## THE RELATIONSHIP BETWEEN COLLEGE INTERVENTIONS AND FIRST-GENERATION STUDENTS' ACADEMIC SUCCESS AT A LARGE URBAN TIER I INSTITUTION

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A dissertation submitted to the Department of Educational Leadership and Policy Studies,

College of Education in partial fulfillment of the requirements for the degree of

Doctor of Education in Special Populations

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#### Dedication

Thank God for making this all possible and giving me the strength to finish this challenging, but rewarding journey! I dedicate this work to my family and friends who encouraged and motivated me to earn this degree.

To my parents, Alonrica Sandifer, Larry Sandifer (step-father), and my late father Roy L. Jones, thank you for providing me with a strong foundation. I appreciate the encouragement, love, and support that you have shown me throughout my life and this process.

To my grandmother, Flyree Phipps, thank you for your wisdom and knowledge. To my siblings, Ryanrica Robinson, Rick'em Brown, Keundria Harris, thank you for being my inspiration.

To my nieces and nephew, Chrislon Terrell, Ric'Kayle Thompson, and Rick'em Brown Jr., your future is bright and remember to chase your dreams!

To my God-family, Carla Johnson, Frederica Haywood, Fredrick Haywood, and Aidyn Hill, I am thankful for the unconditional love and support.

To my best friends, Rodriel Jordan and Willie Brewster, I am grateful that our paths crossed at Mississippi State University. Thank you for listening, supporting, and encouraging me to pursue my goals.

To my partner, Godstime (GT), I appreciate your commitment to my personal and professional success. Thank you for your support, patience, encouragement, and prayers throughout this journey– I love you!

To my future children – let this work be an inspiration to you and know that you can achieve your dreams!

#### Acknowledgements

First, I would like to express my gratitude and appreciation to my committee chair and advisor, Dr. Kristi Santi, for her continued support, guidance, and motivation. Your dedication and commitment to my success have contributed to my personal and professional growth. Having you as my advisor has been an amazing experience, and I am very fortunate to have met you.

Secondly, I would like to thank my committee - Dr. Janeen Antonelli, Dr. Erica Jordan, and Dr. Shawn Kent, for your contributions to my dissertation. I am grateful for you being a part of this journey with me and for your patience, constructive feedback, and encouragement.

Thirdly, I would like to thank Dr. Jennifer Cobb and Dr. Eric Middleton for graciously sharing your time and research methodology expertise.

Fourth, I would like to send a special thanks to my Cougar Village 1 family for supporting and motivating me to achieve this goal.

And finally, I would like to thank fellow classmates Kellian Hughes, Mark Crawford, and Cheryl Dandridge, for the inspiration along the way, insightful comments, and unwavering support.

#### Abstract

Background: Access to and success in higher education has been a challenge for many first-generation students. When compared with continuing-generation students, firstgeneration students are more likely to drop out of college or persist and graduate at a lower rate than their counterparts. To address issues with lower retention and graduation rates, higher education institutions have adopted the "one-size fits all" approach. This approach is alarming because it does not address the specific constraints of college success for first-generation students. **Purpose:** This study explored the potential contribution of college intervention programs on first-generation students' grade point average (GPA) and the number of credit hours earned. Research Questions: The study was guided by the following questions: (1) Are there differences between first-generation students who participated in college intervention programs? Specifically, is there a significant difference between first-generation students' academic success as measured by GPA and the number of credit hours earned? (2) What is the difference, if any, between first-generation college students' academic success as measured by GPA and the number of credit hours earned on campus versus the academic success of students living offcampus? Method: A total of 7,742 young adults between the ages of 17 and 21 years old who were considered first-generation students (neither parent have a bachelor's degree or higher) were included in the study. This correlation study sought to determine if there was a relationship between the type of intervention and GPA and the number of credit hours earned for first-generation students at the University of Houston, a Tier I university. The independent variables of the study were multiple intervention programs embedded under one umbrella. Included were programs such as first-year seminar

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courses, an on-campus residential experience, mentoring programs, and other programs designated to support first-generation students' success. The dependent variables were GPA and number of credit hours. The data were retrieved from EAB Navigate, which is a student success management system that the university uses to track student success from enrollment to graduation. The data analysis was performed using SPSS. The statistical methods used in this study included an ANOVA, descriptive statistics, and an independent t-test. Results: The results show that first-generation students who participated in a first-year seminar course or lived in student housing on campus had higher GPAs than those who did not. These findings support current literature focused on first-generation students and highlight the influence of high-impact interventions on their academic success. Conclusion: The results of the study are in line with the literature and underscore the need to support first-generation students. Overall, the findings suggest that participation in first-year seminars and housing experiences may support first-generation students' academic success as measured by GPA beyond that of their peers who do not participate in such interventions.

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## **Chapter I**

## Introduction

### **Problem of Practice**

Pursuing a college degree has been the goal for people seeking to advance in their careers, to further knowledge in a particular discipline, or to increase earning potential. Many high school graduates are choosing to further their education, as evidenced by the 17.2 million students who are projected to attend college between fall 2017 and fall 2028 (National Center for Education Statistics [NCES], 2019). Nationally, there has been a great deal of attention toward issues related to first-generation students, a student subpopulation considered to be at a particular disadvantage for college access and success. Statistics show that 20% of first-generation students obtain their bachelor's degree in six years in comparison to 49% of continuing-generation students, those students who are not the first in their families to attend college (Center for First-Generation Students Success, n.d.). As higher education institutions continue to enroll new students, they should also understand and be prepared to respond to the diverse and unique needs of first-generation students.

## **First-Generation Students**

**Characteristics.** The term *first-generation* is broad and complex. First-generation is used to describe a student who is first in their family to attend college. To illustrate the complexity of the term, first-generation students are described as belonging to one of three categories. First, those whose parents had no postsecondary education. Second, students whose parents did not have a bachelor's degree. Finally, students who were the first of the children in their family to attend college and who had parents who did not

have a bachelor's degree (Center for First-Generation Student Success, n.d.). For the purpose of this research, first-generation refers to college students who do not have parents with a bachelor's degree or higher (University of Houston, n.d). The identity of first-generation students can be complicated. First-generation students, which represents about a third of the undergraduate student population, may be any gender, ethnicity, or race (NCES, n.d.). However, they are more likely to be female, Black, or Hispanic and come from a low-income family (Engle, 2007; Redford & Hoyer, 2017; Whitley, Benson, & Wesaw, 2018).

**College Readiness.** One concern is that first-generation students are not ready for college. According to ACT (2016), over half of the first-generation students did not meet ACT college readiness benchmarks, which includes minimum ACT scores that predict student's chance of success in their first year of college. The benchmarks are based on college courses such as English, Mathematics, Reading, Science, STEM (Science, Technology, Engineering, and Mathematics) programs, and ELA from core subject areas commonly taken during the first year of college. As first-generation students enroll in college, the problem continues. First-generations students struggle academically, adjusting to the college transition, search for a sense of belonging to the campus community, and graduate at a lower rate than their counterparts (Choy, 2001; Garcia, 2010, Thayer, 2000). Compared with their peers who are not first-generation, only 27% of first-generation students will attain their degrees within four years (Whitley et al., 2018).

Retention and Graduation Rates. The literature shows that first-generation

students experience lower retention and graduation rates than their counterparts (Cataldi, Bennett, & Chen, 2018). *Retention rate* refers to the percentage of students who continued enrollment for the fall semesters of a student's first and second year. In contrast, *graduation rate* refers to the percentage of students who earn a degree within the specified time (NCES, 2016). Low retention and graduation rates are a concern not only for college administrators, policymakers, and employers but also for our country as a whole.

The United States ranks lower than other countries when it comes to high school graduation rates. In 2017, the U.S. had an 83% graduation rate compared to Finland, which had a 99% graduation rate (National Center of Education and the Economy, n.d.). In an effort to support graduation and retention efforts, initiatives were formed with a focus on implementing change related to accessibility, affordability, and attainability. This served as a call to action to provide support to students who are first in their families to attend college.

**Social Capital**. The impact of the first-generation status and social capital on outcomes of first-generation students is grounded in research. According to the social capital theory, access to resources or networks helps to navigate or manage unfamiliar situations (Moschetti & Hudley, 2015). First-generation students do not have access to resources or networks in their immediate family about college. Thus, it is more difficult to find the opportunities that will most benefit them in moving to an institute of higher education.

Poverty. Over 50% of first-generation students come from low-income

backgrounds (Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007). Currently, in the United States, 43% of children live in low-income families defined as income less than twice the federal poverty line, or \$44,100 (National Center for Children in Poverty, 2018). The term *poverty status* which is defined as having an income below the federal poverty level of \$22,050 for a family of four (U.S. Department of Health and Human Services, n.d.) and thus is inclusive of both low income and poverty. Forty-eight percent of children who live in poverty have parents without a high school degree, and 64% of children who live in poverty have parents with a high school degree but no college education (National Center for Children in Poverty, 2018).

## **National Context**

National laws, policies, and standards influence the work of scholars who focus on working with students with challenges to educational attainment. Although this study does not primarily focus on students with disabilities, it is important to acknowledge the Individuals with Disabilities Education Act (IDEA) because there may be students in the study who have a disability. IDEA was established to grant children with disabilities the right to attend public schools and receive services free of charge in general education with their peers without disabilities (Aron & Loprest, 2012).

According to Aron and Loprest (2012), IDEA emphasizes that students with disabilities should be able to learn in "a free, appropriate, public education in the least restrictive environment." Part B of IDEA allows the federal government to provide grants to states to compensate some of the costs associated with special education services for preschool and school-aged children and youth three to twenty-one. Having knowledge

about IDEA helps the researcher to have a broader understanding of the student populations. IDEA regulations moved the bar for providing intentional and effective programs and services to students with disabilities who could be first-generation postsecondary students.

**College- and Career-Ready Standards.** The College- and Career-Ready Standards are the goals for what students should learn in academic content (U.S. Department of Education, n.d.). The standards were established to support about a third of students who were required to enroll in remedial courses when they entered college and strengthen the current college attainment rates (U.S. Department of Education, n.d.). To address the growing needs of the economy, many schools have adopted the standards to help improve their schools and to ensure that students are prospering (U.S. Department of Education, n.d.). Every student must be prepared to transition into college and the workforce successfully regardless of socioeconomic status, race/ethnicity, or firstgeneration status.

**Every Student Succeeds Act**. College preparedness does not start at the college level. It starts in primary and secondary education. Students need to learn academic skills early to increase college readiness and graduation rates. This is evidenced by the Every Student Succeeds Act (ESSA), a reauthorization of the 1965 Elementary and Secondary Education Act, which passed on December 10, 2015. To ensure success for students and schools, ESSA outlined several provisions, of which four align with research related to the first-generation student. First, advancing equity by upholding critical protections for America's disadvantaged and high-need students. Second, requiring—for the first time—

that all students in America be taught to high academic standards that will prepare them to succeed in college and careers. Third, helping to support and grow local innovations, including evidence-based and place-based interventions developed by local leaders and educators. The fourth provision aligned to research for first-generation students is the ability to maintain an expectation that there is both accountability and action to promote positive change in low-performing schools, where specific student populations are not making progress, and where graduation rates are lower over an extended time. In summary, ESSA standards identified the type of students that needed to be supported. These students included first-generation students who were struggling with low retention and graduation rates. ESSA provided a directive on how to design and implement interventions.

**Higher Education Act of 1965**. The Higher Education Act of 1965 (HEA) was a legislative document that was signed into law on November 8, 1965 (National TRIO Clearinghouse, 2003). The overall aim of HEA was to support students in achieving education beyond high school by providing financial assistance. HEA was created to provide more opportunities and access to higher education for low-income families, offer program assistance to small and less developed colleges, improve library resources for many higher education institutions, and utilize colleges' and universities' resources to address two of the nation's problems – poverty and community development (National TRIO Clearinghouse, 2003). Many first-generation students benefited from HEA financial resources, such as grants, loans, and other support programs, which were designed to support economically disadvantaged students.

According to the U.S. Department of Labor (2018), the country needs people with new talents, creativity, and dedication to further advance the world. One way to acquire new abilities, skills, and experiences is through higher education. Earning an undergraduate or graduate degree from an accredited institution is an opportunity for economic and social growth and prosperity. Due to the obstacles associated with being a first-generation student, it is difficult to take advantage of this opportunity. For example, first-generation students lack knowledge related to the college application process, are unfamiliar with the Free Application for Federal Student Aid (FAFSA) process, and are unable to pay financially for college. As the United States recognizes a high need for college graduates with employable skills, the issues of inadequate preparation in college students and disparate graduation rates between minority and nonminority student populations are relevant both socially and economically.

As a result of the challenges that first-generation students face, the federal government offers funding and support programs for college and career readiness, colleges and universities are required to invest in retention and graduation programs, and employers are partnering with colleges and universities to support the transition into the workforce. The literature is consistent in terms of the representation of first-generation across race and ethnicity. For example, Figure 1 shows the data regarding the college generation status of spring 2002 high school sophomores enrolled in postsecondary institutions in 2012. Figure 2 shows the data for household income from the same group of students.

## Figure 1

## College Generation Status of 2002 High School Sophomores Who Enrolled in



Postsecondary Institution in 2012

*Note.* Data are from *The Condition of Education 2012* by Aud et al., 2012, Washington, DC: U.S. Department of Education, National Center for Education Statistics.

## Figure 2

#### Household Income for the Same Group



*Note.* Data are from *The Condition of Education 2012* by Aud et al., 2012, Washington, DC: U.S. Department of Education, National Center for Education Statistics.

At the national level, many programs and interventions such as TRIO, Upward Bound, Talent Search, and GearUp provide first-generation students with the opportunity to further their education by helping with college access and resources that help students to overcome barriers related to college or the workforce. Engle (2007) outlined the services provided to first-generation students and low-income students.

- TRIO offers federal outreach and student services program created to identify and deliver individuals from economically disadvantaged backgrounds. TRIO consists of eight programs targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline to post-baccalaureate programs. The participants of the programs include middle and high school students.
- Upward Bound provides supplemental academic instruction in college preparatory

courses on Saturdays throughout the school year and during a six-week program that is held on a college campus.

- The Talent Search program provides pre-college services that offer counseling, tutoring, mentoring, and workshops related to the college admissions process, financial aid, and college entrance exams.
- GEAR UP provides a school-based program that uses a cohort model to deliver pre-college programs and services. This program also provides the participants with scholarships.
- The Student Support Services program provides support to improve college persistence and graduation rates among low-income and first-generation students who are enrolled in college.
- The McNair Scholars program supports the preparation of low-income and firstgeneration students for advanced graduate study at the doctoral level.
- Educational Opportunity Center offers support to out-of-school youth and their transition back to college.

