The Effect of an Abbreviated Bridge Program on Service Utilization and Academic Outcomes for First-Year Students in a TRIO Student Support Services Program at a Midwestern University

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Abstract

Summer bridge programs are a popular strategy among higher education institutions to help ease the transition to college and foster first-year student success in part by connecting students with campus services and resources (Gonzelez Quiroz & Garza, 2018; Sablan, 2014; USDE, Institute of Education Sciences, 2016). This study used a causal-comparative research design to examine whether participation in a Midwestern University abbreviated bridge program (ABP) effected utilization of Student Support Services (SSS) advising, tutoring, and cultural enrichment services, first-to-second year retention, first-year grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Archival data for 384 first-time, full-time students who matriculated to Midwestern University in the fall semesters between 2015-2016 and 2018-2019 who qualified for SSS as a low-income and/or first-generation college student were included in the study. Within the data set, 188 subjects admitted to SSS participated in the ABP, and 196 student admitted to SSS did not participate in the ABP program. Independent-samples *t* tests were conducted to analyze the variables of frequency of use of SSS advising, peer tutoring, and cultural enrichment services, first-year grade point average, and first-year credit accumulation. A chi-square test of independence was conducted to analyze the variable of first-to-second year retention. Results of the analyses indicated that SSS first-year students who participated in the ABP utilized advising and cultural enrichment services significantly more than SSS first-year students who did not participate in the ABP. There was no significant difference in the frequency of use of peer tutoring, first-to-second year retention, first-year grade point average, or

first-year credit accumulation between the two groups. The findings of this study were similar to those reported in previous research studies that indicated bridge programs have a more significant impact on indirect outcomes such as connecting students to campus support services than direct outcomes of retention, grade point average, and credit accumulation. One implication of this study is that the ABP may be an effective strategy to increase utilization of SSS for low-income and first-generation college students in their first year.

Dedication

This study is dedicated to my mom, who taught me the importance of life-long learning and the value of educational opportunities. I also dedicate this study to the TRIO community for embracing and encouraging me and to my TRIO students who have shared in the joy and challenges of learning with me.

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Chapter 1

Introduction

The first year of college is a vital transition for students from low-income backgrounds and students who will be the first in their family to earn a bachelor's degree, two student groups who have been historically underserved in four-year institutions (Cahalan, Addison, Brunt, Patel & Perna, 2021; Engle & Tinto, 2008; Kezar & Kitchen, 2020). A significant number of low-income and first-generation college students are enrolling in higher education, but they are persisting and graduating at lower rates than students who are from middle- and high-income backgrounds and continuing-generation college students (Cahalan et al., 2021; Cataldi, Bennett, & Chen; 2018; Engle & Tinto, 2008; Kezar & Kitchen, 2020; RTI International, 2019a). According to a recent report on equity indicators in higher education in the United States, of students who first enrolled in 2012, there was a 32% difference in bachelor's degree attainment at four-year institutions between dependent students who were both low-income and first-generation and dependent students who were neither low-income nor first-generation (Cahalan et al., 2021). Only 40% of students who were low-income and first-generation graduated from four-year institutions in six years compared to 78% of dependent students who were neither low-income nor first-generation (Cahalan et al., 2021). Engle and Tinto (2008) found that low-income and first-generation college students who started in four-year public institutions were almost three times more likely to leave in the first year than their peers who met neither factor.

The above-mentioned differences in educational opportunity by family income and educational level have personal and institutional implications. For example, low-income and first-generation college students arguably have the most to gain from the social mobility and economic opportunity offered by earning a degree (Bassett, 2021). Individuals who attain a

bachelor's degree will likely earn more money over the course of their lifetime, have greater work benefits, experience higher rates of employment, and have better health outcomes than individuals who do not have a bachelor's degree (Engle & Tinto, 2008; Ma, Pender, & Welch, 2019; Mayhew et al., 2016; Perna, 2015). For low-income, first-generation college students who accrue loan debt while in college, withdrawing is especially costly (Cahalan et al., 2021; Engle & Tinto, 2008). Engle and Tinto (2008) found that low-income, first-generation students who left four-year institutions in their first year owed an average amount of $6,557, and those who left in their fourth year owed an average amount of $16,548. Without the future financial benefits of having a bachelor's degree or access to family resources to help pay back loans, low-income, first-generation college students who withdraw before completing a degree may be worse off financially having attended college than if they never enrolled in the first place (Cahalan et al., 2021; Choy, 2001; Engle & Tinto, 2008; Tinto, 1993).

Attrition also creates challenges for higher education institutions. With decreasing state subsidies, four-year public institutions rely increasingly on student tuition and subsequently invest heavily in student recruitment (Jamelske, 2009; Mayhew et al., 2016). Jamelske (2009) pointed out that lower retention rates result in institutions spending more time and resources to replace students who withdraw when they could be focusing those resources on other areas.

> Students are the financial lifeline of colleges and universities through the tuition and fees as well as government subsidies for public institutions. A low retention rate means that a college is always working to replace students that leave which requires resources that could be used elsewhere. In addition, if students leave before graduating, they are not likely to become donors to their former schools. (Jamelske, 2009, p. 374)

Public universities also experience increased scrutiny from internal and external stakeholders as a result of lower retention and graduation rates, which has the potential to affect funding, institutional rankings, and future recruitment (Bir & Myrick, 2015; Jamelske, 2009).

On a larger scale, inequities between retention and graduation rates by family income and educational level have national economic implications (Cahalan et al., 2020; Perna, 2015). Between 2002 and 2018, the U.S. ranking in bachelor's degree attainment dropped from second to eighteenth place when compared to other countries (Cahalan et al., 2020). The Council for Opportunity in Education (n.d.), a national nonprofit organization that works to further educational opportunities for low-income and first-generation college students, asserted that closing equity gaps was essential to boost the U.S. economic and academic competitiveness globally. Likewise, in testimony to a congressional committee, Perna (2015) emphasized that improving the postsecondary outcomes of low-income and first-generation students must be a national priority for the U.S. to keep pace in a global competitive economy where a growing majority of jobs require education beyond high school. Perna (2015) testified, "Improving college access and completion for low-income and first-generation college students is one of the most important challenges facing our nation" (p. 1).

One national strategy to increase the number of low-income and first-generation college students who complete bachelor's degrees is the federal Student Support Services (SSS) program administered by the United States Department of Education (USDE). Initially named Special Services for Disadvantaged Students, SSS was authorized in 1968 by the Higher Education Act of 1965, as amended, to increase the retention and graduation rates of low-income and first-generation college students and students with disabilities who were enrolled in postsecondary institutions (Grout, 2003; USDE, Office of Postsecondary Education, 2019). SSS was the third

of three federal programs, referred to as TRIO Programs, created as part of President Lyndon B. Johnson's efforts to address poverty in the United States (Grout, 2003). These initial three federal programs under the TRIO umbrella – Upward Bound, Talent Search and Student Support Services – were designed to facilitate access to higher education for low-income, first-generation and historically underserved students by providing a pathway of academic, social, and cultural support starting in middle school and extending through college graduation (Grout, 2003). Today, the number of TRIO programs has been expanded from three to eight different types of federal programs, all unified by the mission of increasing equity in higher education. Appendix A provides a description of each type of federal TRIO program.

The USDE awards SSS funds through a grant competition to institutions of higher education (USDE, Office of Postsecondary Education, 2019). As of December 2021, there were 1,149 SSS programs at colleges and universities serving more than 207,000 students with an annual budget of $363 million dollars (USDE, Office of Postsecondary Education, 2022). Students participating in a SSS program must meet at least one of the federally defined eligibility criteria (low-income status, first-generation college status, or disability status) and exhibit academic need for services (e.g., low high school grade point averages and low standardized entrance test scores) (USDE, Office of Postsecondary Education, 2019). Per the Education Department General Administrative Regulations, Title 34, Part 646, all SSS programs are required to provide academic tutoring, advice in postsecondary course selection, financial aid and literacy information and counseling, and help with applying for graduate and professional school admission. SSS programs may also provide additional services for participants such as mentoring, career counseling, cultural enrichment activities, and personal advocacy.

Background

The current study focused on SSS at a large public research university in the Midwest, referred to hereafter as Midwestern University. This institution has an annual enrollment of approximately 24,000, mostly undergraduate students, with almost 4,000 first-time freshmen (Midwestern University, Analytics, Institutional Research, & Effectiveness, 2022a). Since 1973, Midwestern University has received SSS funding to offer services to 250 low-income and first-generation college students and students with disabilities on its main campus (Midwestern University, Center for Educational Opportunity Programs, 2017a). In 2015, the USDE awarded Midwestern University a second SSS grant to serve an additional 120 eligible students majoring in science, technology, engineering, math (STEM) and health-care fields (Midwestern University, Center for Educational Opportunity Programs, 2017a). Admission requirements, staffing, and services across both SSS grants are consistent and are treated as one SSS program for the purpose of this study (Midwestern University, Center for Educational Opportunity Programs, 2019b). Midwestern University SSS offers a comprehensive network of required and permissible services from entry into college through college graduation, including peer tutoring, academic advising, financial aid and literacy counseling, assistance with completing the Free Application for Federal Student Aid, graduate and professional school preparation, cultural enrichment activities, technology support, mentoring, and financial grant aid (Midwestern University, Center for Educational Opportunity Programs, 2017a).

In 2015, Midwestern University SSS program personnel, in collaboration with campus partners, launched an Abbreviated Bridge Program (ABP) to assist low-income and first-generation college students and students from underserved ethnic and racial backgrounds with their transition from high school to Midwestern University (Midwestern University, Center for

Educational Opportunity Programs, 2016a). A catalyst for the ABP initiative at its inception was a gap between first-year retention rates of underserved student groups at Midwestern University and university leadership's strategic goal of raising first-year retention to 90% by the year 2022 (Midwestern University, Center for Educational Opportunity Programs, 2015a, 2016a). For example, as shown in Figure 1, first-year retention rates of first-time, full-time freshmen who entered Midwestern University between academic years 2015-16 and 2018-19 who received the Federal Pell Grant – an indicator of low-income status – ranged between 71% and 79%. These rates were more than 10% lower than the university's goal of 90%. Similarly, the first-year retention rates of students from underserved and underrepresented ethnic and racial backgrounds were also lower than the university's goal of 90%.

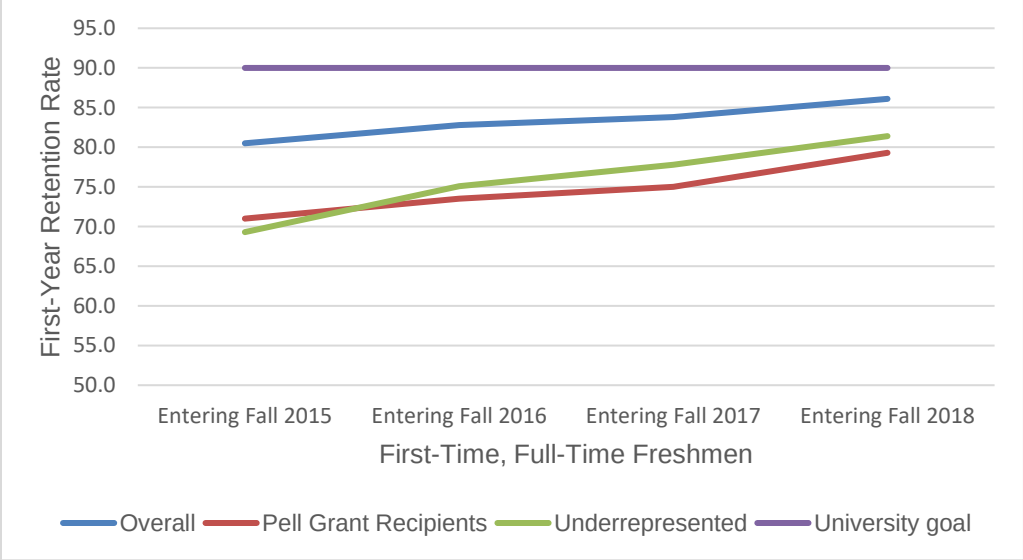

Figure 1. Comparison of first-year retention rates of first-time, full-time freshmen (FTF) adapted from Midwestern University, AIRE (2022b) retention and graduation data. This figure shows a comparison of retention rates from year one to year two for FTF who entered Midwestern University in the fall semesters between 2015-16 and 2018-19. Comparison groups included: all FTF (overall), FTF who received a Federal Pell Grant, and FTF from Underrepresented Ethnic and Racial Backgrounds (American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, Black/African American and Hispanic/Latinx).

The ABP was structured as a five-day program to be provided the week before the start of fall semester classes and was free of charge for students (Midwestern University, Center for Educational Opportunity Programs, 2016a). Aligned with common practices outlined in the summer bridge literature, the ABP emphasized objectives of orienting participants to academic and social aspects of campus life before the first day of classes, but in a more abbreviated format, spanning one week instead of the more common two- to four-week format (Midwestern University Center for Educational Opportunity Programs, 2016a; USDE, Institute of Education Sciences, 2016). Researchers who have examined summer bridge programs have demonstrated that incoming freshmen from underserved student groups benefit from early exposure to college-going experiences, academic skill-building, connection to campus faculty and resources, and supportive peer networks (Bir & Myrick, 2015; Douglas & Attewell, 2014; Gonzalez Quiroz & Garza, 2018; Kodama, Han, Moss, Myers, & Farruggia et al., 2018; Strayhorn, 2011; Wachen, Pretlow, & Dixon, 2018). The ABP included approximately 53 hours of activities, panels, peer mentoring, and presentations focused on connecting participating students with campus academic resources and student organizations; fostering the development of supportive peer networks; cultivating a sense of social belonging; addressing issues related to financial aid; and establishing relationships between participants and first-year retention programs (Midwest University, Center for Educational Opportunity Programs, 2016a). Appendix B provides a sample schedule of ABP activities.

The first year of the ABP was funded to serve 50 eligible students with a combination of federal, institutional, and private donor funds, but was increased to 86 students based on the number of eligible students who applied to participate (Midwestern University, Center for Educational Opportunity Programs, 2016a). Participants residing on campus were allowed to

move into their assigned room at the start of the program. ABP participants also had the opportunity to win a $500 scholarship if they attended all activities and events throughout the five-day ABP (Midwestern University, Center for Educational Opportunity Programs, 2015a). As a requirement of participation in the ABP, students signed a participation agreement stipulating that they join one of the university's first-year retention programs at the conclusion of the ABP, including SSS. Appendix C provides a sample participation agreement. The ABP continued to be offered as a five-day program the week before fall classes for the academic years of 2016-17, 2017-18, and 2018-19. The number of students participating in the ABP in subsequent years ranged from 68 to 186 (Midwestern University, Center for Educational Opportunity Programs, 2015b, 2016b, 2017b, 2018a).

Statement of Problem

A central objective of the ABP was to connect participants with first-year retention programs to further the institution's goal of increasing first-to-second year retention rates to 90% (Midwestern University, Center for Educational Opportunity Programs, 2016a). Researchers have highlighted that bridge programs may be most effective as part of a holistic approach in tandem with other university support programs (Cabrera, Miner, & Milem, 2013; Wachen et al., 2018) and that low-income and first-generation college students benefit from comprehensive support programs (Chaney, 2010; Means & Pyne, 2017). Yet, at the time the current study was conducted, the extent to which first-year Midwestern University SSS students who participated in the ABP utilized SSS services during their first year of college was not known. Further, at the time this study was conducted, no quantitative analysis had been conducted to compare first-to-second year retention rates, cumulative grade point average, and credit accumulation of Midwestern University SSS first-time freshmen who participated in the ABP with SSS first-time

freshmen who did not participate in the ABP. Previous quantitative evaluation of the ABP conducted by Midwestern University staff (Ecker-Lyster & Chang, 2015) focused on examining the effect of participation on first-year outcomes (e.g., grade point average and credit accrual) for all students participating in the ABP.

In general, there is a gap in the literature regarding evaluation of bridge programs administered by SSS programs even though a structured first-year experience, including summer bridge, has been highlighted by researchers as a best practice for SSS-eligible students (Chaney, 2010; Engle & Tinto, 2008; Holt & Winter, 2018; Muraskin, 1997; Thayer, 2000). According to the USDE (2016) Fast Facts Report, 38% of SSS programs funded by the USDE offered a bridge program as part of the SSS service model, yet there are limited studies in the literature evaluating potential impacts of those bridge programs administered by SSS programs on program objectives specifically. While studies on the effects of summer bridge programs as a whole are abundant, there are conflicting results about the effectiveness of bridge programs in increasing retention, credit accumulation, and grade point averages of low-income and first-generation college students (Douglas & Attewell, 2014; Sablan, 2014; Wachen et al., 2018; Wathington, Pretlow, & Barnett, 2016). There are also conflicting results in studies focusing on the effectiveness of bridge programs in connecting participants with campus resources during the first year of college (Bir & Myrick, 2015; Cabrera, Miner, & Milem, 2013). These gaps in the research create a need for further evaluation of individual bridge programs administered by SSS personnel and the dissemination of those results to the larger SSS community.

