DIFFERENCES IN MALE AND FEMALE FIRST-TIME-IN-COLLEGE STUDENT ENROLLMENT AT TEXAS COMMUNITY COLLEGES: A MULTIYEAR, STATEWIDE INVESTIGATION

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by

John P. Maynard II

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John P. Maynard II

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APPROVED:

Dr. John R. Slate
Dissertation Chair

Dr. Frederick C. Lunenburg
Committee Member

Dr. George W. Moore
Committee Member

Dr. Wally Barnes
Committee Member

Dr. Stacey L. Edmonson
Dean, College of Education

DEDICATION

I dedicate this dissertation to my mother, Judy, for her endless and unwavering support and love, for her immeasurable patience and understanding, for her infinite sacrifices made to provide the best opportunities for my siblings and I, for her enduring and steadfast spirit, and for her setting the standard of what it means to be a "good person." Also, I dedicate this work to my partner, Chris, the one person who, without their constant support, encouragement, and faith in what I could achieve, I would not have had the courage to start this journey. Thank you for seeing and believing in something that I could not see for myself.

ABSTRACT

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Purpose

The purpose of this journal-ready dissertation was to determine the degree to which changes have occurred among male and female, first-time-in-college students who enrolled full-time and part-time in Texas community colleges in the 2003-2004 academic year through the 2018-2019 academic year. Moreover, the degree to which differences were present in the enrollment percentages of male and female, first-time-in-college students enrolled full-time in Texas community colleges between the 2003-2004 and the 2018-2019 academic years were addressed. Furthermore, the extent to which differences were present in the enrollment percentages of male and female, first-time-in-college students enrolled part-time in Texas community colleges between the 2003-2004 and the 2018-2019 academic years were examined. Analyses of the trends present in male and female, first-time in college students who had been enrolled full-time, part-time, and both (full-time and part-time) in Texas community colleges during the 2003-2004 academic year through the 2018-2019 academic year were determined.

Method

For this investigation, a non-experimental, causal-comparative research design was employed. Archival data, from the Texas Higher Education Coordinating Board Interactive Accountability System, were obtained on all Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year. Participants were male and

female, first-time-in-college students who enrolled part-time, full-time and both (full-time and part-time) in Texas community college students.

Findings

Enrollment rates of male and female, first-time-in-college students in Texas community colleges over a 16-year span (i.e., between the 2003-2004 academic year and the 2018-2019 academic year), remained relatively constant. Male enrollment rates increased by 0.69% and female enrollment rates decreased by 0.69%. Regarding full-time male and female, first-time-in-college students enrolled in Texas community colleges, male rates increased by 0.48% while female rates decreased by 0.48%. Enrollment rates for male and female, part-time, first-time-in-college students enrolled in Texas community colleges varied by only 0.91% over the 16 years. Male enrollment increased whereas female enrollment decreased over time. Texas community colleges with the greatest increases in first-time-in-college, male and female enrollment rates were identified for full-time, part-time, and both enrollment statuses. Implications for policy and for practice were discussed and suggestions for future research were provided.

KEYWORDS: First-time-in-college, Enrollment rates, Male, Female, Texas community colleges

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CHAPTER I

INTRODUCTION

The establishment and development of community colleges in the 20th century are associated with dramatic changes in higher education as well as an increased demand for affordable, postsecondary education (Cohen, Brawer, & Kisker, 2014). Throughout the 20th century, community colleges thrived, due in part, to governmental initiatives that promoted an educated workforce to increased economic prosperity and growth and increased access to attract more students (Cohen et al., 2014; Kimbark, Peters, & Richardson, 2017). Further, the unique characteristics of community colleges, such as open admission policies, geographic proximity, ease of access, and low tuition and fees when compared to 4-year institutions, have resulted in dramatic increases in student enrollment in community colleges (Kimbark et al., 2017; Ma & Baum, 2016). Given the governmental support and unique attributes of community colleges, these postsecondary institutions allowed a greater portion of the population, in particular, students of color, low-income students, and first-generation students, an opportunity to pursue a postsecondary education (Gabbard & Mupinga, 2013; Jabbar, Sánchez, & Epstein, 2017; Ma & Baum, 2016).

Community colleges, referred to as *junior colleges*, were formed, in part, as a response to new technologies which required trained individuals to operate the new equipment and to alleviate the overall demand for higher education (Cohen et al., 2014). In the early 1900s, the mission of these junior colleges was to provide the first 2-years of college instruction in support of the 4-year universities and provide greater access to education (Cohen et al., 2014). By 1909, 20 junior colleges were admitting students, but

by the 1930s, this number grew to 440 junior colleges in the U.S. (Cohen et al., 2014). As the number of junior colleges increased, the mission of these institutions changed as well. According to Cohen et al. (2014), by 1925, the mission of junior colleges was to "develop a different type of curriculum suited to the larger and ever-changing civic, social, religious, and vocational needs of the entire community in which the college is located" (p. 4). During the 1960s, *community colleges* began to be used to refer to colleges that were publicly supported institutions, whereas junior colleges were specific to religious or lower-level satellite locations of private universities (Cohen et al., 2014). Moreover, by the 1970s, community colleges encompassed all 2-year institutions, supplanting the junior college nomenclature.

Community colleges experienced increased enrollment throughout the 20th century, especially in the 1960s, where enrollment began to grow dramatically. From 1965 to 1970, student enrollment at community colleges increased from 1 million to 2.2 million and further increased to 4.3 million by 1980 (Kasper, 2002). Between 1981 and 1999, community college enrollment grew to 5.3 million students. In the first decade of the 21st century, community college enrollment continued to increase, growing by 29%. Further, this growth trend is expected to continue throughout 2015 and 2026 (National Center for Education Statistics, 2015). In Texas, student enrollment at community colleges increased by 62% between 2000 and 2015 (Texas Association of Community Colleges, 2017). By fall 2017, over 1,100 community colleges were in operation in the U.S. (American Association of Community Colleges, 2018). The growth in the number of community colleges and student enrollment demonstrates the important role of community colleges in higher education. Community colleges began with the mission to

provide affordable, open-access education that supported local communities (Cohen et al., 2014; Jabbar et al., 2017). Although that mission is still true today, community colleges have expanded to provide a vast array of services, including vocational and occupational education, preparation for academic transfers to 4-year institutions, and the offering of bachelor's degrees (Bricker, 2008; Cohen et al., 2014; Nuñez, Sparks, & Hernández, 2011; Sanchez & Smith, 2017).

Review of the Literature on First-time-in-College Male and Female Students

Community colleges experienced a substantial increase, 29%, in student enrollment between 2000 and 2010 (National Center for Education Statistics, 2015). In in recent years; however, student enrollment in community colleges have decreased. According to the National Student Clearinghouse, from 2013 to 2016, community college student enrollment rates declined nationally by 15.0% (Juszkiewicz, 2017). In Texas, community college enrollment also experienced a downward trend from 2010-2015, although at a lesser rate, decreasing by 4.34% (Texas Higher Education Coordinating Board, 2015). In particular, Texas community colleges encountered declining female student enrollment. From 2010 to 2015, female enrollment at Texas community colleges decreased by nearly 7% compared to only a 1% decrease in male student enrollment at community colleges (Texas Higher Education Coordinating Board, 2015).

Despite those decreases, community college growth was predicted to grow between 2015 and 2026 (National Center for Education Statistics, 2015) and this growth appears to be true in Texas. From 2015 to 2018, enrollment in Texas community colleges increased by more than 8% and this growth was accomplished primarily through increased female student enrollment (Texas Higher Education Coordinating Board,

2019). According to the Texas Higher Education Coordinating Board (2019), female student enrollment increased more than 9% between 2015 and 2018, whereas male student enrollment increased by more than 6.5%. Moreover, overall student enrollment in community colleges has recently exhibited a trend of higher female enrollment. Nationally and in the State of Texas, female student enrollment was higher than male student enrollment in community colleges, with females representing 56% and 57%, respectively, of the community college population during the fall 2016 semester (American Association of Community Colleges, 2018; Texas Higher Education Coordinating Board, 2019).

With the gender differences associated with community college enrollment, exploring the different characteristics that influence male and female enrollment should to be examined. One factor that might affect student enrollment is differences in academic proficiencies between males and females. Often, females earned higher GPAs, perceived stronger noncognitive and resource management skills, such as studying with fellow students, effective time management, requested assistance, created time to study, attended college preparatory high schools, and expressed higher academic aspirations than males (Fortin, Oreopoulos, & Phipps, 2015; Heller & Cassady, 2017; Juszkiewicz, 2017; Sanchez, Lowman, & Hill, 2018). Because of the aforementioned characteristics, females tended to outperform males in completion and graduation rates at community colleges. Yu (2017) conducted a quantitative study in which he examined factors that influence academic achievement at community colleges and determined that enrolling full-time and being female were positively associated with completion of a credential within 6-years. Supporting Yu's findings, the National Student Clearinghouse

determined that 41.5% of females completed a credential within 6-years, whereas 35.7% males completed a credential within 6-years (Juszkieweicz, 2017).

Although academic factors influence enrollment and completion rates among male and female students at community colleges, non-academic characteristics might influence these rates, as well. Community colleges tend to enroll students who are racial/ethnic minorities, academically unprepared in reading and mathematics, first-generation, and low-income, and those students who are responsible for dependents (Atherton, 2014; Fike & Fike, 2008; Gabbard & Mupinga, 2017; Gibbons & Borders, 2010; Harlow & Bowman, 2016; Ma & Baum, 2016; Shumaker & Wood, 2016). In particular, the last two characteristics, having a dependent and being low income, might lead to additional personal and financial issues unrelated to academic skills and abilities that could influence enrollment and completion.

Community college students were more likely to have more than one job and obligations which conflict with college, such as dependents and work (Ampaw, Partlo, Hullender, & Wagner, 2015; Heller & Cassady, 2017). Ma and Baum (2016) determined that 69% of all community college students work, with one-third of students working full-time while enrolled in community college. Considering that low-income students often are discouraged by high levels of debt (Ma & Baum, 2016), these students frequently plan to use income earned from work to pay for college (McKinney & Novak, 2014). However, as students attempt to balance familial and workforce responsibilities, academic outcomes can suffer. Heller and Cassady (2017) ascertained that personal and financial issues negatively influenced academic outcomes and Yu (2017) confirmed that long-working hours negatively affected student completion and enrollment rates at

community colleges. Lee (2017) supported these findings, describing that community college students prioritized work responsibilities over academic-related responsibilities and suggested that students often did not persist because of work and financial concerns.

Although many community college students encounter financial challenges, these challenges often do not affect male and female community college students in the same manner. According to Sanchez and Smith (2017), female students were less likely to enroll in colleges perceived to have low affordability. Also, McKinney and Novak (2014) determined that more females than males applied for financial aid, demonstrating that many females viewed financial aid as important to their enrollment and success in college. In addition to the differences in affordability and financial aid, males and females frequently view the number and type of barriers to postsecondary education differently. In a qualitative study of barriers first-year, community college students encountered, Heller and Cassady (2017) identified that females perceived more barriers, both academic and non-academic, than males toward enrollment and persistence. Specifically, female students identified family concerns, such as childcare and dependent health, as their primary barrier whereas male students associated work conflicts as their primary barrier to postsecondary education. Sanchez and Smith (2017) supported these findings, indicating that females entering postsecondary education often must negotiate familial responsibilities and redefine their role in the family.

Additionally, male and female students exhibit differences in academically-related barriers and backgrounds, which could influence enrollment and persistence. As previously noted, female students exhibit higher persistence and enrollment rates when compared to male students Heller and Cassady (2017) ascertained that first-year, male

students had lower GPA scores compared to female students. Also, they established that male students perceived less anxiety associated with academic outcomes, whereas females perceived a higher level of anxiety surrounding academics. Although female students expressed higher levels of anxiety, they tended to have developed coping strategies, such as time-management skills, assertiveness to seek academic help, and stronger academic backgrounds, which help to mitigate the anxiety surrounding college (Fortin et al., 2015; Heller & Cassady, 2017; Juszkiewicz, 2017; Sanchez et al., 2018). Given these findings, community colleges might be inclined to heavily recruit female students or focus efforts on developing tools to assist male students. However, Yu (2018) determined that higher female student enrollment negatively influenced college enrollment and persistence rates and suggested that although female students perform better than males, females are most susceptible to non-academic responsibilities resulting in their withdrawal from postsecondary institutions.