Overall, the national statistics show that the reoccurring issues are that firstgeneration students struggle with transitioning to college and degree attainment, and they need additional support as evidenced by the 33% of first-generation students who drop out within three years of college enrollment (Cataldi, Bennett, & Chen, 2018). To stimulate the economy, schools need to produce competitive college graduates with skills for the workforce. However, first-generation students will continue to fall short of this opportunity if they are not participating in intervention and support programs to help them become competitive college graduates.

## **State Context**

Texas recognizes the difficulties associated with being a first-generation student and is committed to college and career readiness for all students. According to the Texas Education Agency-TEA (2017), in 2007, Texas called for the development of College and Career Readiness Standards. These standards were adopted by the Texas Higher Education Coordinating Board and the Commissioner of Education. Historically, for Texas, the percentage of first-generation students has been over 30%, which is illustrated in Figure 3.

## Figure 3



State of Texas Percentage of First-Generation Undergraduate Enrollment by the Year

*Note.* Data are from the National Postsecondary Student Aid Study by the National Center for Education Statistics, n.d., Washington, DC: U.S. Department of Education.

School districts, community leaders, higher education professionals, educators, and other education professionals have recognized the significant challenges firstgeneration students experience in the pursuit of a degree in higher education and have joined forces to work collaboratively to support high school students who are interested in attending college. The Texas Higher Education Coordinating Board (THECB) works to promote access, affordability, quality, success, and cost-efficiency for students through the 60×30TX strategic plan (THECB, n.d). The 60×30TX initiative was established in 2015 and is a student-centered strategic plan that projects having 60% of young adults between the ages of 25 and 34 in Texas obtain a degree by 2030 (THECB, n.d).

To support college readiness, in 2013, the THECB partnered with Amarillo College to expand a comprehensive first-year program called TransitionTX (THECB, 2017). TransitionTX was designed to support to first-generation, low-income, Hispanic, and African American first-time-in-college (FTIC) students. Students who participate in TransitionTX learn to navigate their first year at a participating public, two-year community college in Texas. The goal of the program is to help students to complete a certificate or degree within three years or successfully transfer to a four-year university.

Before the 60×30TX strategic plan, Early College High Schools (ECHSs) were established under the authority of Texas Education Code (TEC) <u>§29.908(b)</u> and Texas Administrative Code (TAC) §102.1091. ECHSs are high schools that provide support to students who are at risk of not attending college an opportunity to earn a high school diploma and 60 college credit hours. Students who attend an ECHS participate in rigorous instruction and accelerated courses, are provided academic and social support, receive dual credit, and accrue increased college readiness. Currently, in Texas, there are 169 designated ECHSs and 30 anticipated ECHSs for the 2018–2019 school year.

## Figure 4

Selected schools by district and percentage of economically disadvantaged students in each across Harris County



*Note.* Data from the State of Public Education in Houston: 2017 School Rankings Analysis, Summer 2017, by Children at Risk, 2017, Houston: Children at Risk, 2017.

## Local Context

In Harris County, Houston Independent School District (HISD) has the most schools. HISD is the largest school district in Texas, serving over 214,000 students and the seventh-largest school district in the United States (Houston Independent School District, n.d.). As shown in Figure 4, many of the schools in Harris County serve a large student population who are considered economically disadvantaged (students come from low-income households and are eligible for free and reduced-price meals under the National School Lunch and Child Nutrition Program) (TEA, 2013).

In Harris County, there are additional resources available to support college student success, including National College Access Network, Project Grad, Graduation Game Plan, Link Up Greater Houston, Houston Hispanic Forum, and Houston FASFA Day. These programs serve many college students and their families throughout Texas and Houston.

- National College Access Network focuses on supporting entities that are committed to college access and success for all students, especially those who are underrepresented in postsecondary education so that they can achieve their academic dreams.
- Project Grad aims to improve the lives of individuals who are from lowincome communities by helping them to develop and achieve educational goals.
- Graduation Game Plan uses mentors to help students plan for college and career. The mentor also connects the student to resources.
- Link Up Greater Houston offers workshops for students, families, and organizations to develop strategies for success.
- Houston Hispanic Forum allows students to speak to professionals from various occupations to help establish college and career goals.
- Houston FASFA Day was created to connect adults with students to help them complete the Free Application for Federal Student Aid.

## **Theoretical Framework**

Three theoretical perspectives influence this study—emerging adulthood, transition theory, and marginality and mattering. Theorist Jeffery Arnett introduced the new phase in development known as emerging adulthood, which occurs between the ages of 18 and 24 years old. Arnett (2000) believes that emerging adulthood accurately reflects the change and gradual experience of progressing into full adulthood and describes five distinct characteristics of the phase: (a) age of instability, (b) age of identity development, (c) age of self-focus, (d) age of feeling in-between, and (e) age of possibilities.

Theorist Nancy Schlossberg developed the transition theory, in which there are three types of transitions experienced by college students: (a) anticipated transitions, (b) unanticipated transitions, and (c) nonevents (Schlossberg, 1981). A transition is considered to be an event or nonevent that s relationships, routines, or roles (Evans, Forney, & Guido-Dibrito, 1998). Anticipated transitions are predictable changes, such as attending college, whereas unanticipated transitions are not predictable or scheduled and include life events such as death or termination from a job. Nonevents include activities that are projected but do not occur, such as the inability to purchase a car or admission to college. To help with the transitions, Schlossberg employs the following four factors:

- 1. Situation: Identify what triggered the transition.
- 2. Self: Consider what is important to the person.
- 3. **Support**: Identify what social support is available.
- 4. Strategies: Determine what is going to help with the transition.

Another theory applicable to this study is marginality and mattering by Nancy

Schlossberg. Marginality and Mattering Theory refers to the idea of not fitting in within a community or situation (Schlossberg, 1989). The five aspects of mattering includes (a) attention-feeling that you are noticed by other people; (b) importance-the belief that other people care about what you want, think, or do; (c) ego extension-the feeling about someone else will be proud of what one does or disappointed by your failures; (d) dependence-the feeling of being needed; and (e) appreciation-the feeling that efforts are valued and appreciated.

These theories apply to first-generation students because many are emerging adults experiencing a transition from high school to college. It is critical to understand the developmental tasks associated with emerging adulthood and respond appropriately to the anticipated transitions for first-generation students. Finding a sense of belonging or adapting to a new experience is a common challenge for first-generation students. The theories should influence how programs and services are provided to first-generation students.

## **Statement of the Problem**

The University of Houston (U.H.) is the largest university in Houston and is centrally located in the heart of a historically Black community called Third Ward. U.H. comprises over 45,000 students, and over 40% of U.H.'s student population is firstgeneration students (University of Houston, 2018). A little over 25,000 students are from Harris County, which means many of the students are from the local community (University of Houston, 2018). U.H. offers six residential communities, comprising over 6,000 residential students. The average grade point average (GPA) of a residential student is above 3.0. University of Houston is an Asian-Serving Institution and a Hispanic-Serving Institution.

As a Hispanic-Serving Institution (HSI), the University of Houston must have an enrollment of which at least 25% is Hispanic full-time students (Ramirez, 2012). HSIs are eligible to receive additional funding to support educational opportunities for Hispanic students (U.S. Department of Education, n.d.). The U.S. Department of Education offers three discretionary grants to HSIs. The grants are as follows:

- 1. *Developing Hispanic-Serving Institutions Program* provides support to expand educational opportunities and improve academic attainment and enhances the academic offering, program quality, and institutional stability of colleges and universities that educate Hispanic students.
- Hispanic-Serving Institutions-Science, Technology, Engineering, or Mathematics and Articulation Program provide support to increase the number of Hispanic or other low-income students attaining degrees in the STEM fields.
- 3. *Promoting Postbaccalaureate Opportunities for Hispanic Americans Program* provides support to expand post-baccalaureate educational opportunities and enhance the quality of institutions supporting Hispanic and low-income students.

U.H.'s mission statement states that the university will anticipate and respond to changing demographics in an increasingly diverse and globally interdependent world. It will use its resources

• to meet the challenges of educating a dynamic mix of nontraditional and

traditional students;

- to promote excellence within the context of basic and applied research and scholarship;
- to identify and respond to the economic, social, and cultural challenges affecting the quality of education.

Over the years, there has been a shift in the number of first-generation students at U.H. Figure 5 displays that in the fall of 2012, almost half of U.H.'s student population was considered first-generation students. From 2002 to 2017, there has been in decline in the total number of African American students at U.H. (University of Houston, 2017). The decrease in the African American enrollment could be the result of poor college readiness, which is a common challenge for first-generation students.

Currently, African Americans represent less than 10% of the student population, which is surprising because U.H. is in the heart of Third Ward (University of Houston, 2017), a long-established, well-known African American community. The U.H. student population includes students from diverse countries, ethnicities, strengths/abilities, and socioeconomic classes. Considering the issues first-generation students experience when it comes to college access, a partnership with Third Ward and U.H. could help more students attend college.

## Figure 5



Percentage of First-Generation College Students at the University of Houston 2012–2018

*Note*. Data are from *Statistical Handbook*, by University of Houston, 2018–2019, Houston: University of Houston. Retrieved from https://www.uh.edu/ir/reports/new-statistical-handbook/.

A few known challenges for first-generation students are that these students struggle with retention and graduation rates, a result of the lack of college preparedness (Garcia, 2010). Studies show that first-generation students and low-income students are at a higher risk of withdrawing from the university, experience difficulty with academic preparation, spend less time studying and are working more hours per week (Hottinger & Rose, 2006; Garcia, 2010; Reford & Hoyer, 2017). Despite the barriers, first-generation students have potential and can be successful with the appropriate tools, programs, and support.

At U.H., a variety of programs and services aim to promote student success, such as the Urban Experience Program (UEP), Achievement Initiative Minority Males (AIMM), Las Comadres, Coca-Cola Scholarship Program, Cougar Promise, Cougar Experience Scholarship, Challenger Program, and Learning Advancements for Undergraduate Cougars of Houston (LAUNCH).

- UEP provides all students with academic, personal, and professional development resources that propel student success.
- AIMM supports the recruitment and retention of African American and Hispanic males at U.H. Through community engagement and mentoring, AIMM participants receive support from faculty, staff, and peers.
- Las Comadres supports Latina students through mentorship
- The Coca-Cola Scholarship Program offers financial assistance up to \$5,000 to first-generation students.
- Cougar Promise offers free tuition for students with family income up to \$45,000.
- Cougar Experience Scholarship offers students who demonstrate a financial need a \$4,000 housing scholarship
- The Challenger Program supports first-generation students through specialized programming and campus-wide resource connections.

The Office of the Provost offers a variety of undergraduate success programs. The programs are open to all students and designed to support student success. The programs are as follows:

- UHin4: supports students through a 4-year plan to help save money and time
- **Cub Camp**: offers students an opportunity to learn about U.H. traditions prior to their arrival on-campus

- **Provost Summer Read Program**: supports students by offering summer reading program
- Be Enrollment Ready: provides tips to support students during their orientation
- Transfer Advising Program: helps to support the transition of transfer students
- Exploratory Studies: supports students in finding a major
- LAUNCH: offers peer tutoring, workshops, and individual academic counseling
- Houston GPS: connects students with 2-year and 4-year programs to increase completion rates
- Challenger Program: offers programming and campus-wide resources for firstgeneration college students
- Peer Assistants: supports students during orientation
- Provost's Prize for Creative Writing: offers a poetry or prose competition

Although U.H. offers a range of programs and services, there are still concerns related to retention and graduation, especially since a large percentage of U.H.'s student population identify as first-generation students. Currently, with the programs in place to support student success, U.H.'s 4-year graduation rate for all students is 36.3%, and the retention rate is 30.6% (University of Houston, 2018). Typically, universities report retention and graduation rates for First-Time-In-College (FTIC) students because a common misconception is that all FTIC students are first-generation students. As a result of this, many of the programs and services use a one-size-fits-all approach to address challenges faced by a first-year student, but the experiences are not the same for firstgeneration students. This one-size-fits-all approach is troubling and can retention and

graduation rates. Table 1 illustrates the retention and graduation rates across

race/ethnicity at U.H.

## Table 1

*Retention and Graduation Rates by Race and Ethnicity at the University of Houston,* 2014–2018

	African	Asian			
Benchmarks	American	American	Hispanic	White	
	Baseline (2014)				
	409	1077	1142	907	
	One Year Later (2015)				
Enrolled	343	1017	950	741	
Not Enrolled	66	60	192	166	
Annual					
Retention Rate	84%	94%	83%	82%	
	Four Years Later (2018)				
Enrolled	110	371	365	229	
Not Enrolled	153	267	420	334	
Annual Retention Rate	27%	35%	32%	25%	
Cumulative Graduation	146	439	357	344	
Cumulative Graduation Rate	36%	41%	31%	38%	

*Note*: Percentages are rounded. Data from *Statistical Handbook* by University of Houston, Office of Institutional Research, 2018 (<u>https://www.uh.edu/ir/reports/new-statistical-handbook/</u>).

Retention and graduation rates are considered student success markers and are important to higher education institutions. Thus, in most cases, retention and graduation rates are tied to funding and status, which explains why there has been much attention on access and retention programs for college students. Many institutions hope to produce graduates who will enter the workforce and give back to the institution. It is clear that a college degree helps secure job stability, creates opportunities, and makes resources accessible. Higher education institutions with high retention and graduation rates increase their institutional profile, creditability, and reputation.

Given the projection that 65% of all jobs by the year 2020 will require a postsecondary degree or certificate, there needs to be a sense of urgency to provide sufficient support programs that focus on student retention and graduation for all students but specifically for first-generation students (Carnevale, Smith, & Strohl, 2013). U.H. has a unique student population and may be able to provide more effective services that offer high- programs that help to improve student retention and persistence towards graduation for first-generation students.

The reality is that graduates of schools within Harris County enroll at U.H. lacking proper college preparation for college. Consequently, U.H. is responsible for preparing students for the next step, which is for a career. There is a gap in understanding how U.H. is working with Harris County schools to help students with their transition to college. Over the summer, a large number of students who intend to go to college fail to enroll because of the lack of knowledge on how to navigate financial aid, register for classes, and take tests (Education Commission of the States, 2018). These students are considered to be a part of a new phenomenon called "the summer melt" (Education Commission of the States, 2018). Knowing that a large number of students are from the Houston area, U.H. should investigate more ways to ease the college transition for firstgeneration students. For example, the implementation at the university level a first-year seminar course, a living-learning community for first-generation students, and a success center that focuses on the retention and graduation of first-generation students.

### **Benefit of the Study**

The study will seek to understand how U.H. can work to support first-generation students' academic success. The findings from the study will determine the contribution of the participation in college intervention programs on first-generation students' academic success. In addition, the results will help school administrators, policymakers, and other educational professionals make informed decisions about best practices that support first-generation students' success; additionally, the study's findings will highlight the need for the development of comprehensive intervention programs, offices, and services that support the holistic success of the academic success of first-generation students.