Purpose of the Study

Two purposes guided the current study. The first purpose of this study was to describe the differences in frequency of use of Midwestern University SSS services, including academic

advising, tutoring, and cultural enrichment activities, by Midwestern SSS low-income and first-generation college first-time, full-time freshmen (hereafter referred to as ABP-eligible students) who participated in the ABP and ABP-eligible students who did not participate in the ABP. The second purpose of this study was to determine the differences in academic outcomes of first-to-second year retention, first-year cumulative grade point average, and first-year credit accumulation, between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the APB.

Significance of the Study

The significance of this study is its contribution to a comprehensive evaluation plan required by the Education Department General Administrative Regulations, Title 34, Part 646. Specifically, the findings from this study will complement existing evaluation methods of Midwestern University SSS services to assist program administrators in making data-driven decisions about service delivery for achieving SSS objectives while ensuring the best use of federal funds. For example, the results of this study will enable Midwestern University SSS administrators to examine the impact of the ABP on SSS students as a subset of the entire ABP program. Because the ABP was a collaborative effort between several campus partners and included non-SSS students, it is vital for SSS administrators to consider the impact specifically for SSS students. This process will help administrators determine if future participation in the ABP is warranted as part of the Midwestern University SSS service model. As a federally funded program, SSS administrators and practitioners must examine potential best practices for improving educational outcomes of low-income and first-generation college students (Perna, 2015).

Additionally, Midwestern SSS administrators will have the opportunity to disseminate

study results to key stakeholders, such as prospective SSS students and families; admissions representatives promoting the ABP to incoming students and high school counselors; SSS colleagues at other universities; and Midwestern University student affairs professionals who have a vested interest in understanding how initiatives such as the ABP are linked to connecting students to campus resources and enhancing first-year outcomes of underserved student groups. Midwestern University SSS only serves a small percentage of first-time freshmen who are low-income and first-generation college students. For instance, in 2018-19, Midwestern University SSS served 104 first-time, full-time freshmen who qualified as low-income and/or first-generation college students (Midwestern University, Center for Educational Opportunity Programs, 2019c). In that same year, there were 518 incoming first-time freshmen who were identified as first-generation college students, and 815 first-time freshmen who received Federal Pell Grants, an indicator of low-income status (Midwestern University, AIRE, 2019a). By sharing study results with campus partners, Midwestern University SSS administrators can contribute to the discussion of retention strategies like the ABP as a program to potentially scale up to serve more eligible students and have a larger impact. Recent research has indicated that bridge programs implemented in tandem with structured support services that reach beyond the first year can be a cost effective strategy for postsecondary institutions to increase retention and credit accumulation of participants (Wachen et al., 2018).

Finally, this study will help address a gap in the research literature by exploring the efficacy of the ABP in connecting low-income and first-generation college students to SSS program services. Early exposure to services provided by SSS during the ABP and the expectation that ABP students participate in a first-year retention program may have the potential to increase students' utilization of SSS program services during their first year of college.

National evaluations of SSS programs have provided evidence that students who utilized SSS services during their first year of college were more likely to have higher grade point averages, earn more credit hours, and persist to their second year of college than students from similar backgrounds who did not utilize SSS services (Chaney, 2010; Chaney, et al., 1997; USDE, Office of Postsecondary Education, 2015; USDE, Office of Postsecondary Education, 2019). Research has also shown that a best practice for effective SSS programs was to include incentives to motivate first-year students to utilize services (Chaney, 2010; Chaney et al., 1997), and that student outcomes increased as students' use of program services increased (Chaney, 2010; Chaney et al., 1997; Quinn, Cornelius-White, MacGregor, and Uribe-Zarain, 2019). By focusing research on the ABP initiative aimed at connecting Midwestern University SSS students with program services prior to the first day of classes, there is an opportunity to positively impact SSS students early in their University experience. The first year of college is the time period when students are the most likely to withdraw and would have the greatest potential to benefit from services (Engle & Tinto, 2008; Kezar & Kitchen, 2020; Mayhew et al., 2016; Wachen et al., 2018).

Delimitations

According to Lunenburg and Irby (2008), delimitations are "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). The scope of this study was narrowed by the following delimitations:

1. The study was conducted at a single public, research intensive university located in the Midwest region of the United States.
2. The study was limited to entering first-time, full-time freshmen admitted to Midwestern University SSS in their first fall semester of college for the following academic years:

2015-16, 2016-17, 2017-18, and 2018-19.

3. Participants in the study qualified for SSS services in one of three eligibility categories: low-income and first-generation college status, low-income only status, and first-generation college only status.
4. Only a subset of ABP students were included in this study: those students who attended the ABP between academic years 2015-16 and 2018-19 and participated in Midwestern University SSS as first-time, full-time freshmen for their first fall semester of college in academic years 2015-16 through 2018-19.
5. The scope of this study was limited to students' first year of college, a critical time for retention of low-income, first-generation college students (Engle & Tinto, 2008; Kezar & Kitchen, 2020). Service utilization and academic outcomes were not tracked beyond the first year.
6. The study's focus on utilization of services was narrowed to a subset of Midwestern SSS services, including advising, peer tutoring, and cultural enrichment activities, offered to all first-year SSS students.

Assumptions

Lunenburg and Irby (2008) defined assumptions as "postulates, premises, and propositions that are accepted as operational for purposes of the research" (p. 135). The researcher conducted this study with the following assumptions. The ABP and Midwestern University SSS archival participant data and service records were accurately documented in program and university databases. Student data were accurately extracted and transferred into the data set for this study. Midwestern University SSS students participated in the ABP and utilized SSS services for the intended purposes.

Research Questions

Two research questions guided the current study.

RQ1. To what extent is there a difference in frequency of use of each type of Midwestern University SSS service, as measured by the number of advising sessions, peer tutoring sessions, and cultural enrichment activities, between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

RQ2. To what extent is there a difference in first-to-second year retention, first-year cumulative grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

Definition of Terms

For the purpose of this study, the following definitions of terms have been applied.

ABP-eligible students. In the current study, this term refers to Midwestern University SSS first-time, full-time freshmen who entered the university in the fall semesters of academic years 2015-16 to 2018-19 and qualified for the SSS program as low-income and/or first-generation college students.

Cumulative grade point average (GPA). According to Midwestern University (2022), the cumulative GPA is calculated at the end of the first year of college and includes grades earned during fall, spring and summer semesters at Midwestern.

Credit hour accumulation. According to USDE Annual Performance Report Instructions (see Appendix D), credit hour accumulation refers to the number of credit hours earned at Midwestern University during a student's first year of college, which includes the first fall, spring, and summer semesters of the first year of enrollment.

First-generation college student. As defined in the Higher Education Act of 1965 (USDE, 2008), as amended (20 U.S.C. §1070a–11 (h)(3)), a first-generation college student is an individual whose parents or legal guardians did not complete a bachelor's degree, or in the case that an individual regularly resided and received support from only one parent or legal guardian, an individual whose only such parent or guardian did not complete a bachelor's degree.

Low-income student. As defined in the Higher Education Act of 1965 (USDE, 2008), as amended (20 U.S.C §1070a–11 (h)(4)), a low-income student is an individual whose family's taxable income for the preceding year did not exceed 150% of the poverty levels set by the Bureau of the Census.

First-time, full-time freshmen. The Midwestern University of Analytics and Institutional Research (n.d.) defined first-time, full-time freshmen as students who entered Midwestern University in the fall semester directly after high school graduation (including students who took college credit while in high school), had never attended college before, or first attended college the summer semester preceding their first fall semester and were enrolled in a minimum of 12 credit hours for the fall semester.

Abbreviated Bridge Program (ABP). The ABP is a one-week transition program for entering freshmen who were low-income, first-generation college students, and students from underserved racial and ethnic backgrounds. The stated goals of the program were to ease the transition from high school to college for underserved student groups and to connect students to campus programs to increase the university's strategic goal of raising first-year retention to 90% by 2022 (Midwestern University, Center for Educational Opportunity Programs, 2016a). Launched in 2015, the APB was a collaborative effort facilitated by the Midwestern SSS staff, university leadership, and campus partners, and paid for with federal, institutional and private

donor funds (Midwestern University, Center for Educational Opportunity Programs, 2016a). The program was offered at no cost to participating students.

SSS Services. For the purpose of this study, SSS services referred to three specific types of services provided by the Midwestern University SSS program:

(a) ***Academic advising*** means assisting with course selection, academic skills, financial aid and literacy counseling, personal support and advocacy, career and graduate school counseling, campus involvement, and referrals (Midwestern University, Center for Educational Opportunity Programs, 2017a). Students sign an agreement to meet with their SSS advisor at least four times each semester of participation, and SSS advisors monitor the number of student advising sessions and provide outreach to encourage student advising meetings (Midwestern University, Center for Educational Opportunity Programs, 2019b).

(b) ***Peer tutoring*** means individual tutoring provided by other enrolled students who have approximately 12-15 credit hours in the subject areas they tutor (Midwestern University, Center for Educational Opportunity Programs, 2017c). SSS participants were allowed to request individual peer tutoring in two subjects per semester, for either one hour or two hours per week, for the duration of each semester of participation (Midwestern University, Center for Educational Opportunity Programs, 2017a). SSS participants were also offered peer tutoring in math and writing on a drop-in basis during set weekly office hours each semester of participation (Midwestern University, Center for Educational Opportunity Programs, 2017a).

(c) ***Cultural enrichment activities*** are SSS events and sponsored activities that offer cultural and social opportunities (e.g., theatre performances, fieldtrips to museums, campus lectures, homecoming open house, and end-of-year recognition reception) that might not

otherwise be available to SSS students due to factors such as cost (Midwestern University, Center for Educational Opportunity Programs, 2017a).

Retention. Midwestern University Analytics and Institutional Research (n.d.) defined retention as the number of first-time, full-time students who were enrolled at Midwestern University as of the 20th day of the fall semester of their second year of college. This definition is aligned with Tinto's (2012) definition of retention, "…retention and graduation refer to the rate at which an institution retains and graduates students who first enter the institution as freshmen at any given point in time." (p. 127).

Student Support Services (SSS). SSS is a Federal TRIO Program funded by the U.S. Department of Education with the goal to increase the number of low-income students, first-generation college students, and students with disabilities who persist and graduate with a bachelor's degree (USDE, Office of Postsecondary Education, 2019).

Service utilization. This term refers to the use of Midwestern University SSS services as measured by the frequency of sessions for the following types of SSS services: advising, peer tutoring, and cultural enrichment activities.

Organization of the Study

This chapter provided background information about the creation of the ABP aimed at easing the transition to college for low-income and first-generation college students attending Midwestern University. The ABP was designed, in part, as an early onboarding strategy to connect students with Midwestern SSS services before the first day of classes. This initiative was part of a larger initiative by university leadership to increase retention for first-year students to 90% by the year 2022. A statement of the problem and the purpose of the study, as well as its significance, delimitations, assumptions, research questions, and definitions were provided in

Chapter 1.

Chapter 2 includes a review of the literature related to low-income and first-generation college students including their demographics and enrollment characteristics, pre-college experiences, financial experiences, and engagement. Bridge programs and their relationship to academic performance and efficacy in connecting students to campus resources are explained. An overview of Student Support Services includes the student outcomes related to amount of use and student outcomes. First-year outcomes of students involved in SSS as well as theoretical models developed by Astin, Kuh, and Tinto are summarized. Chapter 3 describes the research design, selection of participants, measurement, data collection procedures, data analysis and hypothesis testing, and limitations. The fourth chapter includes the results of the data analysis results and hypothesis testing. Chapter 5 includes a study summary, findings related to the literature, and conclusions.

Chapter 2

Review of the Literature

The current study examined the effect of an abbreviated bridge program on service utilization and academic outcomes for first-year students in a Student Support Services program at a Midwestern University. Chapter 2 includes a review of the literature related to low-income, first-generation college students including their demographics and enrollment characteristics, pre-college experiences, financial experiences, and engagement. Bridge programs and their relationship to academic performance and efficacy in connecting students to campus resources are explained. An overview of Student Support Services includes student outcomes related to amount of use of services. First-year outcomes of students involved in SSS as well as theoretical models developed by Astin (1984), Kuh (2001, 2003), and Tinto (1975, 1993) are summarized.

Low-income, First-Generation College Students

Although the exact percentages vary depending on data sources and how low-income and first-generation are defined by researchers (Calahan et al., 2021; Peralta & Klonwoski, 2017; RTI International, 2019a), low-income and first-generation college students make up a substantial percentage of the undergraduate student population. According to Calahan et al. (2021), 42% of first-time, full-time degree-seeking undergraduate students received Pell or other need-based Federal Grants in 2019, which was up from 32% in 2000. Of first-time, full-time students attending public, four-year institutions, 36% received Pell or other Federal Grants in 2018 (Calahan et al., 2021). Further, the percentage of K-12 students eligible for free or reduced-price lunch has almost doubled between 1989 and 2020 (31% in 1989 and 57% in 2020), indicating that the potential number of students from low-income backgrounds enrolling in higher education will continue to increase in future years (Calahan et al., 2021).

Likewise, the percentage of first-generation college students enrolled in higher education is sizable, but the percentage has decreased over time (RTI International, 2019b). This decrease is due to higher numbers of adults 25 years and older in the U.S. who have a bachelor's degree (Calahan et al., 2021). RTI International (2019b) reported that 24% of undergraduate students had parents with no postsecondary education, and 56% of undergraduate students had parents who had some college experience but did not have a bachelor's degree. Of the students whose parents did not have a bachelor's degree, 59% were the first sibling in their family to attend college (RTI International, 2019b). Calahan et al. (2021) also reported that while the percentage of high school students who have the potential to be first-generation college students has declined, the rates of potential first-generation college students continue to be high especially among African American/Black, Hispanic/Latinx, and American Indian/Alaska Native students. For instance, the percentage of children under age 18 who had the potential to be first-generation college students (no parent or guardian had a bachelor's degree) was 65% in 2010 and 58% in 2018, a decrease of 7% (Calahan et al., 2021). Among Black/African American, Hispanic/Latinx, and American Indian/Alaska Native students, the percentages of children under 18 who had the potential to be first-generation college students ranged from 73% to 81% in 2018 (Calahan, et al., 2021).

While it should not be assumed that students from low-income backgrounds are also first-generation college students, there is significant overlap between the two groups, making their experiences unique and important to understand when designing programs to support the transition to college and first-year success (Engle & Tinto, 2008; Garriott, 2020). Garriott (2020) wrote, "It is also critical to acknowledge the overlap and distinctions between first-generation college students, students from families with lower incomes, and 'working class'

students, as these terms are often used interchangeably in the literature" (p. 81). Key themes pertaining to these overlaps and distinctions are briefly discussed below.

Student demographics and enrollment characteristics. It has been well documented that first-generation college students are more likely to be from low-income backgrounds and be students from underserved ethnic and racial groups than their continuing-generation peers (Chen & Carroll, 2005; Calahan et al., 2021; Choy, 2001; Engel & Tinto, 2008; Pascarella, Pierson, Wolniak, & Terenzini , 2004); RTI International, 2019b). According to RTI International (2019b), in 2015-16, the median parental income of dependent college students who were first-generation was $41,000 and the median parental income of continuing-generation students was $90,000. In this same study, 45% of first-generation students were White compared to 61% of continuing-generation students; 25% of first-generation students were Hispanic/Latinx compared to 14% of continuing-generation students; and 18% of first-generation students were Black or African American compared to 12% of continuing-generation students (RTI International, 2019b).

Engle and Tinto (2008) found that low-income, first-generation college students met at least three factors that were independently associated with lower persistence and graduation rates. For example, low-income, first-generation college students were more likely to be Students of Color, to be older, to be non-native English speakers, to have dependent children, and to have a disability than students who met neither factor. Low-income, first-generation students were also more likely to delay entry to college, live off-campus, enroll part-time, and work full-time. Further, low-income, first-generation college students were more likely to persist and graduate if they started at four-year institutions, yet they were less likely to enroll in four-year institutions, attending for-profit and two-year institutions at higher rates. These

findings aligned with other research on low-income, first-generation college students (Bui, 2002; Calahan et al., 2021; Choy, 2001; Engle and Tinto, 2008; Pascarella et al., 2004).

Pre-college experiences. Previous research has indicated a relationship between pre-college experiences and academic outcomes for low-income and first-generation college students (Cataldi et al., 2018; Chen & Carroll, 2005; Choy, 2001; Engle & Tinto, 2008; Means & Pyne, 2017; Pascarella et al., 2004; Pike & Kuh, 2005). A key finding is that low-income, first-generation college students have less access to a rigorous high school curriculum leading to potential academic challenges during the first year of college (Cataldi et al., 2018; Chen & Carroll, 2005; Choy, 2001; Engle & Tinto, 2008; Means & Pyne, 2017; Pascarella et al., 2004; Pike & Kuh, 2005). For example, Cataldi et al. (2018) used nationally representative data to examine high school experiences of prospective first-generation college students in comparison to prospective continuing-generation students. High school students whose parents did not have a bachelor's degree were less likely to complete an academically focused high school curriculum, including advanced level math courses, or earn Advanced Placement or International Baccalaureate credits (Cataldi et al., 2018). While the percentage of students who completed high school was comparable between prospective first-generation and continuing-generation students (more than 90% for all students), first-generation students were less likely to enroll in college three months after high school graduation, and those who did enroll in four-year public institutions were less likely to persist after three years of first enrolling (Cataldi et al., 2018).