Considering the relatively low persistence and completion rates among male and female community college students, Texas developed two educational initiatives to help increase those rates. From the 2000 and the 2015 academic years, *Closing the Gaps* was a program developed to increase student participation rates and student completion rates in Texas postsecondary institutions (Texas Higher Education Coordinating Board, 2005). In particular, goals of this program included increasing financial aid, limiting tuition and fee increases at colleges, and rewarding institutions that were successful in increase enrollment, persistence, and completion rates. The second initiative, *60x30*, was designed to increase completion rates of a credential at higher education institutions to 60% by 2030 (Texas Higher Education Coordinating Board, 2015). Other important

goals of this program were to (a) increase the number of students with a credential (e.g., a certificate, associate, bachelor's degree) from an institution of higher learning, (b) complete a program that makes the student desirable to potential employers, and (c) reduce the overall student debt (Texas Higher Education Coordinating Board, 2015). Additional strategies were included with this program, such as increasing female enrollment and first-time-in-college student enrollment. Considering that many students, including females, are susceptible to financial difficulties and often put work responsibilities before school due to these challenges, these programs might aid in increasing student enrollment.

Review of the Literature on First-time-in-College Full-time Students

For many students, community colleges provide a venue in which attaining a college degree or some form of postsecondary credential, such as a certificate, becomes possible. Several characteristics distinguish community colleges from 4-year institutions, such as (a) lower tuition, (b) smaller class sizes, (c) increased academic and student support services, (d) flexible scheduling, and (e) open-admission policies (Cohen et al., 2014; 4; Ma & Baum, 2016; Nuñez et al., 2011). Moreover, the geographical proximity of community colleges often serves as an initial factor in student decision-making processes regarding which institution to attend (Jabbar et al., 2017). Institutional features are not the only criteria; however, that differentiate community colleges from other postsecondary institutions. Community colleges provide a vast array of educational opportunities ranging from (a) developmental education to increase college-readiness skills, (b) vocational and occupational education, (c) academic degrees (e.g., associate

and bachelor's degrees), and (d) academic transfers to 4-year institutions (Bricker, 2008; Cohen et al., 2014; Nuñez et al., 2011; Sanchez & Smith, 2017).

The diverse characteristics and educational opportunities associated with community colleges have led to an increase in the varied backgrounds and attributes of the students who enroll (Sanchez & Smith, 2017). In particular, the open-door admissions policy of community colleges provides access to postsecondary education for groups of students, such as low-income, historically marginalized (i.e., racial/ethnic minority), and academically unprepared, who cannot attend 4-year institutions because of monetary issues and/or academic unpreparedness (Gabbard & Mupinga, 2013; Jabbar et al., 2017). Accessibility to community colleges through the open-door enrollment has resulted in a diverse student population in higher education (Boggs, 2011).

Given the heterogeneous nature of the students who attend community colleges, the characteristics that define community college students should be examined. Demographic characteristics of being a racial/ethnic minority, first-generation, nontraditional (i.e., 25 and older), and female are associated with students who attend 2-year institutions (Atherton, 2014; Fike & Fike, 2008; Gibbons & Borders, 2010; Ma & Baum, 2016; Shumaker & Wood, 2016). Moreover, these students exhibit certain academically related tendencies that differ from the academic-related tendencies of students at 4-year institutions. Often, community college students are more likely to be academically underprepared in reading, writing, and mathematics, enrolled part-time, less likely to persist after the first year, and less likely to graduate with a degree (Fike & Fike, 2008; Gabbard & Mupinga, 2017; Heller & Cassady, 2017; Stratton, O'Toole, & Wetzel, 2007).

Considering the attractiveness of the open-door policy to many students and the various educational opportunities offered by community colleges, student enrollment at community colleges have increased. From 2000 to 2010, student enrollment in community colleges increased 29% nationwide and from 2000 to 2016, student enrollment increased by 2.5% nationwide (National Center for Education Statistics, 2017). Although student enrollment in community colleges decreased from 2010 to 2016 (American Association of Community Colleges, 2018), enrollment is expected to increase nearly 21% between 2015 and 2026 (National Center for Education Statistics, 2017). Community colleges in the State of Texas experienced even greater growth in student enrollment during this same timeframe. According to the Texas Association of Community Colleges (2017), Texas community colleges had an increase of 62% in student enrollment between 2000 and 2015. Further, student enrollment is expected to increase by 14% in Texas community colleges from 2015 to 2030 (Texas Higher Education Coordinating Board, 2017b).

Among the students who enrolled in community colleges, first-time-in-college students continue to play an influential role. According to the American Association of Community Colleges (2018), during the fall 2015 semester, 40% of all students enrolled in community colleges nationwide were first-time students. Additionally, first-generation students comprised 36% of all students who enrolled in community colleges during the fall 2015 semester. The vast majority (i.e., 90%) of first-time students who enrolled in community colleges were first-generation students, as well. The large percentage of first-generation students enrolled in community colleges was expected as community colleges frequently enroll higher percentages of first-generation students than do 4-year

postsecondary institutions (Boggs, 2011; Giancola, Munz, & Trares, 2008; Thayer, 2000).

Considering the preponderance of first-generation students who are first-time-in-college students, the characteristics that define first-generation students are important to understand for first-time-in-college students. Often, first-generation students share many of the demographic and academic characteristics associated with their community college peers. Some overlapping attributes between first-generation students and other community college students are (a) a member of a racial/ethnic minority, (b) female, (c) lower socioeconomic status, (d) academically underprepared, and (e) less likely to persist and graduate with a degree (Ampaw, Partlo, Hullender, & Wagner, 2015; Atherton, 2014; Harlow & Bowman, 2016; Longwell-Grice, Adsitt, Mullins, & Serrata, 2016). Although first-generation students and their community college peers share many similar characteristics, often differences exist between these two groups of students. For instance, Atherton (2014) examined the academic preparedness of first-generation and non-first-generation students by examining three standardized academic measures (i.e., SAT mathematics scores, SAT reading scores, and high school GPA). In that study, first-generation students were more likely to have lower levels of academic preparedness than were non-first-generation students. Regarding socioeconomic status, first-generation students were more dependent on financial aid and more likely to work full-time and to have more than one job compared to their community college peers who were not lower socioeconomic, first-generation students (Ampaw et al., 2015; Harlow & Bowman, 2016).

Similarly, first-generation students frequently encounter challenges that many non-first-generation students do not experience. Harlow and Bowman (2016) indicated that first-generation students were more likely to (a) lack social support, (b) lack connections with fellow classmates, (c) expect negative academic outcomes, and (d) have difficulties acclimating into the campus environment. In a qualitative study on the perceptions and challenges of first-generation students, Longwell-Grice, Adsitt, Mullins, and Serrata (2016) reported that first-generation students described difficulties adapting to the college environment, understanding academic culture and interactions, and creating connections with other students. In particular, Longwell-Grice et al. (2016) noted the "absence of experienced-based information compromises first-generation students' ability to ask the questions that yield proper direction for navigating the cultures and bureaucracies of higher education" (p. 35). Given these many challenges, first-generation students have higher dropout rates and lower persistence rates than do non-first-generation students (Ampaw et al., 2015; Sanchez, Lowman, & Hill, 2018).

Another important feature of first-time-in-college students that potentially influences enrollment and persistence is gender. According to the National Center for Education Statistics (2017), from 2000 to 2016, female enrollment in community colleges nationwide increased by 30%. During the same timeframe, male enrollment increased slightly less, by 28%. In the fall 2016 semester, female students were the majority of the students who enrolled in community colleges nationally, comprising 56%, whereas only 44% of community college students were male (American Association of Community Colleges, 2018). In Texas, the percentages of female and male student enrollment in community colleges reflected this national trend. During the fall 2016 semester, female

students comprised nearly 57% of community college enrollment and male students comprised 43% of community college enrollment in Texas (Texas Higher Education Coordinating Board, 2019). Additionally, in the fall 2018 semester, female student enrollment in Texas community college was 58% compared to 42% male student enrollment.

Considering this enrollment trend, understanding how female and male students differ, particularly for first-time-in-college students is important. As previously discussed, females were more likely to enroll in higher education than males; however, female enrollment was more sensitive to the perceived affordability of higher education (Sanchez & Smith, 2017). Heller and Cassady (2017) examined male and female, first-year community college student perceptions toward academic challenges and barriers. The authors reported that female, first-year students perceived more academic stressors and barriers to enroll and to succeed in community colleges than males. These findings seem appropriate, given that females who enrolled in higher education were mostly first-generation and from a low-income background (Sanchez et al., 2018). Academically, differences exist between female and male students that might influence enrollment and persistence. Heller and Cassady (2017) reported that first-year, female students exhibited more coping skills and had higher GPA scores than first-year male students. Additionally, Sanchez et al. (2018) revealed that females who enrolled in postsecondary institutions had a stronger academic background in high school than males.

Another factor that might influence first-time-in-college student enrollment and persistence is enrollment intensity (i.e., full-time or part-time). According to Klempin (2014), higher full-time enrollment and more continuous semesters enrolled, were

associated with higher success at community colleges. Further, full-time enrollment for many postsecondary institutions was 12 credits per semester to match federal financial aid guidelines. Juszkiewicz (2017) examined enrollment, graduation, and completion rates of Texas community colleges associated with enrollment intensity. She determined that students who enrolled exclusively full-time, had a completion rate of 55% whereas students who enrolled exclusively part-time, had a completion rate of only 20%. For full-time, first-year students, the completion rate was 33%, compared to 17% for part-time, first-year students (Juszkiewicz, 2017). As such, full-time enrollment appeared to play a role in student success and completion.

To address some of the challenges and barriers faced by first-time-in-college students and others, the State of Texas established two educational initiatives. The first program, *Closing the Gaps by 2015: The Texas Higher Education Strategic Plan* (*Closing the Gaps*), aimed to increase participation rates and to increase student completion rates at Texas postsecondary institutions between 2000 and 2015 (Texas Higher Education Coordinating Board, 2005). Strategies to achieve these goals included (a) increasing financial aid availability, (b) monitoring tuition and fees at postsecondary institutions, and (c) disseminating information about the benefits and requirements of higher education. The second initiative, *Texas Higher Education Strategic Plan: 2015–2030: 60x30TX* (*60x30*), seeks to increase certificate/degree completion rates in Texas postsecondary institutions to 60% by 2030 among individuals between 25 and 34 years old (Texas Higher Education Coordinating Board, 2015). Given that first-time-in-college students tended to require financial aid, have lower completion rates, and be over the age

of 25, these programs potentially have been and will continue to be beneficial for first-time-in-college students to attain postsecondary credentials.

Review of the Literature on First-time-in-College Part-time Students

Community colleges perform a key role in providing students with an opportunity to earn a postsecondary credential, such as a certificate or associate degree. Open admission policies, lower tuition and fees, and the close proximity of community colleges to students' homes and work places have resulted in increased accessibility to postsecondary education (Boggs, 2011; Cohen, Brawer, & Kisker, 2014; Ma & Baum, 2016). In particular, students who have historically encountered barriers to higher education, such as students from low-income backgrounds, racial/ethnic minorities, first-generation students, and academically underprepared students, have benefitted from the presence and growth of community colleges (Boggs, 2011; Cohen et al., 2014; Jabbar, Sánchez, & Epstein, 2017). Given the many characteristics of community colleges that have opened higher education to all students, geographic proximity might be the most crucial factor in school selection. Cohen et al. (2014) asserted that the proximity of community colleges to students' homes was more important to increasing accessibility than open admissions. Moreover, Jabbar et al. (2017) documented that institutional location was more important for students when examining institutional options and that certain groups of students, such as first-generation and racial/ethnic minorities, often were more constrained by financial and geographical concerns.

Geography is important to students and the mission and function of community colleges. According to Boggs (2011), community colleges have a "responsibility for the economic development of the communities surrounding the colleges" (p. 3).

Additionally, Cohen et al. (2014) posited that community college curriculum was developed to support and to assist the needs of the surrounding community. Community colleges often fulfill this responsibility to the community by offering a wide range of educational opportunities. Such services include (a) non-credit courses for certifications and personal development, (b) developmental courses to increase mathematic and writing skills, (c) pathways for transferring to a 4-year college, and (d) associate and bachelor's degrees (Boggs, 2011; Cohen et al., 2014; Nuñez et al., 2011; Sanchez & Smith, 2017).

Associated with this mission to the local community, community colleges often enroll students from diverse demographic and educational backgrounds. According to the American Association of Community Colleges (2018), of the students who enrolled in community colleges in the fall 2016 semester, more than one half were a racial/ethnic minority, more than one third were first-generation, over 30% were over the age of 25, and more than one half were female. Specifically, 63% of students attending community colleges were enrolled part-time, and 59% of students were enrolled in credit-level courses. In Texas, the diversity of students who enrolled in community colleges reflected the national data. In the fall 2015 semester, approximately 66% of students were ethnic/racial minorities, nearly 30% were over the age of 25, 57% of students were female, and 76% of students were enrolled part-time (Texas Higher Education Board of Education, 2018).

