSE survey (see Appendix A). According to the IUCPR data sharing agreement, the latest NSSE data available for research was three years prior to the date that the NSSE data was requested. The author requested the data in April 2018; therefore, IUCPR granted the permission to use the 2015 NSSE data. The participants consisted of 20% of the undergraduate international freshmen students and 20% of the undergraduate domestic freshmen students who responded to the 2015 NSSE survey. A random sample of international freshmen students and domestic freshmen students were provided to the researcher by the Indiana University Center for Postsecondary Research (IUCPR) once the data-sharing agreement (see Appendix E) was completed by the principal investigator, IUCPR, and University of North Dakota (UND) Institutional Review Boards (IRB). The author received all the necessary authorizations by UND IRB and IUCPR IRB.

Instrumentation

The instrumentation used for the study was the 2015 National Survey of Student Engagement (NSSE) survey. Annually NSSE survey collects information from four-year colleges and universities on undergraduate first-year and undergraduate senior students' participation in programs and activities that institutions provide for their learning and personal development. The data provides a summary of how undergraduate students spend their time during their time at the college or university. The NSSE survey was launched in 2000; however, in 2013 (see Appendix B) the NSSE questionnaire was updated and a new NSSE questionnaire was implemented. The new NSSE was beneficial for those in International Education; the unique question to target direct international students was changed to more accurately capture the international students on temporary F-1, M-1, and J-1 visas. According to the IUCPR data sharing agreement, the NSSE data was not available for the most current year. The latest NSSE data available was for the 2015 academic year. Institutions purchase the right to administer the NSSE for a small fee. The survey is distributed to the students in late February to all freshmen and senior students to take part in. The 2015 NSSE survey instrument included 41 questions to determine the best practices in the students' undergraduate education at the institutions in the U.S. NSSE reports on four themes. The four themes are comprised of 10 engagement indicators: Academic Challenge, Learning with Peers, Experience with Faculty, and Campus Environments. For the purpose of this study, author investigated the Campus Environment theme that consists of two engagement indicators (quality of interactions and supportive environment) among international freshmen students' domestic freshmen students. The campus environment theme consists of 13 questions of the 41 questions in the NSSE survey.

Once the University of North Dakota (UND) Institutional Review Board (IRB) approved the study and the Indiana University Center for Postsecondary Research (IUCPR) data-sharing agreement was completed, IUCPR provided the pre-existing data for 2015 NSSE survey. IUCPR provided all 2015 NSSE data for 20% of the respondents. In addition to the survey data IUCPR provided data on institutional control.

NSSE Administration

The NSSE was inaugurated in 2000 for more than 730 different public and private four-year institutions across the continental United States, Canada, and Puerto Rico (NSSE, 2018). Each institution can administer the survey as it is or institutions can partner with other campuses, and unique questions can be added to each institution's survey (for additional costs). The cost of the survey varies according to the enrollment size and special questionnaires requested by the institution. Campuses administer the survey during the spring semester, and the results are sent during the fall semester. Once the institutions receive the results, institutions are able to assess undergraduate experience of students on and off-campus that can improve through changes implemented by the institution and offering good practices in undergraduate education. This survey information is useful for prospective college students, their parents, academic advisors, recruitment and admissions and many other institutional entities to know about their student body and where these students spend their time when not in class.

Validity and Reliability of NSSE

For a survey to be sound, it must be free of bias and distortion. Reliability and validity are two concepts important in finding the biases. According to NSSE (2009), validity refers to "how well the survey measure what it is intended to measure" (p. 1), and reliability is refers to the repeatability of the findings. If the same study were to be done more than once, would the

study generate the same results? If yes, the data is considered reliable. For this study, the author used pre-existing 2015 NSSE data. The NSSE is a survey questionnaire where students self-report the information. According to extensive research by past researchers (Bradburn & Sudman, 1988; Brandt, 1958; Converse & Presser, 1989; DeNisi & Shaw, 1977; Hansford & Hattie, 1982; Laing, Swayer, & Noble, 1989; Lowman & Williams, 1987; Pace, 1985; Pike, 1995), self-reported data are valid under general conditions:

they are: the information requested are known to the respondents, the questions are phrased clearly and unambiguously, the questions refers to recent activities, the respondents think questions merit a serious and thoughtful responses, and answering the questions does not threaten, embarrass or violate the private of the respondents or encourages respondents to respond socially desirable way. (Kuh, 2003, p. 4)

Kuh's (2001) study on psychometric properties suggested that self-reported data can affect accurate responses when students lack knowledge or understanding of the question, purposely answer incorrectly, or submit responses that have a halo effect to over-exaggerate their behavior and experiences, such as their grade point average, level of effort they put in activities, and level of gain from attending college.

Kuh (2009) emphasized that the NSSE seeks to "provide high quality, actionable data that institutions can use to improve the undergraduate experience" (p. 9). However, studies conducted by Swerdzewski, Miller, and Mitchell (2007), Lutz and Carver (2010), LaNasa, Cabrera, and Trangsrud (2009) and Campbell and Cabrera (2011) have questioned the validity and reliability of NSSE by concluding poor model fit; they warn that policy or programmatic decision should not be made based on the results of the NSSE. A five-factor NSSE failed to fit

individual campuses, and they suggested a benchmark of NSSE at the institutional level before utilizing the data gathered from the NSSE survey.

Tendhar, Culver, and Burge (2013) confirmed Pike, Kuh, and Gonyea's (2003) findings that "students attending different types and sizes of colleges and universities reported having different patterns of experience in college. Characteristics of schools also play a factor" (p. 183). For example, institutions with mandatory on-campus living requirements, the students' disciplinary area, and underrepresented-serving institutions and institutions with underrepresented students engage differently with their supporting campus environments making student engagement and NSSE data more challenging for each institution (Ethington, 2000; Harper, 2009; Pike & Kuh, 2005).

Research Questions, Study Design, and Data Collection

Research Questions

For the purpose of this study, pre-existing 2015 NSSE data was used with permission from IUCPR (see Appendix E). The following research questions guided this study:

1. How do key descriptive statistics compare between international freshmen and domestic freshmen students who responded to the 2015 NSSE?
2. Is there a difference in international freshmen students' and domestic freshmen students' satisfaction of quality of interactions as measured across institutional controls (public and private)?
3. Is there a difference in international freshmen students' and domestic freshmen students' satisfaction toward supportive environments measured across institutional controls (public and private)?

4. Is there a difference in international freshmen students' and domestic freshmen students' academic success measured across institutional control (public and private)?

Research Design

For the purpose of this study the quantitative research design was used. A quantitative research design is “nonexperimental quantitative research … causal-comparative research in which the investigator compares two or more groups in terms of a cause that has already happened” (Creswell, 2014, p. 12). The researcher used a pre-existing survey instrument, the NSSE. The data for the 2015 NSSE survey was provided by IUCPR (2018). The survey research “provides quantitative or numeric description of trends, attitudes, or opinions of population by studying a sample of that population which includes cross-sectional and longitudinal studies using questionnaires” (Creswell, 2014, p. 13).

Data Collection

According to NSSE (2018), in 2015 more than 315,000 first-year and senior-year students attending 585 bachelor's degree-granting colleges and universities in the United States and Canada responded to the 2015 NSSE. Upon completion of the IUCPR contract with the principal investigator and the student, IUCPR provided the data for a 20% random data sample of the 2015 NSSE survey. The sample included 20% of the undergraduate international freshmen student NSSE respondents (1,744 records) and 20% of the undergraduate domestic student population who responded to the survey (44,896 records), for a total of 46,640 respondents.

Variable Specifications

According to Creswell (2014), “variable refers to a characteristic or attribute of an individual or an organization that can be measured or observed and that varies among the people

or the organization being studied” (p. 52). Pre-existing data for 2015 NSSE survey was issued by IUPCR once the contract agreement was completed by the principal investigator and the student.

Independent variables. Independent variables “are those that cause influence, or affect outcomes” (Creswell, 2014, p. 52). The independent variables are international and domestic student status and institutional control (public and private) provided by IUCPR.

Dependent variables. Dependent variables are “those that depend on the independent variables: they are the outcomes or results of the influence of the independent variables” (Creswell, 2014, p. 52). Under NSSE engagement indicators, the campus environments have two engagement indicators. In this study, the dependent variables are the quality of interactions and supportive campus environments. The quality of interactions indicators was answered by 2015 NSSE survey question 13a to question 13e (See Table 3.1). The supportive environment indicators were answered by 2015 NSSE survey question 14b to 14i.

Table 3.1

NSSE 2015 Survey Key Questions and Scale

<u>NSSE Variable Questions</u>	<u>Answers / Scale</u>
Are you an international Student?	Yes No
Country of Region	Africa Suh-Saharan Asia Canada Europe Latin America and Caribbean Middle East and North Africa Oceania Unknown/Uncoded
What is your gender identity?	Man Woman Another gender identity I prefer not to respond

What is your racial or ethnic background	American Indian or Native Alaskan Asian Black or African American Hispanic or Latino Native Hawaiian or Other Pacific Islander White Other Multiracial I prefer not to answer
Age/ Enter your year of birth	19 years and younger 20-23 24-29 30-39 40-55 Over 55
Enrollment Status	Full-time Not Full-time
Academic Major	Arts and Humanities Biological Sciences, Agriculture and Natural Resources Physical Sciences, Mathematics, and Computer Science Social Sciences Business Communications, Media, and Public Relations Education Engineering Health Professionals All Other Undecided, Undeclared
Institutional Control	Public Private
NSSE Engagements: Campus Environment	Quality of Interaction
Quality of Interaction	(1-poor to 7- excellent, 8-not applicable) 13a. How do students rate the quality of interactions with other students? 13b. How do students rate the quality of interactions with Academic Advisors? 13c. How do students rate the quality of interactions with Faculty?

- 13d. How do students rate the quality of interactions with student services staff (career services, student activities, housing, etc.)?
- 13e. How do students rate the quality of interactions with other administrators and officers
- Supportive Environment**
(4 scales, very much, quite a bit, some, very little)
- 14b. To what extent does the institution emphasize providing students the support they need to succeed academically?
- 14c. To what extend does the institution emphasize using learning support services (tutoring services, writing center, etc.)?
- 14d. Encouraging contact among students from different backgrounds (social, racial/ethnic, religious etc.)
- 14e. To what extent does the institution emphasize providing opportunities to be involved socially?
- 14f. To what extend does the institution provide support for your overall well-being (recreation, health care, counseling, etc.)
- 14g. To what extend the institution helping you manage your non-academic responsibilities (work, family, etc.)
- 14h. To what extent does the institution emphasize attending campus activities and events (performing arts, athletic events, etc.)?
- 14i. To what extend does the institution encourage attending events that address important social, economic, or political issues?

Academic Success Questions

What have most of your grades been up to now at this institution?

C-
C
C+
B-
B
B+
A-
A

Student Satisfaction of their entire educational Experience

How would you evaluate your entire educational experience at this institution?
 Poor
 Fair
 Good
 Excellent

If you could start over again would you go to the same institution you are now attending?	Definitely No
	Probably No
	Probably Yes
	Definitely Yes

Method of Data Analysis

The data was analyzed using SPSS (Statistical Package for the Social Science) version 22 once the IUPCR provided the survey results. SPSS is the most commonly used software to perform statistical analysis. The following statistical analysis methods in SPSS were used to answer the research questions in this study.

- **Descriptive Statistics:** Descriptive statistics provide a basic summary of the data in the study.
- **Frequency Distribution:** Frequency distribution is listings of each variable and the number of times the same variable is listed in the dataset. Frequency distributions are listed as frequency tables.
- **Two-Way ANOVA:** Two-way ANOVA compared means difference between two variables. The main effect of the two-way ANOVA is to understand the main interaction between the two independent variables on the dependent variable.

The following research questions guided the study.

Research Question 1: How do key descriptive statistics compare between international and domestic students who responded the 2015 NSSE?

Descriptive statistics and frequencies were used to identify the data of international freshmen students' and domestic freshmen students' responses to the questions such as student

status, age, gender, race and ethnicity, and international freshmen students domestic freshmen students responses to the Campus Environment questions at public and private institutions.

By completing a descriptive statistical analysis on key variables (see Appendix D), the author was able determine the international freshmen student and domestic freshmen student population data, such as age, gender, race and ethnicity, student satisfaction, and academic success among international freshmen students and domestic freshmen students. The descriptive statistics provided a profile of the students who responded to the survey and international freshmen students' and domestic freshmen students' responses to the key questions under campus environments, academic success and student satisfaction across institutional control (public and private). By running descriptive statistical analysis, the author was able to create a profile of the information on international freshmen students' and domestic freshmen students' responses to the Campus Environment based on the institutional control. The profile will provide the researcher the student characteristics according to Astin's (1993, 1999) Input-Environment-Outcome model.

Research Question 2: Is there a difference in international freshmen students' and domestic freshmen students' satisfaction of quality of interactions as measure across institutional controls (public and private)?

The hypothesis is that there is a difference in international student and domestic student satisfaction on quality of interactions with students, academic advisors, faculty, student services staff and other administrative staff and officers across institutional control. The independent variables are international and domestic student status and institutional control (public versus private). The dependent variable is the average of the five items under "Quality of interactions."

The rationale for this hypothesis was that international freshmen students are more concerned with their relationships with faculty as they can have an impact on their academics at the institution. International freshmen students do feel left out among domestic students, in that international students prefer make friends or communicate with people of their own nationality or from similar backgrounds such as other international students. International students tend not to socialize with other campuses services and students outside of their nationality or other international students. International students' race, ethnicity, language barrier, culture shock, academic system differences, and self-doubt prevent international students from seeking services such as the counseling center or from connecting with student services staff and other administrative staff. International students prefer to seek assistance from other international students from similar backgrounds. Domestic students' interactions with other students, academic advisors, faculty, student services staff and other administrative staff often comes easy to the students as they are used to similar environments from high school or other organizations prior attending university or college. Domestic students may have different perspectives on whom they consider meaningful quality interactions. International students tend to enroll at institutions with large body of international students. International students are greater at public institutions than private institutions. A two-way analysis of variance (two-way ANOVA) was used for this question.

Research Question 3: Is there a difference in international freshmen students' and domestic freshmen students' satisfaction of supportive environments measures across institutional controls (public and private)?

The hypothesis is that there is a difference in international students' and domestic students' perception toward supportive environments according to the institutional control

(public versus private). The independent variables are the international and domestic student status and institutional control, which is listed as public and private. The dependent variable is the average for the eight items of supportive environment.

The rationale for this hypothesis is that students' perceptions toward supportive environments vary greatly according students' backgrounds. Astin's (1993, 1999) Input-Environment-Outcome model identified input as the characteristics of the student entering the U.S. institutions. Environment is identified as the programs, policies, faculty, students, education and social experience the students are provided at the institution. The I-E-O model theorizes that input and environment affect the outcome of student success and student satisfaction. A two-way analysis of variance (two-way ANOVA) was used to analyze this question.

Research Question 4: Is there a difference in international freshmen students and domestic freshmen students' academic success measures across institutional control (Public and Private)?

The hypothesis is that there is a difference in international students' and domestic students' academic success (grade point average) according to institutional control (public versus private). The independent variables are the international and domestic student status and institutional control, which is listed as public and private. The dependent variable is student success measured by the question "what have most of your grades been up to now at this institution? (grade point average). A two-way analysis of variance (two-way ANOVA) was used for this question.

Ethical Issues

The University of North Dakota Institutional Review Board was consulted and the study was granted exempt status as all student and institutional identifying data was removed by

IUCPR prior to receiving the data for the study. This study received exempt under protection of human research subject policies. There are no other potential ethical issues, as the 2015 NSSE survey student and institutional identifying key details were removed prior to receiving the data from IUCPR.

Chapter Summary

Chapter three provides the summary of the purpose of the study, theoretical framework and the conceptual framework mapping the study to the frameworks. Additionally, this chapter presents the participants, instrumentation, NSSE administration, validity and reliability of NSSE and in final the research questions, method of analysis and ethical issues.

CHAPTER FOUR

RESULTS

Chapter four presents the results and the explanation of the findings of this quantitative study. The results are organized by research question. First, the author reports on the findings of the key variables (see Appendix C). Second, the author will report the findings on significant difference of quality of interactions among international freshmen students and domestic freshmen students across institutional control. Third, the author will report the findings on significant differences of supportive environments among international freshmen students and domestic freshmen students across institutional control. Finally, the author will report the findings on international freshmen and domestic freshmen students' academic success across institutional control.

For this 2015 NSSE survey (Appendix A), data were used to analyze international freshmen and domestic freshmen students' responses to their satisfaction related to the above-mentioned variables. Past studies (Korobova, 2012; Phillips, 2013; Zhao, Carini, & Kuh, 2005) used NSSE as the student survey instrument; however, these past studies used the older version of the NSSE survey. In 2013, NSSE restructured some questions, including a question relevant to all international student-related research on NSSE. Prior to 2015, the NSSE asked "Are you an international student or a foreign national?" This question creates conflicts with the more precise definition of international students as those who are temporary non-immigrant F-, M- and J-visa holders, as opposed to potentially including those students who are permanent residents, refugees, or asylees who are foreign national, as they are also not citizens of the United States, as

they hold citizenship from their home countries outside of the U.S. In 2013, this question was restructured to “Are you an international student?” (see Appendix B). This restructure bears weight on accuracy of the responses from international students versus foreign nationals. Therefore, this study holds much more accurate responses from the international student population than the previous studies by Zhao, Carini, and Kuh (2005), Korobova (2012), and Philips (2013).

Research Question 1: How do key descriptive statistics compare between international and domestic students who responded to the NSSE 2015 survey?