Likewise, Chen and Carroll (2005) conducted an extensive review of college transcripts of first-generation college students whose parents had never attended college and found that students were less likely to have taken advanced math courses in high school, had lower college entrance test scores, and were less likely to enroll in college immediately after high school. Pike

and Kuh (2005) also found that first-generation college students experienced lower levels of engagement in high school and concluded this put them at a distinct disadvantage when transitioning to college. Choy (2001) found that students whose parents did not attend college were more likely to report lower educational expectations and receive less support from their families in planning and preparing for college than students whose parents attended college. Further, Choy found that first-generation college students received less help from their high schools with college applications, SAT or ACT preparation, financial aid information, and campus visits, even though they would benefit from these types of opportunities.

Academic challenges attributed in part to pre-college experiences start as early as the first year and continue throughout the undergraduate experience (Chen & Carroll, 2005; Means & Pyne, 2017). For instance, first-generation college students enrolled in more developmental coursework, took fewer credit hours, accumulated fewer credits, earned lower grades, and were more likely to withdraw from or repeat attempted courses (Chen & Carroll, 2005; Engle & Tinto, 2008). In addition, while first-generation college students had similar aspirations to complete a bachelor's degree as continuing-generation students, they were significantly less likely to do so even when controlling for student demographic and enrollment variables (Chen & Carroll, 2005).

Using qualitative methods, Means and Pyne (2017) found that low-income, first-generation first-year participants reported feeling academically underprepared and lower levels of academic belonging during their first year of college, including students who graduated in the top of their high school class and attended selective four-year institutions. Means and Pyne emphasized that about half of participants in their study attended under-resourced high schools with large numbers of students who qualified for free or reduced lunch, which created "internalized messages that led them to both believe and question their potential sense of

belonging in higher education, especially along race and class social identities" (p. 912-913). Students identified feeling a social divide with more privileged students, including assumptions by faculty that they should have specific types of academic knowledge and social experiences, like traveling abroad, before starting college. Means and Pyne concluded that institutional support structures such as campus support centers, tutoring, quality advising and organizations centered on student identities were important to help mitigate challenges that arise during the first year of college and foster a sense of academic belonging among low-income, first-generation college students.

Financial experiences. Financial stressors such as rising costs of higher education, higher levels of loan indebtedness, basic-needs insecurity, and competing demands on student time as a result of working have been associated with first-year outcomes and experiences of low-income, first-generation college students (Calahan et al, 2021; Engle & Tinto, 2008; Goldrick-Rab, Baker-Smith, Coca, Looker, & Williams, 2019; Wolfson, Insolera, Cohen, & Leung, 2021). The most recent report on equity in higher education in the U.S. included a statement, "The disinvestment of state funds for public colleges and universities since the 1980s and the declining value of federal student grant aid have aided in the creation of a higher education system that is stained with inequality" (Calahan et al., 2021, p. 10). For low-income students attending public, four-year institutions, the increasing average college costs has significantly outpaced the federal Pell Grant, resulting in a greater level of financial unmet need for low-income, first-generation college students (Calahan et al, 2021; Engle & Tinto, 2008). For example, at four-year public universities, the average cost of tuition, fees, room and board was $20,598 in 2018-19, and the maximum Pell Grant for that same year was $6,205. When factoring in other expenses such as books, supplies, and transportation, the average annual cost

of attendance ranged from $26,820 to $43,280 per year depending on in-state and out-of-state status. In general, the average cost of tuition, fees, room and board increased by 154% for public four-year universities between 1974-75 and 2018-19; whereas the average Pell Grant increased by only 18% during this same period (Calahan et al., 2021).

Wolfson et al. (2021) indicated that low-income, first-generation college students are struggling to meet basic needs, which has been associated with lower levels of degree attainment. As part of a national annual survey to assess basic needs of college students, Goldrick et al. (2019) found that 41% of respondents at four-year institutions had experienced food insecurity and 48% had experienced challenges with paying rent, utilities or the need to frequently move within 30 days of responding to the survey. Students who were first-generation college students were the most likely to experience food and housing insecurity, and students who received a Pell Grant also reported a lack of having food and stable housing while attending college (Goldrick et al, 2019). Wolfson et al. (2021) used a nationally representative sample to assess the impact of food insecurity on degree attainment and found that food insecurity was linked to lower rates of degree attainment for all students and particularly for first-generation college students.

Research has also indicated that work demands impact student success of low-income, first-generation students. In a recent qualitative study, Bassett (2021) found that low-income, first-generation students experienced financial challenges during their first year related to balancing work responsibilities with academic expectations. Students shared examples of struggling to complete academic assignments as a result of working, including traveling home on weekends to work and getting caught in family conflict. Engle and Tinto (2008) analyzed the relationship between the average hours worked per week and persistence over a six-year period for low-income. They found that students who worked up to 20 hours per week persisted and

graduated at higher rates than students who worked either no hours or more than 20 per week. For instance, 63% of low-income, first-generation students worked more than 20 hours per week, compared to 42% of students who were not low-income, first-generation. Only 14% of low-income, first-generation students who worked more than 20 hours per week earned a bachelor's degree within six years compared to 41% of students who met neither factor. Both groups graduated at higher rates if they worked less than 20 hours per week (46% compared to 78%). Engle and Tinto emphasized previous research that showed working more hours was linked with lower persistence rates as a result of having less time to build relationships with faculty and peers and to study.

Student engagement. Researchers have identified lower levels of student engagement in social and academic activities like interacting with faculty, using support services and participating in extracurricular activities as significant factors influencing college success for low-income, first-generation students (Engle & Tinto, 2008; Pascarella et al., 2004; Pike & Kuh, 2005). Using a data set from the U.S. Department of Education, National Center for Education Statistics, RTI International (2019c) compared the use of student services among freshman first-generation college students. Lower percentages of first-generation college students used health services, academic advising, and academic support services than continuing-generation students in their first year. For example, 55% of first-generation college students made use of academic advising services compared to 72% of continuing-generation students, and 14% of first-generation college students used health services compared to 29% of continuing-generation students. However, first-generation college students were more likely to use financial aid services than continuing-generation students, 65% compared to 49%. In addition, among students who graduated with a bachelor's degree in academic year 2015-16, fewer first-

generation college graduates participated in extracurricular and co-curricular activities than continuing generation students. Only 46% of first-generation college students who graduated in 2015-16 reported they had participated in an extracurricular club as an undergraduate student, compared to 65% of continuing-generation college graduates (RTI International, 2021). First-generation students were also less likely to hold a formal leadership role, participate in a research project with a faculty member, hold a paid internship, or study abroad (RTI International, 2021).

Factors associated with lower levels of engagement of low-income, first-generation college students included competing priorities for time, family responsibilities, living off campus, relationships with faculty, feelings of isolation, and cost of activities (Ardoin, 2020; Bassett, 2020; Engle & Tinto, 2008; Pascarella et al., 2004; Pike & Kuh, 2005). Pike and Kuh (2005) found that first-generation college students were less likely to live on campus, develop relationships with faculty, or perceive that faculty care about them. Pike and Kuh also found that first-generation college students worked more hours off campus, were less likely to develop strong relationships with other students or become involved in campus clubs and organizations. Likewise, Pascarella et al. (2004) followed more than 3,000 participants from 18 four-year universities for three years to examine differences in college experiences and outcomes of first-generation college students and arrived at similar conclusions. Their findings indicated that level of parental education had a significant effect on type of academic experiences during college. Of note, even when controlling for income, students whose parents did not have a bachelor's degree worked significantly more hours per week and completed significantly fewer credit hours across three years of college. They were also less likely to live on campus, participate in extracurricular activities or interact with peers outside of classrooms.

Bassett (2020) conducted interviews with low-income, first-generation college students at a public, four-year institution to explore factors that influenced their utilization of support programs, such as SSS, during their first year of college. Bassett found that students had high academic goals but experienced challenges in multiple areas that created obstacles for using resources. For example, students had competing demands for time, such as work and family, which pulled them away from campus. Students reported financial challenges such as getting enough hours at work to afford college expenses and textbooks. The majority of students also experienced an unexpected event during their first year that affected their physical and mental health. Study participants agreed that asking for help was important to succeed in college, but some students were hesitant to do so because it could communicate weakness or judgment. Other students described asking for help as self-advocacy and drew on positive examples of receiving support in high school as a strategy to meet their goals.

Bassett (2020) concluded that to gain intended benefits of first-year programs, students had to have trusted relationships with program staff and faculty. Their findings indicated that students were more likely to share challenges with others if they had a strong personal relationship and believed they would not be judged negatively. Bassett also emphasized that the challenges that prevent student participation in campus resources were deeply personal, relating to family dynamics, mental health, and academic insecurities. "For students who entered college with negative mentalities about seeking help, asking for help involved a double exposure: admitting weakness and revealing a potentially stigmatizing academic or life situation" (p. 33).

Kouzoukas (2020) argued that higher education professionals must shift the focus from a deficit-perspective to an asset-perspective when developing strategies to promote student success and engagement of students who are first-generation. They identified summer bridge programs

as an opportunity to center the first-generation identity by including speakers and alumni who hold similar identities and create a sense of belonging. They also advocated for intrusive, holistic advising approaches that included multiple contacts.

> An active and intrusive advising philosophy has been found to be particularly impactful in regard to retention of underserved student populations since advisors meet with students at multiple points through the year, track their progress, and focus on the whole student. (Kouzoukas, 2020, p. 300)

Likewise, Ardoin (2020) examined the literature on engaging low-income students and emphasized that higher education professionals must address systemic barriers that hinder engagement. One recommendation was to focus on asset-based perspectives of low-income student experiences including resiliency, creativity, work ethic, responsibility and being strategic. Ardoin discussed basic barriers to engagement such as food and housing insecurity, work schedules and costs of activities. According to Ardoin (2020), "Finding ways to connect students from the poor and working classes with peers, administrators, and faculty members from similar backgrounds can reduce imposter syndrome and increase sense of belonging and engagement" (p. 315). Ardoin recommended that these connections be fostered early before the start of classes and maintained throughout the first year to provide "continuity and community" (p. 315) and to encourage student engagement.

Bridge Programs

Bridge programs are a type of retention initiative that gained popularity among higher education institutions in the 1960s and 1970s in response to increased enrollment of historically underserved student groups in universities and colleges (Kallison & Stader, 2012; Kezar, 2000; Sablan, 2014; Wachen et al., 2018). Modeled after the summer bridge programs administered by

the Federal Upward Bound program – a pre-college TRIO program that prepares middle and high school students to enroll and succeed in college – bridge programs at four-year institutions were designed to ease the transition to college for low-income and first-generation college students by offering intensive academic support and information about how to navigate the college environment (Kallison & Stader, 2012). Programs were held in the summer prior to students' first semester of college and served as a bridge to boost college readiness (Kezar, 2000; Sablan, 2014; Wachen et al., 2018). Today, bridge programs continue to be a popular retention strategy among four-year institutions with a similar purpose: "to promote post-secondary success by providing intensive, short-term academic and social resources while introducing college expectations and the cultural context of the institution" (Gonzalez Quiroz & Garza, 2018, p. 103).

While the overarching purpose of bridge programs may seem forthright, a review of the literature indicated that there is not a standardized definition of bridge programs across institutions (Sablan, 2014). Bridge programs may vary in curriculum, length, student populations served, cost, whether students live on campus or commute, and whether students self-select to participate or are required to participate (Kezar, 2000; Kodama et al., 2018; Sablan, 2014). Sablan (2014) provided a summary analysis of the extant bridge research spanning more than 40 years and concluded that further study is warranted to evaluate components common to bridge programs such as increasing knowledge about how college systems operate and the development of academic skills. According to Sablan (2014), "The research leaves little instruction about which programs or program components are most effective...little is known about how effective college knowledge and college readiness components are" (p. 1046). Both

Sablan (2014) and Strayhorn (2011) identified the lack of empirical evidence about specific programmatic elements that yield the greatest benefits as a major gap in the research.

Despite the variations in how bridge programs are structured and implemented, similar characteristics among bridge programs have emerged in the literature (Sablan, 2014; USDE, Institute of Education Sciences, 2016). Based on an in-depth review of the summer bridge literature, the USDE, Institute of Education Sciences (2016) concluded that bridge programs have four key characteristics in common. Programs typically last between two and four weeks and include one or more of the following characteristics: "(a) an in-depth orientation to college life and resources, (b) academic advising, (c) training in skills necessary for college success (e.g., time management and study skills), and/or (d) accelerated academic coursework" (USDE, Institute of Education Sciences, 2016, p. 1).

Bridge programs and academic outcomes. Although summer bridge programs are a popular strategy among higher education institutions to prepare incoming freshmen to succeed in college (Kallison & Stader, 2012; Strayhorn, 2011; Wachen et al., 2018), there are inconsistent findings in the literature about the impact of bridge programs on student retention and academic outcomes (Douglas & Attewell, 2014; Sablan, 2014; USDE, Institute of Education Sciences, 2016). In addition, a large number of studies assessing the effectiveness of bridge programs lacked control groups, had small sample sizes, or were descriptive evaluations of programs conducted at single institutions (Sablan, 2014; Strayhorn, 2011; USDE, Institute of Education Sciences, 2016). These limitations prohibit generalizing the findings across different student populations and institution types (Douglas & Attewell, 2014; Kezar, 2000; Sablan, 2014; USDE, Institute of Education Sciences, 2016). Subsequently, this section presents both positive and negative evidence about the efficacy of bridge programs on retention and student academic

outcomes, with an emphasis on first-year retention, credits earned, and grade point average. The studies selected were focused primarily on four-year institutions and included low-income and first-generation college students as part of their samples.

Multiple bridge studies have focused on retention and academic achievement, primarily during the first two years of college, providing some evidence that summer bridge programs have a positive effect on first-year academic outcomes (Bir & Myrick, 2015; Buck, 1985; Douglas & Attewell, 2014; Gonzalez Quiroz & Garza, 2018; Kodama et al., 2018; Wachen et al., 2018). One of the most comprehensive studies on bridge programs was conducted by Douglas and Attewell (2014) using National Center for Education Statistics longitudinal survey data. Douglas and Attewell tracked a national cohort of more than 10,000 degree-seeking students at community colleges and less selective and open admissions four-year colleges who participated in credit-bearing bridge programs between 2004 and 2009. Researchers found that first-time freshmen who attended bridge programs during the summer prior to their first semester at four-year institutions had significantly higher first- to second-year retention rates and six-year graduation rates than similar students who did not participate in summer bridge programs. The results also showed that the graduation effect was more pronounced for students who were identified as first-generation college students and students who had high school grade point averages below a 3.00. Overall, the magnitude of effect of bridge program participation added a 10-percentage point graduation boost, with larger effect sizes for first-generation and less academically prepared students. Douglas and Attewell concluded that bridge programs showed promise for increasing retention and graduation rates of participants especially for first-generation college students and academically underprepared students.

Likewise, several single-institution studies have provided evidence that bridge programs had a positive effect on student academic outcomes. For example, Gonzalez Quiroz and Garza (2018) conducted a study of first-time, full-time freshmen from Hispanic/Latinx backgrounds who participated in a two-week bridge program between 2013 and 2015 at a community college in Texas. This bridge program occurred directly before the start of fall classes and included a series of workshops taught by faculty and staff designed to expose students to course content, classroom expectations, skill building, and college life. Though this study was not located at a four-year institution, the majority of students in the sample received federal financial aid, indicating a high number of participants from low-income backgrounds. Researchers found that students who participated in the summer bridge program had higher grade point averages, earned more credit hours, and were retained to their second year at a significantly higher rate than a control group of non-bridge students from similar backgrounds. Bridge students also passed first-year gatekeeper courses (e.g., English and mathematics) at significantly higher rates.

Similarly, Kodama et al. (2018) found that students who participated in a five-week, non-residential summer bridge program had better first-year outcomes than a control group of students who were invited to attend the bridge program but chose not to participate. The program was located at a Midwestern, urban research university and designed specifically for incoming freshmen who met institutional criteria for placement into developmental writing courses. The sample size was 500 students and included a large number of students who were first-generation college students and students who were eligible for Federal Pell grants indicating low-income status. Descriptive statistics showed that students who participated in the bridge program earned significantly more credits in their first year, had significantly higher first-year

grade point averages, and were retained to the second year of college at statistically higher rates than the control group. Additionally, regression analysis revealed that participation in the bridge program was a positive, significant predictor of first-year credits earned, first-year grade point average, and graduation in four and six years. Participation in the bridge program was not a predictor of first-year retention. Of note, first generation college status as well as Federal Pell grant eligibility were significant positive predictors of four-year graduation and first-to-second year retention indicating that the effect of bridge participation may be more pronounced for those student groups.

Bir and Myrick (2015) also concluded that a bridge program for underprepared students had positive effects on first-year outcomes. Created in 2008, the residential bridge program was required for conditionally admitted first-time, full-time freshmen with lower high school grade point averages and SAT scores. The researchers used data from 2008 to 2014 with a sample size of 1,891. During the bridge program, students enrolled in English composition and math courses and were required to earn a C or better to be fully admitted for the fall term. Bridge activities included mandatory labs, mentoring sessions, and evening and weekend activities designed to foster social, co-curricular and social engagement. Students who participated in the bridge program had a 99% success rate of qualifying to enroll in the fall term. Bir and Myrick found that bridge students went on to achieve statistically significant higher grade point averages and retention rates in their first two years of college than the non-bridge general student population, even though bridge students entered with significantly lower high school grade point averages and SAT scores than the non-bridge general student population. In addition, the researchers found that bridge students graduated at higher rates in five and six years than the non-bridge general student population but this difference was not statistically significant.