Given these trends in student enrollment, both nationally and in Texas, examining the characteristics of students might provide a better understanding of the community college population and how those characteristics are related to enrollment and persistence. More than one third of students who enrolled in community college were

first-generation students. Some attributes associated with first-generation students when compared to non-first-generation students were (a) racial/ethnic minority, (b) more dependent on financial aid, (c) more likely to have additional responsibilities (e.g., familial dependents, employment), (d) more likely from a low socioeconomic status, and (e) more likely to not be college ready in mathematics, reading, and writing (Ampaw, Partlo, Hullender, & Wagner, 2015; Atherton, 2014; Fike & Fike, 2008; Harlow & Bowman, 2016; Lee, 2017; Ma & Baum, 2016). Furthermore, first-generation students often perceive more barriers in higher education than non-first-generation students. Some perceived barriers included lack of faculty support, difficulty integrating into the college setting, and lack of understanding the cultural and academic norms of a college (Ampaw et al., 2015; Harlow & Bowman, 2016; Longwell-Grice, Adsitt, Mullins, & Serrata, 2016).

In particular, the challenges associated with financial aid and the affordability of college encountered by many first-generation students is worth examining. Community colleges often attract students from low-income backgrounds because of lower tuition and fees when compared to 4-year institutions. Ma and Baum (2016) reviewed national data and determined that public, community college tuition and fees were approximately $6,000 lower than in-state, public 4-year college tuition and fees. Although community colleges represent a cheaper alternative to higher education, many students, including first-generation students, still struggle with managing the cost of college. Longwell-Grice et al. (2016) examined the perceptions of first-generation students toward college enrollment and their first-year experience and documented that money was commonly viewed by students as a barrier. Often, first-generation students qualify for various forms

of financial aid to assist with financial difficulties but encounter other problems. McKinney and Novak (2015) indicated that many first-year students do not submit or submit late the free application for federal student aid resulting in the loss or lowering of federal financial aid. Longwell-Grice et al. (2015) noted that financial aid, when present, frequently was not sufficient to cover all expenses, especially non-academically-related expenses, such as transportation, food, and rent. Associated with these financial issues, first-generation students were more likely to enroll in community colleges on a part-time basis (Ampaw et al., 2015).

Considering the financial difficulties many students, such as first-generation students, encounter and the lack or insufficiency of financial aid, many students work while enrolled in community colleges. The need to work while enrolled in community college might be a substantial reason why part-time student enrollment is high. Part-time enrollment of community colleges students has increased over the past few decades due, in part, to more students working while enrolled in college (Cohen et al., 2014; Fike & Fike, 2008). According to the American Association of Community Colleges (2018), 63% of students attending community colleges during the fall 2016 semester were enrolled as part-time students. Moreover, Ma and Baum (2016) determined that 71% of part-time students who attended public, 2-year institutions were employed, with 38% of these students working full-time. The large number of students who work while enrolled in college often resulted in increased difficulties balancing personal and academic responsibilities (Harlow & Bowman, 2016). Lee (2017) reported that students prioritized work duties over academic duties and that students were not willing to decrease their income to enroll or to remain in college. These financial and work-school balance

difficulties might influence community college student enrollment, persistence, and completion rates. Part-time students exhibited lower persistence rates and higher dropout rates when compared to full-time students (Ampaw et al., 2015; Harlow & Bowman, 2016; Klempin, 2014; Lee, 2017; Sanchez, Lowman, & Hill, 2018).

Financial and work-related issues may not be the only reasons why part-time student enrollment has increased and continues to be high in community colleges. In addition to work-related concerns, many students who enroll in community colleges experience other potential challenges,, such as familial dependents, lack of self-regulatory and efficacy skills (e.g., time management, lack of confidence), and lack of academic expectations (Ampaw et al., 2015; Lee, 2017). In a recent investigation, Lee (2017) analyzed specific challenges and barriers that part-time students perceived when enrolled in community colleges. Lee documented that in addition to financial barriers, part-time students often experienced academic and personal challenges. Such academic and personal barriers expressed by part-time students included a decreased sense of belonging on campus, conflicts between work schedule and limited course offerings, unfamiliarity with academic policies, and difficulties with time management. Specifically, Lee (2017) established that 83% of part-time students identified the inability to balance personal responsibilities and academic responsibilities as a major challenge when enrolled in community college.

Another potential factor that has resulted in the increase in part-time student enrollment at community colleges is gender. Cohen et al. (2014) determined that female student enrollment has increased and this increase in female enrollment, in part, has led to an increase in part-time enrollment. From 2000 to 2016, female student enrollment in

community colleges increased by 30% (National Center for Education Statistics, 2017) and in the fall 2016 semester, female students represented more than one half of the student population in national and Texas community colleges (American Association of Community Colleges, 2018; Texas Higher Education Coordinating Board, 2017). Academically, female students often exhibit higher GPAs, higher completion and graduation rates, and greater coping skills when compared to males enrolled in community colleges (Heller & Cassady, 2017; Juszkiewicz, 2017). However, females tend to have more factors unrelated to academic variables that force female students to enroll part-time. In a recent article, Heller and Cassady (2017) addressed the perceived challenges and barriers of first-year, male and female community college students. They established that females identified higher levels of academic anxiety and perceived barriers compared to males and that females identified family concerns as their primary barrier whereas males identified work was their primary barrier. In their study, females described increased barriers involving family issues, such as health of dependents, childcare, and family responsibilities than did males (Heller & Cassady, 2017).

In an effort to ameliorate some of the difficulties these first-time-in-college, part-time students encounter and to support these students, Texas enacted two educational programs. *Closing the Gaps*, an educational initiative between the 2000 and 2015 academic years, sought to enhance student participation rates and to improve student completion rates in Texas higher education institutions (Texas Higher Education Coordinating Board, 2005). One aspect of this proposal focused on ensuring the affordability of higher education in Texas by providing more grants and scholarships based on financial need and by monitoring tuition and fees at postsecondary institutions

to avoid deterring student enrollment. Building on *Closing the Gaps*, *60x30* is a Texas educational initiative to increase student completion rates in postsecondary institutions to 60% by 2030 (Texas Higher Education Coordinating Board, 2015). Although the primary goal of *60x30* is to increase student completion, another important aspect of this program is to limit student loan debt. Considering the financial instability that many students encounter, particularly first-time-in-college and part-time students, these educational approaches might have improved student completion.

Statement of the Problem

Although community college enrollment has increased since the 1980s and is expected to continue increasing, both nationally and in Texas (National Center for Education Statistics, 2017; Texas Higher Education Coordinating Board, 2017b), recently community college enrollment has declined (American Association of Community Colleges, 2018). According to the College Board (2018), community college enrollment between 2010 and 2016 decreased by 12% and during this same time-period, enrollment of full-time students declined by over 750,000 students. This decline in community college enrollment, in particular first-time, full-time student enrollment, might influence completion rates at community colleges. Full-time community college students have higher completion and graduation rates when compared to part-time students (Juszkiewicz, 2017) and the loss of full-time student enrollment could result in lower persistence and completion rates. Additionally, first-time-in-college and first-generation students, which comprise a substantial percentage of community college students, have lower graduation and persistence rates (Ampaw et al., 2015; Sanchez et al., 2018). The

inability to enroll first-time-in-college students full-time could result in even lower completion and persistence rates.

Furthermore, part-time students comprise a substantial portion of students who enroll in community colleges and a considerable percentage of these part-time students are employed because of issues surrounding the affordability of college (Lee, 2017; Ma & Baum, 2016). Often, low-income students enroll in community colleges because of lower tuition and fees compared to 4-year institutions, yet these students still struggle to afford both college and personal expenses, requiring these students to work (Ma & Baum, 2016). As Lee (2017) mentioned, for part-time students, the income provided by their employment was more important and took precedence over enrolling and persisting in community college. Given these financial difficulties, financial aid could play a major role in facilitating part-time student enrollment and assisting their success once enrolled. However, many part-time, community college students encounter difficulties associated with financial aid, in particular, applying for financial aid and receiving enough financial aid. McKinney and Novak (2014) stated that many low-income students who qualified for financial aid did not complete the free application for federal student aid. Ma and Baum (2016) determined that community college students who had the greatest financial need were less likely to apply for financial aid. Even when part-time students apply for financial aid, frequently the financial aid is unavailable or not enough to support all costs associated with an individual student. As part-time students enroll in fewer credit hours, often they do not qualify for the full amount of federal financial aid which requires a student be enrolled for 12 credit hours per semester (Klempin, 2014). Therefore, the amount of financial aid available for part-time students is limited. Moreover, even if

part-time students receive enough financial aid to cover all academically-related expenses, this financial aid often does not completely cover personal expenses, causing the student to work. As Longwell-Grice et al. (2016) affirmed, financial aid often did not cover expenses associated with college, such as transportation and rent.

The lack of applying for financial aid, the lack of sufficient financial aid to cover all expenses, and the need to work by part-time students might influence their enrollment and completion rates. Part-time students have exhibited higher rates of attrition and lower rates of graduation compared to full-time students often due to multiple conflicting obligations, such as work and family (Ampaw et al., 2015; Natale & Jones, 2017). Furthermore, Juszkiewicz (2017) discovered that part-time students enrolled in community colleges had a completion rate of 20.4% and first-time-in-college, part-time students had an even lower completion rate of 17.0%. Further, she determined that part-time students who did not complete community college requirements were more likely to re-enroll but at a different institution. Therefore, by analyzing the enrollment trends of part-time and full-time, first-time-in-college students, educational administrators and researchers could establish the effectiveness of current educational measures to assist and promote student completion at community colleges and to provide an affordable education at community colleges.

Lastly, the lack of full-time and part-time student persistence and completion rates at community colleges might lead to a decline in state and national economic activity and financial instability for the students. Nationally, the economic demand for an educated and skilled workforce has increased over time and more jobs exist which require some form of postsecondary credential (Ampaw et al., 2015; Juszkiewicz, 2017). The Texas

Higher Education Coordinating Board (2015) suggested that the state lacks enough educated citizens to meet the demands of a growing economy. Furthermore, the failure to increase student persistence and completion rates could result in a decline of $3,000 in household income and an increase in poverty rates by 3% in Texas (Texas Higher Education Coordinating Board, 2015). With respect to the financial outlook, students who did not earn a degree (e.g., associate's or bachelor's) experienced higher unemployment rates and lower weekly salaries when compared to students with a college degree (U.S. Bureau of Labor Statistics, 2017). Therefore, determining which policies and programs effectively support enrollment and persistence of part-time and full-time students is important for the economic outlook for college graduates, the state, and country.

Purpose of the Study

The purpose of this journal-ready dissertation was to determine the degree to which changes have occurred among male and female, first-time-in-college students who were enrolled full-time and part-time in Texas community colleges in the 2003-2004 academic year through the 2018-2019 academic year. In particular, the degree to which differences were present in the enrollment percentages of male and female, first-time-in-college students who were enrolled full-time in Texas community colleges between the 2003-2004 and the 2018-2019 academic years were addressed. Furthermore, the extent to which differences were present in the enrollment percentages of male and female, first-time-in-college students who had been enrolled part-time in Texas community colleges between the 2003-2004 and the 2018-2019 academic years were examined. Lastly, analyses of the trends present in male and female, first-time in college students who had

been enrolled full-time, part-time, and both (full-time and part-time) in Texas community colleges during the 2003-2004 academic year through the 2018-2019 academic year were determined.

Significance of the Study

Considering the objectives of many educational initiatives, such as *Closing the Gaps* and *60x30*, are to improve and to increase student enrollment rates and student completion rates in community colleges, the effectiveness of these policies, as well as the strategies included in these policies, need to be explored. McKinney and Hagedorn (2017) indicated that the success of these educational initiatives will rely heavily on the improvement of student success at community colleges because more than one half of Texas higher education students are enrolled in community colleges. Therefore, through a thorough examination of these programs, effective practices might be identified regarding ways to increase student enrollment and completion as well as ineffective strategies that might hinder student enrollment and completion in Texas community colleges. By removing ineffective policies and strategies, while strengthening and supporting successful policies and strategies, community college leaders and legislators will be able to use data-driven methods to improve student enrollment and overall student success. Further, postsecondary institutions, including community colleges, are under renewed scrutiny by the general public and politicians to demonstrate efficient use of funding and to provide evidence of quality and worth (Juszkiewicz, 2017; Natale & Jones, 2018). This increased interest in the operation of higher education institutions is visible in the funding calculations of community colleges in Texas. Historically, Texas community colleges were funded on a formula using student enrollment but in 2013, the

state altered their funding model, setting aside 10% of the funding to be allocated based on the outcomes of certain student performance metrics (McKinney & Hagedorn, 2017; Natale & Jones, 2018). Some of these metrics that determine institutional funding are the completion of developmental courses, achieving semester hour benchmarks (e.g., 15 hours, 30 hours), and the completion of a degree or certificate (McKinney & Hagedorn, 2017). Therefore, community college administrators must develop and implement effective strategies to increase student enrollment and student success and to address the concerns of stakeholders.