## Variables

The dependent variables (D.V.s) of the study are GPA and number of credit hours. An overview of the D.V.s is provided below.

- *GPA*: The grade point average is the quotient obtained by dividing the total number of grade points earned by the number of semester hours in which students receive a letter grade (University of Houston, n.d).
- *Credit Hours*: The total number of semester hours earned at the institution. Credit hours are counted toward a major and/or degree plan and used to determine classification (University of Houston, n.d).

The independent variable (IV) of the study consists of multiple intervention programs embedded under one umbrella. An overview of the I.V.s is provided below.

- *First-Year Seminar Course:* CORE 1101 is not required and is open to all majors. The course is designed to assist students with the college transition, provides a support system, and helps students with their persistence toward earning a college degree.
- *Housing Experiences:* Housing is not required; however, staying on campus, students can participate in various programs in the residential hall. For the purpose of this study, *housing experiences* refer to the experiences of students who live in an on-campus residential hall.
- *UEP*: This program provides to all students the academic, personal, and professional development resources that boost student success. UEP offers mentorship opportunities for students.
- *Challenger Program:* This program is designed to support first-generation students through specialized programming and campus-wide resource connections. The program offers tutoring, counseling, priority registration, financial aid advisement, and social enrichment.

#### **Research Questions**

1. Are there differences between first-generation students who participated in college intervention programs? Specifically, is there a significant difference between first-generation students' academic success as measured by GPA and the number of credit hours earned?

2. What is the difference, if any, between first-generation students' academic success as measured by GPA and the number of credit hours earned on campus versus the academic success of students living off-campus?

## **Key Terms**

College access: refers to the acceptance into a postsecondary institution

*Continuing-generation student*: refers to a student who has at least one or more parent who has a college degree

*Economically disadvantaged*: refers to students who come from a household income that is below average and the student receives free and reduced-price lunch

*First-generation student:* refers to college students who do not have parents with a fouryear degree

*First-time-in-college (FTIC)*: refers to any student entering college for the first time *First-year experience*-refers the first year of the college experience; typically intentional programs to address retention

*First-year seminar course*: refers to an academic course designed to help students transition to university

*High-Impact Program:* refers to programs that require time and effort and that facilitate student learning

*Intervention:* refers to program or activity designed to improve a situation *Low-income*: refers to families who earn less than twice the federal poverty level *Living-learning Communities (LLC):* refers to programs by which students live together
on a specific floor or wing and participate in academic and social programming that is designed for them

*Retention*: refers to the continued enrollment for the fall semesters after a student's first and second year

Persistence: refers to continued enrollment toward degree completion

Support services: refers to a range of university services that are open to all students

# **Chapter II**

## **Literature Review**

The literature related to first-generation students highlights that these students struggle with college access and success. *College access* refers to having the knowledge or the preparation to gain admission into a college or university. *College success* refers to having access to and utilizing the appropriate resources, programs, and tools to persist and earn a college degree. When it comes to first-generation students' college success, there is work to be done. In fact, researchers have noted that first-generation students' college success has not kept pace with college access (Antonelli, Jones, Burridge, & Hawkins, 2020). The collegiate experiences of first-generation students differ significantly from those of their peers. First-generation students earn lower grades and need additional resources and support to help them succeed in college (Stephens, Hamedani, & Destin, 2014). Retention, persistence, and graduation are areas in which colleges and universities aim to strengthen their first-generation students' numbers. Between 2000 and 2016, the total undergraduate enrollment in higher education institutions increased by 28% (NCES, 2019).

Moreover, college enrollment is projected to increase by 3% by the year 2027, amounting to 17.4 million more students (NCES, 2019). As college enrollment continues to grow, colleges and universities have to work to meet the diverse needs of all students. In doing so, higher education institutions must understand factors impacting the success of first-generation students, review the type of support currently offered and needed, and reexamine the characteristics of effective intervention programs.

#### **Obstacles Impacting First-Generation Students Success**

Scholars have identified college readiness, academic preparation, college navigation, and financial support as factors that influence first-generation students' success. Engle (2007) outlined the barriers that impact first-generation students' college access and success. Factors that affect college access for first-generation include (a) academic preparation, or the rigor of the high school courses and lack of taking advanced courses; (b) aspirations for college, the lack of motivation or expectation to further their education; (c) planning for college, to knowledge about the process of enrolling in college; and (d) choosing a college, or the limitations on the type, location, and the number of colleges to which the student applied. Similarly, factors that influence college success consist of (a) academic integration, which refers to first-generation students spending less time studying and less time engaging with faculty; (b) social integration, which refers to the likelihood of first-generation students interacting with faculty or other students outside of the classroom, creating friendships, and participating in student organizations; (c) cultural adaption or "worlds apart," which refers to the difficulty that first-generation students experience in navigating the culture of their backgrounds and the communities and culture that exist on college campuses.

Moore et al. (2010) studied the impact of college readiness on Texas students in reading and math. The participants included 1,099 Hispanic, African American, and White high school students. The researchers used the Texas Education Agency (TEA) Excellence Indicator System and the Academic Excellence Indicator System as the measurements for the study. The results were that less than one-third of Texas graduating

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seniors were determined to be college-ready in both reading and math.

Warburton, Burgarin, and Nuñez (2001) used data from a longitudinal study to explore high school preparation and postsecondary persistence of first-generation students (parents had no schooling beyond high school) in comparison with students who had parents who had attended college. The key findings indicated that the first-generation status had a negative association with students' academic preparation and persistence. Additional results show that first-generation students were not prepared and were less likely to have taken calculus in high school, to have taken a college entrance examination, to be enrolled continuously, or to obtain a college degree.

Soria and Stebleton (2012) examined the differences in academic engagement and retention between those who were first-generation students and those who were not first-generation students. The study included 28,247 students across a large, public university located in the Midwest and classified as the Carnegie Foundation, which is indicative of having high research activity. The researchers used the Student Experience in the Research University survey, which is based in the Center for Studies of Higher Education at the University of California-Berkeley, to collect information related to academic engagement, community and civic engagement, global knowledge and skills, and student life and development. The results indicated that first-generation students demonstrated patterns of lower academic engagement in their first year of college. First-generation students reported fewer interactions with faculty during class, were less likely to contribute to the discussion, and bring up new ideas of concepts in class and were associated with lower retention rates.

Somers, Woodhouse, and Cofer (2004) investigated the impact of background, aspirations, achievement, college experiences, and price on the persistence of firstgeneration and continuing-generation students at four-year institutions. Using a sociology and economics theoretical framework, the researchers used data from the National Postsecondary Student Aid Survey that included a total of 24,262 participants. The results show that first-generation students were less likely to persist to graduation. Next, that first-generation students who were looking forward to earning a bachelor's degree were twice as likely to persist as their peers. That first-generation students who had low or missing GPAs were more likely to drop out of college. As tuition increased, the likelihood of a first-generation college persisting decreased. And finally, full-time firstgeneration college students who lived on-campus were more likely to remain in college.

Stebleton and Soria (2012) conducted a comparative study to determine the perceived academic obstacles between first-generation students and those who were not. Researchers used the Student Experience in the Research University survey, which contains approximately 600 items, depending on a specific module. The variables included in this study were demographic, and questions related to self-perceived obstacles to academic success. The survey was administered to over 145,000 students; however, between 12,097 and 12,161 students completed the module. Sixty percent of the participants identified as White, 17% Asian, 5% African American and other/unknown race, and less than 3% international. The results of the study indicated a significant difference between first-generation students and those who were not. Completing job and family responsibilities, weak English skills, weak math skills, inadequate study skills, and feeling depressed, stressed, or upset were the areas that first-generation students found

negatively impacted success. Thus, these are not what students who are not firstgeneration students identified as obstacles.

Ishitani (2006) examined the timing of events such as dropping out and graduation and identified possibilities of the events happening to first-generation college students. The researchers used data collected from the National Education Longitudinal Study, which consisted of educational information about eighth-graders who, over 12 years, enrolled in public and private 4-year institutions. First-generation college students were exposed to higher risks of delayed matriculation and showed higher risks of leaving the institution without a degree than their counterparts. The researchers used the Kaplan-Meier method to examine the results.

In general, first-generation students are not prepared for college. Studies have been consistent in terms of identifying obstacles impacting first-generation students' access to and success in college. Scholars have found that first-generation students' persistence, retention, and graduation rates are much lower than those of their counterparts. Research has provided a solid foundation in understanding the challenges that first-generation college students experience; however, it is important to identify how colleges and universities are supporting first-generation college students.

## **Student Support Services**

Most colleges and universities offer a range of support services to address general or specific student needs and support student success. Student support services are provided to all undergraduate and graduate students. Although student support services may vary from institution to institution, the general support services include writing centers, tutoring centers, and library services. Typically, student support services are offered at no cost to the student.

Ciobanu (2013) argues that student services enhance the students' collegiate experience; provide an academic, emotional, and social connection to the university; and support students' growth and development. Student services help to reduce college dropout rates and are a critical component to student success (Ciobanu, 2013). Depending on the institution, student services address the needs of students differently. Some institutions address the needs of students as a whole, while others address students' concerns by a specific need or interest (Ciobanu, 2013). Regardless of the approach, the UNESCO manual *Student Affairs and Services in Higher Education: Global Foundations, Issues, and Best Practices* (see figure 6) recommends the following expectations for academic institutions and student services (Ciobanu, 2013).

Farajollahi and Moeinikia (2010) examined the relationship between student support services and distance students' academic achievement. The investigators used cluster sampling to enroll 1098 participants from print-based random sampling and 172 participants through web-based random sampling. The participants were asked to complete a student services questionnaire that included 52 items with a 5-point Likert scale, scoring from 5 to 1, where 5 was *completely agree*, and 1 was *completely disagree*. The scale was organized into six categories: general services, official services, tutoring services, counseling services, media services, and library services. The data were analyzed by using a Pearson correlational coefficient via the SPSS software. The key findings were that general services, official services, and tutoring services were positively correlated with academic achievement.

Stebleton, Soria, and Huesman (2014) investigated first-generation students' sense

of belonging, mental health status, and use of mental health services in comparison with

# Figure 6

Expectations for Academic Institutions and Student Services

Academic Institutions	Student Services
• Provide support and explains the values,	• Assist students in transition to university life
mission, and policies of the institution	• Help students to explore and clarify their
• Participate in leadership and takes responsible	values
decisions	• Encourage the development of relationships of
• Evaluate the social experiences of students to	friendship and a sense of belonging to a
improve programs' efficiency	campus community
• Establish policies and programs that	• Assist in identifying financial aid resources in
contribute to campus safety	further education
• Support the institution's values by developing	• Create opportunities to expand the cultural
and imposing students' standards	and aesthetic horizons of students
• Support the student's participation in	• Teach students how to solve personal and
institutional governance	group conflicts
• Provide essential services such as admissions,	• Provide special programs and services for
registration, counseling, financial aid, health,	students who have learning difficulties
housing and so on, in accordance with the	• Contribute to the understanding and
mission and objectives of the institution	appreciation of ethnic differences, racial or
• Represent the institutional resource to work	otherwise
with students individually or in groups	Create opportunities for leadership
Encourage student-university/college	development
interaction through programs and activities	• Establish programs that encourage a healthy
• Support and contribute to the creation of	lifestyle and reduces misbehavior
ethnic and cultural diversity	• Provide opportunities for recreation and
• Take a leadership role in crisis situations	leisure
• Is active intellectually and professionally	• Provide counseling and career guidance,
• Establish and maintain effective working	helping to clarify professional goals,
relationships with the local community	exploring options for further study or
	employment

students who were not first-generation students. Approximately 54,017 participants

completed the Student Experience in the Research University survey, which asked questions related to students' satisfaction with academic and social experiences, sense of belonging, and use of mental health and counseling centers on-campus. Sixty-one percent of the participants identified as White, 16% as Asian, 9% as Chicano/Latino, 6% as African American, 5% as "other race/unknown," and 2% as "international." The results indicated that those who were not first-generation students reported a greater sense of belonging on campus and lower levels of depression and stressed. Also, first-generation students reported needing counseling services, but not using the services because the location was inconvenient for them, they had never heard of counseling services, the hours were inconvenient, or they did not have enough time.

# **Intervention Programs**

By definition, an *intervention* is a course of action taken to improve a situation (Dictionary, n.d). School districts and higher education institutions have designed intervention programs to provide first-generation students with resources and support to assist with college access and success. There has been the establishment of high school intervention programs, such as ECHSs and pre-college preparatory programs. College intervention programs refer to first-year seminar courses, mentoring programs, and housing living-learning programs.

**ECHSs.** School districts, colleges, and universities recognize the growing need to help to graduate high school students with their transition college. School districts have established ECHSs to support high school students who are interested in pursuing a college degree. According to College and Career Readiness and Success Center (n.d.),

ECHSs is an evidence-based education strategy that improves outcomes for firstgeneration students, low-income students, English learners, and students of color. Students who attend ECHSs are more likely than their counterparts to enroll in college, earn a college degree, and have higher levels of engagement.

Sáenz and Combs (2015) examined prior experiences, perceived challenges, and support systems of 17 Hispanic students in the 12th grade at an ECHS. Using focus groups and individual interviews, the researchers collected information related to the variables of the study. The demographic makeup of the participants was as follows: (a) 86% eligible for free and reduced lunch; (b) 85% English language learners; (c) 87% first-generation students; and (d) 90% Hispanic, 3% Asian, 2% African American, 2% Caucasian, and 3% not self-identified by race or ethnicity. Data were collected using a three-stage approach: the first phase included gathering information about experiences and perceptions through the use of focus groups, the second phase collected demographic data, and the final phase collected data through individual interviews. Since the students were under the age of 18, parents provided consent to participate in the study. The findings of the study revealed five major themes: (a) The Significance of an Associate's Degree, (b) The Importance of a School Environment, (c) The Establishment of Identity and Values, (d) Impact of Family Members, and (e) The Necessity of Support from Peers and Teachers.

Cates and Schaefe (2011) studied the relationship between the elements of a college preparation program and at-risk students' college readiness. The hours of participation in tutoring, mentoring, advising, college campus visits, summer programs,

and educational field trips were examined in relation to the student college-track course completion and the Preliminary SAT performance. There were 187 participants included in the study, and of the participants, 70% identified as Latina/o, 20% identified as White, and 10% identified as either "other" or no ethnicity information was available. The hours spent participating in the program were collected over five years and were provided by GEAR Up site directors. The site directors also tracked the college-track classes' data. A Likert survey was also administered to collect information related to students' preparation for and knowledge about college and financial aid, as well as their attitudes toward GEAR UP activities and post-secondary education. The key findings indicated that vital program elements related to college readiness included information linked to advising, college campus visits, and college information through booklets and speakers.