To answer this research question, the demographics of the 2015 NSSE sample were analyzed by running descriptive statistics and frequencies. It was determined that 46,640 undergraduate students responded to the survey; 1744 (4%) were international students from 152 countries, and 44,896 (96%) were domestic students, as displayed in Table 4.1. The data was retrieved by the data provided by IUCPR. According to the IUCPR data-sharing agreement (see Appendix E), the author received a 20% of the data from the total number of respondents of the 2015 NSSE survey.

Table 4.1

Entire International Student and Domestic Student Population

Student Enrollment	International Students		Domestic Students	
	N	%	N	%
Student Enrollment	1,744	4	44,896	96
<i>N = 46,640</i>				

As shown in table 4.2., descriptive statistics for the sample show that 826 (47%) international students and 16,070 (36%) domestic students were freshmen or first-year students.

802 (46%) international students 23,707 (53%) domestic students were classified as seniors or fourth-year students.

Table 4.2

International and Domestic Student Academic Level (Freshmen and Senior)

Academic Level	International Students		Domestic Students	
	N	%	N	%
Freshmen/ 1st year	826	47	16,070	36
Senior / 4th year	802	46	23,707	53
N = 46,516				

As listed in Table 4.3, 440 (53%) were female students and 372 (45%) of the international freshmen students were male students. Compared with the domestic freshmen students, 12,045(66%) were female students and 5,815 (32%) were male students. The gender distribution (more female students than male students) mirrors to the national data among degree attainment in the U.S. According to the U.S. Census Bureau's (2015) *Current Population Survey*, from 1972-2015 young women were ahead in bachelor's degree attainment compared to young men.

From the total 826 international students, 539 (65%) were 19 years or younger; 250 (30%) were between ages 20 and 23; and 26 (3%) were between the ages of 24 and 29. This is compared to domestic freshmen students, where 16,073 (89%) were 19 years or younger; 948 (5%) were between ages 20 and 23; and 347 (2%) were between the ages 24 and 29. Referring to Table 4.4, 95% of the total international freshmen students were under the age of 24, similar to international students, and 94% of the domestic freshmen students were under the age of 24.

Table 4.3

International Freshmen Student and Domestic Freshmen Student Gender Distribution

Academic Level	International Students		Domestic Students	
	N	%	N	%
Male	372	45	5,815	32
Female	440	53	12,045	66
Another Gender Identity	4	5	75	0.04
Prefer not to respond	10	1	613	3

International Freshmen Students N=826 ; Domestic Freshmen Students N = 18,315

Table 4.4

International Freshmen Student and Domestic Freshmen Student Age Distribution

Academic Level	International Students		Domestic Students	
	N	%	N	%
19 or younger	539	65	16,073	89
20-23	250	30	948	5
24-29	26	3	347	2
30-39	7	1	353	2
40-55	4	3	331	2
Over 55			45	0.25

International Freshmen Students N = 826; Domestic Freshmen Students N = 18,097

By running frequencies, 379 (46%) international freshmen students were identified as Asian, 164 (20%) international students identified as White, 90 (11%) international freshmen students identified as Hispanic or Latino, 63 (8%) as Black or African American, 52 (6%) as other, 41 (5%) as multiracial and 31(4%) chose not to respond to the question. Compared with the domestic freshmen student population, 11,520 (83%) identified as White, 1,783 (10%) identified as Hispanic or Latino, 1,576 (9%) identified as multiracial, 1,380 (7%) as Black or African American, 957 (5%) as Asian, 568 (3%) domestic freshmen students preferred not to

respond to the question, and 206 (1%) identified as other, 83 (0.5%) identified as American Indian or Alaskan Native and 65 (0.4%) identified as Native Hawaiian or Other Pacific Islander.

Table 4.5 summarizes race/ethnicity distribution among international and domestic students.

Table 4.5

International Freshmen Student and Domestic Freshmen Student, by Race and Ethnicity

Academic Level	International Students		Domestic Students	
	N	%	N	%
American Indian or Alaskan Native			83	0.5
Asian	379	46	957	5
Black or African American	63	8	1,380	7
Hispanic or Latino	90	11	1,783	10
Native Hawaiian or Other Pacific Islander			65	.4
White	164	20	11,520	83
Other	52	6	206	1
Multiracial	41	5	1,576	9
I prefer not to respond	31	4	568	3

International Freshmen Students N = 820; Domestic Freshmen Students N = 18,138

In the 2015 NSSE survey (see Appendix A), when a student selected “yes” to the question “are you an international student?” the international students were prompted to list their country of citizenship. Among the international students who responded to this unique question, 365 (46%) identified as from Asia, 133 (17%) international students from Latin America and the Caribbean, 118 (15%) from European countries, 67 (4%) from Africa Sub-Saharan and Middle East and from North Africa, 30 (4%) from Canada, and 11 (2%) from Oceania. Refer to Table 4.6 for the data on regional distribution of the international student population who responded to the survey. The regional categories mirrors to the race and ethnicity question mentioned above.

Table 4.6

Regional Destinations of the International Freshmen Student Population

Regional Categories	International Students	
	N	%
Africa Sub-Saharan	67	4
Asia	365	46
Canada	30	4
Europe	118	15
Latin America & Caribbean	133	17
Middle East & North Africa	67	4
Oceania	11	2
Unknown	0	0
International Freshmen Students N=791		

Descriptive frequencies suggest that 800 (97%) of the international students were full-time students, and 14 (2%) were listed as part-time students. Comparing to the domestic students, 17,419 (96%) were full-time and 647 (4%) were part-time as shown in Table 4.7.

Within this sample, 413 (50%) of international freshmen students attended public institutions, and 421 (50%) international freshmen students attended private institutions. Comparing to their domestic counterparts, 10,303 (57%) domestic freshmen students attended public institutions, and 7,870 (43%) attended private institutions as displayed in Table 4.8.

Table 4.7

Enrollment Status of International Freshmen Students and Domestic Freshmen Students

Enrollment Status	International Students		Domestic Students	
	N	%	N	%
Full-time	800	97	17,419	96
Part-time (not full-time)	14	2	647	4

International Freshmen Students N=814; Domestic Freshmen Students N=18,066

Table 4.8

Institutional Control and Student Enrollment of International Freshmen Students and Domestic Freshmen students

Institutional Control	International Students		Domestic Students	
	N	%	N	%
Public	413	50	10,333	57
Part-time (not full-time)	421	50	7,870	43

International Freshmen Students N=834; Domestic Freshmen Students N= 18,173

The top six majors of international freshmen students, according to enrollment (see Table 4.9), were business programs 215(26%), engineering 122 (15%), social sciences 89 (11%), 75 (10%) arts and humanities, 70 (8%) physical sciences, mathematics and computer science, and 66 (8%) Biological Sciences.

Table 4.9

Academic Major Distribution of International Freshman Students and Domestic Freshman Students

Academic Major	International Students		Domestic Students	
	N	%	N	%
Arts and Humanities	75	10	1,569	9

Biological Science & Agricultural & Natural	66	8	1,931	11
Physical Science, Mathematics & Computer Science	70	8	982	6
Social Sciences	89	11	1,826	10
Business	215	26	2,764	16
Communication, Media & Public Relations	16	2	795	4
Education	38	6	1,468	8
Engineering	122	15	1,314	7
Health Professionals	50	6	2,988	16
Social Service and Professionals	15	2	953	5
All Other	34	4	788	4
Undecided, Undeclared	26	4	622	3

International Freshmen Students N=816; Domestic Freshmen Students N= 18,000

Comparing to the international freshmen students, the top six majors of domestic freshmen students according to enrollment were health professions 2,988 (16%), business programs 2,764 (16%), biological sciences 1,937 (11%), social sciences 1,826 (10%), arts and humanities 1,569 (9%), and education 1,468 (8%). Please refer to Table 4.9.

International Freshmen and Domestic Freshmen Student Use of Campus Environments

This study seeks to identify the satisfaction of international freshmen students and domestic freshmen students' use of campus environments. The 2015 NSSE survey consists of four themes: academic challenge, learning with peers, experiences with faculty, and campus environments. The four themes are comprised of 10 engagement indicators. The two engagement indicators listed under campus environment are quality of interaction and supportive environments (see Appendix D).

This section of the survey asks students to respond to the survey questions using semantic differential scaling and Likert scaling. Quality of interactions are designed using semantic differential scaling, where the author is able to identify the respondents' attitudes and satisfaction toward the items being studied. According to Osgood (1952), semantic differential scaling is the most reliable way to receive information on respondents' satisfaction toward a topic in study. By having a semantic differential scale, the author is able to get an idea of the overall satisfaction for each question in quality of interactions.

The supportive environment survey questions are designed using Likert scaling. According to Likert (1932), the Likert scales are used to obtain the respondent's degree of agreement or satisfaction by series of statements. According to Likert (1932), the most commonly used Likert scales are 5-point, where some may use a 7-point or 9-point. In NSSE, the Likert scaling for questions under supportive environments are on a 4-point Likert Scale, forcing a selection of a response, where there is no "other" option is offered to the respondents.

Quality of Interactions

The quality of interactions engagement indicator consists of five survey questions (see Appendix D): quality of interactions with students, quality of interactions with academic advisors, quality of interactions with faculty, quality of interactions with student services staff and quality of interactions with administrative and other officers. The students responded to the five questions, rating their satisfaction toward quality of interaction. The students rate the five questions in an eight-point semantic differential scale (where 1 (poor), 2, 3, 4, 5, 6, 7 (excellent) and not applicable). This section will compare the international freshman students' and domestic freshman students' responses to the above mentioned five questions on quality of interactions under the campus environment theme.

Quality of interactions with students. Quality of interactions with students is the first question under the quality of interaction engagement indicator. This question allows institutions to learn the ratings of students' interactions compared to other students at the institution. In order to compare international freshman students' and domestic freshmen students' satisfaction toward quality of interaction with other students, the researcher used frequencies. In this sample, a large number of international freshman students (260; 31%) rated their satisfaction as a 6. A total of 723 (88%) rated 4 and above for quality of interaction with other students. According to Table 4.10, a total of 94 (11%) of the international freshman students rated their satisfaction to be below a 4.

In comparison, a large number of domestic freshman students (5,382; 30%) rated their satisfaction similar to the international freshmen, as a 6. A total of 16,725(92%) rated 4 and above for quality of interaction with students. As shown in Table 4.10, a total of 1490 (8%) of the domestic freshman students rated their satisfaction to be below 4.

According to Table 4.11, a large number of international students (214; 26%) and a large number of domestic freshmen students (4,899; 32%) socialize with friends between 6-10 hours per week. A total of 678 (83%) international freshmen students and 14,982 (99%) of the domestic freshmen students spend 1-20 hours socializing with friends.

Table 4.10

Quality of Interaction (QI) with Students Among International Freshmen Students and Domestic Freshmen Students

QI Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	15	2	274	2
2	21	3	399	2

3	58	7	817	5
4	96	12	1,814	10
5	174	21	4,069	23
6	260	32	5,382	30
Excellent	199	24	5,260	29

International Freshmen Students N=823; Domestic Freshmen Students N= 18,015

Table 4.11

International Freshmen Students and Domestic Freshmen Students Hours Per Week Socializing

Hours Per Week	International Students		Domestic Students	
	N	%	N	%
0 Hours per week	20	2.5	34	0.22
1-5	184	23	3,851	25
6-10	214	26	4,899	32
11-15	189	23	3,857	26
16-20	91	11	2,375	16
21-25	46	6	39	0.25
26-30	27	3	33	0.22
More than 30 hours	38	5	26	0.17

International Freshmen Students N=809; Domestic Freshmen Students N= 15,114

Quality of interactions with academic advisors. Quality of interactions with academic advisors is the second question under quality of interaction engagement indicator. This question allows institutions to learn the ratings of students' interactions among academic advisors at the institution. In order to compare international freshman students' and domestic freshmen students' satisfaction towards quality of interaction with academic advisors, the researcher analyzed using frequencies. A large number of international freshman students (197; 23%) rated their satisfaction as excellent. A total of 695 (83%) international freshmen students rated 4 and above

for quality of interaction with academic advisors. A total of 121 (15%) of the international freshman students rated their satisfaction to be below a rate 4 (see Table 4.12).

Table 4.12

Quality of Interaction (QI) with Academic Advisors Among International Freshmen Students and Domestic Freshmen Students

QI Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	24	3	666	4
2	30	4	874	5
3	67	8	1,500	8
4	119	15	2,333	13
5	194	24	3,429	19
6	185	21	3,971	22
Excellent	197	24	4,935	28

International Freshmen Students N=816; Domestic Freshmen Students N= 17,708

To compare the survey responses with domestic freshman students, frequency analysis performed to learn the ratings of domestic freshman students' satisfaction toward quality of interaction with academic advisor question. A large number of domestic freshman students (4,935; 27%) rated their satisfaction as excellent. A total of 14,668 (81%) rated 4 and above for quality of interaction with academic advisors. As shown in Table 4.12, a total of 3,040 (17%) of the domestic freshman students rated their satisfaction to be below a 4.

Quality of interactions with faculty. Quality of interactions with faculty is the third question under quality of interaction engagement indicator (under campus environment). This question allows institutions to learn the ratings of students' interactions among faculty of the institution. In order to compare international freshman students' satisfaction toward quality of interaction with faculty the researcher analyzed using frequencies. A large number of

international freshman students rated their satisfaction be a 5 and 6 (205 or 24% rated as 5 and 204 or 24% rated as 6). A total of 699 (84%) rated 4 and above for quality of interaction with faculty. As shown in Table 4.13, a total of 109 (13%) of the international freshman students rated their satisfaction to be below a 4.

Table 4.13

Quality of Interaction (QI) with Academic Faculty Among International Freshmen Students and Domestic Freshmen Students

QI Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	21	3	345	2
2	23	3	557	3
3	65	8	1,100	6
4	102	13	2,315	13
5	204	25	4,367	26
6	205	25	5,126	29
Excellent	188	23	3,991	22

International Freshmen Students N = 808; Domestic Freshmen Students N = 17,801

To compare the survey responses with domestic freshman students, a frequencies was performed to learn the ratings of domestic freshman students' responses to quality of interaction with faculty. A large number of domestic freshman students (3,991; 22%) chose a rate of 6. A total of 15,803 (87%) rated 4 and above for quality of interaction with faculty. As shown in Table 4.13, a total of 2,002 (11%) of the domestic freshman students rated their satisfaction to be below a 4.

Quality of interactions with student services staff. Quality of interactions with student services staff is the fourth question under quality of interaction engagement indicator. This question allows institutions to learn ratings of students' interactions among student services staff

of the institution. In order to compare international freshman students' satisfaction towards quality of interaction with student services staff the researcher analyzed using frequencies. It was determined that a large number of international freshman students (196; 24%) rated their satisfaction be a rate 6. A total of 626 (76%) rated 4 and above for quality of interaction with student services staff. As shown in Table 4.14, a total of 160 (19%) of the international freshman students rated their satisfaction to be below a 4.

To compare the survey responses with domestic freshman students, a frequencies was performed to compare the ratings of domestic freshman students' responses to the quality of interaction with student services staff survey question. A large number of domestic freshman students (4,002; 22%) rated their satisfaction as a 6. A total of 13,414 (74%) rated 4 and above for quality of interaction with student service staff. Table 4.14 also shows that a total of 2,979 (16%) of the domestic freshman students rated their satisfaction to be below a 4.

Table 4.14

Quality of Interaction (QI) with Student Service Staff Among International Freshmen Students and Domestic Freshmen Students

QI Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	36	5	822	5
2	44	6	859	5
3	80	10	1,298	8
4	118	15	2,390	15
5	165	21	3,617	22
6	196	25	4,002	24
Excellent	145	18	3,405	21

International Freshmen Students N=784; Domestic Freshmen Students N= 16,393

Quality of interactions with other administrative staff officers. Quality of interactions with other administrative staff and officers is the fifth and the final question under quality of interaction engagement indicator under campus environment. This question allows institutions to learn ratings of students' interactions among administrative staff and officers of the institution. In order to compare international freshman students' satisfaction toward quality of interaction with other administrative staff and officers, the researcher analyzed using frequencies. It was determined that a large number of international freshman students (183; 22%) rated their satisfaction be a 6. A total of 613 (74%) rated 4 and above for quality of interaction with other administrative staff and officers. As shown in Table 4.15, a total of 175 (21%) of the international freshman students rated their satisfaction toward other administrative staff and officers to be below a 4.

Table 4.15

Quality of Interaction (QI) with Other Administrative Staff Among International Freshmen Students and Domestic Freshmen Students

QI Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	45	6	852	5
2	46	6	1,070	6
3	84	11	1,490	9
4	132	17	2,618	16
5	164	21	3,653	22
6	183	23	3,755	22
Excellent	134	17	3,426	20

International Freshmen Students N= 788; Domestic Freshmen Students N= 16,864

To compare the survey responses with domestic freshman students, a frequencies was performed to compare ratings of domestic freshman students' responses to the quality of interaction with other administrative staff and officers' survey question. It was determined that a large number (3,755; 21%) of domestic freshmen students rated 6. A total of 13,452 (74%) rated 4 and above for quality of interaction with other administrative staff and officers. A total of 3,412 (19%) of the domestic freshman students rated their satisfaction to be below a rate 4.

Supportive Environment

Supportive environment is an engagement indicator under the theme campus environment. The supportive environment engagement indicator consists of eight survey questions (see Appendix D). They rate institutional emphasis on: (1) providing support to help students succeed academically, (2) using learning support services (tutoring services, writing center, etc.), (3) encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.), (4) providing opportunities to be involved socially, (5) providing support for your overall well-being (recreation, health care, counseling, etc.), (6) helping you manage your non-academic responsibilities (work, family, etc.), (7) attending campus activities and events (performing arts, athletic events, etc.), and (8) attending events that address important social, economic, or political issues. The students respond to the eight Likert scale questions, rating their satisfaction on supportive environments. The students rate the eight questions on a four-point Likert scale: as very much, quite a lot, some and very little. This section will compare the international freshman students' and domestic freshmen students' responses to the above eight questions on supportive environments under the campus environment theme.