Increased student enrollment and student completion rates provide several benefits to the students and the overall economy. According to the U.S. Bureau of Labor Statistics (2017), the unemployment rate for individuals with an associate's degree was 1.6% lower compared to individuals with only a high school diploma. Furthermore, the median weekly salary for individuals with an associate's degree was 18% higher than the median weekly salary of individuals with only a high school diploma. Other benefits of obtaining a degree for students include enhanced job skills, increased quality of life and job satisfaction, and increased social mobility (College Board, 2018; Fike & Fike, 2008; Texas Higher Education Coordinating Board, 2015). Student degree attainment positively affects the overall economy. In Texas, students with degrees are expected to add $524.9 billion in added income resulting in a substantial increase in tax revenues (Texas Higher Education Coordinating Board, 2015). Moreover, as student completion rates increase, public expenditures decrease, the number of small businesses and entrepreneurship programs increase, and public assistance programs decrease (Texas Higher Education Coordinating Board, 2005, 2015). Given the many benefits associated

with student success and degree attainment, determining what strategies effectively increase enrollment and student completion is of paramount importance.

Definition of Terms

The following terms are defined to assist the reader in understanding the context of this journal-ready dissertation.

Academic Year

The Texas Higher Education Coordinating Board (2017a) defined an academic year as "the 12-month period of time generally extending from September to August" (p. 1).

Accountability System

The Higher Education Accountability System is defined by the Texas Higher Education Coordinating Board (2017a) as a system

> used to track performance on critical measures that exemplify higher education institutions' missions. The System is modeled on the state's higher education plan, *Closing the Gaps* by 2015. Its major focus is on the four *Closing the Gaps* targets areas of participation, success, excellence, and research. (p. 1)

Community College

According to Cohen, Brawer, and Kisker (2014), a community college is "an institution regionally accredited to award the associates in arts and associates in science as its highest degree" (p. 5).

First-time-entering Student

The Texas Higher Education Coordinating Board (2017a) defined a first-time-entering student as "an entering student who has never attended any college. Also

includes students who enter with advanced standing (college credits earned before graduation from high school). Students who have no completed their high school work are not included" (p. 32).

Full-time Student

The Texas Higher Education Coordinating Board (2017a) defined a full-time student as:

> an undergraduate student's enrolled in 12 or more semester credit hours in a long semester is considered full-time. An academic graduate student (master's, doctoral, or first-professional) enrolled for 9 or more semester credit hours in a long term or students involved in thesis or dissertation preparation are considered full time by the institution. (p. 34)

Part-time Student

The Texas Higher Education Coordinating Board (2017a) defined a part-time student as "an undergraduate student enrolled for either 11 semester credits or less or less than 24 contact hours per week each term. A graduate student enrolled for eight semester credits or less" (p. 47).

Texas Higher Education Coordinating Board

The Texas Higher Education Coordinating Board (n.d.) defined the Texas Higher Education Coordinating Board as an organization that, "provide(s) leadership and coordination for Texas higher education and to promote access, affordability, quality, success, and cost efficiency through 60x30TX, resulting in a globally competitive workforce that positions Texas as an international leader" (para. 1).

Texas Higher Education Coordinating Board Interactive Accountability System

The Texas Higher Education Coordinating Board (2017a) defined the Texas Higher Education Coordinating Board Interactive Accountability System as the system that "is used to track performance on critical measures that exemplify higher education institutions' missions" (p. 1).

Texas Higher Education Coordinating Board Rules and Regulations

The Texas Higher Education Coordinating Board (2017a) defined the Texas Higher Education Coordinating Board Rules and Regulations as "the policies and procedures which regulate the operation of public higher education institutions within the state of Texas" (p. 63).

Literature Review Search Procedures

For this journal-ready dissertation, the literature related to first-time-in-college students, gender, and enrollment intensity (i.e., full-time or part-time enrollment) was reviewed. Electronic databases were the primary sources for relevant articles associated with these topics. Two electronic databases used in the search were Education Source and Educational Resources Information Center and EBSCO Host. In addition, public archival data were used in the search from various sources such as (a) U.S. Department of Education, (b) U.S. Bureau of Labor Statistics, (c) Texas Higher Education Coordinating Board, and (d) American Association of Community Colleges.

For each of the mentioned electronic databases, several variations of keywords were used in the search. The various keywords used were *first-time-in-college, first-year, gender, male, female, enrollment, part-time, full-time, and community college*. For EBSCO Host, the initial search of *first-time-in-college* and *community college* generated

142 articles and *first-year* and *community college* generated 265 articles. When the term *enrollment* was included, the former search generated 10 articles whereas the latter produced 51 articles. In searching Education Source and Educational Resources Information Center with the keywords *first-time-in-college* and *community college*, 22 articles were located. When *first-year* and *community college* were searched, 508 articles were produced. Lastly, when *enrollment* was added to each search, the former generated 10 articles, whereas the latter produced 39 articles.

For all searches conducted on the electronic databases, several criteria were determined for article inclusion. First, all articles were peer-reviewed and scholarly in nature. Second, articles were required to be published after the year 2005 to be relatively current. Lastly, all articles were analyzed to determine the relevancy to the topic of first-time-in-college students associated with community colleges.

Delimitations

In this journal-ready dissertation, the dataset that was used to examine the enrollment status (i.e., full-time vs. part-time student) of male and female first-time-in-college students in Texas community colleges was obtained from the Texas Higher Education Coordinating Board Interactive Accountability System. The dataset that was analyzed contains only self-reported data from Texas community colleges regarding gender and enrollment status of their first-time-in-college students. Therefore, the degree to which results would be generalizable to other postsecondary institutions, to other states, and to other types of students (i.e., not first-time-in-college students) is not known. Also, the data that were analyzed were for only the 2003-2004 through the 2018-2019

academic years. Restricting the academic years in which the data were analyzed limits the extent to which the results may be generalized.

Limitations

For this journal-ready dissertation, the enrollment percentages of male and female first-time-in-college, Texas community college students were analyzed by full-time enrollment, part-time enrollment, and by both full-time and part-time enrollment. As such, limitations exist that are associated with the internal validity of this investigation. According to Johnson and Christensen (2017), internal validity is the "ability to infer that a causal relationship exists between two variables" (p. 285). One threat to the internal validity of this study was the accuracy in which the data were collected and reported by the Texas community colleges to the Texas Higher Education Coordinating Board Interactive Accountability System. Given that the data were self-reported by Texas community colleges to the Texas Higher Education Coordinating Board, the degree to which the data were reported accurately by Texas community colleges could influence the accuracy of the findings of the three articles in this journal-ready dissertation. Another threat to the internal validity of this investigation was the limitation of academic years, from 2003-2004 through 2018-2019, in the dataset. The fact that the State of Texas had a major educational initiative (i.e., *Closing the Gaps*) during the same timeframe, may have caused additional focus to be placed on first-time-in-college students and their enrollment status. Therefore, variables other than first-time-in-college and enrollment status of the students could be associated with any results that may be present.

Assumptions

For this journal-ready dissertation, the assumption was that the data compiled and reported to the Texas Higher Education Coordinating Board Interactive Accountability System were accurate. The Texas Higher Education Coordinating Board did not provide instructions for Texas community colleges to update or modify submitted data. Therefore, the collection and presentation of the data from the participating Texas community colleges and the Texas Higher Education Coordinating Board may influence the accuracy of the findings in this investigation. Results obtained from this journal-ready dissertation would be influenced by any discrepancies or errors in the Texas Higher Education Coordinating Board Interactive Accountability System data.

Procedures

Following the approval of this journal-ready dissertation from the doctoral dissertation committee, an application was submitted to the Sam Houston State University Institutional Review Board to perform the study. Upon approval from the Institutional Review Board, data from the Texas Higher Education Coordinating Board Interactive Accountability System were downloaded and analyzed. The data collected and analyzed were from the 2003-2004 through the 2018-2019 academic years. All data sets were publicly available through the website of the Texas Higher Education Coordinating Board.

Organization of the Study

For this journal-ready dissertation, three research studies were conducted. In the first study, research questions were analyzed on male and female, first-time-in-college student enrollment in Texas community colleges over time. For the second study, the

research questions that were addressed were on full-time enrollment of male and female, first-time-in-college students in Texas community college students over time. Lastly, the research questions for the third study were examined were on part-time enrollment of male and female, first-time-in-college students in Texas community colleges over time.

This journal-ready dissertation is comprised of five chapters. Chapter I includes the background of the study, statement of the problem, purpose of the study, significance of the study, definition of terms, delimitations, limitations, assumptions, and outline of the journal-ready dissertation. In Chapter II, the degree to which differences might be present between male and female, first-time-in-college students who enrolled in Texas community colleges was the focus. In Chapter III, the degree to which differences might be present in enrollment percentages between male and female, first-time-in-college students who enrolled full-time in Texas community colleges was examined. In Chapter IV, the extent to which differences might exist between male and female, first-time-in-college students who enrolled part-time in Texas community colleges was discussed. Finally, in Chapter V results from the data analyses conducted for each of the three research articles in this journal-ready dissertation were summarized and discussed in the context of existing research literature. Moreover, potential implications for policies and stakeholders were discussed, as well as recommendations for future research.

CHAPTER II

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

In this multiyear, statewide investigation, the degree to which enrollment rates of male and female, first-time-in-college students enrolled in Texas community colleges differed from the 2003-2004 academic year to the 2018-2019 academic year was determined. Inferential statistical procedures did not reveal the presence of statistically significant differences in enrollment rates of male and female, first-time-in-college students enrolled in Texas community colleges from the 2003-2004 academic year to the 2011-2012 academic year, from the 2011-2012 academic year to the 2018-2019 academic year, and from the, 2003-2004 academic year to the 2018-2019 academic year. For male, first-time-in-college students enrolled in Texas community colleges enrollment rates remained around 46% for all 16 academic years and enrollment rates for female, first-time-in-college students enrolled in Texas community colleges remained around 54% for all 16 academic years. Implications for policy and suggestions were provided based on these findings.

Keywords: First-time-in-college students, Enrollment rates, Texas community colleges, Male, Female

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

Community colleges experienced a 29% increase in student enrollment between 2000 and 2010 (National Center for Education Statistics, 2015). In recent years, however, student enrollment rates in community colleges have decreased. According to the National Student Clearinghouse, from 2013 to 2016, community college student enrollment rates declined nationally by 15.0% (as cited in Juszkiewicz, 2017). In Texas, community college enrollment also experienced a downward trend from 2010-2015, although at a lesser rate, decreasing by 4.34% (Texas Higher Education Coordinating Board, 2015). In particular, Texas community colleges encountered declining female student enrollment. From 2010 to 2015, female enrollment at Texas community colleges decreased by nearly 7% compared to only a 1% decrease in male student enrollment at community colleges (Texas Higher Education Coordinating Board, 2015).

Despite those decreases, community college growth was predicted to grow between 2015 and 2026 (National Center for Education Statistics, 2015) and this growth appears to be true in Texas. From 2015 to 2018, enrollment in Texas community colleges increased by more than 8%, and this growth was accomplished particularly through increased female student enrollment (Texas Higher Education Coordinating Board, 2019). According to the Texas Higher Education Coordinating Board (2019), female student enrollment increased more than 9% between 2015 and 2018, whereas male student enrollment increased by more than 6.5%. Moreover, overall student enrollment in community colleges have recently exhibited a trend of higher female

enrollment. Both nationally and in the State of Texas, female student enrollment was higher than male student enrollment in community colleges, with females representing 56% and 57%, respectively, of the community college population during the fall 2016 semester (American Association of Community Colleges, 2018; Texas Higher Education Coordinating Board, 2019).

Given the gender differences associated with community college enrollment, exploring the different characteristics that influence male and female enrollment should to be examined. One factor that might affect student enrollment is academic differences between males and females. Often, females earned higher GPAs, perceived stronger noncognitive and resource management skills, such as studying with fellow students, effective time management, requesting assistance, and creating time to study, attended college preparatory high schools, and expressed higher academic aspirations than males (Fortin, Oreopoulos, & Phipps, 2015; Heller & Cassady, 2017; Juszkiewicz, 2017; Sanchez, Lowman, & Hill, 2018). Associated with these characteristics, females tended to outperform males in completion and graduation rates at community colleges. Yu (2017) conducted a quantitative study in which he examined factors that influence academic achievement at community colleges and determined that enrolling full-time and being female were positively associated with completion of a credential within 6-years. Supporting Yu's findings, the National Student Clearinghouse determined that 41.5% of females completed a credential within 6-years, whereas 35.7% males completed a credential within 6-years (Juszkieweicz, 2017).

Although academic factors influence enrollment and completion rates among male and female students at community colleges, non-academic characteristics might

influence these rates, as well. Community colleges tend to enroll students who are (a) racial/ethnic minorities, (b) academically unprepared in reading and mathematics, (c) first-generation, (d) responsible for a dependent, and (e) low-income (Atherton, 2014; Fike & Fike, 2008; Gabbard & Mupinga, 2017; Gibbons & Borders, 2010; Harlow & Bowman, 2016; Ma & Baum, 2016; Shumaker & Wood, 2016). In particular, the last two characteristics, having a dependent and low income, might lead to additional personal and financial issues unrelated to academic skills and abilities that could influence enrollment and completion.