Hicks (2003) explored expectations and perceptions about attending college held by first-generation college students and by those who weren't. A total of 197 students participated in the study; however, 112 students identified as first-generation. The participants were between the ages of 17 and 19 years old and were primarily African American females. The participants attended one of two 6-week summer programs (Louis Stokes Alliance for Minority Participation Program) at 4-year public research and doctorate-granting institution. The measurement used in the study included the pre-/post-PEEK (Perceptions, Expectations, Emotions, and Knowledge) Questionnaire. The PEEK is a 30-item survey that relies on the Likert scale and explores expectations and beliefs about the college experience. The results indicated that all the students had misperceptions about college; however, first-generation students demonstrated a significant difference in the areas related to academic expectations.

**College intervention programs.** Due to the lack of career readiness in students, colleges and universities provide programs to support success. Many higher education institutions focus on the first-year experience to help students learn how to navigate college, develop appropriate study skills, and ultimately improve academic readiness. Reason, Terenzini, and Domingo (2006) conducted a study to identify factors that influenced students' development during the first year of college. During the first years of college, students are gaining knowledge, developing cognitively, and establishing a foundation to progress toward the next year (Reason et al., 2006). There were 6,700 students, 5,000 faculty, and 30 campuses nationwide that participated in the study. The researcher examined the impact of the curricular, classroom, and out-of-class experiences on perceptions of the first year using an ex post facto study design. One significant finding was that students who felt that faculty and staff provided academic and nonacademic support when the students needed it and had good relationships with faculty members and administrative staff were more likely to have more gains in academic competence.

In addition, there has been a push to create and implement opportunities to promote student learning and retention. A report produced by the Indiana University Center for Postsecondary Research (2019) stated that high-impact practices (HIPs) are associated with positive outcomes related to student learning and retention. Firstgeneration students who participate in HIPs report higher gains in deep learning, general education, practical competence, and personal and social development (Finley & McNair, 2013). George Kuh, founding director of NSSE, suggests that students should participate in at least two HIPs during their college experience-one the first-year and one in the context of their major (NSSE, 2019). Eleven opportunities have been designated as HIPs and are listed below:

- 1. First-year seminars and experiences
- 2. Common intellectual experiences
- 3. Learning communities
- 4. Writing-intensive courses
- 5. Collaborative assignments and projects
- 6. Undergraduate research
- 7. Diversity/global learning
- 8. ePortfolios
- 9. Service-learning, community-based learning
- 10. Internships
- 11. Capstone courses and projects

Higher education institutions adopt some of the HIPs in students' learning; therefore, among the HIPs presented, first-year seminar and learning communities will be explored more extensively.

*First-year seminar course*. The term *first-year seminar course* is sometimes used interchangeably with *student success course*, *freshman seminar*, and *university 101* to describe a class that is designed to help students navigate the first year of college. Typically, the courses are face-to-face and teach life skills and other strategies to support

student success. As summarized by Porter and Swing (2006), there are different types of first-year seminars (FYSs) as described below:

- *Transition theme:* focuses on topics associated with college transitions, skills for academic success, and promotes student engagement
- *Special academic theme:* focuses on exploring a specific topic, study skills, and other interdisciplinary themes
- *Discipline theme:* focuses on an academic major or discipline and is typically administered by a college or department; may serve as an introduction to a major or discipline
- *Remedial theme:* focuses on support for at-risk students that includes academic success, study skills, and life management skills
- *Mixed format:* focuses on a combination of the themes listed above

Porter and Swing (2006) examined how FYS courses impact persistence. In the study, researchers used a participant pool that consisted of 20,031 first-year students at forty-five 4-year institutions. Using the First-Year Initiative Survey, the researchers were able to collect data related to learning outcomes from the participation of the FYS and gather evaluations to promote improvement. The dependent variable was the student's intent to persist, and the independent variables were classified as individual-level and school-level. The findings revealed that study skills, academic engagement, and health education have an impact on the intent to persist; however, study skills and academic engagement are associated with a higher intent to persist.

Engberg and Mayhew (2007) investigated the impact of a first-year success

course on student learning as measured by democratic outcomes – multicultural awareness, commitment to social justice, and attributional complexity. The authors used a one-way ANOVA and a post hoc test to answer research questions in the study. A total of 471 students who were enrolled in a first-year success course, Communication 100 or Engineering 100, were included in the study. Participants completed the Student Thinking and Interacting Survey, Commitment to Social Justice Scale, Multicultural Awareness Scale, and Attributional Complexity Scale. The findings revealed that students who participated in the first-year success course rated their class participation and learning from group activities higher than students in the communication course. In addition, students in both the engineering and first-year success course had more opportunities to interact with classmates than students in the communication course. The authors used a one-way ANOVA, *t* test, and post hoc tests to answer research questions. The key limitation is that the study included students' self-reported data.

Fowler and Boylan (2010) explored the effectiveness of the Pathways to Success (PWAY) Program, which is designed to enhance the freshmen experience as measured by success in coursework, cumulative GPA, and 1-year retention rates. The study was conducted at a public, 2-year college during two academic years. A total of 434 students participated in the study, and the racial/ethnic background of the participants was 54% Black, 40% White, 1% Hispanic, and 5% not reported. The authors used a *t* test to determine the effectiveness of the PWAY program. The authors found that students who participated in the PWAY had a higher GPA and improvement in all measures of success that students who did not participate in the PWAY program did not have. A limitation of the study was that it was conducted at a smaller school and a 2-year institution.

Hendel (2007) tried to determine if participation in a FYS course influenced student satisfaction and retention at a research-extensive, urban, public land-grant institution. Gender, ethnicity, high school rank, first-year college, and FYS were independent variables in the study. A total of 5,086 students participated in the study; however, 723 students participated in the FYS course. The seminar courses were divided into three categories: (1) academic, (2) developmental, and (3) living in a residential college. The participants responded to the Student Experiences Survey, which was an eight-page survey consisting of 92 questions related to the following topics: overall satisfaction and assessment of educational quality, evaluation of courses, instructors, advising, campus experience, time commitment, evaluation of specific campus services, plans, and expectations. Retention data included information about student characteristics and was collected from the Office of Institutional Research and Reporting. The results highlighted that students who participated in a FYS course reported positive responses, such as having a greater sense of community and being more likely to engage in campus activities.

Miller and Lesik (2015) examined how participation in the first-year experience (FYE) course and entry-level academic preparation affects retention and graduation. At a midsize, residential, public Midwestern institution, 1,913 students participated in the study; however, only 581 students chose to participate in the FYE course. Enrollment in the FYE course was voluntary. The researchers coded each student's ACT score, class rank, and several college prep units to group participants. Participants were placed in one of three groups–low, medium, and high. Students who participated in the FYE course were exposed to study skills, faculty interaction, orientation to student organizations,

library services, and they had discussions on drugs, alcohol, eating disorders, depression, and family issues. The results showed that participants in the FYE course tended to be more successful in their persistence and degree attainment in the fourth year than participants who did not participate in the FYE course.

Jaijairam (2016) analyzed the impact of first-year seminar (FYS) courses. The researcher considered many factors, such as mentors, academic advisors/counselors, professors, and student organizations, when discussing the success of the FYS courses. The key findings indicated that FYS courses impacted retention rates and academic experience. Students who participated in the first-year seminar course reported having a high grade in the course and were more likely to have better grades in courses that they took in their sophomore and junior year. The researcher used a survey to collect data about the FYS academic experience.

Kimbark, Peters, and Richardson (2016) aimed to determine if the participation in student success courses (SSCs) influences persistence, retention, academic achievement, and student engagement in community colleges. The study included a total of 432 students (SSC = 197; non-SSC = 235) completed the Community College Survey of Student Engagement. The data were collected at a midsize community college in southeast Texas. The researchers found that there is a relationship between participation in an SSC and persistence, retention, and academic achievement. Participants reported that taking the SSC impacted their perceptions of the significance of the course and the social and study skills as well. The skills and strategies gained from an SSC supported students' persistence and retention. A chi-square test was used to examine the data.

Padgett, Keup, and Pascarella (2013) explored the impact of FYS courses on students' need for cognition. A total of over 17,000 participants completed surveys, such as the NSSE study survey and the WNS student experiences survey. Researchers found that students' participation in the FYS courses influenced students' development. The finding suggests that FYSs impacted students' life-long learning orientations. The researchers used an ordinary least-squares regression. The author stated that future research should examine other high-impact practices at the national level.

Permzadian and Credé (2016) reviewed the effectiveness of FYS courses based on first-year grades and the 1-year retention rate. The authors found a total of 682 sources with keywords such as *first-year seminar*, *first-year orientation*, *freshman orientation*, *transition class*, etc. Using a coding system, the researchers were able to categorize each source. The researchers found that FYS courses had a small average effect on both firstyear grades (k = 89, N = 52,406,  $\delta = 0.02$ ) and 1-year retention. However, the overall effectiveness of the FYS is contingent on the type of seminar, type of institution, and the study design (k = 195, N = 169,666,  $\delta = 0.11$ ).

Schnell and Doetkott (2003) examined retention rates to determine the impact of a FYS course. A total of 1856 students were identified by a computerized system using descending ACT scores, high school rank, size of graduating class, and academic major. Academic majors were separated into two classifications based on a math requirement. A chi-square test was used to analyze the data. The findings indicated that the retention rates were higher for those students who were enrolled in a FYS course.

Vaughan, Parra, and Lalonde (2014) explored the effect of academic achievement

and persistence for first-generation students participating in a FYS. The data sample included 266 first-generation students (62% female; 45 college majors represented). The researchers used the university's management system to collect information related to college of enrollment, major, fall term GPA, the number of credits attempted (fall/spring), participation in FYS, FYS grade, and the high school index. The results indicated that first-generation students who enrolled in FYS had higher GPAs, were more likely to persist, and completed the fall semester in good academic standing.

Colleges and universities have adopted some of these HIP practices to support students. HIPs are associated with positive outcomes related to student learning and retention. FYSs, one of the most common HIPs, have yielded positive outcomes in study skills, academic engagement, GPAs, and retention. Many of the studies have examined the impact of students' participation in a required FYS courses; however, understanding the impact of the participation of an FYS course on first-generation students' academic success at a large urban Tier I institution remains unknown.

*Mentoring*. Peer mentoring is an intervention that institutions use to support student success. Minor (2007) believes peer mentorship provides mentees with supportive networks and enhances learning and personal development. Typically, peer mentors are older and experienced students who share their knowledge and wisdom, which ultimately supports the academic success and interpersonal growth of their peers (Minor, 2007). When creating peer mentorship programs for students in special populations, international students, first-generation students, and underrepresented groups, it is critical to identify mentors who have had similar experiences (Minor, 2007). Having mentors with similar experiences motivates the mentees to reach goals and fulfill their aspirations. Although there are positive benefits associated with peer mentorship programs, it is essential to understand the different peer mentor roles. According to Minor (2007), the peer mentor performs eight roles:

- *Socialization:* the coordination of activities and programs that facilitates relationship building, creates interpersonal bonds and a sense of community, and helps to address issues or concerns between students and faculty.
- *Orientation:* the facilitation of activities that helps students become acquainted with the university, identifying resources, key offices, and key departments, and supports first-generation students, minority students, or other newly admitted students in understanding the institution.
- Mentoring: providing guidance to students to increase their learning and involvement in educational and development experiences, encouraging reliance on lived experiences and knowledge to provide students with an opportunity to enhance their experience, and challenging students to think more creatively about academics.
- *Advising:* providing academic advising related to specific majors. Training related to campus resources is strongly encouraged.
- *Supervision:* being in charge or responsible for other students. It is important to provide clear direction and expectations about responsibilities to ensure students' compliance with policies and procedures and to allow peer mentors to identify acceptable and unacceptable behaviors.

- *Instruction:* the involvement in academic tasks, such as teaching students in a seminar, discussion, or laboratory section or providing tutoring. Typically, peer mentors serve as teaching assistants in FYS courses, which are associated with positive outcomes such as helping new students connect with the university and retaining students.
- Coordination and leadership: coordinating activities related to study groups, programs, or events that supports students' involvement in cocurricular educational experiences. Peer mentors, whose role may be informal, serve as an advisor for student-initiated projects and programs.
- *Role-modeling:* serving as an example of a member of the learning community. Influence can be impactful when the peers share characteristics with the target student or group.

The literature explains that when implemented effectively, peer mentorship programs can be associated with positive outcomes and enhance the students' experience. However, researchers have examined how mentorship programs impact students' transitions, academic success, retention, and persistence. Chester, Burton, Xenos, and Elgar (2013) investigated the effectiveness of mentoring programs on the transition of first-year psychology students. In the study, upperclassmen students were able to serve as mentors to a small group of first-year students over 8 weeks. The participants of the study consisted of 241 first-year students. The researchers used a self-report survey to measure the five senses of success, learning approaches, psychological literacy, peer mentor evaluation, and academic performance. The key findings were that there were significant increases in connectedness, culture, resourcefulness, and in-depth and strategic learning and in all nine psychological literacies. Students perceived the program as enjoyable, and they reported it increased their sense of belonging and positively influenced their academic work.

DeMarinis, Beaulieu, Cull, and Abd-El-Aziz (2017) examined the impact of firstyear peer mentor programs on academic performance and retention. The researchers aimed to address the following questions -(1) What effect does a peer mentor program have on the emotional and social wellness of first-year students?; (2) In what ways does a peer mentor program contribute to academic success, as defined by GPA, for first-year students?; and (3) How does a peer mentor program contribute to improved retention of first-year students? A total of 5,246 first-year students participated in the study; however, only 1,239 participants interacted with a peer mentor. First-year students were divided into cohorts of 30-40 students and were matched with a senior mentor in the same discipline. The data were collected from the weekly logs of the peer mentors, the institution's student information, and focus groups with the first-year students. The key findings were that peers are beneficial in terms of helping students manage the expectations of the first year and connecting students to campus resources. Another finding suggested that there is a positive relationship between first-year students who interact with peer mentors and academic performance.

Rodger and Tremblay (2003) explored the effects of peer mentoring on academic success among first-year students. The researchers predicted two hypotheses – (1) peer mentoring would positively affect students' academic achievement, and (2) peer

mentoring would increase student retention. In the study, a total of 983 first-year students completed the Academic Motivation Inventory, which is a measure of 128 items gauged on a 5-point Likert scale and divided among 12 scales – Stimulation, Mastery, Recognition, Acquisition, Goal Salience, Self-Efficacy, Effort, Attention, Persistence, Facilitating Anxiety, Debilitating Anxiety, and Socially Desirable Responding. Furthermore, there were additional measures in the study – (1) the achievement measure, which referred to the overall secondary school grades in the last year and the final grades in the first year of college (both on a 100-point percentage scale); (2) the level of participation measure, which referred to a numerical rating of the students' level of participation on a scale of 0 to 5 with 0 being not contacted peers at all and 5 being that students met with peer mentors at least once every two weeks provided by the peer mentors; and (3) retention measure referred to the number of students who returned and those who did not return for their second year at the university. The results indicated that students who were mentored had higher final grades.