Institutional emphasis: Providing support to help students succeed academically.

Institutional emphasis: providing support to help students' success academically is the first question under supportive environment engagement indicator that is under campus environment. This question allows institutions to learn the ratings of students' satisfaction on how supportive the institutions are for students succeed academically.

In order to compare international freshman students' satisfaction toward institutional emphasis on providing support to help students succeed academically, the researcher analyzed the responses using frequencies. It was determined a large number of international freshman students (322; 40%) rated that the institutional support to be "quite a bit." A total of 591 (74%) international freshman students perceived their institutions to be supportive in students succeeding academically. However, as shown in Table 4.16, 31 (3%) international freshman students perceived their institutions provided very little support for international freshman students to succeed academically.

Table 4.16

Institutional Emphasis (IE): Providing Support to Help Students Succeed Academically Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	31	4	569	3
Some	181	22	3,101	17
Quite a bit	322	40	7,191	41
Very much	269	34	7,000	39

International Freshmen Students N = 803; Domestic Freshmen Students N = 17,861

To compare the survey responses of international freshmen students with domestic freshmen students, the researcher compared the responses to the domestic freshmen students'

ratings of their satisfaction of institutional emphasis on providing support to help students to succeed academically. The researcher analyzed the responses using frequencies. It was determined that a large number of domestic freshman students (7,191; 41%) rated that institutional support to be “quite a bit.” A total of 14,191 (97%) domestic freshman students perceived the institution to be supportive in students succeeding academically. As shown in Table 4.16, 569 (3%) domestic freshmen students perceived that institutions provided very little support for domestic freshmen students to succeed academically.

Institutional emphasis: Using learning support services. Institutional emphasis: using of learning support services is the second question under supportive environment engagement indicator. This question allows institutions to learn the ratings of students’ satisfaction with how supportive the institutions are for students using learning support services such as tutoring and writing centers.

To compare international freshman students’ satisfaction toward institutional emphasis on providing support on using learning support services, the researcher analyzed the responses using frequencies. It was determined a large number of international freshman students (314; 39%) rated that the institutional support to be “very much.” A total of 763 (93%) international freshmen students perceived their institutions to be supportive toward students’ use of learning support services. At the same time, as shown in Table 4.17, 43 (5%) international freshman students perceived their institutions provided very little support for international freshman students using learning support services such as tutoring and writing centers.

Table 4.17

*Institutional Emphasis (IE): Using Learning Support Services (Tutoring, Write Center, etc)
Among International Freshmen Students and Domestic Freshmen Students*

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	43	5	847	5
Some	144	18	2,880	16
Quite a bit	305	38	6,270	35
Very much	314	39	7,855	44

International Freshmen Students N = 806; Domestic Freshmen Students N = 17,852

To compare the survey responses of international freshmen students with domestic freshmen students, the researcher compared the responses of domestic freshman students to the question on institutional emphasis on providing support on using learning support services. The researcher compared the responses using frequencies. It was determined that a large number of domestic freshman students (7,855; 44%) rated that institutional support to be “very much.” A total of 17,005 (97%) domestic freshman students perceived the institution to be supportive in students utilizing learning support services. As shown in Table 4.17, 847 (5%) domestic freshmen students perceived that institutions provided very little support for domestic freshmen students in utilizing learning support services such as tutoring, writing centers.

Institutional emphasis: Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.). Institutional emphasis: encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) is the third question under supportive environment engagement indicator. This question allows institutions to learn the ratings of students’ of their satisfaction on how supportive the institutions are for students have contacts with others from different backgrounds.

In order to compare international freshman students’ satisfaction toward institutional emphasis on providing support on encouraging students to contact among students from different

backgrounds, the researcher compared the responses using frequencies. It was determined that a large number of international freshman students (309; 38%) rated that the institutional support to be “quite a bit.” A total of 740 (92%) international freshmen students perceived their institutions to be supportive in encouraging contact among students from different backgrounds. As shown in Table 4.18, 66 (8%) international freshman students perceived their institutions provided very little encouragement for building contact among students from different backgrounds such as social, racial/ethnic and religious backgrounds.

To compare the survey responses of international freshmen students with domestic students, the researcher compared the responses to the ratings of domestic freshman students’ responses to the institutional emphasis on providing support on encouraging students to contact among students from different backgrounds. The researcher compared the responses using frequencies. It was determined that a large number of domestic freshman students (5,809; 32%) rated that institutional support to be “quite a bit.” A total of 15,939 (89%) domestic freshmen students perceived the institution to be supportive in encouraging contact among students from different backgrounds. As shown in Table 4.18, 1,959 (11%) domestic freshman students perceived that institutions provided very little support for building contact among students from different backgrounds.

Table 4.18

Institutional Emphasis (IE): Encouraging Contact Among Student from Different Backgrounds Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	66	8	1,959	11
Some	195	24	5,016	28

Quite a bit	309	38	5,809	32
Very much	236	30	5,111	29

International Freshmen Students N = 806; Domestic Freshmen Students N = 17,895

Institutional emphasis: Providing opportunities to be involved socially. Institutional emphasis: providing opportunities to be involved socially is the fourth question under supportive environment engagement indicator. This question allows institutions to learn ratings of students' satisfaction on how supportive the institutions are for students in providing opportunities to be involved socially.

In order to compare international freshman students' satisfaction towards institutional emphasis on providing opportunities to be involved socially, the researcher compared the responses using frequencies. It was determined that a large number of international freshman students (299; 37%) rated that the institutional support to be "quite a bit." A total of 756 (94%) international freshmen students perceived their institutions to be supportive in providing opportunities to be involved socially. As shown in Table 4.19, 48 (6%) international freshman students perceived their institutions provided very little opportunities for international freshman students to be involved socially.

Table 4.19

Institutional Emphasis (IE): Providing Opportunities to be Involved Socially Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	48	6	903	5
Some	199	25	3,615	20
Quite a bit	299	37	6,735	38

Very much	258	32	6,643	37
International Freshmen Students N = 804; Domestic Freshmen Students N = 17,896				

To compare the survey responses of international students with domestic students, the researcher compared the responses to the ratings of domestic freshman students' responses to the question on institutional emphasis on providing opportunities to be involved socially. The researcher compared the responses using frequencies. A large number of domestic freshman students (6,735; 38%) rated that institutional support to be "quite a bit." A total of 16,993 (95%) domestic freshmen students perceived the institution to be supportive providing opportunities to be involved socially. As shown in Table 4.19, 903 (5%) domestic freshman students perceived that institutions provided very little support for domestic freshman students in providing with the opportunities to be involved socially.

Institutional emphasis: Providing support for your overall well-being. Institutional emphasis: providing support for students' overall well-being (e.g., recreation, health care, counseling, etc.) is the fifth question under supportive environment engagement indicator. This question allows institutions to learn the ratings of students' satisfaction on how supportive the institutions are for students in providing support their overall well-being.

In order to compare international freshman students' satisfaction toward institutional emphasis on providing support for overall well-being of students, the researcher compared the responses using frequencies. A large number of international freshman students (322; 40%) rated the institutional support to be "quite a bit." A total of 749 (93%) international freshmen students perceived their institutions to be supportive in providing support for their overall well-being. As shown in Table 4.20, 60 (7%) international freshman students perceived their institutions

provided very little support for international freshman students overall well-being such as recreation, health care, and counseling.

To compare the survey responses of international students with domestic students, the researcher compared the responses to the ratings of domestic freshman students responses to the question on institutional emphasis on providing support for students overall well-being. The researcher compared the responses using frequencies. A large number of domestic freshman students (6,696; 38%) rated that institutional support to be “quite a bit.” A total of 16,731(94%) domestic freshmen students perceived the institution to be supportive in providing support for students overall well-being. As shown in Table 4.20, 1,130 (6%) domestic freshman students perceived that institutions provided very little support for domestic freshman students in providing support for their overall well-being such as recreation, health care, and counseling.

Table 4.20

Institutional Emphasis (IE): Providing Support for Overall Well-being (recreation, health care, counseling, etc.) Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	60	7	1,130	6
Some	180	22	3,698	21
Quite a bit	322	40	6,696	38
Very much	247	31	6,337	35

International Freshmen Students N = 809; Domestic Freshmen Students N = 17,861

Institutional emphasis: Helping you manage your non-academic responsibilities.

Institutional emphasis: helping students manage their non-academic responsibilities (work, family, etc.) is the sixth question under supportive environment engagement indicator. This

question allows institutions to learn the ratings of students' satisfaction on how supportive the institutions are for students in helping manage their non-academic responsibilities.

In order to compare international freshman students' satisfaction toward institutional emphasis on helping students with their non-academic responsibilities, the researcher compared the responses using frequencies. It was determined that a large number of international freshman students (270; 33%) rated that the institutional support to be "quite a bit." A total of 663 (82%) international freshmen students perceived their institutions to be supportive in helping students in managing their non-academic responsibilities. As shown in Table 4.20, 390 (48%) international freshman students perceived their institutions provided some to very little support for international freshman students in helping them manage with their non-academic responsibilities such as work and family commitments.

Table 4.21

Institutional Emphasis (IE): Helping You Manager Your Non-academic Responsibilities (work, family, etc.) Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	145	18	3,510	20
Some	241	30	6,092	34
Quite a bit	270	33	5,034	28
Very much	152	19	3,226	18

International Freshmen Students N= 808; Domestic Freshmen Students N= 17,862

To compare the survey responses of international students with domestic students, the researcher compared the responses to the ratings of domestic freshman students' responses to the question on institutional emphasis on helping students with their non-academic responsibilities. The researcher compared the responses using frequencies. A large number of domestic freshman

students (6,092; 34%) rated that institutions are providing “some” support. A total of 3,510 (20%) domestic freshmen students perceived the institution to be less supportive in helping domestic freshman students manage their non-academic responsibilities. As shown in Table 4.21, 9,602 (54%) domestic freshman students perceived that institutions provided very little to some support in helping them manage non-academic responsibilities such as work and life responsibilities.

Institutional emphasis: Attending campus activities and events. Institutional emphasis: attending campus activities and events (performing arts, athletic events, etc.) is the seventh question under supportive environment engagement indicator. This question allows institutions to learn the ratings of students’ satisfaction as to whether institutions are emphasizing attending campus activities and events.

To compare international freshman students’ satisfaction toward institutional emphasis on attending campus activities and events the researcher compared the responses using frequencies. A large number of international freshman students (303; 38%) rated the institutional support to be “quite a bit.” A total 731 (91%) international freshmen students perceived their institutions emphasized attending campus activities and events. At the same time, as shown in Table, 4.22, 74 (9%) international freshman students perceived their institutions provided very little emphasis on international freshman students attending campus activities and events.

Table 4.22

Institutional Emphasis (IE): Attending Campus Activities and Events (Performing Arts, Athletic Events, etc.) Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	74	9	1,366	8

Some	189	23	4,053	23
Quite a bit	303	38	6,616	37
Very much	239	30	5,788	32

International Freshmen Students N = 805; Domestic Freshmen Students N = 17,823

To compare the survey responses of international students with domestic students, the researcher compared the responses to ratings of domestic freshman students' responses to the question on institutional emphasis on attending campus activities and events. The researcher compared the responses using frequencies. A large number of domestic freshman students (6,616; 37%) rated that institutions do emphasize "quite a bit" on attending campus activities and events. A total of 16,457 (92%) domestic freshmen students perceived that the institutions do emphasize attending campus activities and events, whereas Table 4.22 shows that 1,366 (8%) domestic freshman students perceived that institutions did very little to emphasize to domestic freshman students to attend campus activities and events.

Institutional emphasis: Attending events that address important social, economic, or political issues. Institutional emphasis: attending events that address important social, economic, or political issues is the eighth and the final question under supportive environment engagement indicator (under campus environment). This question allows institutions to learn the ratings of students' satisfaction regarding whether institutions are emphasizing on attending events that address important social, economic and political issues.

In order to compare international freshman students' satisfaction toward institutional emphasis on attending events that address important social, economic or political issues, the researcher compared the responses using frequencies. A large number of international freshman students (266; 33%) rated that the institutional support to be "quite a bit." A total of 688 (86%) international freshmen students perceived their institutions emphasized attending events that

address important social, economic or political issues. However, as shown in Table 4.23, 112 (14%) international freshman students perceived their institutions provided very little emphasis on international freshman students attending campus events that address important social, economic or political issues.

To compare the survey responses of international students with domestic students, the researcher compared the responses to the ratings of domestic freshman students' responses to the question on institutional emphasis on attending events addressing important social, economic, or political issues. The researcher compared the responses using frequencies. A large number of domestic freshman students (5,714; 32%) rated that institutions emphasize "quite a bit" and a same amount of freshman students 5,676 (31%) rated their institution's emphasis to be "some." A total of 15, 281 (86%) domestic freshmen students perceived that the institutions do place emphasis on attending events addressing important social, economic, or political issues. At the same time, as shown in Table 4.23, 2,409 (14%) domestic freshman students perceived that institutions did very little to emphasize to domestic freshman students to attend campus events addressing important social, economic, or political issues.

Table 4.23

Institutional Emphasis (IE): Attending Events that Address Important Social, Economic, or Political Issues Among International Freshmen Students and Domestic Freshmen Students

IE Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Very little	112	14	2,409	14
Some	231	29	5,576	31
Quite a bit	266	33	5,714	32
Very much	191	24	3,991	23

International Freshmen Students N = 800; Domestic Freshmen Students N = 17,690

Academic Success and Satisfaction with the Entire Educational Experience

This study seeks to understand international freshmen and domestic freshmen students' use of campus environment and how campus environment impact on students' academic success, as well as how international freshmen and domestic freshmen students' evaluate their satisfaction with their entire educational experience at the institution they attend. The academic success is measured by the responses to the NSSE survey question "what have most of your grades been up to now at this institution?" The students are able to select between letter grades C- to A (see Appendix D).

To compare how international freshmen and domestic freshmen students evaluate their satisfaction with their entire educational experience, the researcher compared student responses to the NSSE question "how would you evaluate your entire educational experience at this institution?" The second survey question that provides the researcher an overview of the international freshmen students' and domestic freshmen student's satisfaction of their respective institutions is "If you could start over again would you go to the same institution you are now attending?" By comparing responses to both of these questions, the author derived an accurate rating from the international freshmen and domestic freshmen students of their experience at the current institution.

In order to compare international students' academic success, the researcher compared the responses using frequencies to the NSSE question "what have most of your grades been up to now at this institution?" A large number of international freshman students (292; 35%) rated their grades to be A. A total of 811 (97%) international freshmen students responded indicating they have C+ or higher grade for most of the courses completed at the institution. As shown in

Table, 4.24, 21(3%) international freshman students responded indicating they have C or lower for most of their grades.

In order to compare international freshman students, the researcher compared the responses using frequencies to the NSSE question “what have most of your grades been up to now at this institution” for domestic freshmen students. A large number of domestic freshman students (4,821; 27%) indicated their grades to be A. A total of 17,384 (96%) domestic freshman students responded indicating they have C+ of higher grade for most of the courses completed at the institution. As shown in Table 4.24, 745(5%) domestic freshman students responded indicating they have C or lower for most of their grades.

Table 4.24

International Freshmen Students and Domestic Freshmen Students Academic Success According to the Self-Reported Grades

Grades	International Students		Domestic Students	
	N	%	N	%
C- or lower	5	0.6	258	1
C	16	2	487	3
C+	16	2	768	4
B-	35	4	1,163	6
B	122	15	3,404	19
B+	180	22	3,464	19
A-	166	20	3,764	21
A	292	35	4,821	27

International Freshmen Students N = 832; Domestic Freshmen Students N = 18,129

In order to compare international freshman students and domestic freshman students' satisfaction at the institution, the researcher compared the responses to the following two questions: “how would you evaluate your entire educational experience at this institution” and

“if you could start over again would you go to the same institution you are now attending?” A total of 702 (86%) international freshmen students and 15,701 (87%) domestic freshmen students indicated their entire educational experience at the current institution to be good to excellent (See Table 4.25). A total of 678 (83%) international freshmen students and a total of 15,170 (84%) domestic freshmen students responded stating “probably yes” to “definitely yes” in attending the same institution (see Table 4.26).

Table 4.25

International Freshmen Students and Domestic Freshmen Students Satisfaction of the Entire Educational Experience

Satisfaction Scale	International Students		Domestic Students	
	N	%	N	%
Poor	14	2	279	2
Fair	97	12	2,057	11
Good	454	56	8,812	49
Excellent	248	31	6,889	37

International Freshmen Students N = 813; Domestic Freshmen Students N = 18,037

Table 4.26

International Freshmen Students and Domestic Freshmen Starting Over at the Same Institution

Starting Over Scale	International Students		Domestic Students	
	N	%	N	%
Definitely No	25	3	689	4
Probably No	115	14	2,176	12
Probably Yes	436	53	7,429	41
Definitely Yes	242	30	7,741	43

International Freshmen Students N = 818; Domestic Freshmen Students N = 18,035

Research Question 2: Is there a difference in international freshmen students' and domestic freshmen students' satisfaction of quality of interactions as measured across institutional controls (public and private)?

To analyze this research question the responses for the five quality of interaction indicators (Appendix D) were averaged. The label QUALINTER (Appendix F) was used in identifying the mean for quality of interactions.

A two-way ANOVA was conducted to analyze the effects on the satisfaction of quality of interactions at public and private institutions for international freshmen and domestic freshmen students. The results of the two-way ANOVA showed that there is a statistically significant main effect for freshmen students' satisfaction on quality of interactions according to institutional control, $F(1,18915) = 14.96, p < 0.05, d = 0.14$.