Community college students were more likely to have more than one job and obligations which conflict with college, such as dependents and work (Ampaw, Partlo, Hullender, & Wagner, 2015; Heller & Cassady, 2017). Ma and Baum (2016) determined that 69% of all community college students work, with one-third of students working full-time while enrolled in community college. Considering that low-income students often are discouraged by high levels of debt (Ma & Baum, 2016), these students frequently use income earned from work to pay for college (McKinney & Novak, 2014). However, as students attempt to balance these various responsibilities, academic outcomes can suffer. Heller and Cassady (2017) indicated that personal and financial issues negatively influence academic outcomes and Yu (2017) confirmed that long-working hours negatively affect student completion and enrollment rates at community colleges. Lee (2017) supported these findings in her study, describing that community college students prioritize work responsibilities over academic-related responsibilities and suggested that students often do not persist because of work and financial concerns.

Although many community college students encounter financial challenges, these challenges often do not affect male and female community college students in the same manner. According to Sanchez and Smith (2017), female students were less likely to enroll in colleges perceived to have low affordability. Also, McKinney and Novak (2014) determined that females were much more likely to file and to receive financial aid than males, demonstrating that many females viewed financial aid as important to their enrollment and success in college. In addition to the differences in affordability and financial aid, males and females frequently view the number and type of barriers to postsecondary education differently. In a qualitative study of barriers first-year, community college students encountered, Heller and Cassady (2017) ascertained that females perceived more barriers, both academic and non-academic, than males toward enrollment and persistence. Specifically, female students identified family concerns, such as childcare and dependent health, as their primary barrier whereas male students associated work conflicts as their primary barrier to postsecondary education. Sanchez and Smith (2017) supported these findings, indicating that females entering postsecondary education often must negotiate familial responsibilities and redefine their role in the family.

Additionally, male and female students exhibit differences in academically-related barriers and backgrounds, which could influence enrollment and persistence. As previously noted, female students exhibit higher persistence and enrollment rates when compared to male students. Heller and Cassady (2017) ascertained that first-year, male students had lower GPA scores compared to female students. Also, they identified that male students perceived less anxiety associated with academic outcomes, whereas

females perceived a higher level of anxiety surrounding academics. Although female students expressed higher levels of anxiety, female students tended to have developed coping strategies, such as time-management skills, seeking academic help, and stronger academic backgrounds, which help to mitigate the anxiety surrounding college (Fortin et al., 2015; Heller & Cassady, 2017; Juszkiewicz, 2017; Sanchez et al., 2018). Given these findings, community colleges might be inclined to heavily recruit female students or focus efforts on developing tools to assist male students. However, Yu (2018) determined that higher female student enrollment negatively influenced college enrollment and persistence rates and suggested that although female students perform better than males, females are most susceptible to non-academic responsibilities resulting in their withdrawal from an institution.

Considering the relatively low persistence and completion rates among male and female community college students, Texas developed two educational initiatives to help increase those rates. From the 2000 and the 2015 academic years, *Closing the Gaps by 2015: The Texas Higher Education Strategic Plan* (*Closing the Gaps*) was a program developed to increase student participation rates and student completion rates in Texas postsecondary institutions (Texas Higher Education Coordinating Board, 2005). In particular, goals of this program included increasing financial aid, limiting tuition and fee increases at colleges, and rewarding institutions that were successful in increase enrollment, persistence, and completion rates. The second initiative, *Texas Higher Education Strategic Plan: 2015–2030: 60x30TX* (*60x30*), was designed to increase completion rates of a credential at higher education institutions to 60% by 2030 (Texas Higher Education Coordinating Board, 2015). Although many strategies were included

with this program, increasing female enrollment and containing student loan debt, were highlighted. Considering that many students, especially females, are susceptible to financial difficulties and often put work responsibilities before school due to these challenges, these programs might aid in increasing student enrollment.

Statement of the Problem

Community colleges enroll a substantial portion of students who enroll in higher education institutions and in Texas, enrolling more than one half of all students who enroll in postsecondary education (McKinney & Hagedorn, 2017). Given that community college enrollment has experienced recent declines (American Association of Community Colleges, 2018; College Board, 2018), determining factors that promote student enrollment and persistence should be identified. As previously noted, Texas community college enrollment trends reflected the patterns of female student enrollment with higher female enrollment supporting an increase in community college enrollment and similarly enrollment declines were associated with decreased female enrollment (Texas Higher Education Coordinating Board, 2019). However, female enrollment in community colleges also affect student success rates, as female students exhibited higher persistence and completion rates than males (Juszkiewicz, 2017; Ma & Baum, 2016) and the loss of female student enrollment might negatively influence future persistence and completion rates. By examining the enrollment trends of female students, policymakers and educational leaders might ascertain the degree to which current educational initiatives and programs assist and promote student retention and success at community colleges.

Moreover, the lack of female student persistence and completion rates at community colleges could cause a decline in state and national economic activity and create more financial instability for the students. The demand for an educated workforce and the number of jobs requiring a postsecondary credential has increased since the 1990s (Ampaw et al., 2015; Juszkiewicz, 2017). In Texas, the demand for an educated workforce is growing faster than the number of students completing a credential and could result in an economic decline for the State and increased poverty rates (Texas Higher Education Coordinating Board, 2015). Additionally, the U.S. Bureau of Labor Statistics (2017) determined that individuals who did not have a postsecondary credential exhibited higher rates of unemployment and lower weekly salaries than those individuals with a postsecondary credential. Although an educated workforce exhibited higher weekly salaries, income levels vary between males and females. Males, regardless of education level, tend to have higher salaries than females and particularly, males with an associate degree earn more than females with an associate degree (Kaikkonen & Quarles, 2018). Given that females were more sensitive to financial aid and college affordability and have multiple extenuating factors, such as childcare, dependent health, and multiple jobs, compared to males (Ampaw et al., 2015; Heller & Cassady, 2017; Natale & Jones, 2017; Sanchez & Smith, 2017), determining which policies and programs effectively support female enrollment and persistence is crucial for the economic outlook of students and the state and national economies.

Purpose of the Study

The purpose this study was to examine the extent to which changes among male and female first-time in college students who were enrolled in Texas community colleges

occurred over time. The degree to which differences existed in the enrollment percentages of female and male first-time in college students who were enrolled in Texas community colleges between the 2003-2004 and the 2018-2019 academic years was examined. An analysis of the trends present in male and female first-time-in-college, full-time, part-time, and both students who were enrolled in Texas community colleges during the 2003-2004 through the 2018-2019 academic years was conducted. By examining 16 years of Texas statewide data, the degree to which trends were present was addressed.

Significance of the Study

Considering that female students have higher enrollment, persistence, and completion rates compared to males (Juszkiewicz, 2017; Ma & Baum, 2016), yet are more susceptible to leave college because of nonacademic factors, such as childcare and financial responsibilities (Yu, 2018), the effectiveness of governmental and postsecondary institutional policies should be examined. The educational initiative, *Closing the Gaps*, was developed to not only increase student enrollment and graduation rates, but also to limit the financial burden on students. Moreover, *60x30*, was designed to increase student completion rates, in part, by targeting the enrollment of female students. However, community college completion rates remain low when compared to 4-year institutions. Given the substantial number of students who enroll in community colleges, McKinney and Hagedorn (2017) posited that successful outcomes of these initiatives will depend on the success of students at community colleges. Identifying the policies and strategies that effectively increase student enrollment, persistence, and completion rates might assist community colleges in achieving the goals outlined by

those educational initiatives. Further, determining successful practices that improve overall student success should help guide and inform future educational initiatives at the institutional, state, and national levels.

In a recent demand for accountability at the state and federal level, the practices and policies of community colleges are being scrutinized to determine the effectiveness of these policies and ways to increase student success (Kimbark et al., 2017; McKinney & Hagedorn, 2018). Texas adopted a new model of funding for higher education institutions, such as community colleges, that allocated 10% of funding based on student performance and outcomes (Natale & Jones, 2018). This performance-based funding model rewards postsecondary institutions that exhibit higher rates of various student success measures, such as the completion of developmental courses, credit hours, and a credential (McKinney & Hagedorn, 2017). Given the increased scrutiny placed on community colleges to increase student success rates and the new funding model. which is based on student performance, the need to determine, adopt, and implement effective strategies that promote student success and completion is crucial for administrators.

Research Questions

The research questions addressed in this investigation were (a) What is the gender diversity of Texas community college first-time-in-college students?; (b) What is the difference in the enrollment percentages of Texas female community college first-time-in-college students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?; (c) What is the difference in the enrollment percentages of Texas male community college first-time-in-college students between the 2003-2004 and

the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?; (d) What trends were present in the gender diversity of first-time-in-college students enrolled in Texas community college first-time-in-college, full-time students in the 2003-2004 through the 2018-2019 academic years?; and (e) Which community colleges exhibited the greatest percent differences in first-time-in-college, full-time and part-time students between the 2003-2004 academic year and the 2018-2019 academic year? The first research question was repeated for the 2003-2004 through the 2018-2019 academic years whereas the remaining research questions, with the exception of the trends questions, were addressed for three academic year comparisons. The trend questions involved all 16 academic years of data.

Method

Research Design

The research design for this empirical investigation was a non-experimental, causal-comparative design (Creswell & Creswell, 2018; Johnson & Christensen, 2017). An archival dataset was examined to calculate the degree to which differences were present in the percentages of male and female, first-time-in-college students at Texas community colleges. Other possible variables that might have been present and that might have affected the dependent variable could not be included in this investigation due to both variables having occurred previously (Creswell & Creswell, 2018).

The particular academic years in which male and female students were enrolled in Texas community colleges were the independent variable in this empirical study. Data were analyzed for the 2003-2004 through the 2018-2019 academic years. In this

investigation, dependent variables were the percentages of student enrollment who were male and the percentages of student enrollment who were female students and who were enrolled in Texas community colleges during this period. Only data on students who were first-time-in-college students enrolled in Texas community colleges were analyzed from the 2003-2004 through the 2018-2019 academic years.

Participants and Instrumentation

Participants in this study were first-time-in-college students who enrolled in a Texas community college between the 2003-2004 and the 2018-2019 academic years. Archival data for all Texas community colleges were collected from the Texas Higher Education Coordinating Board Interactive Accountability System for these academic years. All data, regarding student enrollment numbers, student enrollment status (i.e., full-time, part-time, and both) and student demographic information, obtained from the Texas Higher Education Coordinating Board were self-reported by individual community colleges. These data compiled by the Texas Higher Education Coordinating Board were publicly available through the Texas Higher Education Coordinating Board Interactive Accountability System. A total of 16 years of data were inspected for this study.

Results

The Texas Higher Education Coordinating Board links gender and enrollment status of students with the academic year and with first-time-in-college status, therefore paired samples *t*-tests were used in this study. Parametric paired sample *t*-tests were determined to be appropriate because the majority of the underlying assumptions for this inferential statistical procedure were met (Slate & Rojas-LeBouef, 2011). Results will now be reported by research question.

Results for Research Question One

To answer the first research question, "What is the gender diversity of Texas community college first-time-in-college students?"; descriptive statistics were calculated. As revealed in Tables 2.1 and 2.2, first-time-in-college, male and female enrollment percentages over this 16-year period were quite consistent. The male, first-time-in-college Texas community college enrollment rates ranged from a low of 44.26% in the 2003-2004 academic year to a high of 47.35% in the 2016-2017 academic year. Therefore, the male enrollment of first-time-in-college Texas community college students varied by only 3.09 percentage points in this 16-year period. The female, first-time-in-college Texas community college enrollment rates ranged from a low of 52.65% in the 2016-2017 academic year to a high of 55.74% in the 2003-2004 academic year. As such, the full-time, female enrollment of first-time-in-college Texas community college students varied by only 3.09 percentage points in this 16-year period.

Insert Tables 2.1 and 2.2 about here

Results for Research Question Two

To answer the second research question, "What is the difference in the enrollment percentages of Texas female community college first-time-in-college students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?"; three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparisons, the analysis did not reveal a statistically significant difference in full-time, female enrollment percentages, $t(68) = 1.82$, $p = .07$. Texas female, first-time-in-

college students had similar enrollment rates in the 2003-2004 academic year, 55.74%, and in the 2011-2012 academic year, 54.67%. Between the 2011-2012 and 2018-2019 academic years, a statistically significant difference in female enrollment percentages, $t(69) = -0.76$, $p = .45$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas female, first-time-in-college students were 54.67% and 55.05%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas full-time, female enrollment percentages, $t(67) = 1.30$, $p = .20$. Female enrollment percentages were 55.74% and 55.05% in the 2003-2004 and 2018-2019 academic years, respectively. Table 2.3 contains the descriptive statistics for these analyses.