Salinitri (2005) investigated the effects of formal mentorship on retention rates. The study aimed to understand the differences in retention rates, cumulative GPAs, or the number of courses failed in a year between students who participated in a mentoring program and those who did not. Of the 128 study participants, 56 were in the mentored group. The mentors were enrolled in a for-credit class that taught theory and practices of mentoring, advising, and social learning. The mentors reviewed the information and provided resources related to helping develop students' educational, social, and career exploration. In addition, the mentors documented sessions in a journal that tracked topics, their actions, and the follow-up consequences. Data were collected using a Mentor Assessment Survey. Results indicated that the retention rates and GPA of students who participated in the mentoring program were higher than those who did not participate.

Crisp (2010) sought to understand the impact of mentoring programs on students at community colleges. The researcher surveyed 436 participants, 320 of whom were part of the final sample. The sample included Hispanics (27%), Asian Americans (10%), Whites (52%), African Americans (3%), and less than Native Americans (1%). The participants completed a 20-minute survey during the first four weeks of school. The responses were measured using a 5-point Likert scale ranging from "strongly agree" to "strongly disagree". SPSS was used to analyze the data. The findings show a significant difference in the perception of the levels of mentoring between women and men. Women indicated a higher level of support in psychological and emotional support, academic subject knowledge support, degree, and career support, and they were more academically integrated. Moreover, mentorship supports students' ability to assimilate both academically and socially to an institution.

Cruz, Rajpal, Lecocke, Martines, and Lurie (2019) used a quasi-experimental study to explore the impact of a peer coaching program on student persistence for STEM students. In a sample of 90 students (45 mentored and 45 nonmentored) who lived on and off campus, the researchers required that the students be first-year students who were of Latina/o descent, majoring in STEM fields and possessing a commitment to academic success. There were 56 first-generation students; 26 were mentored. The participants completed a pre- and postsurveys that measured five constructs: social engagement, academic preparedness, time management, leadership skills, and degree attainment. The participants' (treatment and control group) academic records were obtained through the University Office of Institutional Effectiveness to compare the end-of-semester GPAs. The findings indicated that peer coaching addressed the social and academic needs of STEM Latina/o students through social support, academic support, helpful lesson topics, and a sense of belonging. In addition, students who participated in the peer coaching program had a higher GPA.

Research shows institutions use mentoring programs to connect students to campus and support student success. In addition, studies have shown that mentoring programs are associated with positive outcomes related to academic performance, sense of belonging, and social support. However, there is a gap in understanding how mentoring programs impact first-generation students' academic success at a large urban Tier I institution.

*Housing experiences.* Housing and residential life (HRL) programs provide students with a place to live and an environment where students can learn, develop, and ultimately be successful. According to the Council for the Advancement of Standards in Higher Education (n.d.), HRL programs are charged with the responsibility to offer living spaces that promote students' learning and development and support the academic mission of the university. HRLs programs provide educational and community development programs and living-learning communities to help student success, retention rates, and academic success. Living learning communities are programs by which student lived together on a specific floor or wing and participate in educational and social programming that is designed for them. In addition, the council has outlined six student learning and development domains that identify aspects of learning. The student learning and development domains are as follows:

1. Knowledge acquisition, integration, construction, and application:

understanding knowledge from a range of disciplines; connecting knowledge to other knowledge, ideas, and experiences; constructing knowledge; and relating knowledge to daily life

- 2. **Cognitive complexity:** critical thinking, reflective thinking, effective reasoning, and creativity
- 3. **Intrapersonal development:** realistic self-appraisal, self-understanding, and self-respect; identity development; commitment to ethics and integrity; and spiritual awareness
- 4. **Interpersonal competence:** meaningful relationships, interdependence, collaboration, and effective leadership
- 5. **Humanitarianism and civic engagement:** understanding and appreciation of cultural and human differences, social responsibility, global perspective, and a sense of civic responsibility
- Practical competence: pursuing goals, communicating effectively, demonstrating technical competence, managing personal affairs, managing career development, demonstrating professionalism, maintaining health and wellness, and living a purposeful and satisfying life

Housing experiences support student success. Wode (2018) conducted a study that supported the idea that housing programs support university retention efforts because students who live on-campus are more likely to be retained, benefit academically with better grades, and have higher critical thinking skills (Wode, 2018). The study was conducted at a small private university in the Pacific Northwest, where all first-year students are required to live on campus. Participants were incentivized to complete a survey that was administered by Qualtrics. The findings indicated that off-campus students were concerned about the cost of on-campus housing, ability to live on campus during the summer months, access to a private bathroom, available parking, and ability to cook their own food. What is interesting to note is that students who lived on-campus reported that the support received from residential staff, the ease of making friends, and the ability to pay for housing with scholarship funds were factors that impacted their decision to live on-campus.

Living-learning communities and programs have produced positive outcomes for students who reside on-campus. Tinto (2003) recommended that productive learning communities should include an academic and student affairs professional. The National Center for Teaching, Learning, and Assessment studied the impact of learning community programs on academic and social behavior and persistence of new students (Tinto, 2003). The results were that students in learning communities spent more time together out of class, became actively involved in classroom learning, enhanced their quality of education, were more academically and socially engaged, and persisted at a higher rate than students who were not in learning communities.

Inkelas, Daver, Vogt, and Leonard (2007) studied the impact of the livinglearning programs and first-generation students' academic and social transition to college. According to Inkelas et al. (2007), the living-learning programs are created to support students' learning by providing knowledge from academic, cocurricular, and residential resources and help students develop a sense of community with peers and faculty. The research was collected from the National Study of Living-Learning Programs, which included 34 postsecondary institutions in 24 states. Two samples of students were used, which produced a 33% response rate. The instrument measured a variety of constructs, including student background information, involvement in several types of college environments, and self-reported outcomes. The data were analyzed using chi-square and ANCOVA statistical methods. The findings show that first-generation students in living-learning programs were more likely to perceive an easier academic and social transition to college than first-generation students who lived in a traditional residence hall setting.

Stassen (2003) tested three living-learning community models on students' experiences and academic performance outcomes. Measured were student persistence, academic performance, students' academic and social integration and engagement specifically, quality and amount of peer interaction, amount of interaction with faculty, development of positive learning behaviors, involvement in campus activities, level of institutional commitment, and positive perceptions of the academic climate. The livinglearning community models included three types

 Residential Academic Program (RAP) is a living-learning model that allows students to live in a residence hall and enroll in a freshman writing course. The courses are large lectures with small sections led by teaching assistants. This program is open to first-year students.

- Talent Advancement Program (TAP) is a living-learning model that is selective and invites students with specific majors to enroll in a program designed by a major department. Students in TAP take at least two courses and participate in a freshman seminar designed to introduce them to the work of the faculty.
- 3. Honors College Learning Community is a living-learning model that is a part of a university's new Honors College. Students in this community sign up for one of the thematic learning communities and enroll in two honors general education courses per semester of participation. Typically, courses in this learning community are small and taught by faculty.

The study was conducted at a large public university in the northeast classified as R1 by the Carnegie Classification of Institutions of Higher Education that has supported living-learning communities for over 25 years. At the university, over a third of the first-year students enroll in living-learning communities. Longitudinal student database information and the end-of-the-first-semester survey were used as the data sources. The survey sample included 477 responses from participants who were members of the living-learning communities. The findings were significant and indicated that students who participated in the living-learning communities had higher first-semester GPAs, possessed better retention rates, reported more significant institutional commitment, were more likely to have contact with peers around academic work, were engaged in group projects, reported positive academic behaviors, studied more hours, and perceived a more

positive learning environment than did students who did not participate in living-learning communities.

Many housing experiences are designed to support student academic success. For example, living-learning communities arrange for students to lives together on a specific floor or wing and participate in educational and social programming that is designed for them. Studies show that living-learning communities help students have an easier academic and social transition to college. Students who participated in living-learning communities also showed higher GPAs, bolstered retention rates, reported a significant institutional commitment, and studied more than students who did not participate. The literature is limiting in terms of explaining how housing experiences at a large urban Tier I institution that was primarily a commuter school at its inception impacts first-generation college students' academic success.

# Conclusion

The research shows that first-generation students need support while in college. Studies have described the experiences and identified challenges for first-generation students. In efforts to support first-generation students, the literature suggests scholars focus on initiatives related to persistence, retention, and graduation for first-generation students. However, colleges and universities create programs and services that use the one-size-fits-all approach, which typically caters to FTIC students and does not clearly distinguish between FTICs and first-generation college students. This approach is concerning because evidence has shown that first-generation students need more support than their peers. It is still unclear how participation in college intervention programs at a large urban Tier I institution impacts first-generation college students' academic success.

A large urban Tier 1 university offers a variety of college intervention programs to support retention and graduation efforts; however, this particular institution has low graduation and retention rates. In addition, the institution serves a large number of firstgeneration college students. To support the design and implementation of evidence-based programs that support first-generation college students' academic success, the present study seeks to determine if a relationship exists between participation in college intervention programs and first-generation students' GPA and the number of credit hours accrued at a Tier I institution.

# **Chapter III**

# Method

This chapter provides an overview of the methodology and procedures used to determine the contribution of college intervention programs on the academic success of first-generation college students at the University of Houston, a large Tier I public institution in Texas. Tier I status is assigned by the Carnegie Commission on Higher Education and awarded to institutions based on research activity and scholarship (The Carnegie Classification of Institutions of Higher Education, n.d.). Tier I indicates that a university has "very high research activity" (The Carnegie Classification of Institutions of Higher Education (n.d.). The statement of the problem, research design, research questions, sample, setting, procedures and process, and data collection will be discussed in this chapter.

# **Research Design**

The purpose of this quantitative study is to determine the contribution of college intervention programs on first-generation students' academic success. The present study relies on a correlational research design to examine if a relationship exists between participation in college intervention programs and academic success, defined by GPA and the number of credit hours accrued at a Tier I university. The data collected from this study may help university administrators design programs and services that will support first-generation students' success and strengthen retention and graduation rates. Additionally, the data may be used to help policymakers, and other educational professionals make informed decisions about best practices that support initiatives related to access and success of first-generation college students.

# Sample

The inclusion criteria for the study sample required that participants be young adults, 17 to 21 years of age, who were considered first-generation students (neither parent continued education beyond high school) between fall 2014 and spring 2018. Descriptive statistics were included to provide the gender, college, classification, and ethnicity of the participants.

# Setting

The study was conducted in a large urban setting, with federal designations as a Tier I, Hispanic-serving, and Asian-serving institution. The university serves over 46,000 students through a variety of bachelors', masters,' and doctoral degrees. In addition, over 40% of the student population identifies as first-generation students. The university residential student population includes over 6,000 students who are housed in six residence halls and two on-campus apartment communities.

# **Procedures and Process**

The initial step in conducting this research study was to seek approval from the Institutional Review Board (IRB). After approval was issued by the IRB, data were extracted from the database at the university. To preserve privacy and to protect the identity of participants, the researcher de-identified all data and maintained it in an electronic file that is password protected, where it will stay for a minimum of three years after the study closes. Since the study includes de-identified data, the informed consent process will not be applied to any subjects. The data included any first-generation students who have or have not participated in a FYS course, UEP, Challenger Program, and lived on or off campus. Data were secured on a university-secured server.

# **Data Analysis**

Analyzed were data collected from EAB Navigate, which is a student success management system that the university uses to track student success from enrollment to graduation (EAB, 2020). Through early intervention alerts and a comprehensive overview of the student, EAB Navigate helps universities close achievement gaps, eliminate barriers to degree completion, and improve student outcomes. The researcher was able to log in to the system and run an advanced search by using the category feature. The category feature allows the user to select various tags, which are labels assigned to describe the data, without access to student identifiers. For this study, UEP, the Challenger Program, UH Housing, CORE 1101 (fall 2014 through spring 2018), and first-generation student tags were used for the data analysis.

Data collection consisted of retrieving historical data from EAB Navigate, and the data analysis was performed using IBM SPSS software. The statistical methods used in this study included an ANOVA, descriptive statistics, and an independent *t-test*.

**Research Question 1.** An ANOVA was used to examine the differences between first-generation students who participated in college intervention programs and firstgeneration students who did not in terms of their GPA and number of credit hours earned. Descriptive statistics were used to describe the basic qualities of the study. For example, descriptive statistics included the frequency, mean, and the standard deviation. The frequency showed the number of participants in each intervention. Means were reported for GPA and number of credit hours for first-generation students who have participated in one or more programs or who have not participated in college intervention programs. The standard deviation described the variation in the study results.

**Research Question 2.** The independent *t*-test was performed to determine if there was a difference in GPA and the number of credit hours between first-generation students who lived on campus and first-generation students who did not live on campus. Several descriptive statistics were used to illustrate what if any difference there was between first-generation students who live on campus versus those who live off campus. The means illustrated the average GPA and number of credit hours for first-generation students who live on campus and off campus. The standard deviation described the variation in the study results.

# **Chapter IV**

### Results

The primary focus of this study was to examine differences between firstgeneration college students who participated in college intervention programs and those who did not. Specifically, academic success, as measured by GPA and the number of credit hours accrued, was examined.

## **Demographics of Participants**

The participants were in one cohort that entered the university system in the fall of 2014. Thus, the breakdown of the participants listed below shows the progression, or lack thereof, for all participants from 2014 to 2018.

**Ethnicity.** The total sample population included 7,742 participants. The demographic makeup of the study is illustrated in descriptive statistics analysis, including frequencies and percentages in Table 2. The majority of the participants were Hispanic, representing 49.8% of the sample population.

**Classification.** Student classifications by year were based on the total number of semester credit hours earned at an institution or transferred from another institution as defined by the university (University of Houston, n.d.). Student classifications were categorized as the following: freshman, 0–29 semester hours; sophomore, 30–59 semester hours; junior, 60–89 semester hours; and a senior, 90 or more semester hours (University of Houston, n.d.). Of the total participants, 73.2% were seniors, 21.4% were juniors, 4.9% sophomores, and less than 1% were freshmen in 2018.
# Table 2

	Sample		Universit	y of Houston
<b>Race/Ethnicity</b>	N	Percentage	Ν	Percentage
American Indian/				
Alaska Native	18	0.2	NA	NA
Asian	1,817	23.5	8,757	20.7
Black	672	8.7	4,090	9.7
Hispanic	3,857	49.8	13,042	30.8
Native Hawaiian/	10	.1	NA	NA
Pacific Islander				
White	1,083	14.0	10,884	25.7
Not Available	285	3.7	2,076	4.9
Total	7,742	100.0	38,849	100

Comparison of Sample and University Populations by Race/Ethnicity

*Note.* The University of Houston reports data using all indicators, such as international status. Data from *Statistical Handbook* (Houston: University of Houston, Office of Institutional Research, 2014. Retrieved from <u>https://www.uh.edu/ir/reports/new-statistical-handbook/</u>

**College.** The colleges are academic divisions that offer various majors and programs that lead to degrees. A total of 11 colleges were represented in this study. As presented in the findings, 29.5% of the participants were enrolled in a major offered in the College of Liberal Arts and Social Sciences. Figure 7 shows a breakdown of the participants by colleges.