For international freshmen students and domestic freshmen students, there is a statistically significant main effect on quality of interactions according to the student's status as an international freshmen student or as a domestic freshmen student, $F(1, 18915) = 6.374, p < 0.05, d = 0.10$. Descriptive statistics indicate that international freshmen students ($M = 5.11$) and domestic freshmen students ($M = 5.22$) satisfaction of their quality of interactions.

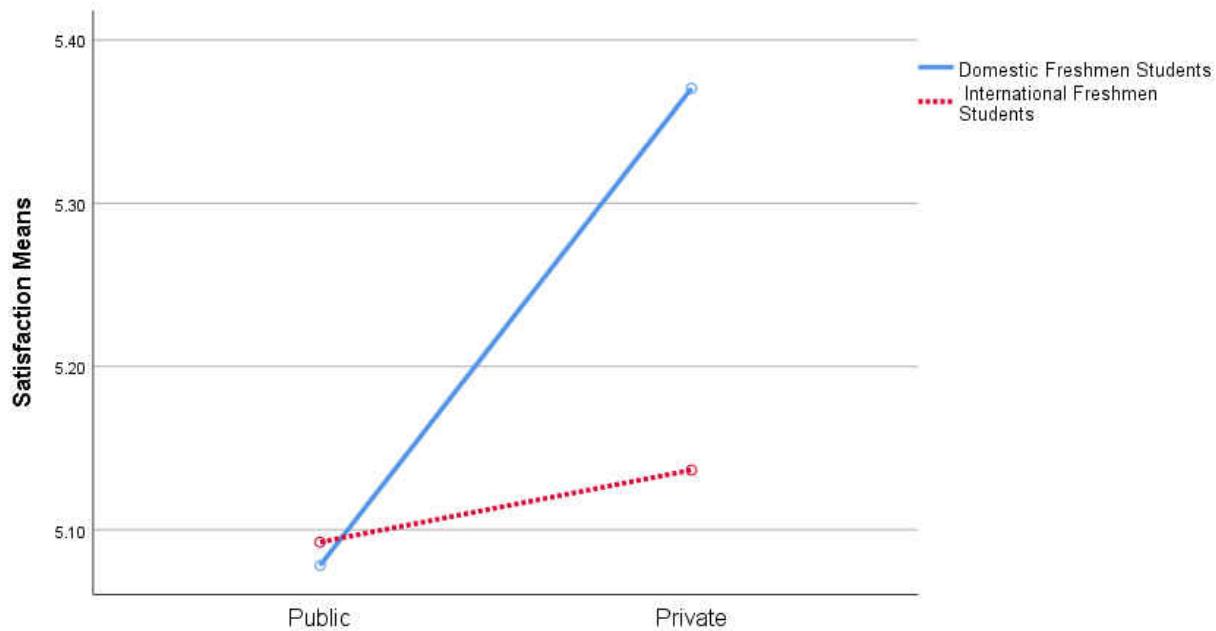


Figure 4. International Freshmen Students and Domestic Freshmen Students Quality of Interactions Across Institutional Control

There is a statistically significant interaction effect between institutional control (public versus private) and international freshmen students and domestic freshmen students of their satisfaction towards quality of interactions, $F(1, 18915) = 8.14, p < 0.05, d = 0.20$. Descriptive statistics showed that domestic freshmen students ($M = 5.37$) had a higher satisfaction of quality of interactions than international freshmen students ($M = 5.14$) at private institutions. As seen in Figure 4, that institutional control (public versus private) impacted students satisfaction on quality of interactions as domestic freshmen students attending private institutions had a higher mean for quality of interactions than domestic freshmen students attending public institutions and international freshmen students attending both private and public institutions.

Research Question 3: Is there a difference in international freshmen students and domestic freshmen students' satisfaction towards supportive environments measured across institutional controls (public and private)?

To analyze this research question the mean of the eight supportive environment (Appendix D) indicators average was computed. The label SUPENVI (Appendix F) was used in identifying the new mean for supportive environment.

A two-way Analysis of Variance (ANOVA) was conducted to analyze the effects of international freshmen and domestic freshmen students' satisfaction of the supportive environments at public and private institutions. The results of the two-way ANOVA showed that there is no statistically significant main effect on freshmen students satisfaction on supportive environments according to institutional control, $F(1,18776) = 1.18, p > 0.05, d = 0.040$.

For international freshmen students and domestic freshmen students there is no statistically significant main effect on students' satisfaction on supportive environments according to the students' status as an international freshmen student or a domestic freshmen student, $F(1, 18776) = 1.80, p > 0.05, d = 0.048$. Descriptive statistics indicate that international freshmen students ($M = 2.88$) and domestic freshmen students ($M = 2.91$) satisfaction of their supportive environments.

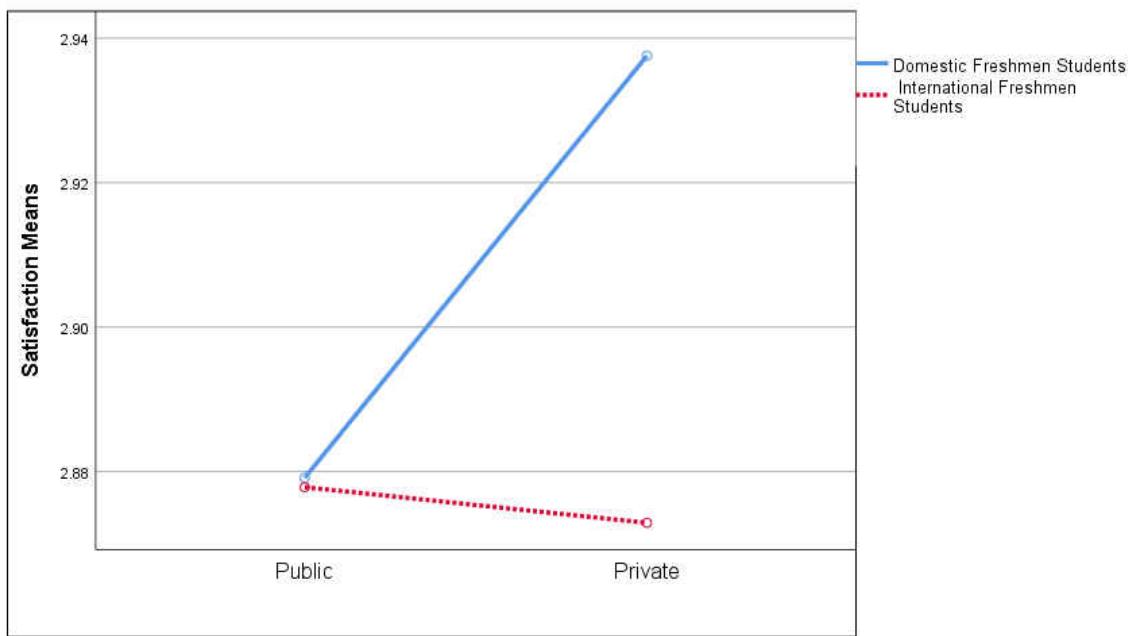


Figure 5. International Freshmen Students and Domestic Freshmen Students Supportive Environments Across Institutional Control

There is no significant interaction effect between institutional control (public versus private) and international freshmen students and domestic freshmen students of their satisfaction of supportive environments, $F(1, 18776) = 1.66, p > 0.05, d = 0.019$). Descriptive statistics indicate that international freshmen students ($M = 2.88$) and domestic freshmen students ($M = 2.88$) at public institutions were equally satisfied of their supportive environments. According to Figure 5, domestic freshmen students at private institutions ($M = 2.94$) were more satisfied with supportive environments than international freshmen students ($M = 2.87$) at private institutions.

Research Question 4: Is there a difference in international freshmen students and domestic freshmen students' academic success measured across institutional control (public and private)?

A two-way ANOVA was conducted to analyze the effects on students' academic success by taking in to account student reported grades at public and private institutions for international

freshmen students and domestic freshmen students. The results of the two-way ANOVA showed that there is a statistically significant main effect on student academic success measured by self-reported grades according to institutional control, $F(1,18957) = 5.834, p < 0.05, d = 0.10$. By looking at the mean scores for both public ($M = 6.25$) and private ($M = 6.40$), freshmen students attending private institutions reported having higher academic success or higher grade point average compared to students attending public institutions.

There is a statistically significant main effect on student academic success measured by self-reported grades among international freshmen student and domestic freshmen students, $F(1, 18957) = 38.55, p < 0.05, d = 0.23$. By looking at the mean scores for international freshmen students ($M = 6.51$) and domestic freshmen students ($M = 6.14$), international freshmen students reported a higher grade point average. Even though there is a statistically significant difference between both student groups, the effect size ($d = 0.23$) which is a larger effect size compared to the effect size of quality interactions and supportive environments. According to Figure 6, international freshmen students have higher grade point average than their domestic peers.

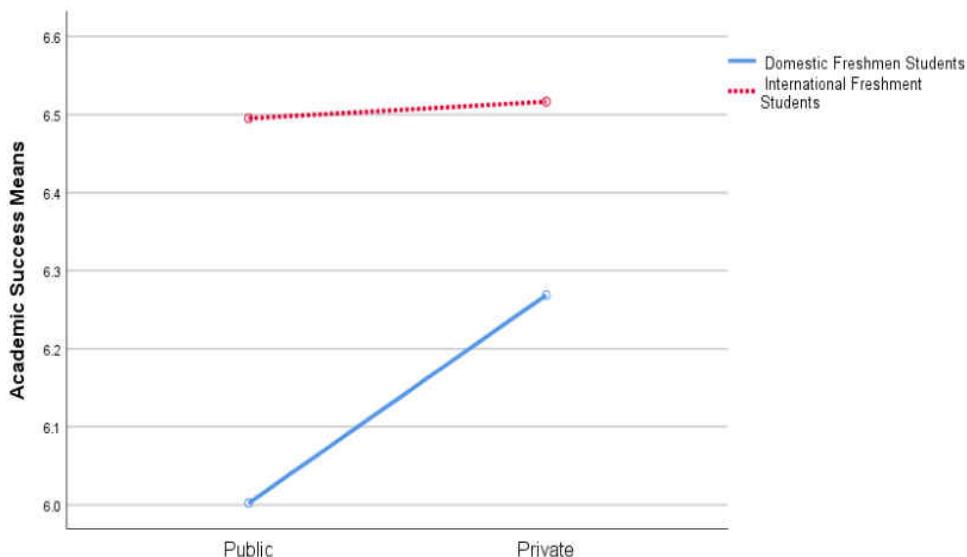


Figure 6. International Freshmen Students and Domestic Freshmen Students Academic Success Across Institutional Control

There is a statistically significant interaction effect between institutional control (public and private) and international freshmen students and domestic freshmen students of their academic success as measure by the self-reported grade, $F(1, 18957) = 4.22, p < 0.05, d = 0.20$. Descriptive statistics showed that international freshmen students ($M = 6.52$) had a higher academic success or grade point average than domestic students ($M = 6.27$) at private institutions. Similar to the private institution impact, international students ($M = 6.50$) higher academic success of grade point average compared to domestic students ($M = 6.00$) attending public institutions. From looking at the graph, institutional control (public versus private) does play a role in students' academic success or grade point average, as international students attending private institutions have higher academic success or grade point average than international students attending public institutions. In general international students are performing well academically by scoring higher grade point average than domestic students in the U.S.

Chapter Summary

Chapter four provided the results for the four research questions. The first research question provided the demographic information of an international freshmen student and a domestic freshmen student. The demographics are: age, race/ethnicity, and country of citizenship for international freshmen students, academic major, institutional control (public and private), and enrollment status. The first research question also provided an overview of the international freshmen students' and domestic freshmen students' responses to quality of interactions, supportive environment, academic success, and student satisfaction of their entire educational experience. The second research question investigated, in-depth, the significance of quality of interactions among international freshmen students and domestic freshmen students across

institutional control (public and private). The third research question investigated in-depth of the significance of supportive environment among international freshmen and domestic freshmen students. The fourth and the final research question investigated the significance of academic success among international freshmen and domestic freshmen students across institutional control (public and private).

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

This study investigated international freshmen students' satisfaction of campus environment, academic success, and satisfaction of their entire educational experience by using 2015 National Survey of Student Engagement (NSSE) survey. NSSE is a popular survey used by many U.S. institutions to explore students' academic success according to environments provided by the U.S. institutions. The study was mapped by taking student engagement (Kuh, 2001) theory as the theoretical framework and Astin's (1993) I-E-O model as overarching conceptual framework.

This chapter is divided into three parts. Part one will address the findings from each research question. Part two will connect the research question findings to the theoretical framework and conceptual framework as described in the literature review. Part three addresses policy implications for institutions, students and parents. And Part four addresses limitations and recommendations for future research.

Part One—Connecting the Research Question Findings

Research Question 1

How do key descriptive statistics compare between international freshmen and domestic freshmen students who responded to the 2015 NSSE?

This study explored the demographics of the both international freshmen and domestic freshmen students who responded to the 2015 NSSE survey. According to the IUCPR data sharing agreement, 20% of the respondents from the 2015 NSSE survey included 46,630

students, from which 1,744 (4%) were listed as international students (see Appendix F). In past research. Korobova (2012) had 66,056 student respondents, Zhao, Kuh, and Carini (2005) had 175,000 respondents, and Phillip's (2013) study was on 4,590 first-year students from the 2007 NSSE. In addition, the previous studies were conducted on the older version of the NSSE survey. In 2013, NSSE implemented changes to the survey (see Appendix B). One of the key implementations was the rephrasing of the question to better fit the international students. Past versions listed the international student status question as, “Are you an international student or foreign national?”; this statement was not accurate for temporary visa such as international students. Permanent resident students, refugee and students on asylum status consider themselves a “foreign national” as they are still citizens of another country. In 2013, this survey question was rephrased as “Are you an international student?” This significant change ensures that a student responding “yes” to the question “are you an international student” is, indeed, an international student, a temporary non-immigrant F-1, J-1 or M-1 visa holder, with a primary intention of arriving in the U.S. to study full time. The study by Korobova (2012) listed this misunderstanding as one of the limitations of the study. Both Zhao, Kuh, and Carini (2005) and Korobova's (2012) studies included 4% international students and 96% domestic students. The international and domestic student population in this study is similar to those. From the entire 2015 NSSE respondents, 39% international students who responded to the survey were freshmen, where as 36% domestic students who responded to the survey were freshmen students, which is similar to previous studies (Korobova, 2012; Zhao et al., 2005) as NSSE is a survey distributed among freshmen and senior students.

Both Zhao et al. (2005) and Korobova (2012) indicated a larger population to be female students. In this study 45% of the international freshmen students were female, and 66% of the

domestic freshmen student population was female. This is significantly higher than the previous studies by Zhao et al. (2005) and Korobova (2012); however, this resonates with the data provided by the U.S. Census Bureau report (2015) indicating that since 1997 degree attainment in women were higher than men. By looking at the gender distribution data and previous studies, female students were dominating student enrollment. According to Kuh et al. (2007), female students were more engaged than male students. The domestic freshmen female students' population increased from 57% in Zhao et al.'s (2005) study to 59% in Korobova's (2012) study, and to 66% for the current study.

In comparing the age distribution, the largest population of international freshmen students were 19 or younger (65%); the largest domestic freshmen students population were 19 or younger (89%). Of the total international freshmen student population, 95% were under the age of 24, and 94% of the domestic freshmen student population were under the age of 24. The age distribution is significantly different compared to the previous studies. Zhao et al. (2005) study showed larger international freshmen student population were ages of 20-23 (40%), and the largest domestic student population were 19 and younger (43%), which mirrored Korobova's (2012) study. In comparison to previous studies, international freshmen students enrolling at U.S institutions are much younger than they were in 2005 and 2008. The domestic freshmen student age distribution did not change since 2005 to the current study in 2015.

In terms of race and ethnicity, the majority of international freshmen students were Asian (46%), while the majority of domestic freshmen students were White (83%). The findings mirrors to the previous studies (Korobova, 2012; Zhao et al., 2005). However the proportions have significantly increased since the previous studies. The international freshmen student population demographics can be explained according to the *Open Doors Report* (IIE, 2016), as

the majority of the international students are from China (32%), India (16%), and South Korea (6%). Compared to regional destinations, 46% international students were from Asian regions, Latin America and Europe were 17% and 15% respectively, 4% of the international students were from Africa Sub-Saharan, Middle East and North Africa, 4% from Canada, and 2% from Oceania. According to the 2015 NSSE data, international freshmen students' demographics have changed over the years confirming that majority of international students are from Asian regions.

The above mentioned student demographics are considered to be student characteristics according to Astin's (1993) I-E-O model. In the I-E-O model, student characteristics are called Inputs. In this study age, gender, race/ethnicity and the students' international and domestic student status are characteristics that students come with as college entering freshmen. According to Kuh, Kinzie, Buckley, Bridges, and Hayek (2006), students' characteristics when attending college influences how students perform academically.