Insert Table 2.3 about here

Results for Research Question Three

Regarding the third research question, "What is the difference in the enrollment percentages of Texas male community college first-time-in-college, full-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?"; three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparisons, the analysis did not reveal a statistically significant difference in full-time, male enrollment percentages, $t(68) = -1.82$, $p = .07$. Texas male, first-time-in-college students had similar enrollment rates in the 2003-2004 academic year, 44.26%, and in the 2011-2012 academic year, 45.33%. Between the 2011-2012 and

2018-2019 academic years, a statistically significant difference in male enrollment percentages, $t(69) = 0.76$, $p = .45$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas male, first-time-in-college students were 45.33% and 44.95%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas male enrollment percentages, $t(67) = -1.30$, $p = .20$. Male enrollment percentages were 44.26% and 44.95% in the 2003-2004 and 2018-2019 academic years, respectively. Table 2.4 contains the descriptive statistics for these analyses.

Insert Table 2.4 about here

Results for Research Question Four

In reference to the fourth research question, "What trends were present in the gender diversity of first-time-in-college, full-time students enrolled in Texas community college first-time full-time students in the 2003-2004 through the 2018-2019 academic years?"; descriptive statistics were calculated. Depicted in Figure 2.1 are the enrollment trends over time of male and female, first-time-in-college Texas community college students for the 2003-2004 academic year through the 2018-2019 academic year. Female, first-time-in-college enrollment rates were consistently higher than male, first-time-in-college enrollment rates for every academic year. Both male and female enrollment rates over time remained relatively consistent over the 16-year span.

Insert Figure 2.1 about here

Results for Research Question Five

To answer the next research question, “Which community colleges exhibited the greatest percent differences in first-time-in-college students between the 2003-2004 academic year and the 2018-2019 academic year?”; descriptive statistics were calculated separately for male and female students. As revealed in Table 2.5, Victoria College had the greatest percent increase of 17% for male, first-time-in-college enrollment in Texas community colleges, from the 2003-2004 academic year to the 2018-2019 academic year. Following Victoria College were South Plains College (16%) and Angelina College (13%) and Tyler Junior College (13%).

Insert Table 2.5 about here

For female, first-time-in-college enrollment in Texas community colleges, Southwest Collegiate Institute for the Deaf had the greatest percent increase of 40% from the 2003-2004 academic year to the 2018-2019 academic year. Texas Southmost College (17%) and Southwest Texas Junior College (16%) were second and third, respectively, after Southwest Collegiate Institute for the Deaf. Table 2.6 contains the descriptive statistics for this analysis.

Insert Table 2.6 about here

Discussion

In this multiyear statewide study, the enrollment rates of male and female, first-time-in-college students who were enrolled in Texas community colleges in 16 academic years (i.e., 2003-2004 through 2018-2019) were examined. For 16 academic years, enrollment rates for both male and female, first-time-in-college students were relatively unchanged. For male, first-time-in-college students enrollment rates ranged from a low of 44.26% in the 2003-2004 academic year to a high of 47.35% in the 2016-2017 academic year. Accordingly, the enrollment rates of male, first-time-in-college Texas community college students varied by only 3.09 percentage points in this 16-year period. The female, first-time-in-college Texas community college enrollment rates ranged from a low of 52.65% in the 2016-2017 academic year to a high of 55.74% in the 2003-2004 academic year. As such, the full-time, female enrollment of first-time-in-college Texas community college students varied by only 3.09 percentage points in this 16-year period. For both male and female, first-time-in-college students enrolled in Texas community colleges, their enrollment rates remained fairly consistent.

Regarding inferential analyses over time, statistically significant differences were not revealed for both males and females. The overall enrollment rates of male, first-time-in-college students at Texas community colleges slightly increased over the 16 academic years by 0.69 percentage points whereas female, first-time-in-college students at Texas community colleges enrollment rates decreased by 0.69 percentage points. Enrollment

rates for male, first-time-in-college students at Texas community colleges averaged 45.98% over the 16 academic years and female, first-time-in-college students at Texas community colleges averaged 54.02% over the 16 academic years.

Connections with Existing Literature

The results of this multiyear, statewide investigation were congruent with the findings of other researchers (American Association of Community Colleges, 2018; Ampaw et al., 2015; Atherton, 2014; Sanchez & Smith, 2017) who examined enrollment rates of male and female, first-time-in-college students over time. Sanchez and Smith (2017) documented that females enrolled in postsecondary education at a greater rate than males, especially first-generation students. Given that first-generation students comprised 90% of first-time-in-college students enrolled in community colleges (American Association of Community Colleges, 2018), the findings of this investigation that female, first-time-in-college students enrolled at a greater rate than male, first-time-in-college students are similar. Additionally, Ampaw et al. (2015) determined that the enrollment rates of female, first-time-in-college students in community colleges were higher than male, first-time-in-college students, providing further support to the findings of this study.

Implications for Policy and for Practice

Based upon the results of this multiyear, statewide study, several implications for policy and practice are recommended. First, given the relative lack of change in enrollment rates of male and female, first-time-in-college students who enrolled in Texas community colleges, policymakers need to examine the effectiveness of past and current measures to increase enrollment. In particular, reviewing how policies are disseminated

to the general public, how resources are made available to potential students, and how beneficial the resources are to the potential students, should be an immediate priority. Second, policymakers should review the various factors that inhibit or prevent first-time-in-college students from enrolling in Texas community colleges and provide more resources to mitigate those factors. Specifically, providing additional financial support to first-time-in-college students in the form of scholarships or grants, and by offering more employment opportunities within community colleges, such as work-study programs, to help reduce the financial stress many first-time-in-college students encounter.

Third, Texas community colleges should explore the efficacy of the initial in-take process of filling out an application and other required documents, such as the Free Application for Federal Student Aid (FAFSA) and taking the Texas Success Initiative assessment. As many first-time-in-college students are unfamiliar with the procedures and requirements associated with enrolling in a community college, further support measures are needed. Texas community colleges should provide dedicated advisors trained to assist first-time-in-college students, clear and straightforward documentation of the enrollment process, and accessibility to these resources at times that accommodate the students. Furthermore, community colleges should work to create partnerships with area high schools to educate potential first-time-in-college students about the enrollment process, as well as to assist these students in the completion of these documents. Lastly, community college administrators and policymakers should thoroughly review the effectiveness of recruiting measures used to attract first-time-in-college students. Given that first-time-in-college students often encounter more barriers than non-first-time-in-college students, traditional recruitment measures should be designed specifically for

first-time-in-college students. Community colleges should seek out feedback from first-time-in-college students on what aspects of higher education appeal most to these students.

Recommendations for Future Research

Based upon the results of this Texas, statewide investigation, several recommendations for future research can be made regarding the enrollment rates of male and female, first-time-in-college students. First, as the data used herein were obtained from only Texas community colleges, researchers are encouraged to reproduce this study using data from other states. As this study was based entirely on Texas community college, first-time-in-college students, the extent to which the findings would be generalizable to first-time-in-college students in other states is unknown. Second, researchers should examine the enrollment rates of first-time-in-college students who enrolled in 4-year postsecondary institutions. Given that only community college enrollment rates of male and female, first-time-in-college students were examined in this investigation, the degree to which the findings would be generalizable to 4-year institutions is uncertain. Third, investigators are encouraged to include demographic characteristics, as only gender and first-time-in-college status were examined. The influence of characteristics, such as race/ethnicity, age, and socioeconomic status, on the enrollment rates in Texas community colleges of first-time-in-college students is unclear. Fourth, researchers should examine the enrollment rates of non-first-time-in-college students who enroll in community colleges to determine the difference, if any, between these two populations. Lastly, researchers are encouraged to conduct mixed methods and/or qualitative research studies to determine potential causes and gain further insight into factors that influence enrollment rates of male and female, first-time-in-college students in Texas community colleges.

Conclusion

In this multiyear, statewide analysis, the enrollment rates of male and female, first-time-in-college students at Texas community colleges were analyzed for the 2003-2004 academic year through the 2018-2019 academic years. Enrollment rates of both male and female students were remarkably consistent over the 16 academic years of data that were analyzed. Over the 16 academic years, the enrollment rates for male, first-time-in-college students at Texas community colleges remained consistent around 44.85% while female, first-time-in-college students at Texas community colleges remained consistent around 55.15%. Also identified in this article were the Texas community colleges that exhibited the greatest increase in enrollment rates for male and female, first-time-in-college students over the 16-year period.

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Table 2.1

Descriptive Statistics for Texas Male, First-Time-in-College Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	44.26	7.64
2004-2005	69	45.74	9.95
2005-2006	69	45.54	9.44
2006-2007	69	46.35	11.17
2007-2008	70	46.00	10.24
2008-2009	70	46.12	12.56
2009-2010	71	46.84	1150
2010-2011	71	46.23	10.37
2011-2012	71	45.33	11.06
2012-2013	71	45.64	8.17
2013-2014	72	46.26	9.69
2014-2015	72	45.98	8.71
2015-2016	72	47.04	9.85
2016-2017	72	47.35	11.50
2017-2018	72	46.09	11.80
2018-2019	72	44.95	10.50

Table 2.2

Descriptive Statistics for Texas Female, First-Time-in-College Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	55.74	7.64
2004-2005	69	54.56	9.95
2005-2006	69	54.46	9.44
2006-2007	69	53.65	11.17
2007-2008	70	54.00	10.24
2008-2009	70	53.88	12.56
2009-2010	71	53.16	11.50
2010-2011	71	53.77	10.37
2011-2012	71	54.67	11.06
2012-2013	71	54.36	8.17
2013-2014	72	53.74	9.69
2014-2015	72	54.02	8.71
2015-2016	72	52.96	9.85
2016-2017	72	52.65	11.50
2017-2018	72	53.91	11.80
2018-2019	72	55.05	10.50

Table 2.3

Descriptive Statistics for Texas Female, First-Time-in-College Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	55.74	7.64
2011-2012	70	54.67	11.06
2018-2019	68	55.05	10.50

Table 2.4

Descriptive Statistics for Texas Male, First-Time-in-College Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	44.26	7.64
2011-2012	70	45.33	11.06
2018-2019	68	44.95	10.50

Table 2.5

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Male, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Victoria College	17.0
South Plains College	16.0
Angelina College	13.0
Tyler Junior College	13.0
Coastal Bend College	12.0
Panola College	12.0
Odessa College	11.0
Weatherford College	11.0
Midland College	9.0
San Jacinto College–Central Campus	8.0

Table 2.6

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Female, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Southwest Collegiate Institute for the Deaf	40.0
Texas Southmost College	17.0
Texas Southwest Junior College	16.0
Trinity Valley Community College	14.0
El Paso Community College District	12.0
Dallas County Community College–Richland Campus	12.0
Galveston College	12.0
Tarrant County College–Northeast Campus	11.0
Laredo College	10.0
North Central Texas College	9.0
Blinn College District	9.0

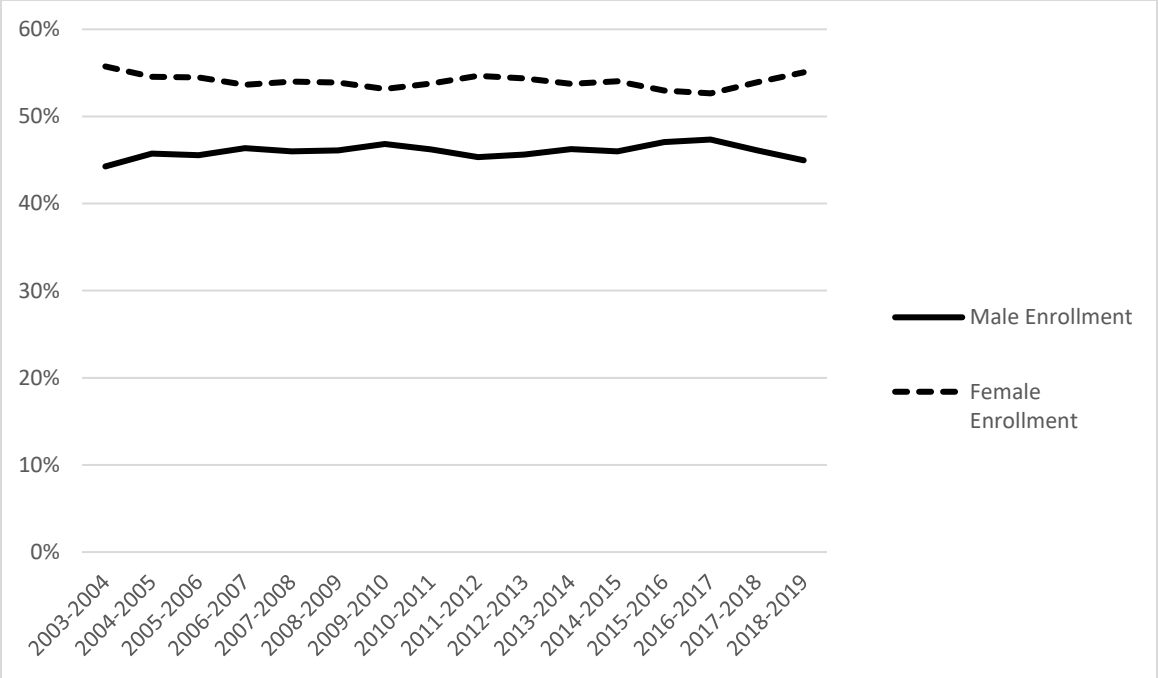

Figure 2.1. Total enrollment rates of male and female, first-time-in-college Texas community colleges for the 2003-2004 academic year through the 2018-2019 academic year.