# Figure 7



College Type: Comparison of Sample to University

*Note.* Data for University of Houston from *Statistical Handbook*, by University of Houston, 2014, Houston: University of Houston. Retrieved from https://www.uh.edu/ir/reports/new-statistical-handbook/.

**Gender.** The findings show a little over half of the sample population is represented by females at 50.3%.

## **Research Question 1**

The first question was about the relationship between intervention programs and academic success: Specifically, is there a significant difference between first-generation students' academic success as measured by GPA and the number of credit hours earned? The college interventions were labeled as follows: 1, First-year seminar; 2, Urban Experience Program; 3, Challenger Program; 4, Housing; 5, Two or more interventions; and 6, No interventions. An ANOVA was used to determine the differences in participation of college interventions and GPA and the number of credit hours. However, when using an ANOVA, it is best practice to test the homogeneity of variance, which is the assumption that all groups are equal (Fields, 2013).

A Levene's test was performed for GPA and earned credit hours to test the assumption. The Levene's test for GPA was not significant at a p value of .099, which means that the assumption of homogeneity of variance was not violated and that equal variance was assumed. However, earned credit hours were significant at a p value of .012, and the homogeneity of variance was violated, making it impossible to assume equal variance. The Games-Howell post hoc test was used to show comparisons between the college interventions. Due to the differences in variances among the groups, the Welch and Brown-Forsythe analyses, which are more robust analyses than an ANOVA were applied to show the equality of means. The results in Table 3 from the Welch and Brown-Forsythe tests indicated a significant difference among the groups at a p value of less than .001. Given that the n for intervention 3 was low (n = 13), the analysis was repeated without Intervention 3 to determine if that particular intervention was interfering with the results. The df1 with n = 5 indicates all intervention 3.

# Table 3

Mean <sup>a</sup>	$df^{l}$	$df^2$	р		
With Challenger Program					
11.221	5	108.854	.000		
10.354	5	200.263	.000		
35.850	5	109.107	.000		
31.708	5	264.510	.000		
Without Challenger Program					
13.788	4	332.165	.000		
12.707	4	610.947	.000		
44.153	4	334.092	.000		
37.168	4	538.194	.000		
	Mean <sup>a</sup> 11.221 10.354 35.850 <u>31.708</u> 13.788 12.707 44.153 <b>37.168</b>	Mean <sup>a</sup> df <sup>d</sup> With Challe           11.221         5           10.354         5           35.850         5           31.708         5           Without Cl           13.788         4           12.707         4           44.153         4           37.168         4	Mean <sup>a</sup> $df^{1}$ $df^{2}$ With Challenger Program11.2215108.85410.3545200.26335.8505109.10731.7085264.510Without Challenger Program13.7884332.16512.7074610.94744.153437.1684538.194		

Welch and Brown-Forsythe Analyses with and without the Challenger Program

*Note:* In general, df1 = degrees of freedom numerator, and df2 = degrees of freedom denominator with T values.

<sup>a</sup>The statistic follows an asymptotic distribution.

Multiple statistical analyses were performed in this study. Of the interventions, most of the participants participated in intervention 4, which is the housing experiences, whereas not many participated in intervention 3, which is the Challenger Program. The descriptive statistics for the college interventions are presented in Table 4.

# Table 4

Variable and			
Interventions	N	Mean	SD
GPA			
1	199	3.08	.619
2	100	2.96	.632
3	13	2.70	.624
4	719	3.07	.544
5	118	2.91	.550
6	6,593	2.93	.583
Total	7,742	2.94	.583
Earned Credits			
1	199	85.58	25.43
2	100	99.92	33.93
3	13	124.00	26.00
4	719	105.56	27.36
5	118	94.13	25.43
6	6,593	107.69	29.60
Total	7,742	106.65	29.55

Descriptive Statistics for the Variables and Interventions

*Note*: Key to interventions: 1, First-Year Seminar; 2, Urban Experience Program; 3, Challenger Program; 4, Housing Experiences; 5, Two or more interventions; 6, No Interventions.

**GPA.** The average GPA ranged from 2.91 to 3.08. The findings show a significant difference in GPA for first-generation college students (n = 1149) who participated in the first-year seminar or lived on campus. First-generation students who participated in the first-year seminar had higher GPAs (M = 3.08) than those who did not at *p*-values of less than .001, .004, and .006 (see Appendix A). Also, first-generation students who lived on-campus had higher GPAs (M = 3.07) than those who did not at *p*-values of less than .001, .026, .037 (see Appendix A). There was no significant difference in GPA for first-generation students who participated in the Urban Experience Program

or did not participate in any interventions. The significant findings for GPA are presented in Table 5. The first set of data within Table 5 shows all interventions, whereas the bottom set of data shows all but intervention 3 (Challenger Program).

## Table 5

Differences in GPA by First-Generation Students Based on Participation and No Participation in Interventions

Intervention $(I - J)$	Mean Difference $(I - J)$	SE	р			
	Without Inter	vention 3				
6						
1	157803	.044517	.004*			
2	037211	.063674	.977			
4	143856	.021532	.000*			
5	.019911	.051205	.995			
With Intervention 3						
6						
1	157803	.044517	.006*			
2	037211	.063674	.992			
3	.226017	.173261	.778			
4	143856	.021532	.000*			
5	.019911	.051205	.999			

**Earned Credits.** The average number of credit hours ranged from 85.58 to 107.69. In comparisons between those students who did not participate in interventions and those who did, findings show a significant difference in acquisition of credit hours for first-generation students who participated in the first-year seminar (M = 85.5; p <

.001), housing experience (M = 105.5; p < .002), and two or more interventions (M = 94.13; p < .034). There was no significant difference in the number of credit hours for first-generation students who participated in the Urban Experience Program and those who did not. The significant findings for earned credit hours are found in Table 6. The entire table of findings is presented in Appendix A.

## Table 6

Interventions	Mean Difference	Standard Error	р
(I - J)	(I - J)		
<b>Intervention</b> 1			
2	-14.33	3.85	.004*
3	-38.41	7.43	.002*
4	-19.98	2.07	.000*
5	-8.55	2.96	.047*
6	-22.11	1.84	.000*
Intervention 5			
1	8.55	2.95	.047*
2	-5.79	4.12	.725
3	-29.87	7.58	.014*
4	-11.43	2.55	.000*
6	-13.57	2.36	.000*

Differences in Credit Hours Earned by First-Generation Students Based on Findings from Intervention 1 and Intervention 5

*Note:* This table presents the two interventions that had the most statistically significant results, as a group, in relation to the other interventions. The results for all the interventions are found in the Appendix. The asterisk denotes when a *p*-value (.05) was statistically significant.

## **Research Question 2**

The second research question was about the relationship between living

arrangements and college performance: What is the difference, if any, between firstgeneration college students' academic success as measured by GPA and the number of credit hours earned on campus versus the academic success of students living off campus? Since there is a comparison of two means, an independent *t*-test was performed. A Levene's test was conducted to test the equality of variances between the groups. The Levene's test results show that GPA was significant at a *p*-value of .021, which indicates that equal variance was not assumed, and earned credit hours were not significant at a *p*value of .073, which indicates that equal variance was assumed (see Table 7).

# Table 7

					Quality of	Means <i>t</i> -	Test
	F	р	t	f	<i>p</i> (two-tailed)	MD	SE
Grada Point Aver	-900-				(two tuned)	MID	SE
Graue I onit Aver	age						
Variances							
Assumed	5.346	.021	5.24	7740	.000	.114	.022
Not Assumed			5.50	1023	.000	.114	.021
Earned Credits							
Variances							
Assumed	3.209	.073	2.50	7740	.013	2.75	1.10
Not Assumed			2.67	1034	.008	2.75	1.03

Levene's Test for Equality of Variances in Grade Point Average and Earned Credits of First-Generation Students

Note: *F*, *F* distribution; *f*, frequency; MD, mean difference; SE, standard error.

The *t*-test results show significant differences between GPA at p-value less than .001 and earned credit hours at p-value .013. First-generation students who lived on-campus had a higher GPAs (M = 3.04) than those who lived off-campus (M = 2.93). First-generation

students who lived off-campus took more credit hours (M = 106.93) than those who lived on-campus (M = 104.18).

#### Table 8

Differences in Grade Point Average and Earned Credits Between First-Generation Students Choosing On-Campus Housing and Those Choosing Off-Campus Housing

Housing	N	Mean	SD	SEM
Grade Point Average				
Off-Campus Housing	6,939	2.94	.59	.007
On-Campus Housing	803	3.05	.55	.019
Earned Credits				
Off-Campus Housing	6,939	106.94	29.79	.357
On-Campus Housing	803	104.19	27.38	.966

*Note: N*, number; SD, standard deviation; SEM, standard error of the mean.

Table 8 displays the differences between first-generation students who lived on-campus versus off-campus. First-generation students who lived on-campus had a higher GPA than those who did not (M = 3.05, M = 2.94, respectively). The reverse was true for earned credits in that first-generation student who lived-off campus earned more credits than those who lived on-campus (M = 106.94, M = 104.19, respectively).

#### **Chapter V**

#### Discussion

Many colleges and universities are continually exploring ways to improve college and drive student success particularly for first-generation students. College interventions, such as first-year seminar courses, mentoring programs, and housing programs, are ways that institutions support students' academic success, yet many first-generation students struggle with the academic and social integration of college (Engle, 2007). While it may be easier and less expensive to design interventions to support all first-year students than a subset of students, it is riskier to ignore the unique needs of first-generation students. The purpose of the study was to examine if a relationship exists between participation in college intervention programs and academic success, defined by GPA and the number of credit hours accrued at a Tier I university for first-generation students after 4 years. The study aimed to help higher education administrators make informed decisions about best practices that support first-generation students' academic success and highlight the need for the expansion and evaluation of comprehensive intervention programs.

# **Demographic Findings**

**First-generation students.** The majority of the sample population (n = 6593, or 85.1%) did not participate in college interventions. One potential explanation to this finding is that many first-generation students are often unaware of resources. According to the transition theory, college is considered an anticipated transition that require resources to help individuals adapt to a new experience. To help first-generation students successfully transition into college, higher education institutions should implement intervention programs that include the four tenets of the transition theory – (a) situation,

(b) self, (c) support, and (d) strategies. Though first-generation students may need additional resources to be successful, it may be more difficult for them to participate in college interventions considering where they are in terms of development. Firstgeneration students in the emerging adult phase may be struggling with deciding what they want to do (self-focus), working more hours to help support their families (feeling in between), figuring out what it means to be first-generation (identity exploration), deciding whether college is worth it (age of instability), and considering options to improve their situation (age of possibilities).

**Ethnicity.** Of the 7,742 participants, almost half of the sample population were Hispanic students (n = 3857), and less than 10% were Black students. As presented in the data, first-generation students come from a variety of ethnicities; however, research states that first-generation students are typically Black or Hispanic (Engle, 2007). In 2014, Hispanic students represented 29.6%, and Black students were 10.4% of the university's first-time-in-college (FTIC) student population (University of Houston, n.d.). Also, in the same year, over 43% of the student population were first-generation students. Understanding that cultural adaption is a challenge for first-generation students, the university might find it of value to explore the establishment of a center for firstgeneration student success that includes cultural aspects, so that students can continue to partake in parts of their culture. Since the university has a large number of firstgeneration students, the center for first-generation student success can be a comprehensive resource that addresses all the needs of first-generation students. In order to help first-generation students be successful, the center should focus its efforts on transition, retention, and graduation.

**Classification.** Seniors made up the majority of the sample population (n = 5, 665) or 73.1%). As illustrated in the data, the classification of freshmen represented less than 1% of the sample population. The majority of students progressed through the university system at an expected pace, as evidenced by the data showing that 94% are either seniors or juniors at the end of 4 years. What is not clear is why 6% are still classified as sophomores or freshmen after four years at the university. Many factors may explain the discrepancy not only in the 6% but also the need for 14 (on average) more credit hours for graduation after being at the university for four years. The state of Texas has 169 Early College High Schools (ECHS), which provide students who are less likely to attend college the opportunity to earn a high school diploma and 60 college credits (TEA, 2007). Since many of the students are local and come from Harris County, it is likely that a firstgeneration student who is entering college for the first time be classified as a sophomore. Thus, it is possible that students who transferred credits may have taken 12 credit hours per semester. This would indicate they needed five semesters of courses to graduate after enrollment, provided all 60 credit hours were from the ECHS program, and were successfully and accepted as credits. In 2014, the university implemented the UHin4 program to help students successfully navigate their college experience and graduate in four years (University of Houston, n.d.). The UHin4 program requires participants to take 15 credits each semester, continuous enrollment for fall and spring term and does not count developmental courses toward the 15-credit requirement. While the UHin4 program is designed to help students graduate in four years, there is little research support this approach. This is because first-generation students complete fewer credit hours, are more likely to take developmental courses, and earn lower grades than their counterparts

(Engle, 2007). Thus, it may be beneficial to explore ways that the UHin4 program could adjust to address the unique needs of first-generation students. For example, the UHin4 program could work with local high schools to ensure that first-generation students are eligible for the program by completing courses that will count towards the 15 credit requirement. Following that, in the first year of college, the UHin4 program could count a first-year seminar course as credit towards the program.

**College.** The College of Liberal Arts and Social Sciences represented 29.5% of the sample population (n = 2285). This is expected and in line with the distribution of students in the university as the College of Liberal Arts and Social Sciences is the largest academic college housing 13 academic departments.

**Gender.** The sample population was slightly different from the university's population. Females represented 50.3% of the sample population. Historically, males have been the majority of the university's population. Figure 8 illustrates a comparison of the study's gender and the university's gender between 2014 and 2018. Engle (2007) mentioned that first-generation students are more likely to be female, which may explain why females are represented at a higher rate than males in the sample population. Given that the female representation was not significantly higher than males, it would be best practice to continue with the current interventions. Moreover, in future research, it would be helpful to monitor trends in the differences in gender to determine if targeted interventions are necessary.

# Figure 8

# Comparison of Gender and in the University and Study Sample Populations 2014 and



2018



# **College Interventions Findings**

**First-year seminar.** Of the sample population, 199 students (2.6% of the sample) participated in the first-year seminar course. The average GPA for a student who participated in the study was 3.08, whereas students who did not participate had a 2.93 GPA. The results for the first-year seminar supports the literature about the positive outcomes associated with students' academic success. Researchers report that first-year seminars are linked to higher GPAs, higher persistence and degree attainment, and better

study skills (Vaughan et al., 2014; Kimbark et al., 2016; Miller & Lesik, 2015). Understanding that the lack of college readiness is a characteristic common in firstgeneration students, the university might be prompted to institute a first-year seminar to help promote success.