While the above-mentioned studies provided evidence of the efficacy of bridge programs on impacting academic outcomes, there have also been several studies that indicated conflicting or mixed results. For example, Wathington et al. (2016) conducted the only quasi-experimental study on bridge programs published in the literature and determined that bridge students did not perform better than a control group of similar students. The study examined eight summer bridge programs offered at open access colleges and universities in Texas, six at community colleges and two at four-year institutions. Participants qualified based on placement into developmental education courses. The total sample was 1,318 students, with 60% assigned to participate in a summer bridge program and 40% assigned to the control group. The bridge programs ranged from four to five weeks, and the majority of participants in the sample qualified for free or reduced lunch in high school. Additionally, almost half of the participants reported they were the first in their family to attend college. Based on the results, there was no evidence that the bridge programs impacted persistence for the first two years of college. In addition, bridge programs had no effect on the average number of credits hours attempted or earned during the first two years of college. Wathington et al. concluded that it may be too ambitious to assume any one program can impact credit accumulation and persistence for underprepared students. The researchers encouraged administrators to refocus on providing multiple types of supports for underprepared students.

Cabrera et al. (2013) also concluded that a direct link between bridge programs and first year outcomes was not evident based on a study of a six-week summer bridge program at a large, public research university. Created in 1969, the bridge program was open to all entering first-time, full-time freshmen, but served a high number of low-income and first-generation college students and students from Hispanic/Latinx backgrounds. Bridge activities included enrollment

in academic courses, social activities, and exposure to campus academic resources and services. The researchers concluded that participation in the bridge program was a significant, positive predictor of first-year retention and grade point average when controlling for student characteristics (e.g., high school grade point average and standardized test scores). However, those relationships became insignificant when taking into account first year college experiences and students' academic confidence. Examples of college experiences were tutoring, first-year transition programs, and academic engagement with study groups and faculty interactions. Cabrera, et al. concluded that the most significant effects of summer bridge participation were indirect, specifically how well bridge programs connected students to campus support services and social networks.

Likewise, other researchers found that participation in bridge programs for incoming freshmen did not have a positive significant effect on academic outcomes (Walpole et al., 2008; Wolf-Wendel, Tuttle, & Keller-Wolff, 1999). Walpole et al. (2008) examined a five-week residential bridge program at a public, four-year university. To qualify for the bridge program, students were conditionally admitted to the university and were required to successfully complete the bridge program prior to the start of the fall semester in order to be eligible for continued enrollment. The majority of students in the sample were low-income students. Bridge activities included academic coursework, tutoring sessions, and programming designed to familiarize students with campus support services and organizations. Both groups were retained to the sophomore year at a rate of 81%, and bridge students were retained to the junior year at a slightly higher rate than non-bridge students, but the results were not statistically significant.

Additionally, bridge students did not earn more credit hours or have significantly higher grade point averages than the comparison group. The comparison group earned significantly

more credit hours than the bridge group in two of the four semesters reviewed. Similarly, Wolf-Wendel et al. (1999) found that participation in a four-week residential bridge program at a large research university in the Midwest did not have a positive significant effect on grade point average or retention for the first two years of college in comparison to a matched control group. In addition, they did not find a positive, significant difference between pre- and post-tests on academic, social, or career self-efficacy between bridge students and similar non-served students.

Given the mixed results of research findings about the efficacy of bridge programs and student retention and academic outcomes, Bir and Myrick (2015) concluded that it was difficult to generalize positive effects of summer bridge programs across programs and institution types, especially for student groups that face a unique set of challenges when entering college, like low-income and first-generation college students. A theme that emerged from researchers was that the indirect effects of bridge participation such as connection to academic resources were perhaps even more important than the direct effects of first year academic outcomes, and the indirect effects warranted further research (Bir & Myrick, 2015; Cabrera et al., 2013). For instance, Cabrera et al. (2013) concluded that future research should focus on how effectively summer bridge programming connects participants to academic and social networks during the first year of college. They recommended that future research assess if bridge programs impact students' use of academic and social support services that are linked to increased levels of academic engagement and self-concept. Cabrera et al. also emphasized the importance of comparing outcomes to a demographically similar group of students who did not participate and tracking outcomes longitudinally.

The efficacy of bridge programs in connecting students to campus resources. A common goal of bridge programs has been to introduce and connect students to campus services

in an effort to help them effectively seek out support during the first year of college (Gonzalez Quiroz & Garza, 2018; Sablan, 2014; USDE, Institute of Education Sciences, 2016). However, there is limited research on the efficacy of bridge programs in accomplishing this goal, even though multiple studies have shown that connecting students to resources is an important component of successful bridge programs (Bir & Myrick, 2015; Buck, 1985; Cabrera et al., 2013; Gonzalez Quiroz & Garza, 2018; Wolf-Wendel et al., 1999). Studies that used quantitative methods to evaluate the extent to which bridge students seek out support services their first year are almost non-existent; and the studies that do exist are limited in their design and scope.

For example, as mentioned in the previous section, Walpole et al. (2008) examined the impact of a five-week residential summer bridge program on students' transition to college during the first two years at a public, four-year institution. One of the goals of the bridge program was to familiarize participants with support services available on campus. To assess the levels of academic and social involvement of bridge students during their first two years of college, Walpole et al. incorporated survey data as part of their methodology. Three surveys were administered over the course of two years, and students self-reported increasing levels of overall academic involvement (e.g., attending class, attending faculty office hours, studying), social engagement (e.g., socializing with peers and forming study groups) and use of campus resources. Through analysis of survey data, Walpole et al. reported that more than half of the students who participated in the summer bridge program sought out tutoring, career planning, financial aid, and counseling in the first year. The percentage of students seeking career planning and tutoring decreased in year two, but the percentage seeking financial aid and counseling services increased. Despite these trends toward increasing involvement, researchers

did not find significant differences between the bridge students and a control group in retention or grade point average. However, it is important to note that there was not a control group to compare levels of involvement. Only bridge participants were surveyed. Without a control group, it is not clear if there was a statistical difference between bridge students' use of services in comparison to similar non-bridge students, or how those differences may have mediated retention and academic outcomes.

Henson (2018) conducted a mixed methods analysis to explore the impact of a two-week summer bridge program on the retention, academic integration (i.e., grade point average), and social integration of first-generation college students during the first year of college. This analysis included looking at levels of student involvement in campus activities. The bridge program was located at a large, public university and was designed primarily for first-generation and low-income students. Students resided on campus and participated in highly structured activities for a two-week period directly preceding the start of the fall semester. Bridge activities included non-credit bearing mock classrooms, peer mentoring, social events, networking, and academic skill building. Henson found that first year retention and grade point averages of bridge participants were not significantly different than the comparison group of first-generation college non-bridge students, but that bridge participants were significantly more involved in campus activities during their first semester than the comparison group. Henson used attendance records to determine the frequency at which students attended football games, concerts, student organization fairs, and cultural events.

Henson (2018) also held focus groups to learn more about bridge students' involvement in campus activities. Students participating in the focus groups attributed their involvement to a number of factors associated with the bridge program such as coming to campus two weeks early

and learning that being involved on campus was important to their academic success. Participants clarified that the bridge program helped them understand the importance of involvement on academic success. Neither the number of school activities attended nor participation in the bridge program were significant predictors of first year retention, but students reported they felt more connected to the college campus as a result of the program. Hensen (2018) concluded that the biggest gains from the bridge program were more social than academic, and that students perceived the bridge program as being at least partially responsible for their first year retention even if the quantitative analysis did not confirm this.

In an earlier study, Garcia (1991) examined the relationship between participation in a system-wide summer bridge initiative in the California State University system and first year outcomes, which included an analysis of how bridge students' use of campus resources compared to that of non-bridge students during the first year. Data were gathered from residential bridge programs across 19 campuses in the California State University system. The bridge programs spanned four to six weeks for underrepresented freshmen and transfer students including first-generation college students and students from low-income backgrounds. The program provided credit bearing courses as well an activities to orient students to campus resources and expectations. Garcia surveyed students to examine three dimensions of campus integration including students' knowledge and use of university services, referred to as "institutional integration" (p. 97). Survey results showed that bridge students' utilization of campus resources, specifically tutoring services, was significantly higher than that of students who did not participate in the bridge program but were enrolled in developmental coursework for underprepared students. Bridge students also met with faculty outside of class, studied with others, and made quality friendships significantly more than students enrolled in developmental

coursework who did not participate in the bridge program. Garcia concluded that bridge students were more integrated into the institution than non-bridge students and made significant gains in first- and second-year retention.

Additionally, several researchers using qualitative methods discovered that students attributed their knowledge of campus resources and likelihood of using those services partially to summer bridge participation and concluded this was an indirect benefit of participation in bridge programs (Grim, Bausch, Lonn, Hower, Rielge, 2021; Stolle-McAllister, 2011; Velasquez, 2002; Wolf-Wendel et al., 1999). For example, Grim et al. (2021) conducted focus groups with first-generation college students in a large public research institution to learn why first-generation college students trusted some resources over others in the first year of college. Key takeaways from this study were that students who learned about campus resources before the official start of the first semester through programs such as bridge were more comfortable using those resources during the first year of college. Another takeaway was that connecting students with advisors and peers during bridge programs helped encourage students to use recommended services and resources. Students reported that they relied on formal programming not familial knowledge to connect with advisors and peers and to navigate university offices and policies.

Stolle-McAllister (2011) conducted a qualitative study to isolate programmatic components that resulted in a highly successful six-week bridge program and concluded that the bridge program helped students gain confidence and skills to seek out academic assistance. The bridge program served high achieving incoming freshmen in STEM, the majority of whom were African American students, at a public research university. Participants in the bridge program were more than twice as likely to graduate with a bachelor's degree in STEM and five times more likely to matriculate to a Ph.D. program than similar non-bridge students. Stolle-

McAllister held focus groups with 134 participants that included both newly admitted students and past bridge program participants. Participants were asked to reflect on their bridge and first year experiences. Central themes that emerged were the importance of teaching bridge students how and where to seek help on campus and to provide students with an in-depth opportunity to put those skills into practice during the bridge experience. Bridge students from high achieving backgrounds reported that asking for help was a new experience and not a skill they developed in high school. Participants perceived the bridge program as providing them with the academic skills of asking for academic assistance, attending office hours, and sitting in the front row of classes. According to participants, these actions helped prepare them to succeed in college-level coursework. Stolle-McAllister concluded that the most common benefit of the bridge experience was academic self-efficacy. Students felt confident that they had the academic skills and coping strategies to succeed in the first year of college.

Wolf-Wendel et al. (1999) found that while bridge participation at a large, public Midwestern research university did not have a positive significant effect on student retention and grade point average, it did help ease students' transition to college. Wolf-Wendel et al. incorporated focus groups to gather feedback on student perception of how the bridge program helped ease the transition to college. Participants expressed a shared belief that the bridge program was important to their successful transition in several areas including what researchers referred to as a "logistic transition" (Wolf-Wendel et al., 1999, p. 22). Logistic transition was defined as learning about campus and its resources, which researchers and students identified as important on a large campus. Students reported that knowing their way around campus because of the bridge program helped them make a successful transition. They reported the knowledge

they gained through the bridge program put them at an advantage from other students including where to ask for help on campus or how to get answers to questions.

Bridge programs and Student Support Services. According to a USDE (2016) *Fast Facts Report for the Student Support Services Program*, 22% of SSS programs at four-year institutions and 16% at two-year institutions reported that they offered a summer bridge program, ranging from a few days to six weeks, for their participants. Yet, there has been limited published research (Muraskin, 1997; Thayer, 2000) that specifically explored the relationship of bridge programs coordinated by SSS programs on SSS participant first-year outcomes or use of SSS services. A research gap in the knowledge points to a need for further examination about the efficacy of bridge programs specifically for SSS participants, the majority of whom are low-income and first-generation college students. Low-income and first-generation college students experience structural, academic and social challenges in accessing campus resources and supportive services (Engle & Tinto, 2008; Garriott, 2020; Kezar & Kitchen, 2020; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). Research that focuses on effective strategies to connect students with academic and social support as early as possible in the first year may benefit low-income and first-generation college students.

Student Support Services and Student Outcomes

While there are a lack of rigorous studies exploring the impact of SSS bridge programs on student outcomes and program involvement, descriptive evaluation studies published by the USDE, Office of Postsecondary Education (2019, 2015, 2007, 2005) have shown a positive effect of participation in SSS on student persistence, credit accrual, grade point average, and graduation. In a more recent report published by the USDE, Office of Postsecondary Education (2019), SSS first-time freshmen receiving services at four-year institutions were significantly

more likely to persist to the fall semester of their second year than a comparison group of similar non-SSS students attending four-year institutions. The SSS freshmen persisted to the fall semester of the second year at a rate of 93%, and the comparison group persisted at a rate of 84%. SSS freshmen at four-year institutions also earned significantly greater numbers of credit hours by the end of their first year compared to the sample of nonparticipants (27.4 credit hours compared to 24.3 credit hours). While SSS participants graduated at higher rates at four-year institutions than the comparison group in four, five and six years, the difference was not statistically significant.

Likewise, a descriptive comparison published by the USDE, Office of Postsecondary Education in 2015 showed that SSS first-time freshmen who entered college in 2007-2008 persisted to the second year of college and graduated with a bachelor's degree within six years at higher rates than a national sample of students who were SSS-eligible. SSS participants persisted to the fall semester of the second year at a rate of 92%, and students in the comparison group persisted to the fall semester of the second year at a rate of 71%. Of the SSS participants, 47% graduated with a bachelor's degree within six years, whereas only 32% of students in the national sample graduated within six years. These analyses included 15,410 first-time freshmen served by SSS in 2007-2008 who qualified for services as low-income and first-generation college students at four-year institutions. The national sample was drawn from the most recent data set available and included 143,320 first-time freshmen who met SSS eligibility criteria and entered a four-year institution in 2003-2004. The report findings indicated a positive relationship between participation in SSS and first-year retention and six-year degree completion but cautioned against definitive conclusions in part due to the varying college entry dates between the SSS and comparison groups.

Less information about the impact of SSS participation and grade point average is available in recent evaluation reports published by the USDE, Office of Postsecondary Education, but there is some evidence that SSS participation has a positive relationship on student grade point averages. A report published by the USDE, Office of Postsecondary Education (2005) showed that new participants in SSS programs who received services for one year or less at four-year institutions had slightly lower grade point averages than continuing SSS participants who received services for a longer period of time. The report also included findings related to SSS participation and academic standing at four-year institutions. The percentage of students whose grade point averages qualified them to be in good academic standing at four-year institutions was higher among continuing SSS participants who had received services for a longer period of time than new participants who received services for only one year. For instance, of the 109,751 active SSS participants at four-year institutions in 2001-2002, 90% of SSS students who received services for more than one year were in good academic standing compared to 85% of new participants who received services for only one year.

The USDE, Office of Postsecondary Education (2005) report also included an analysis of grade point averages for first-time SSS freshmen who entered four-year institutions between 1998-99 and 2001-02 and received SSS services their first year of college. The findings showed that each SSS freshmen cohort had increasing grade point averages over a four-year period of time. For example, the average end of first-year cumulative grade point average for students who entered the SSS program as first-time freshmen in 1998-1999 was 2.30. The average cumulative GPA at the end of four years for this same group of students was 2.60. Of the students who entered SSS as first-time freshmen, the percentage of students in good standing at the end of their first year was 77% and the percentage of students in good standing at the end of

their fourth year was 88%. While this report provided some evidence that grade point average was positively affected by participation in SSS, it lacked a comparison group or statistical methods to account for factors such as attrition. Students with lower grade point averages may have withdrawn before their senior year impacting the average grade point average of fourth year students.

Beyond descriptive evaluation studies conducted by the USDE, Office of Postsecondary Education, there is a lack of research, especially published within the past 10 years, on the effect of SSS services on participant academic outcomes. The most rigorous study available in the literature was a longitudinal evaluation that measured outcomes of first-time freshmen participating in SSS after one year, three years and six years of college (Chaney, 2010; Chaney et al., 1997). Chaney et al. (1997) published the findings of this longitudinal study after three years, and Chaney (2010) published a final report focusing on effects of SSS participation on six-year outcomes. The study used a quasi-experimental design and regression analyses to estimate the effect of SSS on student retention, grade point average, credit accrual, and graduation. The sample included 5,800 freshmen who entered college in 1990-1991. Of those, 2,800 were SSS freshmen who were randomly selected from SSS programs, and 2,800 were non-SSS freshmen selected from the same or similar institutions using propensity models to match for institutional and individual characteristics.