In this study author investigated international freshmen students' and domestic freshmen students' enrollment according to the institutional control (public and private). International freshmen students choose private institutions (421; 50%) equally compared to public institutions (413; 50%), whereas domestic freshmen students preferred public institutions (10,333; 57%) over private institutions (7,870; 43%). These findings were significantly different from Zhao et al. (2005) and Korobova (2012), which found that a majority of international students preferred public institutions, while a majority of domestic students in 2005 preferred private institutions. This change may be due to the increase in cost of education in the U.S.: International students at U.S. institutions pay out-of-state tuition, and some institutions may offer in-state tuition for their international students as part of their scholarship program. Out-of-state tuition can range from double to three times the tuition cost of a resident tuition rate. Typically, the cost of attending

public institutions is lower than private institutions (Lopez, 2016); however, with rising tuition costs for international students, institutional control may not necessarily lead to cost savings to the extent that it once did. Since international students are paying out-of-state tuition, the cost difference between attending a large public institution or a smaller private institution may be minimal, and international students are selecting more private institutions for their unique private school qualities mentioned by Lopez (2016). Some private institutions offer additional incentives for international students to attend their institutions to diversify their student body. Due to the nature of the governing bodies of public and private, private institutions are able to offer additional scholarships, work options, and other incentives the public institutions cannot. In the past (Korobova, 2012; Zhao et al., 2005), a majority of international students selected public institutions, but 2015 NSSE data revealed that international students selected private institutions more compared to public institutions. This suggests that international students' (and their families;) ideas of public and private may have changed over the years, now perceiving that public and private institutions provide same amenities, services, and excellent academic programs as private institutions, which are much more expensive for parents to manage. Another possibility is that international students' parents maybe more interested in their child completing a U.S. degree for lower cost rather than not being able to afford the U.S. education by sending their children to private institutions.

In the current study a large international freshmen population majored in business (26%) and engineering (15%), whereas a large domestic freshmen population majored equally in health professions, and business (16%). In Zhao et al. (2005), a majority of international students majored in pre-professional programs, and majority of domestic students majored in other majors and math and science. Similar to Zhao at al. (2005), in Korobova's (2012) study, a majority of

international students majored in humanities and math and science, a majority of domestic students majored in other majors and math and science. International freshmen and domestic freshmen students' selection of majors have changed significantly. According to the *Open Doors Report* (IIE, 2016), a majority of international students in the U.S. majored in engineering and business related fields, which is confirmed by the data received by this study. According to the *Open Doors Report* (IIE, 2016), until the year 2014-2015 a majority of international students selected business programs over any other field. However, in 2015-2016, a majority of international students selected engineering programs over any other field. This change could be due to the Science, Technology, Engineering and Mathematics (STEM) Optional Practical Training (OPT) change that happened during the last decade. International students in STEM programs are eligible to receive work authorization for 12-36 months upon completion of their graduation for each academic level. This influence was coming from the President Obama's administration in making STEM education a priority in the United States (White House, 2011), which lead to the approval of international student work authorization to be extended from 12 months to 36 months for those who graduated from STEM fields. It is general knowledge that the work visa (H-1B) is easily sponsored for students in STEM fields (Rothwell & Ruiz, 2013).

International freshmen students and domestic freshmen students' satisfaction of their entire education at the current institution. To measure international freshmen students' and domestic freshmen students' satisfaction of their entire educational experience, the author analyzed the responses of the 2015 NSSE questions "how would you evaluate your entire educational experience at this institution" and "if you could start over again would you go to the same institution you are now attending." A large number of international freshmen students (702; 86%) and domestic freshmen students (15,701; 87%) rated their satisfaction of their entire

educational experience to be good to excellent, and a large number of international freshmen students (678; 83%) and domestic freshmen students (15,170; 84%) responded “definitely yes” to “probably yes” in selecting the same institution if they were starting over again. Astin (1993b) suggested that satisfaction should be thought of as an outcome of college, while Hossler, Schmit, and Vesper (1999) as well as Strauss and Volkwein (2002) listed students’ perceptions of their institutional quality, willingness to attend the same institution, and their overall satisfaction as indicators of student success.

For international freshmen students, attending institutions in the U.S. is a new experience. These students are not aware what to expect out of their U.S. experience. International freshmen students’ definition of student satisfaction is different from domestic freshmen students’ definition of satisfaction. The author is a professional in the field, directing an International Programs Office who was also an international student; she has observed that students from Asia, Africa, Latin America and the Middle East are overwhelmed with the amenities and services provided by the institutions to the students as they are not accustomed to similar amenities and services back home. As the enrollment of international students rises from these regional destinations, it is evident that majority of international students to show their satisfaction of the institution to be great to excellent. Some international students may come from cultures and backgrounds where customer service does not exist or where there are limited to no options available to students. Students are not offered services or amenities to serve the students. As the years have passed, institutions have better services provided for students to recognize students in need of services. Institutions have created departments such as International Student Services or International Programs Offices to serve as a hub of international student services providing students with services needed. In the U.S., these specific International Student-related

officers provide one-on-one services to this unique population ranging from orientation to late night games, to trips local or state iconic landmarks, to study groups, to sessions helping the students to adjust students to their new environments, to potlucks to make students feel comfortable to name a few. Some institutions offer programs such as friendship family programs, mentor programs, big brother/big sister programs, or English conversation groups to assure international students are taken care of from the time they arrive to the campus until their graduation and beyond. Due to these unique services provided by institutions, international students tend to remain in the same U.S. institution until graduation. As a professional in the field for more than 12 years, working with over 1000 international students, in the author's experience, the international students rarely ask questions pertaining to the programs they have selected as freshmen students, but inquiries about lifestyle, support, advice, and safety from the institution are the most common questions—not only from the international students but also from their parents. According to past research (Barefoot, 2007; Budget, 2006; Isler & Upcraft, 2005; Kuh & Hu, 2001), U.S. institutions have made changes to minimize the freshmen student dropout rate by creating programs such as first-year seminar, learning communities, student mentoring, student coaching, and counseling programs to improve student satisfaction. As international student enrollment increases at U.S. institutions, the programs offered to domestic freshmen students are available to international students.

Research Question 2

Is there a difference in international freshmen students and domestic freshmen students' satisfaction of quality of interactions as measured across institutional controls (public and private)?

The hypothesis was that there was a difference in international student and domestic student reported satisfaction on quality of interactions with students, academic advisors, faculty, students' services staff, and other administrative staff and officers across institutional control. According to the two-way ANOVA testing, there was a statistically significant main effect and a statistically significant interaction between international freshmen students' and domestic freshmen students' satisfaction on quality of interactions across institutional control (public and private). International freshmen students attending public institutions were more satisfied with their quality of interactions than domestic freshmen students attending public institutions. Domestic freshmen students attending private institutions were more satisfied with their quality of interactions than international students attending private institutions.

The author compared international freshmen and domestic freshmen satisfaction according to the responses to the five questions of quality of interactions engagement indicator under the campus environment theme. First the author looked at the responses to the quality of interactions questions. International freshmen students' and domestic freshmen students' satisfaction on quality of interactions with students, academic advisors, faculty, student services staff and other administrative staff and officers rated the same. Seventy-eight percent of the international freshmen students and 80% of the domestic freshmen students were satisfied with the quality of interactions provided by the institution. International freshmen students' and domestic freshmen students' satisfaction on quality of interactions with students, academic advisors, and faculty were similar compared to the satisfaction the students rated for quality of interactions with student service staff and other administrative staff officers.

Quality of interactions were categorized as environment factors provided by the institutions. According to *I-E-O model*, the quality of interactions falls under the environment

category. Student involvement in meaningful engagement with campus environments provided and influenced by the institution results in positive student satisfaction and academic success. In this study, there is a statistically significant difference in student satisfaction of quality of interactions among international freshmen and domestic freshmen students at public and private institutions. NSSE explores students' interactions with multiple individuals on and off-campus. These meaningful interactions with students, academic advisors, faculty, student services staff, and other administrative staff contributes to the students learning, development, and academic success (Kuh 2001, 2003; Pascarella & Terenzini, 2005).

In contrast to the findings of this study, Korobova (2012) found no statistically significance among quality of interactions, and Korobova's (2012) study mirrored the results of Zhao et al. (2005). Both international freshmen students and domestic freshmen students are engaged in meaningful interactions with other students, faculty, and student services staff. However, international freshmen students rated their quality of interaction with academic advisors equally a rate 5 and excellent. This means that, while some international freshmen students had meaningful interactions with academic advisors, an equal number of international freshmen students rated their interaction with academic advisors to be a rate 5. This could be due to freshmen student advising. In some U.S. institutions, freshmen students are advised by staff members such as success coaches, mentors, first-year advisors or orientation counselors as part of retention activities. However, international students are used to professors or instructors providing them with guidance academically and may have a difficult time understanding non-academic staff providing course-related advice. Many international students may not understand that as freshmen, they are academically advised by staff not professors or instructors at their respective institutions.

As mentioned in the literature, studies (Bista, 2011; Mori, 2000; Oberg, 1960; Pascale, 2008; Yeh & Inose, 2003) stated that international students struggle with a unique set of issues compared to their domestic student peers. Some of the issues are cultural barriers, language barriers and lack of understanding of their new environment. Due to this, international students during their first semester tend to limit their social activities and interactions and interact mainly with other international students and students from their own country. The above research data resonated with Korobova's (2012) study. However, according to Table 4.11 in the current study, the majority of international freshmen students (214; 26%) and domestic freshmen students (4,899; 32%) socialized 6-10 hours per week. Which could be a result of purposeful retention activities U.S. institutions have adopted over the past decade. Both international freshmen students and domestic freshmen students rated their interaction with student service staff to be a rate 6. As the freshmen students responds to the survey questions, they are still new to their new environment. The students may not be aware of the services available to the students or know the staff members to meet in order to learn of the services available.

According to the results of the current study, both international freshmen and domestic freshmen students had low satisfaction rates with interactions with other administrative staff and officers compared to the interactions with students, faculty, academic advisors, and student services staff. At U.S. higher educational institutions, hierarchical administrators are rarely seen interacting with students. Students' interaction with academic advisors, faculty, and student services staff occurs with those who are involved with students even before the students arrive to the campus through the admissions and course registration process. Senior administrators and other officers are rarely involved in day-to-day services of the students.

The study by Labon (2013) stated that students of minority race and ethnicity to have poor satisfaction of their institutions in terms of quality interactions with faculty, peers, and staff. However, in this study, students of all race and ethnicity are equally satisfied with their interactions with peers, academic advisors, faculty, and student services staff. Students are equally less satisfied of their interactions with other administrative staff. Even though the minority students attending university have increased over the years (Lau, 2003), according to this study, all students are equally satisfied with their quality of interactions with students, academic advisors, faculty, student services staff, and other administrative officers.

Research Question 3

Is there a difference in international freshmen students' and domestic freshmen students' satisfaction towards supportive environments measured across institutional controls (public and private)?

The hypothesis was that there was difference in international students' and domestic students' perception toward supportive environments according to the institutional control (public versus private). According to the two-way ANOVA testing, there was no statistically significant main effect and no statistically significant interaction between international freshmen students' and domestic freshmen students' satisfaction on supportive environments across institutional control (public and private). The author compared how international freshmen and domestic freshmen students responded to the eight questions of supportive environments engagement indicator under the campus environment theme.

First the author looked at the responses to the supportive environment questions: international freshmen students' and domestic freshmen students' satisfaction on institutional emphasis on supportive environment. Both international freshmen and domestic freshmen

students indicated that their institutions provided institutional support for the students to academically be successful. This is likely a result of retention services available to freshmen students at U.S. institutions. Many U.S. institutions have implemented early retention programs and tools such as Customer Relationship Management systems (Mapworks, Startfish and Hobsons Retain are the most popular software tools used in today's U.S. higher education institutions). These software programs allow multiple departments, faculties, counselors and other campus stakeholders to collaborate as they work with the undergraduate student population. This helps institutions—and departments within those institutions—to help students to maintain good academic standing. Many U.S. institutions also have dedicated counselors, freshmen student training through student mentors, credit bearing first-year seminar courses, and workshops to assist freshmen students during their first year. The retention software tools mentioned above inform the advisors if a student misses an assignment or an exam or is absent from courses, allowing advisors to monitor the first-year student's progress throughout the semester.

International freshmen and domestic freshmen students rated that the institutions provide excellent learning support services such as writing centers and tutoring services. Institutions across the U.S. offer an array of services for students to be successful academically. The services such as the writing center, tutoring center, academic success coaches, friendship family programs, student groups and organizations, English conversation programs, and workshops are available to students during their freshmen year. During mandatory orientation or welcome week activities, students and parents are provided information about these services that students can utilize. Not only during these events, throughout the semester through retention activities freshmen students are constantly reminded the ways to improve academically and the services

available for students. Some campuses offer online tutoring, online writing centers, and other ways of students to receive these services regardless of their commute to the institution.

Both international freshmen students and domestic freshmen students responded that their respective institutions did not provide opportunities for students to manage their non-academic responsibilities such as work and family. A majority of domestic freshmen students (54%) indicated that the institutions provided some to very little support, whereas 48% of the international freshmen students rated that the institution provided some to very little support in assisting students in navigating non-academic related responsibilities. As institutions are providing services to the freshmen students and offering programs to reduce the student drop-out rate, institutions are lacking in the area of assisting students who are working or students with families.

A majority of international students (52%) rated that they are satisfied of the institutional emphasis on non-academic responsibilities. This could be the support the international freshmen students are receiving from their respective International Student Services and International Program divisions. International students are generally from families where they are able to afford the students expenses. Many international freshmen students do not work during their first semester or first year. Most freshmen students do not have family obligations. The non-academic responsibilities for international freshmen students primarily include culturally adjusting their new environment. Furthermore, international students may not consider they need assistance to manage their work and family. Some international students from different cultural backgrounds may come from cultures where they are not used to complaining of their hardships and difficulties or may assume that if they complain that they may limit the opportunities they may receive. The 48% of the international freshmen students who responded indicating that the

institution provided very little to some assistance in managing work and family may be because these students were not able to secure jobs on campus. It is also possible that this population of international freshmen students may not be comfortable enough to communicate to successfully pass an on-campus job interview or not be comfortable to seek on-campus employment as they are trying to navigate the new environment. For the 54% of the domestic freshmen students who indicated that the institution provided some to very little support in assisting students navigate non-academic responsibilities, this may be because they are facing difficulty in juggling work and family as they are full-time students; the domestic freshmen students may have to juggle work and family due to financial need or due no other option but to juggle work and family duties.

Domestic freshmen students who may not be academically prepared may find it difficult to juggle taking courses, work and handling family matters. Leavell (2002) stated that American students to be more adjusted to their college life whereas international students did not feel as they were well-adjusted. However, according to this study, under institutional emphasis, international freshmen students and domestic freshmen students mirrored their responses of their satisfaction on their institutional emphasis of supportive campus environments. The current study supports the findings of previous studies (Hwang, Bennett & Bauchemin, 2014; Mitchell, Greenwood, & Guglielmi, 2007; Perry, 2016; Rogers & Tennison, 2009) that international and domestic students did not show significant differences in social experiences, relationship problems, and relationships with faculty.

International freshmen and domestic freshmen students rated the same of their satisfaction of the institutional emphasis on encouraging students to contact students different backgrounds, institutional emphasis on opportunities for students to be involved socially,

institutional emphasis on support for overall well-being, institutional emphasis on attending campus activities and events, and institutional emphasis on attending events that address important social, economic and political issues. This could be mainly due to the changes in higher education over the past decade. More and more U.S. institutions have adopted Student Life and Student Services Departments. These departments promote academic events, non-academic events, recreational sporting events, and other events and services to ensure that students are given opportunities to get involved academically and out of class. This resonates with Kuh's (2001,2003, 2009a) definition of student engagement as "the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in the activities" (p. 683).

The study by Korobova (2012) found statistically significance in supportive environments and the results mirrored the study by Zhao et al. (2005). In this study no significant difference was found in supportive environments among international freshmen and domestic freshmen students.

Research Question 4

Is there a difference in international freshmen students' and domestic freshmen students' academic success measured across institutional control (public and private)?

The hypothesis was that there is a difference in international students' and domestic students' academic success (grade point average; GPA) measured by analyzing self-reported grades according to institutional control (public versus private). According to the two-way ANOVA testing, there was a statistically significant main effect and a statistically significant interaction between international freshmen students' and domestic freshmen students' academic success across institutional control (public and private). According to the results, freshmen

students attending private institutions reported having higher GPAs compared to the students attending public institutions. Compared to domestic freshmen students, international freshmen students reported higher GPAs. International freshmen students attending private institutions reported having higher GPAs than international students attending public institutions. Domestic freshmen students attending private institutions reported having significantly higher GPA than domestic students attending public institutions.

In this study, international freshmen students scored higher grades than the domestic freshmen students. In order for international students to receive admissions at U.S. institutions, they must provide not only successful completion of their high school education back home, but a majority of U.S. institutions require the Scholastic Aptitude Test (SAT). This means that the international freshmen students are well prepared to start their academic career in the U.S. In addition to their preparedness and their quick connection with their faculty, the international freshmen students spend more time studying than socializing. That may be true for Korobova (2012) and Zhao et al.'s (2005) studies. The academic success is measured by analyzing the self-reported grades in response to the 2015 NSSE survey questions "what have most of your grades been up to now at this institution?" A large number of international freshmen students (35%) and domestic freshmen students (27%) reported receiving "A" grades for the majority of their classes. Most of the international freshmen (97%) and domestic freshmen (96%) indicated having a C+ or higher for most of their courses at the institution. Findings in this study reveal that international freshmen students did score higher grades, however they socialized equally to their domestic counterparts. It could be that the new generation of students is well-equipped with student technology friendly tools such as mobile applications, orientation guidebooks and

manuals providing the students with available services, knowledge and guidance to study and socialize at the same time.

According to Kuh (2005), increasing student retention and graduation rates by providing better quality learning and improving conditions that matter to student success has taken precedence across U.S. institutions. Student academic success is a result of time, effort, and energy students dedicate to their coursework and non-academic activities. In order for students to dedicate time, efforts, and energy, institutions must provide learning environments, programs, and opportunities to engage in meaningful academic and non-academic activities.