Currently, the university offers an optional first-year seminar course called CORE 1101, which is offered through the Provost's Office. CORE 1101 is not a university requirement and is open to all majors. The course is designed to assist students with the college transition, provide a support system, and help students with their persistence toward earning a college degree. In addition, there are some academic departments such as Human Development and Family Studies within the College of Education that require students to take a first-year seminar course in Year 1 of the program. Given that study's findings show positive results, and academic departments are engaging in this practice, the university should consider implementing first-year seminars as a university requirement.

**Urban Experience Program.** Of the sample population, 100 students (1.3% of the sample) participated in the Urban Experience Program. The average GPA for a student who participated is 2.96. UEP provides all students' academic, personal, professional development, and mentorship support. Mentorship affords students with an increase in connectedness and resourcefulness, and students who had mentors had higher final grades, and assimilated better academically and socially (Chester et al., 2013; Rodger & Tremblay, 2003; Crisp, 2010). Accessing college is more difficult for first generation students because their hope for educational success beyond high school is

lower (Engle, 2007). However, having first-generation student mentors with similar experiences may provide first-generation students with the motivation that will encourage them to fulfill their goals and support their student success.

Since UEP is considered a student success program, it would be helpful to understand how the university can work to expand resources for the UEP office and increase first-generation students' participation. Given the apparent lack of awareness of the program, it may be helpful to partner with other departments to target first-generation students who may be "at-risk of dropping out or suboptimal performance." For example, academic advisors could identify first-generation students who are at-risk and make referrals to the UEP program. In addition, targeted marketing to first-generation students may help spread the knowledge about UEP and what the program offers.

**Challenger Program.** Of the sample population, 13 participants (0.2% of the sample) in the Challenger Program. The average GPA for a student who participated is 2.70. The Challenger Program is designed to support first-generation students through specialized programming and campus-wide resource connections. The program offers tutoring, counseling, priority registration, financial aid advisement, and social enrichment. Considering this program is designed to support first-generation students, an assessment is recommended to explain the low participation. It may be the case that students do not enroll in this program due to lack of knowledge of the program, which can be combated through the use of targeted marketing strategies. If low enrollment is caused by perceived stigma, then the university should consider adding component to the program to address a sense of belonging.

**Housing Experiences.** Of the sample population, 719 students (9.3% of the sample) participated in the housing experiences. The average GPA for a student who participated is 3.07. Housing experiences refers to what happens to students who live in a residential hall on campus, what proficiencies and capabilities they take away from the time spent there, and what perspective it gives them. As shown in results, housing experiences had the most participation. In line with the marginality and mattering theoretical perspective, first-generation students who lived on-campus may have felt a sense of belonging, which contributed to their positive academic success than first-generation students had to commute and were off-campus. Additionally and in line with the transitional theory, first-generation students who lived on campus may have been exposed to transition programs and had access to full-time professional staff members and resident advisers who serve as mentors for residents.

#### **Research Question 1**

The study's first aim was to determine what contribution, if any, participation in college intervention programs has on first-generation college students' academic success as measured by GPA and the number of credit hours earned. The results indicate that the first-generation students who participated in the first-year seminar and housing experiences had higher GPAs and earned more credit hours than those who did not participate in intervention programs. In line with the literature, findings indicated that taking a first-year seminar course and living on campus yielded positive results. These are considered high-impact practices (HIPs), and they are commonly associated with student learning and promoting academic and personal development (Indiana University Center for Postsecondary Research, 2019). However, a large number of first-generation

students did not participate in any interventions.

The participation number for interventions was low (n = 1149). Given that over 43% of the student population is first-generation students, it is problematic that not many first-generation students participated in college interventions that were available or explicitly designed for them. Low participation in college intervention programs underscores the idea that first-generation students struggle with knowledge about campus resources. A potential explanation is that the offices where these interventions are located are not marketing in a way that is attracting first-generation students. Important to note, the first-year seminar course and the housing experiences are optional, which may be another reason for the low participation. While the cost of living on-campus does bring about more financial constraints, first-generation students should have access to other resources that will support their academic success. Therefore, colleges and universities may want to mandate participation in first-year seminar courses as a core requirement. Another option would be to test out an expansion of the successful programs to examine whether or not GPA and retention improve over time.

## **Research Question 2**

The second aim of the study was to determine the difference, if any, in firstgeneration college students' academic success as measured by GPA and the number of credit hours earned based on whether students were living on campus or off campus. The results show that first-generation students who lived on campus had statistically significantly higher GPAs than those who did not. However, first-generation students who lived off campus took more credit hours than those who lived on-campus and the results were statistically significant.

Other studies have reported that students who lived on campus were more academically and socially engaged, received support from residential staff, made friends, and were able to pay for their housing with scholarships (Tinto, 2003; Wode, 2018; Inkelas et al., 2007). Living on campus is optional, and many students are local and live in close proximity to the university, which may explain why only 803 first-generation students live on campus. Although living on campus offers convenience and access to mentors and full-time professionals, the cost is typically much higher than off-campus living. Yet, living on campus yields a higher return on investment given the positive outcomes associated with on-campus living such as higher GPAs, more accessible access to campus resources, and exposure to campus activities and programs.

### Limitations

This research, however, is subject to several limitations. The first limitation is the missing data that explains the extent of the participation. The missing data could reveal the "why" and "how" that participation had on GPA and credit hours. Thus, it is not possible to determine how motivation factored into the decision to participate (or not) in an intervention.

The second limitation is the use of credit hours as a dependent variable. Credit hours as a dependent variable was problematic because the study reported only the total hours accrued. It did not explore if the credit hours were applied to a degree plan.

The third limitation is the measure. The measure was used as a comprehensive tool to capture participation in multiple interventions, but the overall response rate for each intervention was low. While the low response rate did not interfere with study results, it is also a limitation as it is not possible to determine the true impact, if any, on the interventions offered.

The final limitation is the lack of knowing the various ways in which transfer credits may be applied to the total of earned credits. The distribution of the credits into the categories of transferred, earned, and counted or uncounted credits toward degree completion is not clear. In addition, it was not clear how many credit hours per semester were taken from 2014 to 2018.

#### **Future Research**

The study findings have implications for future research as it relates to firstgeneration students' academic success. As scholars seek to move the needle in terms of supporting first-generation students' academic success, future studies should conduct longitudinal research to obtain more definitive conclusions about what happens to students over time. This would allow for a more descriptive and detailed view of the level of participation and motivation of the students in the intervention programs. It would also be of value to conduct a mixed-methods study that includes interviews with students to determine, from their perspective, why they did or did not choose to partake in the opportunities the university provided. For better understanding, it would be helpful to know how academic colleges are supporting first-generation students' academic success. Finally, a detailed study exploring the impact of a first year seminar course, (i.e., who is offering a course and why) on first-year academic success of first-generation students.

#### Conclusion

In theory, students who are entering college for the first time are typically in a phase called "emerging adulthood," which means there are a lot of personal changes happening simultaneously with students as they are embarking upon a new experience— college. Transitioning to college can be difficult for all students; however, first-generation students are more likely to experience more challenges when it comes to success in college. As higher education institutions focus on student success for first-generation students, an examination of the current interventions should be performed to understand better how the interventions support first-generation students' academic success.

The purpose of the study was to examine if a relationship exists between participation in college intervention programs and academic success, defined by GPA and the number of credit hours accrued for first-generation students at a Tier I university. The results show that first-generation students who participate in a first-year seminar course have higher GPAs than those who do not. Another finding was that first-generation students who lived on-campus have higher GPAs than those who do not. This research study supports current literature focused on first-generation students and highlights the impact of HIP interventions on their academic success. Given that first-generation students are less likely to persist in pursuing a degree and therefore graduate at the same rate as their counterparts, supporting first-generation students' academic success should remain a priority for higher education institutions.

#### Chapter 6

#### **Action Plan**

The University of Houston (UH) is the largest university in Houston and is centrally located south of downtown in the heart of a historically Black community called Third Ward. UH enrollment includes over 45,000 students, and over 40% of UH's student population (more than 18,000) identify as first-generation students (University of Houston, 2018). A little over 25,000 students are from Harris County (Houston is the county seat), which means many of the students are from the local community (University of Houston, 2018). UH offers six residential communities that accommodate over 6,000 students. The average grade point average (GPA) of a residential student at UH is over a 3.0.

Studies show that first-generation students tend to have lower GPAs and lower retention and graduation rates than their peers (Garcia, 2010). Research suggests that students who live on camps have higher grades, are more likely to be retained, and demonstrate critical thinking skills (Wode, 2018). Since UH has a large student population that is considered first-generation students, there should be more HIPs that help to improve student retention and persistence toward graduation for first-generation students. Currently, with the programs in place to support student success, UH's four-year graduation rate is 36%, and the student retention rate is 30% (University of Houston, 2018). The low retention and graduation rates require departments to focus on providing more retention initiatives that support first-generation students.

#### **Description of the Plan**

Using the Universal Design for Learning (UDL) framework, there will be an implementation of a living-learning community (LLC) for first-generation students created by the Department of Student Housing and Residential Life (SHRL). LLCs are considered a HIP, and in an LLC, students live together on the same floor or wing and participate in specialized academic or social programs in the residence hall. HIPs are known to have a positive impact on grades, college transition, critical thinking skills, persistence, and graduation rates (Bronwell & Swaner, 2010). The literature shows that LLCs yield positive outcomes for students. For example, students who participated in LLCs had higher first-semester grades, studied more, and were more academically and socially engaged than those who did not live in LLCs (Tinto, 2003; Stassen, 2003).

The LLC for first-generation students will provide students with additional support to maximize student success within their first year. Participants of the LLC for first-generation students will develop relationships with faculty, staff, and other students. Also, participants will be exposed to academic, social, and wellness programs that support a successful transition to college and improve their collegiate experience overall. Not only will students be able to develop relationships and participate in programs, but students will also be able to live in a positive social and academic environment, learn transferrable skills, receive one-on-one support from a professional mentor, and learn about leadership and student organization opportunities. The outcomes for the LLC for first-generation students are for students to be able to (a) locate campus resources, (b) demonstrate growth in personal development and critical thinking skills, (c) apply

academic skills, and (d) demonstrate a sense of belonging and connection to the university.

The participants of the LLC for first-generation students are expected to

- self-identify as a first-generation college student;
- be a freshman and live on campus;
- attend monthly faculty-in-residence dinners;
- participate in a monthly one-on-one meeting with a program mentor;
- attend area-wide workshop meetings, which will be every other week;
- actively participate in all program meetings, activities, and events.

# Materials

The materials needed for the implementation of the LLC for first-generation students include the following:

- technology and access to an institutional database to contact students
- marketing materials promotional items
- computer or laptop
- binders
- activity supplies, such as paper, pens, markers, sticky notes, etc.
- content related to the LLC
- giveaway items
- funding to support program-related events and activities

• volunteers to serve as mentors

*Content.* The content is designed to provide the participants with knowledge and skills to support student success. Various topics related to first-generation students' success will be explored. The UDL guidelines, which are (a) engagement, (b) representation, and (c) action and expression, were infused in the content to ensure that learning happens for all the participants (CAST, 2018). The content should be facilitated by a professional.

*Format.* The interactive sessions will include small group discussions, worksheets, and open discussion of specific topics related to first-generation college students. Participants will meet face-to-face as a large group for the area-wide workshop meeting. The following week will consist of an on-campus learning experience. The on-campus learning experience refers to any academic, social, or professional activity that supports student success. For example, a visit to the library would be considered an educational on-campus learning experience because it promotes academic engagement. Participants will meet once a month with a staff mentor to engage in receiving informal and professional support. Professional mentors will interact with students and offer campus resources. In addition, participants are required to participate in Faculty-In-Residence (FIR) dinners. FIR dinners will be held once a month in the home of the FIR. This an opportunity for students to engage in an interactive conversation with a faculty member on different topics over the dinner hour.

#### Delivery

Except for the social programs, the majority of the activities and events will take place on

campus. The social programs will occur off campus in the local Houston community. The area-wide workshop meetings will take place in a large conference room in the Department of Student Housing and Residential Life.

Intended Audience. The target audience for the program is first-year, firstgeneration students who live on campus. An email will be sent in early spring to promote the opportunity to live in an LLC to first-year, first-generation students who are interested in living on-campus in Cougar Village I (CVI). Addresses will be drawn from the institutional database. The LLC for first-generation students will be open to any gender, and all majors who reside in Cougar Village I. The LLC will be housed on the second floor of CVI. Other than the cost for an assignment in CVI, there is no additional cost associated with being a part of the LLC.

*Presentation Process*. During each area-wide workshop meeting, there will be a presentation process. To start the session, the facilitator will use the roster to take attendance. Immediately after taking attendance, the facilitator will perform a check-in with the group by asking participants to respond to the following--(a) what is something that went well last week, and (b) what is something that you would like to improve this week? After the check-in, the facilitator will reference the previous session's topic and then transition to the selected topic for that day. The chosen topic of the week will be explored in detail. To apply an application and demonstrate mastery of the content, participants will engage in activity during each session. At the end of the meeting or wrap-up, participants share with the group one takeaway. The takeaway can be a key point or idea that was retained from the session.

*Presentation Availability.* The participation in LLC for first-generation students will be a commitment for the full academic year (two academic semesters), which starts in mid-August and ends in late April. The area-wide workshop meetings will be offered every other week for one hour. Also, the participants are required to attend a face-to-face 30-minute meeting with their assigned mentors who are professionals that identify as first-generation graduates.

#### **Assessment/Evaluation Tool**

Evaluation is a critical aspect in determining the impact of programs and services. The evaluation process will consist of two assessments, which include pretests and posttests and comparison of GPAs by participants and nonparticipants. A survey will be developed to assess the content covered throughout the program. The survey will consist of four subscales:

- campus resources,
- growth in personal development and critical thinking skills,
- applying academic skills,
- a sense of belonging and connection to the university

Data will be collected at two points in the program--first session (pretest), which will be considered Time 1 (T1), and the last session (posttest) will be considered Time 2 (T2). The data collected from T1 will be compared to the data in T2. After completing the program, it is expected that the results from T2 will be higher than the results from T1, and participants will have higher grade point averages (GPA) than do nonparticipants. It is hypothesized that the findings from T2 will show there was an increase in the participants' knowledge and GPAs; if so, the LLC for first-generation students will be identified as effective and as having had a positive impact on first-generation students' outcomes.

*Formative*. Formative assessment occurs during the learning activity and enhances the participants' learning. There will be many forms of formative assessment embedded in each session. The details of the formative assessments are described below:

- Discussions: Participants will engage in dialogue related to specific topics.
- *Think, Pair, Share Activities:* Participants will independently work on an activity, pair, and then share with other participants in the program.
- Quizzes: Participants will complete quizzes related to specific topics.
- Assignments: Participants will complete an assignment each session.