Chaney (2010) and Chaney et al. (1997) used multiple methods to collect data including service records, student surveys, and transcripts. SSS programs were categorized into one of three service types based on how they were structured: 1) dominant service type that offered primarily one type of service such as tutoring, 2) all services type that was the only service-provider on campus for the SSS student group; and 3) home-based service type which offered

holistic services for students to address multiple needs rather than a few (Chaney, 2010; Chaney et al., 1997). In addition, SSS programs were also categorized on whether they offered services that were completely separated from other campus programs, or whether SSS programs referred students to other campus service providers, blending SSS services with other campus services (Chaney, 2010; Chaney, et al., 1997).

Chaney et al. (1997) identified several key findings on the estimated effect of SSS on student grade point averages, credit accrual, and retention for the sample of freshmen after three years of college. For all three measures, there was a small positive and statistically significant effect of participation in SSS, with the greatest impact occurring during the first year of participation when SSS students received the most services. For instance, retention for SSS students was increased by seven percentage points from the first to second year at the same institution and by nine percentage points for retention to the third year. Researchers also found that the degree of impact on outcomes depended on the level of participation, with greater levels of participation in services predicting better outcomes. They concluded that the average impact of participation on the three measures was small due to the low amount of services SSS students received. Almost 10% of SSS students in the longitudinal study only received one service contact in their first year. However, researchers also pointed out that SSS students used more services than comparison students indicating that SSS participation increased the usage of services beyond what SSS participants would have received otherwise.

In the longitudinal study, the estimated effect of SSS also depended on the structure of the SSS program and the type of services received (Chaney 2010; Chaney et. al, 1997). Chaney et al. (1997) examined which components of the SSS program were most impactful in increasing participant grade point average, credit accrual, and retention for the first three years of college.

SSS participants were retained to the second and third years at significantly higher rates if they received peer tutoring and participated in an SSS program that offered blended services with other campus service providers. Additionally, SSS students who received instructional courses taught by SSS staff and attended SSS workshops (primarily focusing on orientation to campus) in their first year of college were significantly more like to be retained to the second year than students who did not receive those services. Academic counseling received in the first year was negatively correlated with first-to-second year retention and had a positive but not significant effect on retention by the third year. Researchers concluded that students with more academic challenges in their first year likely used academic counseling more frequently, and that academic counseling alone was not sufficient to impact retention.

Peer tutoring and cultural enrichment activities also showed a positive and statistically significant effect for first-year grade point average; however, cultural enrichment activities did not have a significant impact on first-year retention although it was close (Chaney et al, 1997). Finally, SSS home-based programs that provided holistic services had a significant and positive effect on grade point average. Based on these findings, Chaney et al. (1997) concluded that the type and amount of services received during the freshmen year were important to emphasize, and that SSS services received in the first year had the potential to impact outcomes in later years. Peer tutoring and blended service models demonstrated the most potential of SSS services to impact retention. Researchers also recommended that services such as cultural enrichment activities and classroom experiences that offered students an opportunity for social interaction be offered to participants. Findings highlighted the importance of both social and academic interventions as critical parts of the SSS service model.

Chaney (2010) conducted the final part of the longitudinal study to estimate the effect of

participation in SSS on student retention, credit hour accumulation, grade point average and degree completion after six years. Consistent with earlier results, Chaney found that the SSS services received in the freshmen year were statistically and positively correlated with six-year student outcomes. The specific services and program structure that had a positive effect were peer tutoring, home-based models that offered a holistic approach, and blended services with other campus providers. Counseling, cultural enrichment activities and referrals to outside resources after the first year were also identified as having a positive effect on six-year outcomes. Chaney made two key conclusions as part of the final report: SSS students should receive a "package of services" to have the greatest effect on student outcomes (p. 71) and services provided by SSS and other campus service providers beyond the first year should be emphasized in addition to those received in the first year. Like Chaney's (2010) conclusion that SSS's network of services is linked to positive student outcomes, other researchers have emphasized the importance of offering a comprehensive set of services for low-income, first-generation college students (Engle & Tinto, 2008; Garriot, 2020; Holt & Winter, 2018; Kezar & Kitchen, 2020; Thomas, Farrow & Martiniz, 1998; Tobolowsky, Cox, & Chunoo, 2020).

Amount of SSS service use and student outcomes. In general, the research literature examining the benefits of participating in SSS indicated that frequency of service use had a positive impact on student outcomes (Chaney, 2010; USDE, Office of Postsecondary Education, 2005, 2007; Quinn, et al., 2019). For example, Quinn et al. (2019) incorporated mixed methods to examine how participation in SSS for first-generation college students at a single four-year institution impacted participants' "margin of life" – the ratio of "load" (i.e., personal and social demands) and "power" (i.e, resources, abilities and relationships to reach their goals) (p. 46). Participation in SSS predicted a positive and statistically significant relationship with

participant's positive margin of life scores. Being somewhat active in program services was a positive predictor of participants' achievement of goals; whereas being slightly active was not. Qualitative results indicated that it was not only the amount of services received, but also the type and quality of interactions. Study participants identified priority enrollment, knowing tutoring was available whether they used the service or not, and personal encouragement from program staff as sources of power that helped mitigate their personal and social stressors. Students also identified SSS as a resource to help them navigate campus life (e.g., answering questions about college life, connecting students with resources; providing encouragement when students felt like quitting college; and help with decision-making when students experienced academic difficulties). Quinn et al. (2019) concluded that participation in SSS was positively associated with coping mechanisms to help students meet their goals, and that SSS programs should encourage frequent contacts between students and program staff, including open-door policies and intrusive advising. However, like SSS descriptive studies that found SSS participants did not take full advantage of services available, only 17% of participants in this study classified themselves as very active (Quinn et al., 2019, p. 50), leading researchers to highlight the importance encouraging more frequent contacts among participants to maximize the impact.

A descriptive comparison published by the USDE, Office of Postsecondary Education (2007) also showed a positive relationship between utilization of services and academic outcomes. SSS full-time freshmen entering four-year institutions in 1998-2001 were placed into one of four groups: received services first year only, received services for two years, received services for three years, or received services for four years. The sample was not disaggregated by SSS eligibility category but the majority of the students in the study qualified for SSS as low-

income and first-generation college students. Researchers found that SSS participants who received more years of services at four-year institutions had higher degree completion rates than SSS participants who received services for fewer years. SSS students who entered four-year institutions in 1999-2000 (10,001 students) and received SSS services for all four years graduated at a rate of 52%. In comparison, the students in this cohort who received only one year of services graduated at a rate of 27%. A key observation stemming from this comparison was that students may be underutilizing services, and if they received greater levels of services, there would be potential for higher rates of graduation. Less than half of the 1999-2000 cohort of SSS freshmen (5,848 of 10,001) participated in SSS for all four years.

An earlier descriptive comparison (USDE, Office of Postsecondary Education, 2005) examining length of time receiving services showed similar results. First-time freshmen participating in SSS were significantly more likely to enroll for the second year of college at four-year institutions than a group of similar non-SSS students. Yet, more than 60% of all students participating in SSS at four-year institutions from 1998-99 to 2001-02 received services for two years or less. Chaney et al. (1997) also reported that in their study 29% of students only received less than 6 hours of services in their first year and 7% of those received less than one hour of total services in their first year. A strategy to increase the effectiveness of SSS was to emphasize the importance of participation in services.

In conclusion, participation in SSS was positively linked to student first-year outcomes with greater levels of participation linked to higher student academic outcomes. However, SSS students tended to underutilize services, which indicated that strategies to increase involvement in SSS services could also increase student persistence and educational outcomes in their first year. The type and structure of services also mattered. SSS programs that blended services with

other campus service providers and offered a holistic, home-base model were more impactful on first-year outcomes. Previous research identified SSS best practices as having a structured first year program, intrusive advising outreach, and a network of services available to SSS students. Midwestern University SSS is a home-base model, providing a comprehensive set of services and also referring students to other campus providers (Midwestern University, Center for Educational Opportunity Programs, 2017a, 2019b).

Theoretical Perspectives on Student Engagement and First-Year Outcomes

To help ease the transition to college and encourage student persistence, summer bridge and SSS programs have historically emphasized the importance of engaging first-year students with both academic and social campus resources as early as possible (Sablan, 2014; Chaney et al., 1997). In the current study, these emphases can be understood through several theoretical perspectives, including Astin's (1984) theory of student involvement, Kuh's (2001) perspective on student engagement, and Tinto's (1975, 1993) theory of student integration. Applications and limitations of these theories in relation to historically underserved student groups in university settings were also examined in the current study.

Astin's theory of student involvement. In *Student Involvement: A Developmental Theory for Higher Education,* Astin (1984) contended that the more involved students were on campus, the more likely they were to persist and graduate. Astin (1984) described the theory as follows:

> Quite simply, student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience. Thus, a highly involved student is one who, for example, devotes considerable energy to studying, spends much

> time on campus, participates actively in student organizations, and interacts frequently with faculty members and other students. (p. 518)

An important part of this theory is its emphasis on the value of student time. Astin (1984) referred to student time as "the most precious institutional resource" (p. 522) and pointed out that educators are "competing with other forces in the student's life for a share of that finite time and energy" (p. 522). Astin (1984) wrote, "It is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement" (p. 519).

When summarizing this theory, Astin (1984) made five claims. First, involvement is the psychological and physical effort expended by students on general student experiences or specific tasks like studying for an exam. Second, student levels of involvement occur on a continuum, varying among students and also by the same student over time. Dropping out can be viewed as the "ultimate form of noninvolvement" (Astin, 1984, p. 524). Third, involvement can be measured both quantitatively and qualitatively. For example, involvement can be measured by the number of hours a student spends studying or by the amount of comprehension from assigned reading. Fourth, the quality and quantity of student effort in student programming is relational to their learning and development. The more effort they put forth, the more they learn and develop. Fifth, and last, the capacity of a policy or practice to increase student involvement is directly related to its effectiveness. In other words, in the case of this study, one important measure of the ABP's success would be the degree to which it increased student involvement in SSS services.

Astin (1984) argued that exposing students to curriculum or resources was not enough. Institutions also had a responsibility to evaluate how policies and practices impacted student

involvement. For instance, policy and procedures about academic and non-academic aspects of campus life have an effect on how students spend their time (e.g., number and type of extracurricular activities, frequency, type and cost of cultural events, and financial aid policies) (Astin, 1984). In order to design more effective programs for students, Astin maintained that additional research was necessary to determine if those policies and programs impacted involvement.

> This, all institutional policies and practices – those relating to non-academic matters – can be evaluated in terms of the degree to which they increase or reduce student involvement. Similarly, all college personnel – counselors and student personnel workers as well as faculty and administrators – can assess their own activities in terms of their success in encouraging students to become more involved in the college experience. (Astin, 1984, p. 529)

In the case of the ABP, Astin's theory would argue that it is critical that the degree to which the ABP program facilitated student involvement in SSS be examined as part of the evaluation process. This perspective places the institution in an active role, not assuming that students are passive recipients of information but that students can be encouraged to be more involved (Astin, 1984).

Kuh's perspective on student engagement. Like Astin (1984), Kuh (2001, 2003) emphasized the importance of student effort and institutional practices in facilitating student learning and outcomes. However, Kuh placed a greater focus on the responsibility of higher education institutions to facilitate student participation in effective educational practices as measured by the National Survey of Student Engagement (NSSE) (Kuh, 2001, 2003; Wolf-Wendel, Ward & Kinzie, 2009). Kuh (2001) described the NSSE as a tool to help institutions

measure student time on "educationally purposeful activities" that were empirically linked to student learning and development (p. 12). The NSSE was designed to be administered annually to four-year institutions and was centered on five benchmarks to measure how students spend their time while in college: "level of academic challenge, active and collaborative learning, student interactions with faculty members, enriching educational experiences, and supportive campus climate" (Kuh, 2001, p. 13). Kuh (2003) wrote,

> Decades of studies show that college students learn more when they direct their efforts to a variety of educationally purposeful activities. To assess the quality of the undergraduate education at an institution, we need good information about student engagement: the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities. (Kuh, 2003, p. 25)

In *Piecing Together the Student Success Puzzle*, Kuh et al. (2007) described student engagement as comprised of both student behaviors and institutional conditions.

> Student behaviors include such aspects as the time and effort students put into their studies, interaction with faculty, and peer involvement. Institutional conditions include resources, educational policies, programs and practices, and structural features. At the intersection of student behaviors and institutional conditions is student engagement, which represents aspects of student behavior and institutional performance that colleges and universities can do something about, at least on the margins (Kuh et al., 2007, p. 11).

Kuh et al. (2007) pointed out that the majority of students who leave college are not dismissed for academic reasons, and that student engagement is at the center of student success. Student success was defined broadly by Kuh et al. (2007) as, "…academic achievement, engagement in

educationally purposeful activities, satisfaction, acquisition of desire knowledge, skills, and competencies; persistence; and attainment of educational objectives" (p. 10).

In *Unmasking the Effects of Student Engagement*, Kuh, et al. (2008) examined the impact of student engagement during the first year of college on first-year grade point average and persistence to the second year of college. Student engagement was represented by measures from the NSSE survey including time spent studying, time spent in co-curricular activities, and a global measure of engagement. Based on findings, Kuh et al. (2008) made two key conclusions. "First, student engagement in educationally purposeful activities is positively related to academic outcomes as represented by first-year student grades and by persistence between the first and second year of college" (Kuh et al., 2008, p. 555). Findings showed that students who were more engaged in educationally purposeful activities during their first year were more likely to have higher grade point averages and persist to the second year of college. These conclusions were true when controlling for pre-college factors such as entrance scores, parents' educational level, and financial aid; however, the difference was diminished when taking into account enrollment status, living on campus, and working off campus.

Kuh et al. (2008)'s second main conclusion was that while student engagement in effective educational practices benefitted all students, engagement had an even greater benefit for students who were less academically prepared and Students of Color. Kuh et al. (2008) concluded that "institutions should seek ways to channel student energy toward educationally effective activities" especially for student groups who have been historically underserved in higher education and may benefit the most from engagement (p. 555). Further, Kuh et al. (2007) emphasized that it is the responsibility of institutions to consider the unique obstacles that

potentially prevent engagement for underserved student groups and help foster strategies to address those obstacles.

> Cultural perspectives suggest that many historically underrepresented students encounter challenges when they get to college that make it difficult for them to take advantage of their school's resources for learning and personal development. Student perceptions of the institutional environment and dominant norms and values influence how students think and spend their time. (Kuh et al., 2007, p.17)

Aligned with Kuh's emphasis on the institution's responsibility to make engagement opportunities available and encourage students' engagement with those opportunities, the ABP was launched, in part, to connect low-income and first-generation college students as early as possible with SSS and other campus resources designed for their unique experiences, strengths and needs.

Tinto's theory of student departure. In *Leaving College: Rethinking the Causes and Cures of Student Attrition*, Tinto (1993) argued that the most significant predictor of student persistence was the extent to which students felt integrated in the academic and social systems of university life. Tinto (1993) described these systems as distinct but overlapping, each with its own formal and informal structures, values and norms. For example, Tinto (1975, 1993) described the academic system as the formal education of students (i.e. classrooms, degree programs, teaching styles), and the informal interactions with faculty and staff outside of the classroom. Tinto (1975, 1993) described the social system as personal affiliations outside of the classroom based on student interests and needs such as residential life, work study, extracurricular involvement, and friendships. Tinto's (1993) central premise was that the more satisfying students perceived their experiences to be in academic and social communities within

the university, the stronger their goal to earn a degree at that institution would be. Tinto (1993) described the model as follows:

> Broadly understood, it argues that individual departure from institutions can be viewed as arising out of a longitudinal process of interactions between an individual with given attributes, skills, financial resources, prior educational experiences, and dispositions (intentions and commitments) and other members of the academic and social systems of the institution. The individual's experience in those systems, as indicated by his/her intellectual (academic) and social (personal) integration, continually modifies his or her intentions and commitments. (pp. 113-115)

Tinto (1993) emphasized that the academic and social systems were both important to student persistence but not necessarily proportional. Tinto (1993) provided multiple examples of these emphases such as students can establish membership in the social system of the college, largely comprised of peers, and still leave due to inability to establish membership in the academic system (i.e. academic dismissal due to failing grades). In contrast, a student can do well academically but leave due to a lack of friends or positive social interactions. Tinto (1993) also emphasized how formal and informal interactions could influence each other. Faculty who engage students during class may motivate students to interact with faculty more informally outside of the classroom. Likewise, students who have work study positions on campus or participate in student organizations may form friendships outside of these more formal settings with peers who have similar interests and goals.

Tinto (1993) identified incongruence and isolation as the two primary causes that prevent academic and social integration. Incongruence was defined as the student's perception that there is a "lack of institutional fit" between the student and the institution's preferences, needs, and

interests (Tinto, 1993, p. 50). In this case, a student may choose to leave the institution because they perceive leaving is in their best interest. Isolation was defined as the "absence of sufficient interactions whereby integration may be achieved" (Tinto, 1993, p. 50). Tinto argued that incongruence will always exist to some degree as part of the interaction between students and institutions, but higher education personnel have the opportunity to reduce isolation. Tinto (1993) maintained that isolation occurs most often during the transition to college as students are trying to navigate complex university systems without clear roadmaps.