CHAPTER III

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE FULL-TIME STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

In this multiyear, statewide investigation, the enrollment rates of male and female, full-time, first-time-in-college students enrolled in Texas community colleges from the 2003-2004 academic year to the 2018-2019 academic year were calculated. The enrollment rates of male and female, full-time, first-time-in-college students were not statistically significant from 2003-2004 academic year to the 2011-2012 academic year, from the 2011-2012 academic year to the 2018-2019 academic year, and from the 2003-2004 academic year to the 2018-2019 academic year. For all 16 academic years, enrollment rates for male and female, full-time, first-time-in-college students enrolled in Texas community colleges remained consistently around 47% and 53%, respectively. Implications of results and research recommendations were discussed.

Keywords: Full-time, First-time-in-college students, Enrollment rates, Texas community colleges, Male, Female

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE FULL-TIME STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

For many students, community colleges provide a venue in which attaining a college degree or some form of postsecondary credential, such as a certificate, becomes possible. Several characteristics distinguish community colleges from 4-year institutions, such as (a) lower tuition, (b) smaller class sizes, (c) increased academic and student support services, (d) flexible scheduling, and (e) open-admission policies (Cohen, Brawer, & Kisker, 2014; Ma & Baum, 2016; Nuñez, Sparks, & Hernández, 2011). Moreover, the geographical proximity of community colleges often serves as an initial factor in student decision-making processes regarding which institution to attend (Jabbar, Sánchez, & Epstein, 2017). Institutional features are not the only criteria, however, that differentiate community colleges from other postsecondary institutions. Community colleges provide a vast array of educational opportunities ranging from (a) developmental education to increase college-readiness skills, (b) vocational and occupational education, (c) academic degrees (e.g., associate and bachelor's degrees), and (d) academic transfers to 4-year institutions (Bricker, 2008; Cohen et al., 2014; Nuñez et al., 2011; Sanchez & Smith, 2017).

The diverse characteristics and educational opportunities associated with community colleges have led to an increase in the varied backgrounds and attributes of the students who enroll (Sanchez & Smith, 2017). In particular, the open-door admissions policy of community colleges provide access to postsecondary education for groups of students, such as low-income, historically marginalized (i.e., racial/ethnic

minority), and academically unprepared, who were previously unable to attend 4-year institutions (Gabbard & Mupinga, 2013; Jabbar et al., 2017). Accessibility to community colleges through the open-door enrollment has resulted in a diverse student population in higher education (Boggs, 2011).

Given the heterogeneous nature of the students who attend community colleges, the characteristics that define community college students should be considered. Demographic traits, such as being a racial/ethnic minority, first-generation, nontraditional (i.e., 25 and older), and female, are associated with students who attend 2-year institutions (Atherton, 2014; Fike & Fike, 2008; Gibbons & Borders, 2010; Ma & Baum, 2016; Shumaker & Wood, 2016). Furthermore, these students exhibit certain academically-related tendencies that differ from the academic-related tendencies of students at 4-year institutions. Often, community college students are more likely to be academically underprepared (particularly in reading, writing, and mathematics), enrolled part-time, less likely to persist after the first year, and less likely to graduate with a degree (Fike & Fike, 2008; Gabbard & Mupinga, 2017; Heller & Cassady, 2017; Stratton, O'Toole, & Wetzel, 2007).

Considering the attractiveness of the open-door policy to many students and the various educational opportunities offered by community colleges, student enrollment at community colleges has increased. From 2000 to 2010, student enrollment in community colleges increased 29% nationwide and from 2000 to 2016, student enrollment increased by 2.5% nationwide (National Center for Education Statistics, 2017). Although student enrollment in community colleges decreased from 2010 to 2016 (American Association of Community Colleges, 2018), enrollment is expected to increase nearly 21% between

2015 and 2026 (National Center for Education Statistics, 2017). Community colleges in the State of Texas experienced even greater growth in student enrollment during this same timeframe. According to the Texas Association of Community Colleges (2017), Texas community colleges had an increase of 62% in student enrollment between 2000 and 2015. In particular, student enrollment is expected to increase by 14% in Texas community colleges from 2015 to 2030 (Texas Higher Education Coordinating Board, 2017).

Among the many students who enrolled in community colleges to facilitate this increase in student enrollment, first-time-in-college students have played and continue to play an influential role. According to the American Association of Community Colleges (2018), during the fall 2015 semester, 40% of all students enrolled in community colleges nationwide were first-time-in-college students. Additionally, first-generation students comprised 36% of all students who enrolled in community colleges during the fall 2015 semester. Therefore, the vast majority (i.e., 90%) of first-time-in-college students who enrolled in community colleges were first-generation students, as well. The large percentage of first-generation students enrolled in community colleges was expected as community colleges frequently enroll higher percentages of first-generation students (Boggs, 2011; Giancola, Munz, & Trares, 2008; Thayer, 2000).

Considering the preponderance of first-generation students who comprised first-time-in-college students, the characteristics that define first-generation students are important to understand for first-time-in-college students. Often, first-generation students share many of the demographic and academic attributes associated with community college students. Some of these overlapping attributes between first-

generation students and community college peers who are not first-generation students are (a) member of a racial/ethnic minority, (b) female, (c) lower socioeconomic status, (d) academically underprepared, and (e) less likely to persist and graduate with a degree (Ampaw, Partlo, Hullender, & Wagner, 2015; Atherton, 2014; Harlow & Bowman, 2016; Longwell-Grice, Adsitt, Mullins, & Serrata, 2016). Although both first-generation and non-first-generation community college students share many similar characteristics, often differences exist between these two groups within these categories. For instance, Atherton (2014) examined the academic preparedness of first-generation and non-first-generation students by examining three standardized academic measures (i.e., SAT mathematics scores, SAT reading scores, and high school GPA). According to Atherton, first-generation students were more likely to have lower levels of academic preparedness than were non-first-generation students. Regarding socioeconomic status, first-generation students were more dependent on financial aid and more likely to work full-time and to have more than one job compared to non-first-generation students (Ampaw et al., 2015; Harlow & Bowman, 2016).

Similarly, first-generation students frequently encounter challenges that many non-first-generation students do not experience. Harlow and Bowman (2016) indicated that first-generation students were more likely to lack social support, lack connection with fellow classmates, expect negative academic outcomes, and struggle acclimating into the campus environment. Moreover, in a qualitative study on the perceptions and challenges of first-generation students, Longwell-Grice et al. (2016) reported that first-generation students described difficulties adapting to the college environment, understanding academic culture and interactions, and creating connections with other

students. In particular, Longwell-Grice et al. (2016) stated that the "absence of experienced-based information compromises first-generation students' ability to ask the questions that yield proper direction for navigating the cultures and bureaucracies of higher education" (p. 35). Given these many challenges, first-generation students have higher dropout rates and lower persistence rates than do non-first-generation students (Ampaw et al., 2015; Sanchez, Lowman, & Hill, 2018).

Another important feature of first-time-in-college students that potentially influences enrollment and persistence is student gender. According to the National Center for Education Statistics (2017), from 2000 to 2016, female enrollment in community colleges nationwide increased by 30% whereas male enrollment in community colleges nationwide increased slightly less, by 28%. In the fall 2016 semester, females were the majority of the students who enrolled in community colleges nationally, comprising 56%, whereas only 44% of community college students were male (American Association of Community Colleges, 2018). In Texas, the percentages of female and male student enrollment in community colleges reflected this national trend. During the fall 2016 semester, female students comprised nearly 57% of community college enrollment and male students comprised 43% of community college enrollment in Texas (Texas Higher Education Coordinating Board, 2019). Additionally, in the fall 2018 semester, female student enrollment in Texas community college was 58% compared to 42% male student enrollment.

Considering this enrollment trend, understanding how female and male students differ, particularly for first-time-in-college students is important. As previously demonstrated, females were more likely to enroll in higher education than males;

however, female enrollment was more sensitive to the perceived affordability of higher education (Sanchez & Smith, 2017). In a recent investigation, Heller and Cassady (2017) reviewed male and female, first-year community college student perceptions toward academic challenges and barriers. They discovered that female, first-year students perceived more academic stressors and barriers to enroll and to succeed in community colleges than males. These findings seem appropriate, given that females who enrolled in higher education were mostly first-generation and from a low-income background (Sanchez et al., 2018). Academically, differences exist between female and male students that might influence enrollment and persistence. Heller and Cassady (2017) reported that first-year, female students exhibited more coping skills and attained a higher GPA than first-year male students. Additionally, Sanchez et al. (2018) revealed that females who enrolled in postsecondary institutions had a stronger academic background in high school than males.

Another factor that might influence first-time-in-college student enrollment and persistence is enrollment intensity (i.e., full-time or part-time). According to Klempin (2014), higher full-time enrollment and more continuous semesters enrolled, were associated with higher success at community colleges. Moreover, full-time enrollment for many postsecondary institutions was 12 credits per semester to match federal financial aid guidelines. Juszkiewicz (2017) examined enrollment, graduation, and completion rates of Texas community colleges associated with enrollment intensity. She determined that students who enrolled exclusively full-time had a completion rate of 55% whereas students who enrolled exclusively part-time had a completion rate of only 20%. For full-time, first-year-in-college students, completion rates were 33%, compared to

17% for part-time, first-year-in-college students (Juszkiewicz, 2017). As such, full-time enrollment appeared to play a role in student success and completion.

To address some of the challenges and barriers faced by first-time-in-college students and others, the State of Texas established two educational initiatives. The first program, *Closing the Gaps by 2015: The Texas Higher Education Strategic Plan* (*Closing the Gaps*), aimed to increase participation rates and to increase student completion rates at Texas postsecondary institutions between 2000 and 2015 (Texas Higher Education Coordinating Board, 2005). Strategies to achieve these goals included (a) increasing financial aid availability, (b) monitoring tuition and fees at postsecondary institutions, and (c) disseminating information about the benefits and requirements of higher education. The second initiative, *Texas Higher Education Strategic Plan: 2015–2030: 60x30TX* (*60x30*), seeks to increase certificate/degree completion rates in Texas postsecondary institutions to 60% by 2030 among individuals between 25 and 34 years old (Texas Higher Education Coordinating Board, 2015). Given that first-time-in-college students tended to require financial aid, have lower completion rates, and be over the age of 25, these programs might assist first-time-in-college students to be successful.

Statement of the Problem

Although community college enrollment has increased since the 1980s and is expected to continue increasing, both nationally and in Texas (National Center for Education Statistics, 2017; Texas Higher Education Coordinating Board, 2017b), recently community college enrollment has declined (American Association of Community Colleges, 2018). According to the College Board (2018), community college enrollment deceased by 12% between 2010 and 2016. During this same period, enrollment of full-

time students declined by over 750,000 students. This decline in community college enrollment, in particular first-time-in-college, full-time student enrollment, might decrease completion rates at community colleges. Full-time community college students have higher completion and graduation rates when compared to part-time students (Juszkiewicz, 2017), and the loss of full-time student enrollment could result in lower persistence and completion rates. Additionally, first-time-in-college and first-generation students, which comprise a substantial percentage of community college students, have lower graduation and persistence rates (Ampaw et al., 2015; Sanchez, et al., 2018). The inability to enroll first-time-in-college students full-time could result in even lower completion and persistence rates. By reviewing the enrollment trends of full-time, first-time-in-college students, educational leaders and researchers could ascertain the degree to which current educational initiatives and programs assist and promote student retention and success at community colleges.

Furthermore, the lack of student persistence and completion rates at community colleges might lead to a decline in state and national economic activity and financial instability for the students. Nationally, the economic demand for an educated and skilled workforce has increased over time and more jobs exist which require some form of postsecondary credential (Ampaw et al., 2015; Juszkiewicz, 2017). The Texas Higher Education Coordinating Board (2015) suggested that the state lacks enough educated citizens to meet the demands of a growing economy. Furthermore, the failure to increase college persistence and completion rates could result in a decline of $3,000 in household income and an increase in poverty rates by 3% in Texas. With respect to the financial outlook for students, students who did not earn an advanced degree (e.g., associate's or

bachelor's) had higher unemployment rates and lower weekly salaries when compared to students with an advanced degree (U.S. Bureau of Labor Statistics, 2017). Therefore, determining which policies and programs effectively support enrollment and persistence of students is important for the economic outlook college graduates, the state, and the country.