The data in this study reveal that international freshmen and domestic freshmen students attending private institutions were more satisfied with their quality of interactions, as well as more satisfied with institutional emphasis on supportive environments, their academic success and their satisfaction of their entire educational experience. Academic success and persistence to graduate is higher among students who engage in educationally purposeful activities (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006), which results in positive outcomes such as higher academic success and higher satisfaction of their entire educational experience.

Tinto (1993) stated that the more students are involved and engaged in the campus environments the more likely they will continue beyond the first year. Furthermore, Schertzer and Schertzer (2004) stated that student satisfaction positively impacts student retention. The authors elaborated that “academic fit, student-institution values congruence, student-faculty values congruence, academic advising, institution social opportunities” (p. 81) combine to affect student satisfaction, resulting in positive student retention. In conclusion, Kuh et al. (2005) stated that “students perform better and are more satisfied at colleges that are committed to their

success and cultivate positive working and social relations among different groups on campus than at colleges that do not” (p. 57).

Part Two—Policy Implications

Implications for Institutions

Astin’s (1984, 1993, 1999) theory of involvement and *I-E-O model* predict that student outcomes or students change as a result of the institutional factors provided for the students during their time at the institution. As higher educational institutions face increasing pressure from accrediting bodies, governing bodies, legislators and other stakeholders, virtually every public institution had gone through some form of funding deficit. Therefore, attracting and retaining students, satisfying and developing them, and ensuring they graduate to become successful and productive citizens matters more than ever.

According to NSSE (2010), this survey is a tool to measure students’ engagement in high-impact practices set forth by the institution and to measure institutional effectiveness at U.S. institutions (Kuh, 2003, 2009). In a study by Ewell and Kuh (2009) on accountability, the authors stated that they found less evidence that institutions are using these data to make decisions and improve programs. This finding resonated with the findings by Wang et al. (2014) who stated that most often international students are eliminated from these surveys; by eliminating international students, institutions are eliminating their voices of this underserved population. According to Urban and Palmer (2016) on international students’ perception at U.S. institutions, students received adequate academic support from faculty and staff, but international students did not think the institutions—especially faculty, administrators and staff—understood the international students’ needs.

According to the current study, it is evident that administrators, policy makers, faculty, and staff are creating programs, services, and support not only for the predominant population, but also for international students, as they have unique challenges (Bista, 2011; Mori, 2000; Oberg, 1960; Pascale, 2008), different than the domestic student population. Administrators, policy makers, decision makers, faculty and staff at the institutions have acknowledged that all institutional policies, practices, programs, and services such as curricula, student schedules, student orientation, welcome week activities, advising, and student handbook policies have an impact on students' involvement and engagement in terms of how they dedicate their time and energy to academic and non-academic endeavors at their institutions (Astin, 1984).

In addition, in this study both international freshmen and domestic freshmen students need greater assistance from institutions in navigating non-academic activities such as work and family, as well as administrative and institutional decisions on non-academic issues (such as institutional decision making on residential halls, dining facilities, student union, library facilities, operational hours, student employment, meaningful engagement in student events and financial aid policies, scholarship, study abroad opportunities, parking fines and regulations, transportation and shuttle services, event times and locations). These can impact how students engage with these programs and services available to the students. Institutional decision makers and policy administrators must keep in mind students needing greater support from the institutions in navigating the non-academic aspects of life when implementing programs, services, and support for students at their respective institutions.

Today's generation of students are more attuned to products that are available through mobile applications, where help is readily and immediately available. Administrators, policy makers, decision makers, faculty, and staff must intentionally develop mobile friendly

applications for appointment systems, online or web conferencing, student chat, counseling services, and international-friendly mobile applications such as WeChat, WhatsApp, QQ, Qzone, Doujin, and Viber as modes of communication not just for student recruitment but as tools for student retention.

As mentioned in the literature, international student enrollment was on the rise for 2015-2016 (IIE, 2016). However, there is a drop for 2018-2019 (USCIS, 2018). Administrative policies play a key role in providing services to this unique student population. Institutions allocate funds to recruit international students from across the world, but they do not always allocate sufficient funds or expend sufficient effort to retain this population of students. Similar to domestic students, international students share the same struggles and issues as freshmen students (Baker & Siryk, 1989; Gardener, 2013; Perry, 2016). However, international students also face few additional struggles and issues such as immigration compliance, student visa restrictions, financial, developmental, cultural differences, and language (Pascale, 2008; Shenoy, 2000; Yeh & Inose, 2003).

Institutions must make an intentional effort in recognizing these unique struggles and issues, consequently offering programs, services, and support to accommodate the international student population and ensure to continue to offer these programs, services, and support to accommodate international students. The programs, services, and support provided to international students are critical, and it is evident from the results of this study that international freshmen students are equally adjusted to the university environment as their domestic counterparts and the unique struggles mentioned in previous studies are been addressed by institutions for both international freshmen and domestic freshmen students to rate their satisfaction equally supportive environment. A retained international student is one of the most

effective ways to recruit more international students to their respective institutions. A satisfied international student will have a greater positive impact on recruitment initiatives than an unsatisfied international student. It is more expensive for institutions to recruit a new student than to retain the existing international student (Gemme, 1997).

According to this study, student demographics have changed over the past decade. A decade ago, a “typical” international freshmen students attending U.S. colleges or universities was 20-23 years old (Korobova, 2012; Zhao et al., 2005); however in 2015, the majority of international students were female and 19 years or younger, which mirrors the domestic freshmen student population. In the U.S. since 1997, more women held bachelor’s degrees than men. This data resonates with the global data on women’s bachelor’s degree completion compared to men. According to the data by UNESCO (2018), there were more female graduates than male graduates across four out of five countries. According to the report from UNESCO (2018), women globally outnumbered men in bachelor’s degree attainment with 53% and men accounting 47% of graduates, which mirrors the U.S. Census Bureau (2015) data on U.S. bachelor’s degree attainment among female and male students. In this study, 53% of the international freshmen were female students, and 66% of the domestic freshmen were female students. The results from this study mirror studies by UNESCO (2018) and the U.S. Census Bureau (2015). When U.S. institutional policy makers, faculty, staff, and other entities of the institutions are developing programs, curricula, events, support groups, and activities they must intentionally create programs, services, and support to accommodate the national and global trends of gender inequality in higher education. In other words, institutions must provide additional programs, services, and support for female students as they comprise a larger proportion of the student body than male students. U.S. institutional policy makers must provide

additional support for women. It is important for institutions to provide resources for female students of all backgrounds.

Similar to the demographic changes listed above, international freshmen and domestic freshmen students' field of study or academic major have changed over the years. According to the data published by National Center for Education Statistics (NACES; 2016), bachelor's degree attainment according to the field of study in the U.S. changed from 1970 to 2016. In the 1970s the majority of college attending students in the U.S. selected education as their key field of study; as years passed, students' interest in education declined while social sciences held their position throughout the years into 2016. The change in academic field was summarized by previous studies by Zhao et al. (2005) and Korobova (2012). In 2016, the top five fields of studies among domestic students changed to business, health professions, social sciences, psychology and biological sciences (NACES, 2016). In this study, the top two fields of studies among international students were business (26%) and engineering (15%), whereas the top two fields of studies among domestic freshmen population were health professions and business (16%). The international freshmen students' fields of study mirrors the *Open Doors Report* (IIE, 2016)—business and engineering. The findings from this study are quite different from the studies by Zhao et al. (2005) and Korobova (2012). Zhao et al. (2005) found that international students' field of study was pre-professional programs, and Korobova (2012) found international students in "other programs" as well as math and science. These data will assist decision makers, policy makers, university administrators, and faculty and staff that students engage differently according to their field of study. This will allow institutions to intentionally create major-specific groups, organizations, and other activities to get students involved. Most importantly, the data

will provide institutions the knowledge of the trends in program selection of our college-entering freshmen students.

Implications for Students and Parents

According to the literature, student retention, student satisfaction, and academic success are growing concerns not only among institutions, but among parents and prospective students. As the cost of attending college and university education rises in the U.S. (NACES, 2015), parents and students are concerned about their loan debt and return on their investments. As students attend college and university, being engaged and academically prepared, using institutional resources or campus environment provided to the students, working with faculty, staff and others at the institution will lead to successful completion of college and satisfaction with their entire higher education experience. The first year of college is the most difficult year, regardless of whether one is an international student or a domestic student. First-year students have the same challenges, but students should seek the campus environmental resources available to them. During the first week of college or university, institutions provide information on how to seek help and how to utilize the services available to students; however, students during their first few weeks are still getting adjusted to their new environment. Consequently, not many students are focused on learning the services available to the students until it is quite late. Students must pay extra attention to the available campus environmental services as soon as they feel they are struggling or they need help. As mentioned in literature (Pascale, 2006), international students from certain regions are notorious for not seeking assistance when they need the most. In some cultures, seeking assistance is considered weak.

Students are strongly encouraged to get involved on and off campus. Institutions offer first-year seminar programs that allow students to acclimate to the institution and build networks

of friends similar to them to be engaged in academically and socially. During first-year seminar programs, students are partnered with faculty or staff member of the institution. Students are strongly encouraged to build a connection with faculty and staff members. Hopefully, the institutions have carefully picked staff and faculty to conduct the first-year seminars, selecting those who enjoy working with first-year students and who have organized programs, activities and opportunities for students to succeed their first year and aim toward graduation. Student interactions with other students, academic advisors, faculty, student service staff and other administrative staff are important engagement indicators for students' success.

Campus institutions, whether public or private, have similar environmental factors to assist freshmen students. Students are encouraged to utilize the supportive environments provided by their institutions that emphasize succeeding academically; to use the learning support services such as tutoring and writing centers to complete assignments and projects successfully; to contact students from different backgrounds (e.g., race, ethnicity, religion or country) by attending events sponsored by departments like International Programs, International Student Service centers, or Multicultural Divisions; to be involved not just in academics but in social events; and to seek assistance with their overall well-being such as counseling services, recreation and health center programs that provide opportunities to manage non-academic responsibilities such as work and life balance. Institutions take pride in encouraging students to attend campus activities and events. Institutions allocate funds from student-related fees to offer countless activities for students throughout the academic year. In addition, institutions emphasize that students should attend not just campus activities also events that addresses important issues such as social, economic, and political issues.

Part Three—Limitations and Recommendations for Future Studies

Limitations

As with any study, this study holds several limitations. First, the 2015 NSSE sample only includes 20% of students who completed the survey. This is in keeping with Indiana University Post-Secondary Research (IUCPR) data-sharing agreement to provide a 20% random sample from U.S. institutions of all international respondents and 20% of all U.S. citizens who responded to the 2015 NSSE questionnaire.

Second, the data is self-reported by students, which raises questions of validity and reliability of the answers to the survey. Although validity and credibility of self-reported surveys has been previously studied (Pace, 1985; Pike, 1995). Students may have exaggerated the answers to some aspects of the survey.

The third limitation is the level of English proficiency of the international students who responded to the NSSE survey. International students attending U.S. institutions are required to meet the English proficiency requirement to ensure that the students are able to function in an U.S. classroom successfully. However, completing the English Proficiency requirement to gain admissions does not mean an international student is able to understand NSSE survey questions to accurately respond to the NSSE questions. The NSSE survey is conducted during freshmen/first year and senior year. During the freshmen year/first year, international students are still learning how the U.S. education system works, grasping language and cultural differences, and, in particular, how surveys work. They may not accurately understand to provide accurate responses to the questions asked.

The fourth limitation is that international students from different cultural backgrounds may be more likely to use in mild response styles (Dolnicar & Grun, 2007). Research by Clarke (2000, 2001) confirmed that responses to surveys are impacted by cultural difference.

The fifth limitation is elimination of graduate students among the NSSE format. NSSE is used only for undergraduate students. In 2015, undergraduate international students represented 41% of the total international student population in the United States, whereas graduate students were 37.2% of that total. The study does not reflect the satisfaction in campus environments of graduate international students.

A sixth limitation is that in this study the researcher did not factor the students' academic field to impact students' perception towards campus environments.

A seventh limitation is not taking count of critical mass, enrollment, and institutional classification explained by Korobova (2012). According to Korobova, "more international students enrolled in Doctoral Research Universities, Baccalaureate Liberal Arts, Baccalaureate General, and Other institutions, while more American students enrolled in Doctoral Research Universities and Masters I and II institutions" (p. 127). The same study demonstrated that international students favored enrolling in institutions with international student enrollment percentages between "5.0%-10%, 0.75% to 1.5%, and 3.1% to 6%" while domestic students favored institutions with enrollment with 0.75% to 1.5%, less than 0.75%, and 1.6% to 3% of international student enrollment (p. 126).

The final eight limitation is the timeline of the NSSE survey distribution to students. The NSSE survey is conducted annually during the spring semester. Freshmen students who enrolled in the fall prior to the spring semester to the NSSE survey would have adequate time to learn their new campus environment and be somewhat acclimated prior to taking the NSSE survey in

the spring semester. However, the new freshmen students beginning in the spring semester will not have adequate time to adjust or acclimate to the campus environment and accurately rate their satisfaction or experience; at that point, many freshman students may not have had the opportunity to explore the available programs, services, and support. In other words, fall-enrolled freshmen students may accurately respond to the survey, whereas spring-enrolled students—especially the international freshmen students arriving to campuses in spring semester—may not accurately answer the survey questions; they may struggle with understanding what a survey is, understanding the questions of the survey, and grasping why the survey is conducted, in addition, their cultural beliefs may prevent them from listing negatives of their institution and may respond all positive instead of being honest.

Future Research

This study only focused on international freshmen students and domestic freshmen students. First, future studies should focus on both freshmen and senior students and their satisfaction of campus environments. These findings must be compared with the findings to domestic freshmen and senior students' satisfaction of campus environments. Most of the comparative studies on international students and domestic students have been quantitative. Therefore, the author recommends future qualitative research with student interviews and focus groups, interacting with students at a much deeper level than taking a survey.

In this study, international freshmen and domestic freshmen students' interactions with other administrative and officers were lower than compared to their interactions with students, academic advisors, and faculty and student service staff. Future research should analyze institutional leaders' perceptions toward campus environments for international students at their respective institutions.

Third, future studies should look into factors influencing international student academic performance. Studies by Zhao et al. (2005) and Korobova (2012) correspond with this study, as international students had significant higher academic success or grade point averages, greater than domestic freshmen students. Future studies should focus on factors influencing higher academic success in spite of the unique struggles international students face, such as culture, language barrier, differences in educational systems, culture shock, or loneliness to name a few.

Fourth, future studies should focus on professional staff training on international students. International students favor departments such as International Student Services, International Programs, Global Center and Education Abroad Officers. However, all departments and entities should have an open mind for learning how to serve international students and how to recognize when a student is in distress. Future studies should focus on available resources for professional staff members to serve the international student population, not just the few staff members from the International Student Services, International Programs Office or Global Studies Office.

Concluding Comments

The purpose of this study was to investigate international freshmen students' satisfaction toward the NSSE campus environment engagement theme, academic success, and satisfaction toward their entire educational experience. In order to study international freshmen students, the author compared international freshmen students and domestic freshmen students. The results of the study indicated that international freshmen students and domestic freshmen students do have few things in common, compared to the previous studies in 2005 and 2012. Demographics of the international freshmen and domestic freshmen students were the similar to those earlier studies. There was no statistically significant difference in supportive environments among international

freshmen and domestic freshmen. International freshmen students achieved higher academic success during their freshmen year than domestic freshmen students. Both international freshmen students and domestic freshmen students had higher satisfaction of quality of interactions, satisfaction of supportive environments, academic success, and satisfaction toward their entire educational experience at private institutions.

This study provides data and insight to administrators, decision makers, faculty and staff on ways to intentionally use evidence-based data when altering programs, services and support available to students. Administrators, decision makers, faculty, and staff should create programs to accommodate international students. Institutions will not have to allocate additional funds to recruit new international students if institutions allocate sufficient funds to retain existing students and funds to provide critical programs, services, and support. These new changes to the body of international students will provide positive feedback for international students to recruit their own friends to their respective institutions.

APPENDIX A: 2015 NSSE SURVEY

*This is a facsimile of the U.S. English version of the online NSSE instrument as it appears to the student.
A paper-formatted facsimile of the survey which includes item numbering is available on the
NSSE Web site: nsse.iub.edu/html/survey_instruments.cfm*



0% complete

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Asked questions or contributed to course discussions in other ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared two or more drafts of a paper or assignment before turning it in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Come to class without completing readings or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended an art exhibit, play or other arts performance (dance, music, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked another student to help you understand course material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explained course material to one or more students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared for exams by discussing or working through course material with other students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with other students on course projects or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gave a course presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Combined ideas from different courses when completing assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connected your learning to societal problems or issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Examined the strengths and weaknesses of your own views on a topic or issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learned something that changed the way you understand an issue or concept	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connected ideas from your courses to your prior experiences and knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Talked about career plans with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed course topics, ideas, or concepts with a faculty member outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed your academic performance with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, how much has your coursework emphasized the following?

	Very much	Quite a bit	Some	Very little
Memorizing course material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applying facts, theories, or methods to practical problems or new situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing an idea, experience, or line of reasoning in depth by examining its parts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluating a point of view, decision, or information source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forming a new idea or understanding from various pieces of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, to what extent have your instructors done the following?

	Very much	Quite a bit	Some	Very little
Clearly explained course goals and requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taught course sessions in an organized way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used examples or illustrations to explain difficult points	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided feedback on a draft or work in progress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided prompt and detailed feedback on tests or completed assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluated what others have concluded from numerical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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26% complete

During the current school year, about how many papers, reports, or other writing tasks of the following length have you been assigned? (Include those not yet completed.)

	None	1-2	3-5	6-10	11-15	16-20	More than 20 papers, etc.
Up to 5 pages	<input type="radio"/>						
Between 6 and 10 pages	<input type="radio"/>						
11 pages or more	<input type="radio"/>						

During the current school year, about how often have you had discussions with people from the following groups?