Tinto (1993) posited that helping facilitate conditions that encourage friendships and connections with campus faculty and staff can help minimize isolation and the risk of departure especially in the first year of college. Tinto (1993) provided examples of practical steps institutions can take such as helping students find their way around campus, getting students involved in extracurricular activities, and increasing faculty interaction with students. Tinto (1993) also discussed how smaller communities within the social system such as sororities, fraternities, clubs, and organizations served to scale down the university environment and provided membership to students who may not connect with the dominant mainstream systems of that campus. According to Tinto (1993), students did not have to be fully integrated with the dominant values and norms of the academic and social aspects of college but needed to have membership in communities where students perceived a sense of belonging. By fostering the development of social and academic communities, institutions can help create conditions for meaningful social and academic integration to occur.

Tinto (1993) summarized this model with several key takeaways. Students' perceptions of their interactions matter, and integration happens based on the perception of how rewarding those interactions are. Tinto (1993) stated, "Thus the term 'membership' may be taken as

connoting the perception on the part of the individual of having become a competent member of an academic or social community within the college" (p. 136). The model is interactional and recognizes the fact that the student and the institution both play an important role in student departure. For example, institutions can offer resources aimed at academic and social integration, but students must also choose to utilize those resources. Finally, Tinto argued that some interaction in both systems is required for student development and persistence. Tinto's (1993) intention for this model was to serve as a tool for administrators to help create academic and social conditions that would facilitate persistence. The ABP and SSS are both strategies to help create conditions that facilitate persistence by scaling down the university environment, creating a sense of belonging for low-income and first-generation college students, and connecting students with academic and social opportunities.

Application and limitations of involvement, engagement and integration. Wolf-Wendel et al. (2009) helped clarify how the concepts of involvement, engagement and integration overlap and differ in research and practice through an in-depth literature review and interviews with scholars including Astin, Kuh, and Tinto. They synthesized their findings as follows.

> Involvement is the responsibility of the individual student, though environment plays a role. The unit of analysis for involvement is the student and his or her energy; it is the student who becomes involved. Integration (or what Tinto might now call 'sense of belonging') involves a reciprocal relationship between the student and the campus. To become integrated, to feel like you belong, a student must learn and adopt the norms of the campus culture, but the institutions is also transformed by that merger. The focus of

> engagement is on creating campus environments that are ripe with opportunities for students to be engaged. (Wolf-Wendel et al., 2009, p. 425).

Wolf-Wendel et al. recommended researchers and practitioners consider how they apply these concepts to help improve clarity of research, evaluation, and student outcomes.

Wolf-Wendel et al. (2009) also discussed critiques of each theoretical perspective in relation to underserved student groups. Based on their review of the literature on student success and engagement, Wolf-Wendel et al. questioned the underlying assumptions of involvement, engagement and integration. "In spite attempts to be inclusive, the concepts of involvement, engagement, and integration have been built and tested based on assumptions that largely fit criteria associated with full-time, traditional age, and residential students" (p. 423). Further, Wolf-Wendel et al. considered critiques of Tinto's concept of integration based on "…its failure to account for the implication that integration into predominantly white environments might have adverse consequences and be difficult to accomplish for students from racially and ethnically diverse groups" (p. 423).

Additionally, Wolf-Wendel et al. (2009) cited Benismon's (2007) critique that the importance of relationships between students and practitioners is not factored into the body of research on student engagement. Wolf-Wendel et al. (2009) wrote, "…there is room to be critical of the overemphasis these concepts place on the student as the agent and their underestimation of the role of institutional agents in fostering involvement, engagement and integration" (p. 421). Benismon (2007) argued that focusing on student effort may overemphasize student "attributes or deficits" and not student practitioner relationships and institutional practices that facilitate student learning (p. 421). Bensimon also challenged the assumptions that students have freedom to choose activities, goals, college selection and who to

spend time with as measured by the NSSE. For example, Bensimon pointed out that the NSSE does not consider how factors such as coping with racial hostility, responsibilities of work and family, and concerns related to financial aid impact engagement.

Likewise, Quaye, Harper and Pendakur (2020) and Garriott (2020) critiqued the emphases of engagement and involvement on student effort, pointing to the importance of considering structural inequalities that marginalize student groups and limit opportunities for engagement.

> The extant literature often employs frameworks that place the majority of the burden for involvement and engagement on students, without regard for the historical ways in which engagement has been structured to be more readily available for some, but not all. (Quaye et al., 2020, p. 6).

Quaye et al. (2020) argued that "faculty and student affairs educators must foster the conditions that enable diverse populations of students to be engaged, persist, and thrive" (p. 6).

Summary

Research regarding the relationship between participation in the ABP and utilization of SSS services and first-year outcomes is an important topic. Low-income and first-generation college students have unique experiences that impact their transition to college and first-year outcomes of GPA, credit completion and retention from the first year to second year of college. They are less likely to be involved in campus activities, even though prior research has shown that they benefit from participation in educationally purposeful activities, including involvement in programs like SSS. While the impact of first-year programs like bridge and SSS has been studied at great length, there continues to be a lack of research on bridge programs administered by SSS programs specifically for low-income and first-generation college students. There is also

a lack of research on the efficacy of bridge programs in connecting students to SSS services. Researchers have reported that comprehensive programs during the first year have the potential to positively impact student outcomes, but there is a lack of understanding of how ABP programs connect students to SSS supports at Midwestern University. This current study aimed to help address these gaps and to provide data-informed information to administrators of the SSS program at Midwestern University to better evaluate the impact of participation in the ABP for SSS participants.

Chapter 3

Methods

The purpose of this study was to describe the effects of student participation in the Midwestern University ABP SSS service utilization, first-to-second year retention, first-year grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Chapter 3 describes the methodology used in the current study. A description of the research design, selection of participants, measurement, data collection procedures, and data analyses and hypotheses testing is included in this chapter.

Research Design

The research design for the current study was a causal-comparative study using a purposive sample. According to Creswell (2014), a causal-comparative research design examines two or more groups based on an independent variable, or cause, that has already happened between at least two comparison groups. In the current study, the causal-comparative design provided the means to examine the differences based on the independent variable, participation in the ABP, between participants and non-participants in frequency of use of each type of Midwestern SSS service (advising, tutoring, and cultural enrichment activities), first-to-second year retention, first-year grade point average, and first-year credit accumulation.

Selection of Participants

Purposive sampling was employed to select the student sample for this study. Lunenburg and Irby (2008) described purposive sampling as an appropriate selection process when the researcher has knowledge and experience with the group to be sampled. Participants included in the study met the following criteria: (1) admitted to Midwestern University SSS as a first-time,

full-time freshmen in the fall semesters between 2015 and 2018; (2) qualified for program services based on low-income and/or first-generation college status; and (3) met the minimum number of program contacts to be identified as an enrolled SSS participant in the *Midwestern University SSS Annual Performance Report* (APR) for the first year of participation in the program (N = 384). In order to qualify for services, students completed a Midwestern University SSS program application at the point of entry into the program documenting eligibility for services and signed a participation agreement outlining program expectations. The minimum number of SSS service contacts required of first-year students to be included in the *Midwestern University SSS Annual Performance Report* was four program contacts during their first year of participation (Midwest University, Center for Educational Opportunity Programs, 2019b). The total population for this study included 384 ABP-eligible students, 188 who participated in the ABP, and 196 who did not participate in the ABP program. Midwestern University SSS first-time freshmen who qualified as low-income and/or first-generation college students were invited to participate in the ABP but were not required to participate in the APB to qualify for SSS services.

Measurement

Data for this study were retrieved from archived institutional data maintained by the Midwestern University SSS program and the department of Enrollment Management Student Information Systems. The independent variable of participation in the ABP was measured using program data and was categorical: students either participated in the ABP or did not participate in the ABP. The dependent variables examined in this study are described below.

Frequency of service type and use. Dependent variables of frequency of use of each type of Midwestern SSS service (advising, peer tutoring, and cultural enrichment activities) were

measured using program data stored in the Midwestern University SSS program database. The unit of measurement for these variables was a count of the number of meetings each student attended by service type, ranging between 0 and 96, during their first year. Data compiled for each year included the fall, spring and summer semesters.

First-year academic outcomes. The dependent variables of first-to-second year retention, first-year grade point average, and first-year credit accumulation were measured using program data stored in the Midwestern University SSS program database and submitted as part of the SSS Annual Performance Report required by the USDE for academic years 2015-16, 2016-17, 2017-18 and 2018-19. These variables are aligned with standardized objectives as established by the USDE to measure program effectiveness of SSS programs (USDE, Office of Postsecondary Education, 2019). First-to-second year retention was measured by the number of students who were enrolled at Midwestern University on the 20th day of the fall term in the second year (Midwestern University, AIRE, n.d.). End of first-year credit accumulation was measured using the number of Midwestern University credit hours completed in the first year, including the fall, spring and summer semesters. End of first year cumulative grade point average was measured using the grades earned for Midwestern University credit hours taken during the first year, including the fall, spring, and summer semesters.

Data Collection Procedures

A request for permission to conduct the study was submitted to the Baker University Institutional Review Board on December 14, 2020. Written permission to collect data was received on December 20, 2020 (see Appendix D). On December 18, 2020, the researcher requested permission to conduct the study from Midwestern University. Midwestern IRB recorded the study as active but clarified Baker IRB was the approving body. Written approval

was received on January 8, 2021 (see Appendix E). The data for this study consisted of student records stored within the Midwestern University SSS StudentAccess computer database. As described on its website (https://www.studentaccess.com), the Midwestern University SSS StudentAccess database was designed specifically for SSS programs to track student demographics, service records, and student academic outcome data in compliance with the USDE federal annual reporting requirements (APR). Program personnel entered service records into the SSS StudentAccess database after each student contact according to a written procedure outlined in the program policy and procedure manual (Midwestern University, Center for Educational Opportunity Programs, 2019b). The first-year academic outcome data for the study were entered into the SSS StudentAccess database at the end of each academic year between 2015-16 and 2018-19 by program staff following detailed instructions provided by the USDE for SSS programs (Midwestern University, Center for Educational Opportunity Programs, 2019b). These data are submitted annually to the USDE, Office of Postsecondary Education as part of the APR process and housed on a secure server once submission has been completed. As part of the APR submission process, the USDE releases instructions for compiling and uploading data to minimize missing and inconsistent data (Midwestern University, Center for Educational Opportunity Programs, 2016c).

After receiving IRB approval, archived service data were exported from the Midwestern University SSS StudentAccess database and merged with APR data into an Excel spreadsheet. The collected data included student name, university ID number, eligibility category, demographic information, first-to-second year retention information, first-year enrollment status, first-year grade point averages earned, and program service records for each student by type of service and frequency of use (date, amount of time, service type code, and brief contact note

summarizing purpose of contact). The ACT comp score, high school grade point average data, and year-end number of credit hours accumulated were retrieved from student advising reports available in the university's Enrollment Management Student Information System and entered into the Excel spreadsheet.

To ensure confidentiality, student names were removed once all data were obtained and cross referenced between the two systems of the SSS StudentAccess database and Enrollment Management Student Information Systems. Each student in the dataset was assigned an ID number between 001 and 384. For analysis, the data were uploaded into IBM SPSS Statistics Faculty Pack 27 for Windows.

Data Analysis and Hypothesis Testing

RQ1. To what extent is there a difference in frequency of use of each type of Midwestern SSS service, as measured by the number of advising sessions, tutoring sessions, and cultural enrichment activities attended, between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

H1. There is a difference in frequency of use of advising between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

H2. There is a difference in frequency of use of tutoring between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

H3. There is a difference in frequency of cultural enrichment activities attended between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

Three independent-samples *t* tests were conducted to test H1, H2, and H3. For each test, the two sample means were compared. An independent-samples *t* tests was chosen for the

hypothesis testing because each hypothesis test involved the examination of the mean difference between two mutually exclusive independent groups, and the means were calculated using data for numerical variables. The level of significance was set at .05. When appropriate, an effect size is reported.

RQ2. To what extent is there a difference in first-to-second year retention, first-year cumulative grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

H4. There is a difference in first-to-second year retention between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

A chi-square test of independence was conducted to test H4, because the relationship between two categorical variables was analyzed. A (2 x 2) frequency table was constructed for the two categorical variables: participation in the ABP and first-to-second year retention. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. An effect size is reported, when appropriate.

H5. There is a difference in first-year cumulative grade point average between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

An independent-samples *t* test was conducted to test H5. The two sample means were compared. An independent-samples *t* test was chosen for the hypothesis testing because the hypothesis test involves the examination of the mean difference between two mutually exclusive independent groups, and the means are calculated using data for numerical variables. The level

of significance was set at .05. When appropriate, an effect size is reported.

H6. There is a difference in first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

An independent-samples *t* test was conducted to test H6. The two sample means were compared. An independent-samples *t* test was chosen for the hypothesis testing because the hypothesis test involves the examination of the mean difference between two mutually exclusive independent groups, and the means are calculated using data for numerical variables. The level of significance was set at .05. When appropriate, an effect size is reported.

Limitations

Lunenburg and Irby (2008) described limitations as factors that could affect the interpretation and generalizability of research findings (p.133). Generalizing the results of this study was limited by the following factors.

1. This study was not based on random assignment of students to treatment and control groups. As such, there are likely unobserved characteristics of students that contributed to outcomes. For instance, reasons why students participated in the ABP were not considered as part of this study.
2. This study was conducted at a single, public research university located in the Midwest region of the United States with a small sample size.
3. This study relied on archival data entered by SSS program personnel and university staff. The researcher was not able to control whether or not data were entered into the SSS database or university system accurately or consistently.

4. There are many factors related to student cognitive and affective domains influencing academic outcomes of first-year students that were not considered as part of this study that may have influenced the findings of this study.
5. Midwestern University SSS students in the study could access resources from multiple first-year retention programs and campus resources in addition to Midwestern University SSS services. Participation in other campus programs and resources was not considered as part of this study.
6. Level of student engagement during program meetings, quality of services, individual student development, or learning outcomes as a result of services were not assessed as part of this study.

Summary

This chapter explained the research methods used in this study. The research design, selection of study participants, measurements, data collection procedures, data analysis and hypothesis testing, and limitations of the student were included in Chapter 3. Chapter 4 reports descriptive statistics and the results of the hypothesis testing.

Chapter 4

Results

Chapter 4 contains the results of the data analysis. This chapter is organized with a descriptive statistics section first, including a cross tabulation of ABP participation with each of the following: year of participation, gender, ethnicity/race, SSS eligibility, ACT composite score, and high school grade point average. The results of the hypotheses testing follows the descriptive statistics section.

Descriptive Statistics

The target population for this research study included all first-time, full-time freshmen at Midwestern University who enrolled in SSS in their first fall semester between academic years 2015-16 and 2018-19 and qualified for SSS as a low-income and/or first-generation college student. The target population is referred to as ABP-eligible students. The sample for this study was comprised of 188 ABP-eligible students who participated in the ABP and 196 ABP-eligible students who did not participate in the ABP. The data analysis used whole data aggregated across all four years during which data were collected. In Table 1, the number and percentage of participants and non-participants are presented for each of the four years of data collection.

Table 1

Cross Tabulation of Year by ABP Participation

	ABP Participation			
	Participated		Did not participate	
Year	*n*	%	*n*	*%*
2015	32	17.0	58	29.6
2016	48	25.5	64	32.7
2017	46	24.5	41	20.9
2018	62	33.0	33	16.8

In Table 2, the demographic data for participants and non-participants is provided. In comparison to ABP-eligible students who did not participate in the ABP, participants in the ABP had higher percentages of men (6% higher), Black/African American students (10.7% higher), and students who qualified for SSS as both low-income and first-generation (9.4% higher).

Table 2

Descriptive Statistics for Gender, Ethnicity/Race, and SSS Eligibility

Demographic	ABP Participation			
	Participated		Did not participate	
Gender	*n*	%	*n*	%
Male	67	35.6	58	29.6
Female	121	64.4	138	70.4
Ethnicity/Race				
American Indian/Native American	2	1.1	3	1.5
Asian	14	7.4	15	7.7
Black/African American	43	22.9	24	12.2
Hispanic/Latinx	41	21.8	44	22.4
White, Non-Hispanic	62	33.0	92	46.9
Multiracial	26	13.8	18	9.2
Eligibility				
Low-income and first-generation college	127	67.6	114	58.2
Low-income	25	13.3	36	18.4
First-generation	36	19.1	46	23.5

Table 3 presents descriptive statistics for the ACT composite score and high school grade point average for participants and non-participants. The mean frequencies for ACT composite scores and for high school grade point average were similar between both groups.

Table 3

Descriptive Statistics for ACT Composite Score and High School GPA

	Descriptive Statistics				
ACT Composite	*M*	*SD*	*Min*	*Max*	*N*
Participated	23.27	3.90	15.00	35.00	181
Did not participate	23.47	4.06	15.00	34.00	183
High School GPA					
Participated	3.63	.40	2.22	4.00	186
Did not participate	3.60	.42	2.08	4.00	192

Hypothesis Testing

Research questions one and two and associated hypotheses for each question are stated below. For RQ1, the type of analysis is stated, and each hypothesis is then listed with the results for that hypothesis. For RQ2, the type of analysis used and hypothesis testing results follow each hypothesis.