*Summative*. Summative assessment occurs at the end of the learning activity and evaluates the participants' learning. There are two forms of summative assessment embedded in the program. The details of the summative assessment are described below:

- 1. *Pretesting and posttesting:* Participants will complete the pretest during the first session and the posttest during the last session.
- 2. *Capstone project:* Participants will produce a visual display to showcase knowledge gained from the program.

The results of the study are in line with research and shows that living on-campus yields a positive student outcome such as a higher GPA. It was also found that the majority of students in this sample did not take advantage of one or more intervention offered by the university. Thus, the goal of this action plan is to develop a more structured process by which first-generation students will feel more comfortable enrolling in and gaining benefit from targeted interventions.

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### APPENDIX A

Full Reports from Analyses

# Descriptives

						95% Confidence	Interval for Mean		
		Ν	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
GPA	1	199	3.08828	.619756	.043933	3.00164	3.17492	.000	4.000
	2	100	2.96769	.632672	.063267	2.84215	3.09323	1.000	3.961
	3	13	2.70446	.624165	.173112	2.32728	3.08164	1.851	3.817
	4	719	3.07434	.544250	.020297	3.03449	3.11418	1.273	4.000
	5	118	2.91057	.550720	.050698	2.81016	3.01097	1.662	3.987
	6	6593	2.93048	.583493	.007186	2.91639	2.94457	.000	4.000
	Total	7742	2.94769	.583019	.006626	2.93470	2.96068	.000	4.000
EarnedCredits	1	199	85.58794	25.434627	1.803013	82.03237	89.14351	.000	165.000
	2	100	99.92000	33.932696	3.393270	93.18702	106.65298	9.000	210.000
	3	13	124.00000	26.006409	7.212880	108.28448	139.71552	67.000	152.000
	4	719	105.56362	27.364967	1.020541	103.56001	107.56722	24.000	226.000
	5	118	94.13559	25.430957	2.341109	89.49915	98.77204	41.000	163.000
	6	6593	107.69799	29.603408	.364586	106.98328	108.41270	.000	281.670
	Total	7742	106.65165	29.559486	.335947	105.99311	107.31020	.000	281.670

		Levene Statistic	df1	df2	Sig.
GPA	Based on Mean	1.854	5	7736	.099
	Based on Median	1.907	5	7736	.090
	Based on Median and with adjusted df	1.907	5	7655.811	.090
	Based on trimmed mean	1.887	5	7736	.093
EarnedCredits	Based on Mean	2.935	5	7736	.012
	Based on Median	3.041	5	7736	.010
	Based on Median and with adjusted df	3.041	5	7675.042	.010
	Based on trimmed mean	2.982	5	7736	.011

## Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
GPA	Based on Mean	2.272	4	7724	.059
	Based on Median	2.357	4	7724	.051
	Based on Median and with adjusted df	2.357	4	7644.025	.051
	Based on trimmed mean	2.315	4	7724	.055
EarnedCredits	Based on Mean	3.645	4	7724	.006
	Based on Median	3.650	4	7724	.006
	Based on Median and with adjusted df	3.650	4	7664.175	.006
	Based on trimmed mean	3.693	4	7724	.005

			Mann			95% Confid	ence Interval
Dependent Variable	(I) Interventions	(J) Interventions	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
GPA	1	2	.120591	.077025	.622	10111	.34229
		3	.383820	.178600	.320	20449	.97213
		4	.013946	.048395	1.000	12490	.15279
		5	.177714	.067085	.089	01485	.37027
		6	.157803	.044517	.006	.02975	.28585
	2	1	120591	.077025	.622	34229	.10111
		3	.263228	.184311	.711	33360	.86006
		4	106645	.066443	.597	29908	.08579
		5	.057122	.081074	.981	17620	.29044
		6	.037211	.063674	.992	14775	.22217
	3	1	383820	.178600	.320	97213	.20449
		2	263228	.184311	.711	86006	.33360
		4	369874	.174298	.337	95270	.21295
		5	206106	.180383	.856	79694	.38473
		6	226017	.173261	.778	80765	.35562
	4	1	013946	.048395	1.000	15279	.12490
		2	.106645	.066443	.597	08579	.29908
		3	.369874	.174298	.337	21295	.95270
		5	.163767	.054610	.037	.00620	.32133
		6	.143856	.021532	.000	.08237	.20535
	5	1	177714	.067085	.089	37027	.01485
		2	057122	.081074	.981	29044	.17620
		3	.206106	.180383	.856	384/3	./9694
		4	163/6/	.054610	.037	32133	00620
			019911	.051205	.999	16818	.12836
	6	1	157803	.044517	.006	28585	02975
		2	037211	.063674	.992	22217	.14775
			.226017	.1/3261	.//8	35562	.80708
		4	143856	.021532	.000	20535	08237
		-		.051205	.999	12836	.16818
EarnedCredits	1	2	-14.332060	3.842543	.004	-25.41910	-3.24502
		3	-38.412060	7.434817	.002	-62.91530	-13.90882
		4	-19.975676	2.071801	.000	-25.91399	-14.03736
		5	-8.547654	2.954936	.047	-17.03522	06008
		6	-22.110050	1.839505	.000	-27.39984	-16.82026
	2	1	14.332060	3.842543	.004	3.24502	25.41910
		3	-24.080000	7.971193	.068	-49.44509	1.28509
		4	-5.643616	3.543414	.605	-15.90983	4.62259
		5	5.784407	4.122508	.725	-6.09047	17.65929
		6	-7.777990	3.412800	.212	-17.69217	2.13619
	3	1	38.412060	7.434817	.002	13.90882	62.91530
		2	24.080000	7.971193	.068	-1.28509	49.44509
		4	18.435384	7.284720	.187	-5.87429	42.74706
		-	23.864407	7.583300	.014	5.14706	54.56175
		6	16.302010	7.222089	.281	-7.93581	40.53983
	4	1	19.975676	2.071801	.000	14.03736	25.91399
		2	5.643616	3.543414	.605	-4.62259	15.90983
		5	-18.436384	7.284720	.187	-42.74706	5.87429
		-	11.428023	2.5538/9	.000	4.06376	18./9229
	-	6	-2.134374	1.083710	.361	-5.22922	.96047
	,	-	8.54/654	2.554936	.047	.06008	17.03522
		2	-5.784407	4.122508	.725	-17.65929	6.09047
		3	-29.864407	7.583300	.014	-54.58175	-5.14706
		4	-11.428023	2.553879	.000	-18.79229	-4.06376
		6	-13.562397	2.369328	.000	-20.42219	-6.70260
	6	1	22.110050	1.839505	.000	16.82026	27.39984
		2	7.777990	3.412800	.212	-2.13619	17.69217
		3	-16.302010	7.222089	.281	-40.53983	7.93581
		4	2.134374	1.083710	.361	96047	5.22922
		5	13.562397	2.369328	.000	6.70260	20.42219

## **Games Howell – Multiple Comparisons**

			Maan			95% Confid	ence Interval
Dependent Variable	(I) Interventions	(J) Interventions	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
GPA	1	2	.120591	.077025	.521	09150	.33268
		4	.013946	.048395	.998	11891	.14680
		5	.177714	.067085	.065	00653	.36195
		6	.157803	.044517	.004	.03530	.28030
	2	1	120591	.077025	.521	33268	.09150
		4	106645	.066443	.497	29067	.07738
		5	.057122	.081074	.955	16608	.28033
		6	.037211	.063674	.977	13964	.21406
	4	1	013946	.048395	.998	14680	.11891
		2	.106645	.066443	.497	07738	.29067
		5	.163767	.054610	.026	.01306	.31448
		6	.143856	.021532	.000	.08500	.20271
	5	1	177714	.067085	.065	36195	.00653
		2	057122	.081074	.955	28033	.16608
		4	163767	.054610	.026	31448	01306
		6	019911	.051205	.995	16170	.12188
	6	1	157803	.044517	.004	28030	03530
		2	037211	.063674	.977	21406	.13964
		4	143856	.021532	.000	20271	08500
		5	.019911	.051205	.995	12188	.16170
EarnedCredits	1	2	-14.332060	3.842543	.002	-24.93683	-3.72729
		4	-19.975676	2.071801	.000	-25.65793	-14.29342
		5	-8.547654	2.954936	.034	-16.66820	42710
		6	-22.110050	1.839505	.000	-27.17075	-17.04935
	2	1	14.332060	3.842543	.002	3.72729	24.93683
		4	-5 643616	3 543414	505	-15 46087	4 17383
		5	5,784407	4,122508	.626	-5.57506	17,14387
		6	-7.777990	3.412800	.160	-17.25712	1.70114
	4	1	19.975676	2.071801	.000	14.29342	25.65793
		2	5.643616	3.543414	.505	-4.17363	15.46087
		5	11.428023	2.553879	.000	4.38384	18.47221
		6	-2 134374	1 083710	282	-5 09642	82767
	5	1	8.547654	2,954936	.034	.42710	16.66820
		2	-5.784407	4,122508	.626	-17,14387	5.57506
		4	-11.428023	2.553879	.000	-18.47221	-4.38384
		6	-13,562397	2,369328	.000	-20,12247	-7.00233
	6	1	22 110050	1 839505	000	17 04035	27 17075
	0	2	7 777000	2 412000	180	1 70114	17 25712
		4	2 124274	1.002710	.100	-1./0114	5 00642
		5	12 582207	2 280220	.202	7.00000	20.42247
		9	13.002387	2.308328	.000	7.00233	20.12247

### ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GPA	Between Groups	18.390	5	3.678	10.890	.000
	Within Groups	2612.858	7736	.338		
	Total	2631.249	7741			
EarnedCredits	Between Groups	123290.620	5	24658.124	28.726	.000
	Within Groups	6640510.271	7736	858.391		
	Total	6763800.891	7741			

		Sum of Squares	df	Mean Square	F	Sig.
GPA	Between Groups	17.620	4	4.405	13.045	.000
	Within Groups	2608.183	7724	.338		
	Total	2625.803	7728			
EarnedCredits	Between Groups	119371.491	4	29842.873	<b>34.755</b>	.000
	Within Groups	6632394.271	7724	858.674		
	Total	6751765.763	7728			

# **Robust Tests of Equality of Means**

		Statistic <sup>a</sup>	df1	df2	Sig.
GPA	Welch	11.221	5	108.854	.000
	Brown-Forsythe	10.354	5	200.263	.000
EarnedCredits	Welch	35.850	5	109.107	.000
	Brown-Forsythe	31.708	5	264.510	.000

		Statistic <sup>a</sup>	df1	df2	Sig.
GPA	Welch	13.788	4	332.165	.000
	Brown-Forsythe	12.707	4	610.947	.000
EarnedCredits	Welch	44.153	4	334.092	.000
	Brown-Forsythe	37.168	4	538.194	.000

## Independent t-test

		Levene's Test Varia	for Equality of nces				t-test for Equality	of Means		
		F	Siq.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Diffe	e Interval of the rence Upper
GPA	Equal variances assumed	5.346	.021	-5.235	7740	.000	113571	.021695	156100	071043
	Equal variances not assumed			-5.499	1023.881	.000	113571	.020654	154101	073042
EarnedCredits	Equal variances assumed	3.209	.073	2.498	7740	.013	2.751148	1.101464	.591980	4.910315
	Equal variances not assumed			2.670	1034.452	.008	2.751148	1.030427	.729182	4.773113

	Housing	Ν	Mean	Std. Deviation	Std. Error Mean
GPA	0	6939	2.93591	.585579	.007030
	4	803	3.04948	.550346	.019421
EarnedCredits	0	6939	106.93700	29.789601	.357615
	4	803	104.18585	27.384564	.966380

## Sample Demographic Information - Ethnicity, Gender, Classification,

## Colleges

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Available	285	3.7	3.7	3.7
	White	1083	14.0	14.0	17.7
	Native Hawaiian/Pacific Islander	10	.1	.1	17.8
	Hispanic	3857	49.8	49.8	67.6
	Black	672	8.7	8.7	76.3
	American Indian/Alaska Native	18	.2	.2	76.5
	Asian	1817	23.5	23.5	100.0
	Total	7742	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	males	3844	49.7	49.7	49.7
	females	3898	50.3	50.3	100.0
	Total	7742	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	freshman	42	.5	.5	.5
	sophomore	376	4.9	4.9	5.4
	junior	1659	21.4	21.4	26.8
	senior	5665	73.2	73.2	100.0
	Total	7742	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Design and Architecture	177	2.3	2.3	2.3
	Arts	284	3.7	3.7	6.0
	Business	1120	14.5	14.5	20.4
	Education	658	8.5	8.5	<mark>28.</mark> 9
	Engineering	523	6.8	6.8	35.7
	Exploratory Studies	72	.9	.9	36.6
	Hotel and Restaurant Management	171	2.2	2.2	38.8
	Natural Science and Mathematics	893	11.5	11.5	50.3
	Liberal Arts and Social Sciences	2285	29.5	29.5	79.9
	Nursing	7	.1	.1	80.0
	Technology	1539	19.9	19.9	99.8
	No Data Available	13	.2	.2	100.0
	Total	7742	100.0	100.0	Stored Sectors

#### **APPENDIX B**

Approval of Study



Institutional Review Boards

APPROVAL OF SUBMISSION

February 16, 2020

Shemeka Phipps

ssphipps@uh.edu

Dear Shemeka Phipps:

On February 16, 2020, the IRB reviewed the following submission:

Type of Review:	Initial Study	
Title of Study:	THE IMPACT OF PRE-COLLEGE AND COLLEGE	
COLORA A SA	INTERVENTIONS ON FIRST-GENERATION	
	STUDENTS ACADEMIC SUCCESS AT A LARGE	
	URBAN TIER ONE INSTITUTION	
Investigator:	Shemeka Phipps	
IRB ID:	STUDY00002093	
Funding/ Proposed	Name: Unfunded	
Funding:	n de la colarda de la contra como	
Award ID:		
Award Title:		
IND, IDE, or HDE:	None	
Documents Reviewed:	<ul> <li>Shemeka Phipps, Category: IRB Protocol;</li> <li>Letter of Cooperation, Category: Letters of Cooperation / Permission;</li> </ul>	
Review Category:	Exempt	
Committee Name:	Not Applicable	
IRB Coordinator:	Sandra Amtz	

The IRB approved the study on February 16, 2020 ; recruitment and procedures detailed within the approved protocol may now be initiated.

As this study was approved under an exempt or expedited process, recently revised regulatory requirements do not require the submission of annual continuing review documentation. However, it is critical that the following submissions are made to the IRB to ensure continued compliance:

 Modifications to the protocol prior to initiating any changes (for example, the addition of study personnel, updated recruitment materials, change in study design, requests for additional subjects)