	Very often	Often	Sometimes	Never
People of a race or ethnicity other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People from an economic background other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with religious beliefs other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with political views other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Identified key information from reading assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewed your notes after class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Summarized what you learned in class or from course materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, to what extent have your courses challenged you to do your best work?

Not at all	<input type="radio"/>	Very much						
1	2	3	4	5	6	7		

Which of the following have you done or do you plan to do before you graduate?

	Done or in progress	Plan to do	Do not plan to do	Have not decided
Participate in an internship, co-op, field experience, student teaching, or clinical placement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hold a formal leadership role in a student organization or group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a learning community or some other formal program where groups of students take two or more classes together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a study abroad program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work with a faculty member on a research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About how many of your courses at this institution have included a community-based project (service-learning)?

- All
- Most
- Some
- None

Indicate the quality of your interactions with the following people at your institution.

	Poor 1	2	3	4	5	6	Excellent 7	Not Applicable
Students	<input type="radio"/>							
Academic advisors	<input type="radio"/>							
Faculty	<input type="radio"/>							
Student services staff (career services, student activities, housing, etc.)	<input type="radio"/>							
Other administrative staff and offices (registrar, financial aid, etc.)	<input type="radio"/>							

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 40% complete

How much does your institution emphasize the following?

	Very much	Quite a bit	Some	Very little
Spending significant amounts of time studying and on academic work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing support to help students succeed academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using learning support services (tutoring services, writing center, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing opportunities to be involved socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing support for your overall well-being (recreation, health care, counseling, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping you manage your non-academic responsibilities (work, family, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending campus activities and events (performing arts, athletic events, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending events that address important social, economic, or political issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About how many hours do you spend in a typical 7-day week doing the following?

	Hours per week							
	0	1-5	6-10	11-15	16-20	21-25	26-30	More than 30
Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	<input type="radio"/>							
Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)	<input type="radio"/>							
Working for pay on campus	<input type="radio"/>							
Working for pay off campus	<input type="radio"/>							
Doing community service or volunteer work	<input type="radio"/>							
Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)	<input type="radio"/>							
Providing care for dependents (children, parents, etc.)	<input type="radio"/>							
Commuting to campus (driving, walking, etc.)	<input type="radio"/>							

Of the time you spend preparing for class in a typical 7-day week, about how many hours are on assigned reading?

- 0 hours
- 1-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- 26-30 hours
- More than 30 hours

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
Writing clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking critically and analytically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing numerical and statistical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquiring job- or work-related knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing or clarifying a personal code of values and ethics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solving complex real-world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being an informed and active citizen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you evaluate your entire educational experience at this institution?

- Excellent
- Good
- Fair
- Poor

If you could start over again, would you go to the same institution you are now attending?

- Definitely yes
- Probably yes
- Probably no
- Definitely no

[Continue](#)

 70% complete

Why do we ask about your personal background?

What is your class level?

- Freshman/first-year
- Sophomore
- Junior
- Senior
- Unclassified

Thinking about this current academic term, are you a full-time student?

- Yes
- No

How many courses are you taking for credit this current academic term?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

Of these, how many are *entirely online*?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

How many majors do you plan to complete? (Do not count minors.)

- One
- More than one.

What have most of your grades been up to now at this institution?

- A
- A-
- B+
- B
- B-
- C+
- C
- C- or lower

Did you begin college at this institution or elsewhere?

- Started here
- Started elsewhere

Since graduating from high school, which of the following types of schools have you attended *other than the one you are now attending?* (Select all that apply.)

- Vocational or technical school
- Community or junior college
- 4-year college or university other than this one
- None
- Other

What is the highest level of education you ever expect to complete?

- Some college but less than a bachelor's degree
- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

What is the highest level of education completed by either of your parents (or those who raised you)?

- Did not finish high school
- High school diploma or G.E.D.
- Attended college but did not complete degree
- Associate's degree (A.A., A.S., etc.)
- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

What is your gender?

- Male
- Female

Enter your year of birth (e.g., 1994):

Are you an international student or foreign national?

- Yes
- No

What is your racial or ethnic identification? (Select all that apply.)

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White
- Other
- I prefer not to respond

Are you a member of a social fraternity or sorority?

- Yes
- No

Which of the following best describes where you are living while attending college?

- Dormitory or other campus housing (not fraternity or sorority house)
- Fraternity or sorority house
- Residence (house, apartment, etc.) *within* walking distance to the institution
- Residence (house, apartment, etc.) *farther than* walking distance to the institution
- None of the above

Are you a student-athlete on a team sponsored by your institution's athletics department?

- Yes
- No

Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?

- Yes
- No

Have you been diagnosed with any disability or impairment?

- Yes
- No
- I prefer not to respond

Which of the following have been diagnosed? (Select all that apply)

- A sensory impairment (vision or hearing)
- A mobility impairment
- A learning disability (e.g., ADHD, dyslexia)
- A mental health disorder
- A disability or impairment not listed above

Which of the following best describes your sexual orientation?

- Heterosexual
- Gay
- Lesbian
- Bisexual
- Questioning or unsure
- I prefer not to respond

Continue

APPENDIX B:

NSSE ITEM BY ITEM COMPARISON OF NSSE 2012 AND NSSE 2013



Item by Item Comparisons of NSSE 2012 and NSSE 2013

Updated August 2013

(View NSSE 2013 Online at nsse.iub.edu/links/surveys)

2012 Survey Instrument			2013 Survey Instrument			Comparison ⁴
Item #	Variable name	Item Wording	Item #	Variable name	Item Wording	2012 > 2013
1a	clquest	<i>How often...</i> Asked questions in class or contributed to class discussions	1a	askquest	<i>How often...</i> Asked questions or contributed to course discussions in other ways	Min
1b	clpresen	<i>How often...</i> Made a class presentation	1i	present	<i>How often...</i> Gave a course presentation	Min
1c	rewtopap	<i>How often...</i> Prepared two or more drafts of a paper or assignment before turning it in	1b	drafts	<i>How often...</i> Prepared two or more drafts of a paper or assignment before turning it in	=
1d	integrat	<i>How often...</i> Worked on a paper or project that required integrating ideas or information from various sources				Del
1e	divclass	<i>How often...</i> Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	2e	Rldiverse	<i>How often...</i> Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	Min
1f	clnprep	<i>How often...</i> Came to class without completing readings or assignments	1e	unprepared	<i>How often...</i> Came to class without completing readings or assignments	=
1g	classgrp	<i>How often...</i> Worked with other students on projects during class	1h	CIproject	<i>How often...</i> Worked with other students on course projects or assignments	Maj
1h	occgrp	<i>How often...</i> Worked with classmates outside of class to prepare class assignments				Maj
1i	intideas	<i>How often...</i> Put together ideas or concepts from different courses when completing assignments or during class discussions	2a	Rlintegrate	<i>How often...</i> Combined ideas from different courses when completing assignments	Maj
1j	tutor	<i>How often...</i> Tutored or taught other students (paid or voluntary)	1f	Clexplain	<i>How often...</i> Explained course material to one or more students	Maj
1k	commproj	<i>How often...</i> Participated in a community-based project (e.g., service learning) as part of a regular course	12	servcourse	About how many of your courses at this institution have included a community-based project (service-learning)	Maj ^{1,2}
1l	itacadem	<i>How often...</i> Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment				Del
1m	email	<i>How often...</i> Used e-mail to communicate with an instructor				Del
1n	facgrade	<i>How often...</i> Discussed grades or assignments with an instructor				Del
1o	facplans	<i>How often...</i> Talked about career plans with a faculty member or advisor	3a	SFcareer	<i>How often...</i> Talked about career plans with a faculty member	Min
1p	facideas	<i>How often...</i> Discussed ideas from your readings or classes with faculty members outside of class	3c	SFdiscuss	<i>How often...</i> Discussed course topics, ideas, or concepts with a faculty member outside of class	Min

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Updated August 2013

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2012 Survey Instrument			2013 Survey Instrument			Comparison¹
<i>Item #</i>	<i>Variable name</i>	<i>Item Wording</i>	<i>Item #</i>	<i>Variable name</i>	<i>Item Wording</i>	<i>2012 - 2013</i>
1q facfeed		<i>How often... Received prompt written or oral feedback from faculty on your academic performance</i>	5e ETfeedback		<i>To what extent have your instructors... Provided prompt and detailed feedback on tests or completed assignments</i>	Maj
1r workhard		<i>How often... Worked harder than you thought you could to meet an instructor's standards or expectations</i>				Del
1s facother		<i>How often... Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</i>	3b SFotherwork		<i>How often... Worked with faculty members on activities other than coursework (committees, student groups, etc.)</i>	Min
1t oocideas		<i>How often... Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</i>				Del
1u divrstud		<i>How often... Had serious conversations with students of a different race or ethnicity than your own</i>	8a DDrace		<i>How often have you had discussions with people from the following groups? ... People of a race or ethnicity other than your own</i>	Maj ¹
1v diffstu2		<i>How often... Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</i>	8b DDeconomic		<i>How often have you had discussions with people from the following groups? ... People from an economic background other than your own</i>	
			8c DDreligion		<i>How often have you had discussions with people from the following groups? ... People with religious beliefs other than your own</i>	Maj ¹
			8d DDpolitical		<i>How often have you had discussions with people from the following groups? ... People with political views other than your own</i>	
2a memorize		<i>Coursework emphasis... Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form</i>	4a memorize		<i>Coursework emphasis... Memorizing course material</i>	Maj
2b analyze		<i>Coursework emphasis... Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components</i>	4c HOanalyze		<i>Coursework emphasis... Analyzing an idea, experience, or line of reasoning in depth by examining its parts</i>	Maj
2c synthesz		<i>Coursework emphasis... Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships</i>	4e HOform		<i>Coursework emphasis... Forming a new idea or understanding from various pieces of information</i>	Maj
2d evaluate		<i>Coursework emphasis... Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions</i>	4d HOevaluate		<i>Coursework emphasis... Evaluating a point of view, decision, or information source</i>	Maj
2e applying		<i>Coursework emphasis... Applying theories or concepts to practical problems or in new situations</i>	4b HOapply		<i>Coursework emphasis... Applying facts, theories, or methods to practical problems or new situations</i>	Min
3a readasgn		<i>During the current school year, about how much reading and writing have you done?... Number of assigned textbooks, books, or book-length packs of course readings</i>	16 tmread		<i>Of the time you spend preparing for class in a typical 7-day week, about how many hours are on assigned reading?</i>	Maj ^{1,2}
3b readown		<i>During the current school year, about how much reading and writing have you done?... Number of books read on your own (not assigned) for personal enjoyment or academic enrichment</i>				Del

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2012 Survey Instrument			2013 Survey Instrument			Comparison ⁴
Item #	Variable name	Item Wording	Item #	Variable name	Item Wording	2012 - 2013
3c	writemor	During the current school year, about how much reading and writing have you done?... Number of written papers or reports of 20 pages or more	7c	wrlong	About how many papers, reports, or other writing tasks of the following length have you been assigned? (Include those not yet completed.)... 11 pages or more	Maj ^{1,2}
3d	writemid	During the current school year, about how much reading and writing have you done?... Number of written papers or reports between 5 and 19 pages	7b	wrmed	About how many papers, reports, or other writing tasks of the following length have you been assigned? (Include those not yet completed.)... Between 6 and 10 pages	Maj ^{1,2}
3e	writesml	During the current school year, about how much reading and writing have you done?... Number of written papers or reports of fewer than 5 pages	7a	wrshort	About how many papers, reports, or other writing tasks of the following length have you been assigned? (Include those not yet completed.)... Up to 5 pages	Maj ^{1,2}
4a	probseta	In a typical week, how many homework problem sets do you complete?... Number of problem sets that take you more than an hour to complete				Del
4b	probsetb	In a typical week, how many homework problem sets do you complete?... Number of problem sets that take you less than an hour to complete				Del
5	exams	Select the circle that best represents the extent to which your examinations during the current school year challenged you to do your best work.	10	challenge	During the current school year, to what extent have your courses challenged you to do your best work?	Maj ²
6a	attend07	How often... Attended an art exhibit, play, dance, music, theater, or other performance	1d	attendant	How often... Attended an art exhibit, play, or other performance (dance, music, etc.)	Min
6b	exercis05	How often... Exercised or participated in physical fitness activities				Del
6c	worshp05	How often... Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)				Del
6d	ownview	How often... Examined the strengths and weaknesses of your own views on a topic or issue	2d	Rlownview	How often... Examined the strengths and weaknesses of your own views on a topic or issue	=
6e	otherview	How often... Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	2e	Rlperspect	How often... Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	=
6f	chngview	How often... Learned something that changed the way you understand an issue or concept	2f	Rlnewview	How often... Learned something that changed the way you understand an issue or concept	=
7a	intern04	Done or plan to do before you graduate... Practicum, internship, field experience, co-op experience, or clinical assignment	11a	intern	Done or plan to do before you graduate... Participate in an internship, co-op, field experience, student teaching, or clinical placement	Min ²
7b	volunt04	Done or plan to do before you graduate... Community service or volunteer work	15e	lmservice	Hours per week... Doing community service or volunteer work	Maj ^{1,2}
7c	lncomf04	Done or plan to do before you graduate... Participate in a learning community or some other formal program where groups of students take two or more classes together	11c	teamcom	Done or plan to do before you graduate... Participate in a learning community or some other formal program where groups of students take two or more classes together	Min ²



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2012 Survey Instrument			2013 Survey Instrument			Comparison *
Item #	Variable name	Item wording	Item #	Variable name	Item wording	2012 - 2013
7d	research04	<i>Done or plan to do before you graduate... Work on a research project with a faculty member outside of course or program requirements.</i>	11e	research	<i>Done or plan to do before you graduate... Work with a faculty member on a research project</i>	Maj ²
7e	forlmg04	<i>Done or plan to do before you graduate... Foreign language coursework</i>				Del
7f	studabroad04	<i>Done or plan to do before you graduate... Study abroad</i>	11d	abroad	<i>Done or plan to do before you graduate... Participate in a study abroad program</i>	Min ²
7g	instdrd04	<i>Done or plan to do before you graduate... Independent study or self-designed major</i>				Del
7h	sntxs04	<i>Done or plan to do before you graduate... Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)</i>	11f	capstone	<i>Done or plan to do before you graduate... Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)</i>	Min ²
8a	envstu	<i>Quality of your relationships with... other students [1=Unfriendly, Unsupportive, Sense of alienation to 7=Friendly, Supportive, Sense of belonging]</i>	13a	Qbstudent	<i>Quality of interactions with... Students [1=Poor to 7=Excellent, or Not Applicable]</i>	Min ^{1,2}
8b	envfac	<i>Quality of your relationships with... faculty members [1=Unavailable, Unhelpful, Unsympathetic to 7=Available, Helpful, Sympathetic]</i>	13c	Qfaculty	<i>Quality of interactions with... Faculty [1=Poor to 7=Excellent, or Not Applicable]</i>	Min ^{1,2}
8c	envadm	<i>Quality of your relationships with... administrative personnel and offices [1=Unhelpful, Inconsiderate, Rigid to 7=Helpful, Considerate, Flexible]</i>	13e	Qadmin	<i>Quality of interactions with... Other administrative staff and offices (registrar, financial aid, etc.) [1=Poor to 7=Excellent, or Not Applicable]</i>	Maj ^{1,2}
9a	acadpt01	<i>Hours per week... Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)</i>	15a	imprep	<i>Hours per week... Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)</i>	=
9b	workonit	<i>Hours per week... Working for pay on campus</i>	15c	tmworkon	<i>Hours per week... Working for pay on campus</i>	=
9c	workoff01	<i>Hours per week... Working for pay off campus</i>	15d	tmworkoff	<i>Hours per week... Working for pay off campus</i>	=
9d	cocurr01	<i>Hours per week... Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)</i>	15b	tmcocurr	<i>Hours per week... Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)</i>	=
9e	social05	<i>Hours per week... Relaxing and socializing (watching TV, partying, etc.)</i>	15f	tmrelax	<i>Hours per week... Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)</i>	Min
9f	carede01	<i>Hours per week... Providing care for dependents living with you (parents, children, spouse, etc.)</i>	15g	tmcare	<i>Hours per week... Providing care for dependents (children, parents, etc.)</i>	Min