RQ1. To what extent is there a difference in frequency of use of each type of Midwestern SSS service, as measured by the number of advising sessions, tutoring sessions, and cultural enrichment activities attended, between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

Three independent-samples *t* tests were conducted to test H1, H2, and H3. For each test, the two sample means were compared. An independent-samples *t* tests was chosen for the hypothesis testing because each hypothesis test involved the examination of the mean difference between two mutually exclusive independent groups, and the means were calculated using data for numerical variables. The level of significance was set at .05. When appropriate, an effect size is reported.

H1. There is a difference in frequency of use of advising between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

The results of the independent-samples *t* test for H1 indicated a statistically significant difference between the two means, $t(382) = 2.430$, $p = .016$, $d = 0.248$. Table 4 summarizes the mean frequency of use of advising for ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The mean frequency of use of advising by ABP-eligible students who participated in the ABP ($M = 8.21$) was higher than the mean frequency of use of advising by ABP-eligible students who did not participate in the ABP ($M = 7.35$). H1 was supported. There is a difference in frequency of use of advising between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The effect size indicated a small effect.

Table 4

Descriptive Statistics for the Analysis of H1

ABP Participation	*M*	*SD*	*N*
Participated	8.21	3.37	188
Did not participate	7.35	3.52	196

H2. There is a difference in frequency of use of tutoring between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

The results of the independent-samples *t* test for H2 indicated no significant difference between the two means, $t(256) = -1.125$, $p = .261$. Table 5 summarizes the mean frequency of use of tutoring for ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The mean frequency of use of tutoring by ABP-eligible students who participated in the ABP ($M = 20.06$) was not different from the mean frequency of

use of tutoring by ABP-eligible students who did not participate in the ABP (*M* = 22.33). H2 was not supported. There was not a significant difference in frequency of use of tutoring between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Calculation of the effect size was not warranted.

Table 5

Descriptive Statistics for the Analysis of H2

ABP Status	*M*	*SD*	*N*
Participated	20.06	14.73	126
Did not participate	22.33	17.58	132

H3. There is a difference in frequency of cultural enrichment activities attended between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

The results of the independent samples *t* test for H3 indicated a statistically significant difference between the two means, $t(382) = 2.926$, $p = .004$, $d = 0.299$. Table 6 summarizes the mean frequency of cultural enrichment activities between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The frequency of cultural enrichment activities attended by ABP-eligible students who participated in the ABP (*M* = 1.38) was higher than the mean frequency of attendance in cultural enrichment activities by ABP-eligible students who did not participate in the ABP (*M* = .96). H1 was supported. There was a significant difference in frequency of cultural enrichment activities attended between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The effect size indicated a small effect.

Table 6

Descriptive Statistics for the Analysis of H3

ABP Participation	*M*	*SD*	*N*
Participated	1.38	1.50	188
Did not participate	.96	1.30	196

RQ2. To what extent is there a difference in first-to-second year retention, first-year cumulative grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP?

H4. There is a difference in first-to-second year retention between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

A chi-square test of independence was conducted to address H4 because the relationship between two categorical variables was analyzed. A (2 rows x 2 columns) frequency table was constructed for the two categorical variables: ABP participation status and first-to-second-year retention. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. An effect size is reported, when appropriate.

The results of the chi-square test of independence indicated no significant difference between the observed and expected values, $\chi^2(1) = 2.552$, $p = .110$. See Table 7 for the observed and expected frequencies. H4 was not supported. There is not a significant difference in first-to-second year retention between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

Calculation of the effect size was not warranted.

Table 7

Observed and Expected Frequencies for H4

ABP Participation	Retention	$f_{observed}$	$f_{expected}$
Participated			
	Enrolled	154	159.6
	Did not Enroll	34	28.4
Did not participate			
	Enrolled	172	166.4
	Did not Enroll	24	29.6

***H5*.** There is a difference in first-year cumulative grade point average between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

An independent-samples *t* test was conducted to address H5. The two sample means for cumulative grade point average were compared. An independent-samples *t* test was chosen for the hypothesis testing because the hypothesis test involves the examination of the mean difference between two mutually exclusive independent groups, and the means are calculated using data for numerical variables. The level of significance was set at .05. When appropriate, an effect size is reported.

The results of the independent samples *t* test for H5 indicated no significant difference between the two means, $t(382) = -0.148$, $p = .883$. The first-year cumulative grade point average of ABP-eligible students who participated in the ABP ($M = 2.91$) was not different from the mean first-year cumulative grade point average of ABP-eligible students who did not participate in the ABP ($M = 2.92$). See Table 8 for a summary of mean frequencies. H5 was not supported. There was not a significant difference in first-year cumulative grade point average between

ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Calculation of the effect size was not warranted.

Table 8

Descriptive Statistics for the Analysis of H5

ABP Participation	*M*	*SD*	*N*
Participated	2.91	.88	188
Did not participate	2.92	.83	196

H6. There is a difference in first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

An independent-samples *t* test was conducted to address H6. The two sample means for first-year cumulative credit accumulation were compared. An independent-samples *t* test was chosen for the hypothesis testing because the hypothesis test involves the examination of the mean difference between two mutually exclusive independent groups, and the means are calculated using data for numerical variables. The level of significance was set at .05. When appropriate, an effect size is reported.

The results of the independent samples *t* test for H6 indicated no significant difference between the two means, $t(382) = -0.810$, $p = .418$. The first-year cumulative number of credits earned by ABP-eligible students who participated in the ABP ($M = 27.63$) was not different than the mean cumulative number of credits earned by ABP-eligible students who did not participate in the ABP ($M = 28.24$). See Table 9 for a summary of mean frequencies. H6 was not supported. There was not a significant difference in first-year credit accumulation between ABP-eligible

students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Calculation of the effect size was not warranted.

Table 9

Descriptive Statistics for the Analysis of H6

ABP Participation	*M*	*SD*	*N*
Participated	27.63	7.63	188
Did not participate	28.24	6.94	196

Summary

The purpose of this study was to describe the effects of student participation in the ABP on Midwestern SSS service utilization, first-to-second year retention, first-year grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Results of the hypothesis testing indicated statistically significant differences in the frequency of use of advising and cultural enrichment activities between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. Hypothesis testing did not indicate a significant difference in the frequency of use of tutoring, first-to-second year retention, first-year grade point average, or first-year credit accumulation between the two groups. Chapter 5 provides a summary of the study, major findings related to the literature, and conclusions.

Chapter 5

Interpretation and Recommendations

The intent of this study was to examine whether one specific bridge program had an impact on frequency and type of SSS service utilization and first-year academic outcomes for first-time, full-time SSS students at a large, research institution located in the Midwest. Chapter 5 presents a summary of the study, findings related to the literature, conclusions, implications for future actions, recommendations for further research, and concluding remarks.

Study Summary

Summer bridge programs are a popular strategy among higher education institutions to help ease the transition to college and foster first-year student success in part by connecting students with campus services and resources (Gonzelez Quiroz & Garza, 2018; Sablan, 2014; USDE, Institute of Education Sciences, 2016). Examined in this study was whether participation in the Midwestern University ABP effected utilization of SSS advising, tutoring, and cultural enrichment services, first-to-second year retention, first-year grade point average, and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. ABP-eligible students were first-time, full-time students admitted to SSS in the fall semester of their first year who qualified for services based on low-income and first-generation college status. The scope of the study included four academic years: 2015-2016 through 2018-2019. The following sections provide an overview of the problem, purpose statement, research questions, methodology, and major findings.

Overview of the problem. One of the intentions for launching the ABP was to connect low-income and first-generation college students with SSS to further Midwestern University's goal of increasing first-to-second year retention rates to 90% (Midwestern University, Center for

Educational Opportunity Programs, 2016). Yet, the extent to which ABP-eligible students utilized SSS during their first year of college at Midwestern University was not known. Further, no quantitative analyses had been conducted to specifically compare first-to-second year retention rates, first-year grade point averages and first-year credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. In general, existing research (Muraskin, 1997; Thayer, 2000) on the relationship between participation in bridge programs and SSS student outcomes and service utilization is starkly limited, even though a sizeable percentage of SSS programs offer bridge programs for first-year SSS students (USDE, Office of Postsecondary Education, 2016).

Purpose statement and research questions. Two purposes guided the current study. The first purpose of this study was to describe the differences in frequency of use of Midwestern University SSS services by ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. The second purpose of this study was to determine the differences in first-year academic outcomes between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the APB. Two research questions were developed to address these purposes. The first research question examined the extent to which there was a difference in frequency of use of advising, tutoring, and cultural enrichment services during the first year between the two groups. The second research question examined the extent to which there was a difference in first-to-second year retention, first-year grade point average, and first-year credit accumulation between the two groups.

Review of the methodology. This study used a causal-comparative research design with a purposive sample and archival student data. The causal-comparative design allowed

examination of differences between the independent variable, participation in the ABP, and the following dependent variables: frequency of use of each type of Midwestern SSS service (advising, tutoring, and cultural enrichment activities), first-to-second year retention, first-year grade point average, and first-year credit accumulation. Differences in service use of each type of SSS service, first-year grade point average, and first-year credit accumulation were analyzed using independent samples *t* tests. Differences in first-to-second year retention were analyzed using chi-square tests of independence.

Major findings. The results of the data analyses were mixed. Statistically significant relationships were found for the mean frequency of use of advising and cultural enrichment services during the first year between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. ABP-eligible students who participated in the ABP met with their SSS advisor, on average, 8.21 times in their first year. In comparison, ABP-eligible students who did not participate in the ABP met with their SSS advisor, on average, 7.35 times in their first year. This difference was statistically significant although the effect size was small. APB-eligible students who participated in the ABP attended an average of 1.38 cultural enrichment activities in their first year. In comparison, ABP-eligible students who did not participate in the ABP attended an average of .96 cultural enrichment activities in their first year. While this difference was statistically significant, the effect size was small. No significant difference was found for the mean frequency of use of tutoring between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

There was not a statistical difference for first-to-second year retention, first-year grade point average, or first-year credit accumulation between ABP-eligible students who participated

in the ABP and ABP-eligible students who did not participate in the ABP. Both groups had a mean frequency grade point average slightly greater than 2.90 at the end of their first year, and both groups had a mean frequency of more than 27 credit hours accumulated by the end of their first year. Neither group was retained from first-to-second year at a rate of 90%. ABP-eligible students who participated in the ABP were retained at a rate of 82%, and ABP-eligible students who did not participate in the ABP were retained a rate of 88%.

Findings Related to the Literature

A common goal of bridge programs has been to introduce and connect participants with campus resources as a strategy to encourage students to seek out support during the first year of college (Gonzalez Quiroz & Garza, 2018; Sablan, 2014; USDE, Institute of Education Sciences, 2016). Previous research examining the efficacy of bridge programs in connecting students to campus resources is limited but has suggested a positive relationship (Garcia; 1991; Grim et al., 2021; Hensen, 2018; Stolle-McAllister, 2001; Velasquez, 2002; Wapole et al., 2008; Wolf-Wendel et al., 1999). Results of the current study supported the finding that participation in a bridge program may be an effective strategy to connect students to campus services. ABP-eligible students who participated in the ABP utilized academic advising and cultural enrichment services significantly more than ABP-eligible students who did not participate in the ABP. However, unlike previous research that indicated a positive relationship between participation in bridge programs and utilization of tutoring services in the first year (Garcia, 2001; Wapole et al., 2008), this study did not show a significant difference in student use of tutoring services between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP. This finding is important in relationship to previous research indicating that SSS peer tutoring has a significant impact on student retention, grade point average, and

credit accrual for low-income and first-generation college students (Chaney, 2010; Chaney et al., 1997; Muraskin 1997).

Previous research has shown mixed results regarding the effect of participation in bridge programs on student academic outcomes (Douglas & Attewell, 2014; Sablan, 2014; USDE, Institute of Education Sciences, 2016). Wathington et al. (2016) conducted the only quasi-experimental study that examined the effect of bridge programs on student persistence and credit hour accrual and found no evidence that bridge programs impacted student persistence or the average number of credit hours attempted or earned during the first two years of college. Likewise, neither Walpole et al. (2008) nor Wolf-Wendel et al. (1999) found a significant difference in first-to-second year retention or first-year grade point average for students who participated in a bridge program in comparison to a matched control group. Results in the current study were consistent with Wathington et al. (2016), Wapole et al. (2008), and Wolf-Wendel et al. (1999). The results of the current study did not provide evidence that participation in the ABP resulted in a significant difference in first-to-second year retention rates, grade point averages, or credit accumulation between ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP.

In contrast, results from the current study were not consistent with previous research that showed a statistically significant relationship between participation in bridge programs and student first-year academic outcomes (Bir & Myrick, 2015; Buck, 1985; Douglas & Attwell, 2014; Gonzalez Quiroz & Garza; 2018; Kodama et al., 2016; Wachen et al., 2018). Of note, Cabrera et al. (2013) found that participation in a bridge program was a significant, positive predictor of first-year retention and grade point average at a large, research university. However, this relationship become insignificant when considering college experiences such as participation

in first-year transition programs, tutoring, and students' academic confidence. In the current study, the level of involvement in services provided by SSS for ABP participants and non-participants was not analyzed as a potential mediating variable impacting first-to-second year retention, first-year grade point average, or first-year credit accumulation. Based on Cabrera et al.'s finding, SSS services received by the comparison group could help explain why there were not significant differences on direct outcomes of first-to-second year retention, first-year grade point average, and first-year credit accrual between the two groups. Cabrera et al. concluded that the most significant effects of summer bridge participation were how well bridge programs connected students to campus support services and social networks. The results of the current study supported the Cabrera et al. conclusion. The results of the data analysis indicated active student involvement in campus support services and social networking opportunities.

Conclusions

The current study provided evidence that the ABP was meeting the goal of connecting ABP-eligible students with SSS services during their first year. Students who participated in the ABP utilized advising and cultural enrichment activities significantly more than students who did not participate in the ABP. Although there was not a significant difference in utilization of tutoring services, both groups met with peer tutors on average approximately 20 times in their first year. These findings have positive future implications. Previous researchers (Chaney, 2010; Chaney et al., 1997; USDE, Office of Postsecondary Education, 2019, 2015, 2005) have shown that low-income and first-generation college students who participated in SSS had better first-year academic outcomes than similar students who do not participate in SSS, that academic outcomes improved as the frequency of SSS services increased (Chaney et al, 1997; Muraskin, 1997), and that the combination of academic and cultural enrichment services received in the

first year of college had the potential to positively impact student retention and graduation in subsequent years (Chaney, 2010; Chaney et al, 1997). Researchers have emphasized the importance of advising relationships in the first year to foster student engagement and mitigate first-year stressors for low-income and first-generation students (Bassett, 2020; Chaney, 2010; Chaney et al., 1997; Engle & Tinto, 2008; Kouzoukas, 2020; Muraskin, 1997; Quinn et al, 2019).

Although there was not a significant difference in first-year academic outcomes between the ABP-eligible students who participated in the ABP and ABP-eligible students who did not participate in the ABP, both groups did well academically. One potential strategy to increase student retention would be to increase use of tutoring services by ABP-eligible students during the first year. However, Wathington et al. (2016) concluded that it may be too ambitious to assume any one program can impact credit accumulation and persistence by itself and encouraged administrators to focus on multiple types of supports. The results of this study will help SSS administrators at Midwestern University make data-informed decisions about the benefits of future collaboration in the ABP and promotion of the ABP to SSS first-time students. Results will also help SSS evaluate how they promote SSS tutoring services to ABP students to improve utilization during the first year.

Implications for action. The following implications for action are recommended based on the findings of the current study:

1. This study focused on a subset of participants in the ABP. The researcher will share the results of this study with Midwestern University administrators who coordinate the ABP and with the research department that provides evaluation services for the entire ABP.
2. An executive summary of findings and recommendations will be created to share with SSS staff at Midwestern University. Recommendations will include the promotion of

participation in the ABP for incoming SSS first-time students as a strategy to enhance student utilization of SSS advising and cultural enrichment activities during the first year. The summary will also include a recommendation that SSS staff emphasize the importance of SSS tutoring with ABP-eligible students to potentially improve first-year academic outcomes.

3. Although limited in scope, this study is unique in the SSS literature in that it looks specifically at a bridge program co-facilitated by SSS staff on SSS service utilization and outcomes. SSS staff should share the results of this study with SSS directors across the region through activities such as conference presentations and roundtable discussions.

Recommendations for future research. While the impact of programs like summer bridge and SSS have been studied over the past several decades, there continues to be a lack of research on bridge programs administered by SSS programs specifically for low-income and first-generation college students, including how bridge programs are structured, length of program, and staffing. There is also a lack of research on the efficacy of bridge programs in connecting students to SSS services. Given these gaps and the findings of this study, the following recommendations for future research are recommended.

- Future research could include more rigorous analyses to control for variables potentially impacting first-to-second year retention, grade point average, and credit accrual such as ethnicity, race, ACT composite score, high school GPA, and utilization of SSS services. For instance, SSS students who participated in the ABP were more likely to be male, African American, and qualify for SSS as low-income and first-generation. These variables were not considered in the current study and would be important to explore in future studies of the ABP at Midwestern University.