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2012 Survey Instrument			2013 Survey Instrument			Comparison *
Item #	Variable name	Item wording	Item #	Variable name	Item wording	2012 - 2013
10a	envschol	<i>Institutional emphasis... Spending significant amounts of time studying and on academic work</i>	14a	empstudy	<i>Institutional emphasis... Spending significant amounts of time studying and on academic work</i>	=
10b	envsupt	<i>Institutional emphasis... Providing the support you need to help you succeed academically</i>	14b	SEacademic	<i>Institutional emphasis... Providing support to help students succeed academically</i>	Min
10c	envdivers	<i>Institutional emphasis... Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</i>	14d	SIdiverse	<i>Institutional emphasis... Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)</i>	Min
10d	envnacad	<i>Institutional emphasis... Helping you cope with your non-academic responsibilities (work, family, etc.)</i>	14g	SEnunacad	<i>Institutional emphasis... Helping you manage your non-academic responsibilities (family, work, etc.)</i>	Min
10e	envsocial	<i>Institutional emphasis... Providing the support you need to thrive socially</i>	14e	SEsocial	<i>Institutional emphasis... Providing opportunities to be involved socially</i>	Maj
10f	envevent	<i>Institutional emphasis... Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)</i>	14b	SEActivities	<i>Institutional emphasis... Attending campus activities and events (performing arts, athletic events, etc.)</i>	Min
10g	envcompt	<i>Institutional emphasis... Using computers in academic work</i>				Del
11a	gngrnded	<i>How much has your experience at this institution contributed... Acquiring a broad general education</i>				Del
11b	gnwork	<i>How much has your experience at this institution contributed... Acquiring job or work-related knowledge and skills</i>	17c	pgwork	<i>How much has your experience at this institution contributed... Acquiring job- or work-related knowledge and skills</i>	=
11c	gnwrite	<i>How much has your experience at this institution contributed... Writing clearly and effectively</i>	17a	pgwrite	<i>How much has your experience at this institution contributed... Writing clearly and effectively</i>	=
11d	gnpeak	<i>How much has your experience at this institution contributed... Speaking clearly and effectively</i>	17b	pgpeak	<i>How much has your experience at this institution contributed... Speaking clearly and effectively</i>	=
11e	gnanaly	<i>How much has your experience at this institution contributed... Thinking critically and analytically</i>	17c	pgthink	<i>How much has your experience at this institution contributed... Thinking critically and analytically</i>	=
11f	gnquant	<i>How much has your experience at this institution contributed... Analyzing quantitative problems</i>	17d	pganalyze	<i>How much has your experience at this institution contributed... Analyzing numerical and statistical information</i>	Min
11g	gncompts	<i>How much has your experience at this institution contributed... Using computing and information technology</i>				Del
11h	gnothers	<i>How much has your experience at this institution contributed... Working effectively with others</i>	17f	pgothers	<i>How much has your experience at this institution contributed... Working effectively with others</i>	=

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Item #	Variable name	Item wording	Item #	Variable name	Item wording	2012 - 2013
11i_gnctnm		<i>How much has your experience at this institution contributed... Voting in local, state, or national elections</i>				Del
11j_gninq		<i>How much has your experience at this institution contributed... Learning effectively on your own</i>				Del
11k_gnself		<i>How much has your experience at this institution contributed... Understanding yourself</i>				Del
11l_gndivers		<i>How much has your experience at this institution contributed... Understanding people of other racial and ethnic backgrounds</i>	17b_pgdivers		<i>How much has your experience at this institution contributed... Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)</i>	Maj
11m_gnprobw		<i>How much has your experience at this institution contributed... Solving complex real-world problems</i>	17c_pgprobolve		<i>How much has your experience at this institution contributed... Solving complex real-world problems</i>	=
11n_gnethics		<i>How much has your experience at this institution contributed... Developing a personal code of values and ethics</i>	17d_pgvalues		<i>How much has your experience at this institution contributed... Developing or clarifying a personal code of values and ethics</i>	Min
11o_gncommun		<i>How much has your experience at this institution contributed... Contributing to the welfare of your community</i>				Del
11p_gnspirit		<i>How much has your experience at this institution contributed... Developing a deepened sense of spirituality</i>				Del
12_advise		Overall, how would you evaluate the quality of academic advising you have received at your institution?				Del
13_entirexp		How would you evaluate your entire educational experience at this institution?	18_evalexp		How would you evaluate your entire educational experience at this institution?	=
14_samecoll		If you could start over again, would you go to the same institution you are now attending?	19_sameinst		If you could start over again, would you go to the same institution you are now attending?	=
15_birthyr		Select your year of birth:	30_birthyear		Enter your year of birth: [9] [] []	Min
16_sex		Your sex:	29_gender		What is your gender?	Min
17_internat		Are you an international student or foreign national?	31_internat		Are you an international student or foreign national?	=
18_race05		What is your racial or ethnic identification? (Select only one.)	32_re_all		What is your racial or ethnic identification? (Select all that apply.)	Maj ²

¹ Changed item
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2012 Survey Instrument			2013 Survey Instrument			Comparison⁴
Item #	Variable name	Item wording	Item #	Variable name	Item wording	2012 - 2013
19_class		What is your current classification in college?	20_class		What is your class level?	Min
20_enter		Did you begin college at your current institution or elsewhere?	25_begincol		Did you begin college at this institution or elsewhere?	Min
21_vtech05 ³ comcol05 fmycol05 none05 ocoll_05		Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Select all that apply.)	26_attend_voc attend_com attend_col attend_nse attend_other		Since graduating from high school, which of the following types of schools have you attended other than the one you are now attending? (Select all that apply.)	Min
veteran		Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?	36_veteran		Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?	=
vetpay		{If yes} As part of your military experience, did you receive combat pay, hostile fire pay, or imminent danger pay?				Del
22_enrlment		Thinking about this current academic term... How would you characterize your enrollment?	21_fulltime		Thinking about this current academic term, are you a full-time student?	Min ²
disted		Thinking about this current academic term... Are you taking all courses entirely online? ¹	22b_onlineum		Of these, how many are <i>entirely online</i> ? [This is a follow-up to new item 22a]	Maj
		Do you have any disabilities or impairments? (Select all that apply) ² [Data not returned to institutions]	37_disability		Have you been diagnosed with any disability or impairment? {If "Yes"} Which of the following have been diagnosed? (Mark all that apply)	Min
23_fratsoce		Are you a member of a social fraternity or sorority?	33_greek		Are you a member of a social fraternity or sorority?	=
24a_athlete		Are you a student-athlete on a team sponsored by your institution's athletics department?	35_athlete		Are you a student-athlete on a team sponsored by your institution's athletics department?	=
24b_athteam		On what team(s) sponsored by your institution's athletics department are you an athlete? (Select all that apply.)				Del
25_grades04		What have most of your grades been up to now at this institution?	24_grades		What have most of your grades been up to now at this institution?	=
26_livemow		Which of the following best describes where you are living while attending college?	34_living		Which of the following best describes where you are living while attending college?	Min ²
27a_fathedu		What is the highest level of education that your father completed?	28_parented		What is the highest level of education completed by either of your parents (or those who raised you)?	Maj ²
27b_motheredu		What is the highest level of education that your mother completed?				Maj ²

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2012 Survey Instrument			2013 Survey Instrument			Comparison^a
<i>Item #</i>	<i>Variable name</i>	<i>Item wording</i>	<i>Item #</i>	<i>Variable name</i>	<i>Item wording</i>	<i>2012 - 2013</i>
28a	majorprim	Please enter your major(s) or your expected major(s).		MAJnum	How many majors do you plan to complete? (Do not count minors) {One, More than one}	
			23a	MAJfirst	{If unanswered "One"} Please enter your major or expected major. [Text box]	Maj ¹
28b	majorsecd	If applicable, second major (not minor, concentration, etc.)	23b	MAJsecond	{If unanswered "More than one"} Please enter up to two majors or expected majors (do not enter minors). [Text boxes]	Maj ¹
				1e	CLaskhelp	How often... Asked another student to help you understand course material
				1g	CLstuday	How often... Prepared for exams by discussing or working through course material with other students
				2b	RIsocietal	How often... Connected your learning to societal problems or issues
				2g	RIconnect	How often... Connected ideas from your courses to your prior experiences and knowledge
				3d	SIfperform	How often... Discussed your academic performance with a faculty member
				5a	ETgoals	To what extent have your instructors... Clearly explained course goals and requirements
				5b	ETorganize	To what extent have your instructors... Taught course sessions in an organized way
				5c	ETexample	To what extent have your instructors... Used examples or illustrations to explain difficult points
				5d	ETdraftfb	To what extent have your instructors... Provided feedback on a draft or work in progress
				6a	QRconclude	How often... Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)
				6b	QRproblem	How often... Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)
				6c	QRevaluate	How often... Evaluated what others have concluded from numerical information

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(View NSSE 2013 Online at nsse.iub.edu/links/surveys)

2012 Survey Instrument			2013 Survey Instrument			Comparison^a
<i>Item #</i>	<i>Variable name</i>	<i>Item wording</i>	<i>Item #</i>	<i>Variable name</i>	<i>Item wording</i>	<i>2012 - 2013</i>
			9b	LSnotes	How often... Reviewed your notes after class	New
			9c	LSummary	How often... Summarized what you learned in class or from course materials	New
			11b	leader	Done or plan to do before you graduate... Held a formal leadership role in a student organization or group	New
			13b	Qladvisor	Quality of interactions with... Academic advisors {1=Poor to 7=Excellent, or Not Applicable}	New
			13d	Qlstaff	Quality of interactions with... Student services staff (career services, student activities, housing, etc.) {1=Poor to 7=Excellent, or Not Applicable}	New
			14c	SELearnpmp	Institutional emphasis... Using learning support services (tutoring services, writing center, etc.)	New
			14f	SIowellness	Institutional emphasis... Providing support for your overall well-being (recreation, health care, counseling, etc.)	New
			14i	SEevents	Institutional emphasis... Attending events that address important social, economic, or political issues	New
			17j	pgcitizen	How much has your experience at this institution contributed... Being an informed and active citizen	New
			22a	coursesnum	How many courses are you taking for credit this current academic term?	New
			27	edaspire	What is the highest level of education you ever expect to complete?	New
			38	sexorient	Which of the following best describes your sexual orientation? {Question only administered per institution request}	New

APPENDIX C:
NSSE 2015 Key Variables

Table C.27

NSSE 2015 Key Variables and Scales

<u>NSSE Variable Questions</u>	<u>Answers / Scale</u>
Are you an international student?	Yes No
Country of Region	Africa Suh-Saharan Asia Canada Europe Latin America and Caribbean Middle East and North Africa Oceania Unknown/Uncoded
What is your gender identity?	Man Woman Another gender identity I prefer not to respond
What is your racial or ethnic background?	American Indian or Native Alaskan Asian Black or African American Hispanic or Latino Native Hawaiian or Other Pacific Islander White Other Multiracial I prefer not to answer
Age/ Enter your year of birth	19 years and younger 20-23 24-29 30-39 40-55 Over 55
Enrollment Status	Fulltime Not Full-time

Academic Major	Arts and Humanities Biological Sciences, Agriculture and Natural Resources Physical Sciences, Mathematics, and Computer Science Social Sciences Business Communications, Media, and Public Relations Education Engineering Health Professionals All Other Undecided, Undeclared
Institutional Control	Public Private
NSSE Engagements: Campus Environment	Quality of Interaction
Quality of Interaction	(1-poor to 7- excellent, 8-not applicable) 13a. How do students rate the quality of interactions with other students? 13b. How do students rate the quality of interactions with Academic Advisors? 13c. How do students rate the quality of interactions with Faculty? 13d. How do students rate the quality of interactions with student services staff (career services, student activities, housing, etc.)? 13e. How do students rate the quality of interactions with other
Supportive Environment	Supportive Environment (4 scales, very much, quite a bit, some, very little) 14b. To what extent does the institution emphasize providing students the support they need to succeed academically? 14c. To what extend does the institution emphasize using learning support services (tutoring services, writing center, etc.)? 14d. Encouraging contact among students from different backgrounds (social, racial/ethnic, religious etc.) 14e. To what extent does the institution emphasize providing opportunities to be involved socially? 14f. To what extend does the institution provide support for your overall well-being (recreation, health care, counseling, etc.) 14g. To what extend the institution helping you manage your non-academic responsibilities (work, family, etc.) 14h. To what extent does the institution emphasize attending campus activities and events (performing arts, athletic events, etc.)? 14i. To what extend does the institution encourage attending events that address important social, economic, or political issues?

Academic Success Questions

What have most of your grades been up to now at this institution?	C-
	C
	C+
	B-
	B
	B+
	A-
	A

Student Satisfaction of their entire educational Experience

How would you evaluate your entire educational experience at this institution?	Poor
	Fair
	Good
	Excellent

If you could start over again would you go to the same institution you are now attending?	Definitely No
	Probably No
	Probably Yes
	Definitely Yes

APPENDIX D:
LIST OF INDEPENDENT VARIABLES AND DEPENDENT VARIABLES
AND KEY VARIABLES OF THE STUDY

Table D.28

List of Independent and Dependent Variables

<u>Independent Variables</u>	<u>Dependent Variables</u>
International Freshmen Student	NSSE Engagement Indicators
Domestic Freshmen Students	Quality of Interactions Indicator
Public Institutions	Supportive Environment Indicator
Private Institutions	Academic Success (Grade Point Average)

Table D.29

Key Variables in the Study

<u>Independent Variables</u>	<u>Dependent Variables</u>
International Freshmen Student	NSSE Engagement Indicators
Domestic Freshmen Students	<ul style="list-style-type: none"> • Quality of Interactions Indicator • Supportive Environment Indicator
Public Institutions	Student Satisfaction
Private Institutions	Academic Success (Grade Point Average)
Student Age	
Student Race/Ethnicity	
Gender	

APPENDIX E: Data Sharing Agreement



Indiana University Data Sharing Agreement

This Indiana University Center for Postsecondary Research Data Sharing Agreement ("Agreement") defines the parameters for data sharing from the National Survey of Student Engagement ("NSSE") between the Research Institution(s) and its Authorized Researchers named below and the Trustees of Indiana University on behalf of the Indiana University Center for Postsecondary Research ("IUCPR"). The terms below are intended to reflect and comply with the existing agreements between NSSE and the institutions that participate in the survey program. Under these participation agreements NSSE may make de-identified data available to researchers.

RESEARCHERS

The following researchers ("Authorized Researchers") of University of North Dakota ("Research Institution") may make use of NSSE data pursuant to the terms of this Agreement:

Ms. Ludmi Herath, ludsherath@gmail.com

FACULTY SPONSOR (Required for students)

**Dr. Steven LeMire, Student Advisor, University of North Dakota,
steven.lemire@email.und.edu**

PROJECT TITLE or TOPIC ("Project")

International and Domestic Student Perceptions of Campus Environment

DATA DESCRIPTION

Under this Agreement, IUCPR will provide the researchers a data file delimited in the following ways ("NSSE Data File"):

*Data Source(s):
NSSE 2015*

Variables:

All core NSSE survey items, institution-provided variables (sex, race/ethnicity, enrollment status, class level), and institution-level variables (Carnegie type, control, enrollment size in categories). All student identifiers will be removed. Institution identifiers will be replaced with unique non-identifiable codes.

Cases:

A 20% random sample from U.S. institutions of all international student respondents and 20% of all U.S. citizen respondents who completed the 2015 NSSE questionnaire.

PARAMETERS FOR DATA SHARING:

1. IUCPR will provide a single copy of the NSSE Data File solely for non-commercial research by the Authorized Researchers.
2. The NSSE Data File will exclude the Unit ID code from Integrated Postsecondary Educational Data System (IPEDS), any other unique school or personal identifiers, and any variables that



Indiana University Data Sharing Agreement

IUCPR determines reasonably may permit the identification of a participating institution or respondent.

3. The Authorized Researchers will not attempt, privately or publicly, to associate elements of the NSSE Data File with the individual institutions or individual respondents participating in the NSSE, nor will they share the data with anyone else who might do so.
4. In all publications or presentations of data obtained through this agreement, the Authorized Researchers agree to include the following citation:

"NSSE data were used with permission from The Indiana University Center for Postsecondary Research."

5. The Authorized Researchers agree to provide to IUCPR a copy of all reports, presentations, analyses, or other materials in which the data given under this Agreement are presented, discussed, or analyzed.
6. The data should be encrypted when not in use by the above researcher and should be destroyed once the Project has been completed. If the researcher needs the data for any longer period than that which is necessary for completing the Project, the researcher is required to ask for an extension. Using the data for other purposes besides completing the Project must be approved by the Director of the Center for Postsecondary Research at Indiana University at Bloomington.
7. Other parameters: **None**
8. The IUCPR of Indiana University may, by written notification to the Authorized Researchers and the Research Institution(s), terminate this Agreement if it determines, in its sole discretion, that either the Authorized Researchers or the Research Institution(s) have breached the terms of this Agreement. In the event that this Agreement is terminated, the Authorized Researchers and Research Institution(s) shall return the originals and all copies of the NSSE Data File to the IUCPR, and securely destroy all NSSE Data File elements contained in any analyses or other materials created or maintained by Authorized Researchers, within ten (10) days of the receipt of the termination notice.
9. IU will not be liable to the Research Institution(s) for any direct, consequential, or other damages, related to the use of the NSSE Data File or any other information delivered by Indiana University or IUCPR in accordance with this Agreement. The Research Institution(s) shall, to the fullest extent permissible under any applicable federal, state, or local law, be responsible for its own acts and omissions as well as the acts and omissions of the Authorized Researchers with respect to any and all claims, causes of action, losses, and liabilities, of any kind whatsoever, arising directly or indirectly from the Authorized Researchers' use of the NSSE Data File.

FEES

In exchange for access to and use of the NSSE Data File, **Ludmi Herath of University of North Dakota** agrees to pay Indiana University the sum of **\$500** by check upon execution of this Agreement. IUCPR will send an invoice detailing payment instructions.

INDIANA UNIVERSITY
School of Education
Bloomington

Indiana University Data Sharing Agreement

SIGNATURES

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

TLS

Donald Lukes, University Treasurer

Date

Indiana University Office of the Treasurer

Digitally signed by Alexander McCormick
DN: postalCode=47405, o=Indiana University, street=900 E. 7th St.,
street=900 E. 7th St., st=IN, l=Bloomington, c=US, cn=Alexander
McCormick, email=amcc@indiana.edu
Date: 2018.03.22 12:39:41 -0400

Alexander C. McCormick, Director, National Survey of Student Engagement

Date

For the Research Institution(s):

Authorized Institutional Official from University of North Dakota

3/13/18

Date

Name: Barry Milavetz, Ph.D.

Title: Associate Vice President for Research & Economic Development

Acknowledgment of Authorized Researcher(s) (including Faculty Sponsor if applicable):

Ms. Ludmi Herath, University of North Dakota, ludshern@gmail.com

3/14/18

Date

Dr. Steven LeMire, Student Advisor, University of North Dakota,
steven.lemire@email.und.edu

3/18/18

Date

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