- This study focused on the first year of college. Future research could expand analyses of participation in the ABP over a six-year period to examine service utilization, progression toward degree, and time to graduation in subsequent years. Chaney (2010) found that services provided in the first year of participation in SSS had an effect on degree completion over a period of six years.
- The current study examined the quantity of SSS services. Future research could expand research methods to include a qualitative component. Qualitative research could explore student perceptions of the quality of SSS advising, tutoring, and cultural enrichment activities. Qualitative research could also explore how the promotion of SSS during the ABP facilitated students' use or non-use of services and what services student found most helpful for supporting academic outcomes and goals in the first year of college. Tinto (1993) maintained that students' sense of belonging (referred to initially as integration) happened as a result of student perceptions on how meaningful or rewarding interactions with faculty, staff and peers were.
- This study focused on how the ABP potentially connected low-income and first-generation college students with SSS. Future research could examine the efficacy of the ABP in connecting participants to other campus services and resources such as financial aid, career counseling, and student organizations during the first year.
- While length of the ABP was not examined as part of this study, there is a lack of existing research on how length and structure of bridge programs correlate with student outcomes. The only published study found in the literature that specifically evaluated length of a bridge program showed an inverse effect on length of time and student academic outcomes (Maggio, White, Molstad, & Kher, 2005). This study's results

indicated that the length of the summer bridge program had a negative effect on student grade point averages. An examination of shorter programs like the ABP could be warranted as a strategy to offer cost-efficient programs during constrained budget periods and as a strategy to offer accessible bridge programs for low-income, first-generation college students. Low-income and first-generation college students may have less opportunity to participate in summer bridge programs that require spending several weeks on campus away from family and work.

Concluding remarks. The results of this study contributed to a comprehensive evaluation plan of SSS program service delivery required by the U.S. Department of Education. Findings will help SSS administrators make data-driven decisions about future participation in the ABP and offer insights about benefits and areas for improvements with SSS staff, the evaluation department for the ABP, and SSS directors at different institutions. For SSS at Midwestern University, the ABP was a unique onboarding opportunity to recruit and engage low-income and first-generation college students as early as possible in the first year. On a broader level, the ABP can viewed as an innovative effort by a single institution to center low-income and first-generation college student identities "to maximize impact and foster a sense of belonging that situates first-generation students as part of the institution and not a student population on the margins…" (p. 299). Garriott (2020) argued that higher education researchers and personnel must reframe the question of why students fail in higher education to why institutions fail students in higher education. Kouzoukas (2020) argued, "Similarly, institutions are advised to become student ready as opposed to college ready, which focuses not a student's level of preparedness when entering the institutional context, but on how prepared a campus is to successfully engage collegians" (p. 292).

The ABP, while limited in scope, is an effort that can be replicated and improved upon by four-year institutions like Midwestern University to center low-income and first-generation college student identities, emphasize student strengths, and encourage student engagement in campus support services like SSS. Nationally, SSS only serves a small portion of eligible low-income, first-generation college students (Calahan et al., 2021). Scaling up potential best practices such as the ABP may be an opportunity for institutions to address systemic and structural barriers that prevent student engagement and success of low-income, first-generation college students. Initiatives like the ABP are more important than ever as equity gaps remain pervasive in higher education and the undergraduate student population is becoming increasingly diverse. While its only one program, the ABP is an example of an institutional effort focused on creating an early educational experience that has lasting positive effects for student participants.

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Appendices

Appendix A: Description of Each Type of TRIO Program

Program Name	Program Description
Educational Opportunity Centers	"The Educational Opportunity Centers program provides counseling and information on college admissions to qualified adults who want to enter or continue a program of postsecondary education. The program also provides services to improve the financial and economic literacy of participants. An important objective of the program is to counsel participants on financial aid options, including basic financial planning skills, and to assist in the application process. The goal of the EOC program is to increase the number of adult participants who enroll in postsecondary education institutions" (Educational Opportunity Centers (ed.gov), para #1)
Ronald E. McNair Postbaccalaureate Achievement	"Through a grant competition, funds are awarded to institutions of higher education to prepare eligible participants for doctoral studies through involvement in research and other scholarly activities. Participants are from disadvantaged backgrounds and have demonstrated strong academic potential. Institutions work closely with participants as they complete their undergraduate requirements. Institutions encourage participants to enroll in graduate programs and then track their progress through to the successful completion of advanced degrees. The goal is to increase the attainment of Ph.D. degrees by students from underrepresented segments of society" (TRIO - Ronald E. McNair Postbaccalaureate Achievement Program -- Home page (ed.gov), para #1)
Student Support Services	"Through a grant competition, funds are awarded to institutions of higher education to provide opportunities for academic development, assist students with basic college requirements, and to motivate students toward the successful completion of their postsecondary education. Student Support Services (SSS) projects also may provide grant aid to current SSS participants who are receiving Federal Pell Grants (# 84.063). The goal of SSS is to increase the college retention and graduation rates of its participants" (Student Support Services Program (ed.gov), para #1).
Talent Search	"The Talent Search program identifies and assists individuals from disadvantaged backgrounds who have the potential to succeed in higher education. The program provides academic, career, and financial counseling to its participants and encourages them to graduate from high school and continue on to and complete their postsecondary education. The program publicizes the availability of financial aid and assist participant with the postsecondary application process. Talent Search also encourages persons who have not completed education programs at the secondary or postsecondary level to enter or reenter and complete postsecondary education. The goal of Talent Search is to increase the number of youth from disadvantaged backgrounds who complete high school and enroll in and complete their postsecondary education" (Talent Search Program (ed.gov), para #1).

Training Program for Federal TRIO Programs Staff	"Through a grant competition, funds are awarded to institutions of higher education and other public and private nonprofit institutions and organizations to support training to enhance the skills and expertise of project directors and staff employed in the Federal TRIO Programs. Funds may be used for conferences, seminars, internships, workshops, or the publication of manuals. Training topics are based on priorities established by the Secretary of Education and announced in Federal Register notices inviting applications" (TRIO - Training Program for Federal TRIO Programs (ed.gov), para #1).
Upward Bound	"Upward Bound provides fundamental support to participants in their preparation for college entrance. The program provides opportunities for participants to succeed in their precollege performance and ultimately in their higher education pursuits. Upward Bound serves: high school students from low-income families; and high school students from families in which neither parent holds a bachelor's degree. The goal of Upward Bound is to increase the rate at which participants complete secondary education and enroll in and graduate from institutions of postsecondary education" (Upward Bound Program (ed.gov), para #1)
Upward Bound Math-Science	"The Upward Bound Math and Science program is designed to strengthen the math and science skills of participating students. The goal of the program is to help students recognize and develop their potential to excel in math and science and to encourage them to pursue postsecondary degrees in math and science, and ultimately careers in the math and science profession" (Upward Bound Math-Science (ed.gov), para #1)
Veterans Upward Bound	"Veterans Upward Bound is designed to motivate and assist veterans in the development of academic and other requisite skills necessary for acceptance and success in a program of postsecondary education. The program provides assessment and enhancement of basic skills through counseling, mentoring, tutoring and academic instruction in the core subject areas. The primary goal of the program is to increase the rate at which participants enroll in and complete postsecondary education programs" (Veterans Upward Bound Program (ed.gov), para #1)

Appendix B: Schedule of Activities in the Abbreviated Bridge Program

Program Overview

ABP AGENDA

DAY 1: Saturday, August 15, 2015

8:30 -10:30 am	**MOVE IN**	
1:30-2:00 pm	ABP Check-in	[redacted] Ballroom
TIME	**TOPIC/EVENT**	**PRESENTATIONS FOR PARENTS (Optional)**
2:00-3:00 pm	Introduction and welcome	Introduction and Welcome
3:00-4:30 pm	Getting ready for the ABP • Teams	Parent Panel (30 min) Panel members: [redacted] staff whose children are/have been [redacted] students
		Financial Aid for Parents: Grants, scholarships, and loans (1 hour)
[redacted]		
4:30-6:00 pm	**Dinner**	Multicultural Resource Center

TIME	TOPIC/EVENT
6:10-7:00 pm	Senior student panel
7:10-7:50 pm	What does it mean to be … on this campus?
8:00-8:30 pm	Ice cream social. The day's review and team meetings

DAY 2: Sunday, August 16, 2015

TIME	TOPIC/EVENT	
8:00-8:45 am	Attendance, breakfast, and planning for the day	
9:00-9:50 am	Teams and team building activities	
10:00-10:50 am	Group A: Understanding my math classes	Group B: Writing for Academia
11:00-11:50 am	Group B: Understanding my math classes	Group A: Writing for Academia -
12:00-1:15 pm	**LUNCH**	

1:20-2:10 pm	Group A: What is Financial Aid at KU? Understanding scholarships, grants, and loans **Part 1**	Group B: Show me the $$$: Student Money Management
2:20-3:10 pm	Group B: What is Financial Aid at KU? Understanding scholarships, grants, and loans **Part 1**	Group A: Show me the $$$: Student Money Management
3:20-4:10 pm	Group A: Connecting my major to a professional career.	Group B: Talking About Healthy Relationships
4:20- 4:35 pm	**BREAK**	
4:35- 5:25 pm	Group B: Connecting my major to a professional career.	Group A: Talking About Healthy Relationships
5:35-6:25 pm	**DINNER**	
6:40-7:20 pm	Talent Show meeting and preparation	

DAY 3: Monday, August 17, 2015

TIME	TOPIC/EVENT
8:00-8:45 am	Attendance, breakfast, and planning for the day
8:45-9:00 am	Team guidelines for Amazing Race
9:00-11:00 am	**Campus Event: AMAZING RACE-** [redacted] offices and resources All Teams
11:10-12:00 pm	GENERAL SESSION: Reading for College
12:00-1:00 pm	**LUNCH**
1:10-2:00 pm	GENERAL SESSION: [redacted] Writing Center and Learning Studio Tour

2:10-3:00 pm	Group A: A closer look to my financial package- Work Study	Group B: Advising and advising resources: A closer look to my graduation plan
3:00-3:15 pm	**BREAK**	
3:15-4:00 pm	Using [redacted] Technology: Blackboard, *MySuccess*, and *Enroll and Pay*, the *Advising Tool*. Social media etiquette	
4:10-5:00 pm	Group B: A closer look to my financial package- Work Study	Group A: Advising and advising resources: A closer look to my graduation plan
5:10-6:00 pm	GENERAL SESSION University Career Center: Finding campus jobs	
6:15-7:00 pm	**DINNER and The Day's review**	

DAY 4: Tuesday, August 18, 2015

TIME	TOPIC/EVENT		LOCATION	NOTES
8:00-8:45	**Attendance, breakfast and preparing for the day**			
8:55-9:45	GENERAL SESSION: Developing and Enhancing my Study Skills			
10:00-11:00	Group A**: Campus Visit.** Library Tour	Group B**: Campus Visit.** Health Center and shortcut walk		
11:15-12:05	GENERAL SESSION: Setting Goals and Managing my time			
12:15-1:15	**LUNCH**			
1:30-2:20	Group B**: Campus Visit.** Library Tour	Group A**: Campus Visit**. Health Center and shortcut walk		
2:30-3:20	GENERAL SESSION Making the Grades: A professor's perspective			

3:35-4:25	**Campus Visit:** Ambler Rec Center
4:25-4:40	**BREAK**
4:40-5:30	GENERAL SESSION: Diversity, Social Behavior, and Academic Excellence
5:30-6:20	GENERAL SESSION: College Academic mindset
6:30-7:30	**DINNER**
7:30-9:00	OPTIONS Talent Show. Individual and Team competition

Day 5: Wednesday, August 19, 2015

TIME	TOPIC/EVENT
8:00-8:45 am	**Attendance, breakfast and preparing for the day**
8:55-9:45 am	GENERAL SESSION Student Involvement and Campus Resources Fair
9:45-9:55 am	**Break**
9:55-10:45 am	Legal Services for Students
10:45-11:45 am	Current and new student panel
11:45- 12:30 pm	Recognitions and certificates, evaluations, Amazing Race awards, and pictures. Scholarship selection.
12:30-1:30 pm	**Lunch and closing**

Appendix C: Sample Participation Agreement

ABP 2016

PARTICIPATON AGREEMENT

Name (please print) _____Date: _____

Please read carefully and mark (X) if you agree with the statement:

I UNDERSTAND THAT:

- ☐ ABP is a program designed to assist new freshmen with their transition to and academic success at [redacted]
- ☐ ABP is for first-semester freshmen attending the [redacted] in fall 2016
- ☐ ABP will cover the cost of room and board from August 14th - August 18th for students living on campus

  My residence hall is (please check):

  [redacted] _____ [redacted] _____ [redacted] _____ [redacted] _____ [redacted] _____

  [redacted] _____ [redacted] _____ [redacted] _____ [redacted] _____ Scholarship Hall _____
- ☐ Arrival to my residential hall will be:
  Sunday, August 14th between **8:30 AM and 10:00 AM**
- ☐ If I reside off campus (including [redacted], apartments, residences, or staying with friends/family during ABP week (August 14th –August 18th), I will be responsible for all the arrangements and for the cost of my accommodations. ABP will cover the cost of meals during the five days of the program
- ☐ Check-in for ABP will be:
  Sunday, August 14th at the [redacted] Union lobby at **1:30 PM**
- ☐ I am responsible for attending **all** sessions on time
- ☐ I am responsible for reading the [redacted] Common Book, *Between the World and Me*, by Ta-Nehisi Coates prior to ABP check-in
- ☐ Students who attend all sessions and complete all requirements will be entered into the drawing for one of five $500 textbook scholarships
- ☐ I am still required to attend [redacted] Orientation and to follow all of its guidelines. My Orientation date is/ was _____
- ☐ During the academic year, I am required to participate in at least one of the following programs (These programs provide direct services to students with the main goal of helping students stay in school and graduate):

- ☐ TRIO Supportive Educational Services or TRIO STEM program: TRIO works with first-generation, limited-income students, and students with disabilities, to help them remain in school and complete their degrees.
- ☐ Hawk Link: Academic retention-based program designed to assist students of color and/or first-generation college students in navigating their first year at [redacted].
- ☐ Kauffman Scholars Program (By invitation only)
- ☐ Hixson Scholars program (By invitation only)
- ☐ Enroll in UNIV 101 Freshman Seminar in the fall 2016 or LA&S 292 in the spring 2017. University 101 is [redacted] orientation seminar. This seminar helps students to make a smooth transition to [redacted] and provides an important foundation to their academic studies. The two-credit hour seminar is small, enrolling about 19 students in each section. I will learn about university resources, strategies for academic success, and ways to engage with the diverse [redacted] community.
- ☐ Other program providing academic success through the academic year: _____

☐ There will be group pictures taken during ABP. Pictures will be used to promote ABP and to invite other students to participate next year.

☐ The ABP program reserves the right to cancel my participation at any time if there are violations of the [redacted] Code of Student Rights and Responsibilities. The Code of Student Rights and Responsibilities outlines the rights of students and many of the standards of conduct expected within the University of Kansas community. See the complete document at: http://policy.[redacted].edu/code-student-rights-and-responsibilities-student-code

☐ If my participation is cancelled, I (please sign) _____ will be responsible for all costs incurred.

There will be the following Parent/Guardian Presentations (Sunday, August 14, 2016) - Optional:

☐ 2:30 - 3:00 PM Introductions and welcome
Please indicate the number of parent(s)/guardian(s) that will attend _____

☐ 3:00 - 3:30 PM: Parent-to-Parent panel (Parents of [redacted] alumni will have an informal conversation where new parents/guardians will have the opportunity to ask questions about campus life)
Please indicate the number of parent(s)/guardian(s) that will attend _____

☐ 3:30 - 4:30 PM: Financial Aid for Parents (The Assistant Director of [redacted] office of Financial Aid and Scholarships will provide an opportunity to parents/guardians to ask questions about grants, scholarships, and loans specific to their student)

Please indicate the number of parent(s)/guardian(s) that will attend _____

☐ 5:30 - 7:00 PM: A dinner buffet will be offered for ABP participants and up to two guests.

Please indicate the number of parent(s)/guardian(s) that will attend _____

I (please sign) _____ have read, understand, and agreed to the conditions listed above.

☐ I cannot attend.

The ABP is committed to providing access and reasonable accommodations during its services, programs meals, activities, and education. If you are in need of accommodations, please check here _____ and you will be contacted by a staff member.

Appendix D: Baker University IRB Approval

Baker University Institutional Review Board

December 15th, 2020

Dear Gretchen Heasty and Tes Mehring,

The Baker University IRB has reviewed your project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.
6. If this project is not completed within a year, you must renew IRB approval.

If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,

Nathan Poell, MLS
Chair, Baker University IRB

Baker University IRB Committee
Sara Crump, PhD
Nick Harris, MS
Christa Manton, PhD
Susan Rogers, PhD

Appendix E: Midwestern University Approval to Conduct the Study

Heasty, Gretchen Anne

From: ecompliance@[redacted]
Sent: Friday, January 8, 2021 4:22 PM
To: Heasty, Gretchen Anne
Subject: STUDY00146736 has been activated

Follow Up Flag: Follow up
Flag Status: Flagged

Template:IRB_T_SeveralStates_Active

Notification of Activation

To: Gretchen Heasty
Link: STUDY00146736
P.I.: Gretchen Heasty
Title: Effect of ABP on Outcomes and Service Use for First-Year TRIO SSS Students
Description: To review additional details, click the link above to access the project workspace.

eCompliance : Conflict of Interest and Human Subjects Research

[redacted]