Purpose of the Study

The purpose of this study was to determine the percentages of male and female first-time-in-college students who were enrolled full-time in Texas community colleges. Specifically addressed was whether changes had occurred in the percentages of male and female first-time-in-college, full-time students who were enrolled in Texas community colleges in the 2003-2004 academic year through the 2018-2019 academic year. The degree to which differences were present in the enrollment percentages of male and female first-time-in-college full-time students who were enrolled in Texas community colleges between the 2003-2004 and the 2018-2019 academic years was determined. Through analyzing 16 years of Texas statewide data, the extent to which trends might be present in the percentages of male and female first-time-in-college students who were enrolled on a full-time basis in Texas community colleges was ascertained.

Significance of the Study

Considering the objectives of many educational initiatives, such as *Closing the Gaps* and *60x30*, are to increase student enrollment rates and student completion rates in community colleges, the effectiveness of these policies, as well as the strategies included by these policies, need to be explored. By removing ineffective policies and strategies while strengthening and supporting those policies and strategies that are successful,

community college and political leaders will be able to engage in data-driven, decision-making to improve student enrollment, retention, and graduation rates. Further, postsecondary institutions, including community colleges, are under renewed scrutiny by the general public and politicians to demonstrate efficient use of funding and to provide evidence of quality and worth (Juszkiewicz, 2017; Natale & Jones, 2018). This increased interest in the operation of higher education institutions is visible in the funding calculations of community colleges in Texas. Historically, Texas community colleges were funded on a formula using student enrollment but in 2013, the state altered their funding model, setting aside 10% of the funding to be allocated based on student performance (Natale & Jones, 2018). Therefore, community college administrators must develop and implement effective strategies to increase student enrollment and student success, and to address the concerns of their stakeholders.

Increased student enrollment and student completion rates provide several benefits to the students and the overall economy. According to the U.S. Bureau of Labor Statistics (2017), the unemployment rate for individuals with an associate's degree was 1.6% lower compared to individuals with only a high school diploma. Furthermore, the median weekly salary for individuals with an associate's degree was 18% higher than the median weekly salary of individuals with only a high school diploma. Other benefits of obtaining a degree for students include enhanced job skills, increased quality of life and greater job satisfaction, and increased social mobility (College Board, 2018; Fike & Fike, 2008; Texas Higher Education Coordinating Board, 2015). Additionally, student degree attainment positively affects the national economy. In Texas, students with degrees are expected to add $524.9 billion in added income, resulting in a substantial increase in tax

revenues (Texas Higher Education Coordinating Board, 2015). Moreover, as student completion rates increase, public expenditures decrease, the number of small businesses and entrepreneurship programs increase, and public assistance programs decrease (Texas Higher Education Coordinating Board, 2005, 2015). Given the many benefits associated with student success and degree attainment, determining what strategies effectively increase enrollment and student completion is of paramount importance.

Research Questions

The research questions addressed in this investigation were (a) What are the enrollment percentages of male and female first-time-in-college, full-time students in Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year?; (b) What is the difference in the enrollment percentages of Texas female community college first-time-in-college, full-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?; (c) What is the difference in the enrollment percentages of Texas male community college first-time-in-college, full-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?; (d) What trends were present in the gender diversity of first-time-in-college, full-time students enrolled in Texas community college first-time full-time students in the 2003-2004 through the 2018-2019 academic years?; and (e) Which community colleges exhibited the greatest percent differences in first-time-in-college, full-time students between the 2003-2004 academic year and the 2018-2019 academic year? The first research question was repeated for the 2003-2004 through the

2018-2019 academic years whereas the remaining research questions, with the exception of the trends questions, were addressed for three academic year comparisons. The trend questions involved all 16 academic years of data.

Method

Research Design

For this empirical investigation, a non-experimental, causal-comparative research design was used (Creswell & Creswell, 2018; Johnson & Christensen, 2017). An archival dataset was examined to determine the degree to which differences might be present in the percentages of male and female, first-time-in-college, full-time students at Texas community colleges. Given that both the independent variable and the dependent variables had occurred previously, other variables that could have been present and influential with respect to the dependent variable could not be considered in this study (Creswell & Creswell, 2018).

In this empirical study, the independent variable was the specific academic years in which male and female students were enrolled in Texas community colleges. Data were analyzed for the 2003-2004 through the 2018-2019 academic years. In this investigation, the dependent variables were the percentages of student enrollment who were male students and the percentages of student enrollment who were female students and who were enrolled in Texas community colleges during this timeframe. Only data on students who were first-time-in-college, full-time students enrolled in Texas community colleges were analyzed from the 2003-2004 through the 2018-2019 academic years.

Participants and Instrumentation

Participants in this study were first-time-in-college students who were enrolled full-time in a Texas community college between the 2003-2004 and the 2018-2019 academic years. Archival data from the Texas Higher Education Coordinating Board Interactive Accountability System were obtained for the 2003-2004 through the 2018-2019 academic years for all Texas community colleges. Data from the Texas Higher Education Coordinating Board, including student enrollment numbers, student enrollment status (i.e., full-time, part-time, or both) and student demographic information, were reported by the individual community colleges. These data compiled by the Texas Higher Education Coordinating Board were publicly available through the Texas Higher Education Coordinating Board Interactive Accountability System. A total of 16 years of data were examined for this study.

Results

The Texas Higher Education Coordinating Board links gender and enrollment status of students with the academic year and with first-time-in-college status, therefore paired samples *t*-tests were used in this study. Parametric paired sample *t*-tests were determined to be appropriate because the majority of the underlying assumptions for this inferential statistical procedure were met (Slate & Rojas-LeBouef, 2011). Results will now be reported by research question.

Results for Research Question One

To answer the first research question, “What are the enrollment percentages of male and female first-time-in-college, full-time students in Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year?” descriptive

statistics were calculated. As revealed in Tables 3.1 and 3.2, full-time male and female enrollment percentages over this 16-year period were quite consistent. The full-time, male, first-time-in-college Texas community college enrollment rates ranged from a low of 45.96% in the 2004-2005 academic year to a high of 48.44% in the 2016-2017 academic year. As such, the full-time, male enrollment of first-time-in-college Texas community college students varied by only 2.48 percentage points in this 16-year period. The full-time, female, first-time-in-college Texas community college enrollment rates ranged from a low of 51.56% in the 2016-2017 academic year to a high of 54.04% in the 2004-2005 academic year. Accordingly, the full-time, female enrollment of first-time-in-college Texas community college students varied by only 2.48 percentage points in this 16-year period.

Insert Tables 3.1 and 3.2 about here

Results for Research Question Two

To answer the second research question, "What is the difference in the enrollment percentages of Texas female community college first-time-in-college, full-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?", three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparison, the analysis did not reveal a statistically significant difference in full-time, female enrollment percentages, $t(68) = 0.90$, $p = .37$. Similar enrollment rates were present for Texas full-time, female, first-time-in-college students in the 2003-

2004 academic year, 53.99%, and in the 2011-2012 academic year, 53.51%. Between the 2011-2012 and 2018-2019 academic years, a statistically significant difference in full-time, female enrollment percentages, $t(69) = -0.28$, $p = .78$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas full-time, female, first-time-in-college students were 53.51% and 53.64%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas full-time, female enrollment percentages, $t(67) = 0.88$, $p = .38$. Full-time, female enrollment percentages were 53.99% and 53.50% in the 2003-2004 and 2018-2019 academic years, respectively. Table 3.3 contains the descriptive statistics for these analyses.

Insert Table 3.3 about here

Results for Research Question Three

Regarding the third research question, "What is the difference in the enrollment percentages of Texas male community college first-time-in-college, full-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?", three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparison, the analysis did not reveal a statistically significant difference in full-time, male enrollment percentages, $t(68) = -0.90$, $p = .37$. Similar enrollment rates were present for Texas full-time, male, first-time-in-college students in the 2003-2004 academic year, 46.01%, and in the 2011-2012 academic year, 46.49%. Between the

2011-2012 and 2018-2019 academic years, a statistically significant difference in full-time, male enrollment percentages, $t(69) = 0.28$, $p = .78$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas full-time, male, first-time-in-college students were 46.49% and 46.36%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas full-time, male enrollment percentages, $t(67) = -0.88$, $p = .38$. Full-time, male enrollment percentages were 46.01% and 46.50% in the 2003-2004 and 2018-2019 academic years, respectively. Table 3.4 contains the descriptive statistics for these analyses.

Insert Table 3.4 about here

Results for Research Question Four

In reference to the fourth research question, "What trends were present in the gender diversity of first-time-in-college, full-time students enrolled in Texas community college first-time full-time students in the 2003-2004 through the 2018-2019 academic years?", descriptive statistics were calculated. Depicted in Figure 3.1 are the enrollment trends over time of male and female, full-time, first-time-in-college Texas community college students for the 2003-2004 academic year through the 2018-2019 academic year. Full-time, first-time-in-college, female enrollment rates were higher than full-time, first-time-in-college, male enrollment rates for every academic year. Both male and female enrollment rates over time remained relatively consistent over the 16-year span.

Insert Figure 3.1 about here

Results for Research Question Five

To answer the fifth research question, "Which community colleges exhibited the greatest percent differences in first-time-in-college, full-time students between the 2003-2004 academic year and the 2018-2019 academic year?", descriptive statistics were calculated separately for male and female students. As revealed in Table 3.5, Odessa College had the greatest percent increase of 10% for male, first-time-in-college, full-time enrollment in Texas community colleges, from the 2003-2004 academic year to the 2018-2019 academic year. Following Odessa College were South Plains College (8%) and Dallas County Community College – North Lake College (7%).

Insert Table 3.5 about here

For female, first-time-in-college, full-time enrollment in Texas community colleges, Western Texas College had the greatest percent increase of 15% from the 2003-2004 academic year to the 2018-2019 academic year. El Paso Community College District (10%) and Northeast Texas Community College (8%) were second and third respectively. Table 3.6 contains the descriptive statistics for this analysis.

Insert Table 3.6 about here

Discussion

In this multiyear statewide study, the enrollment rates between the 2003-2004 academic year and the 2018-2019 academic year for full-time male and female, first-time-in-college students enrolled in Texas community colleges were investigated. During the 16-year period, full-time male, first-time-in-college student enrollment rates in Texas community colleges differed by only 2.48 percentage points and ranged from a low of 45.96% in the 2004-2005 academic year to a high of 48.44% in the 2016-2017 academic year. Similarly, the enrollment rates of full-time female, first-time-in-college students in Texas community colleges varied by only 2.48 percentage points during the 16-year period. Full-time female, first-time-in-college enrollment rates in Texas community colleges were highest in the 2004-2005 academic year at 54.04% and lowest in the 2016-2017 academic year at 51.56%. Therefore, enrollment rates changed minimally for both male and female, full-time, first-time-in-college students enrolled in Texas community colleges.

Statistically significant differences were not revealed for both male and female, full-time, first-time-in-college students enrolled in Texas community colleges. During the 16 academic years, full-time male, first-time-in-college enrollment rates increased slightly by 0.48 percentage points and averaged 47.11%. Enrollment rates for full-time female, first-time-in-college students at Texas community colleges declined by 0.48 percentage points and averaged 52.89% over the 16 academic years.

Connections with Existing Literature

As revealed in this multiyear, statewide study, enrollment rates of male and female, full-time, first-time-in-college students remained relatively constant with full-time female enrollment greater than full-time male enrollment throughout the 16 academic year period. These findings are similar to those results of other investigators (American Association of Community Colleges, 2018; Ampaw et al., 2015; Juszkiewicz, 2017; Texas Higher Education Coordinating Board, 2019). Ampaw et al. (2015) observed that female, first-time-in-college students when compared to male, first-time-in-college students, had higher enrollment rates in community colleges. Another finding of this study was that full-time female, first-time-in-college enrollment rates slightly decreased from the 2003-2004 academic year to the 2018-2019 academic year. This decreasing trend in full-time, female enrollment rates corresponds to previously conducted research. Juszkiewicz (2017) determined that between the 2014-2015 academic year and the 2016-2017 academic year, female and full-time enrollment in community colleges decreased at a greater rate than male and part-time enrollment.

Implications for Policy and for Practice

Based upon the findings of this multiyear, statewide investigation, in which the enrollment rates of full-time male and female, first-time-in-college students in Texas community colleges were calculated, a number of implications for policy and practice can be made. Full-time, male and female, first-time-in-college student enrollment rates over the 16-year span remained fairly consistent. Therefore, the first recommendation is to review previous and ongoing efforts to recruit and enroll full-time, first-time-in-college students. Given that full-time enrollment is associated with higher success and

persistence rates (Juszkiewicz, 2017; Klempin, 2014), policymakers and community college administrators need to identify effective strategies that increase full-time enrollment. Second, decision makers should identify common characteristics of those first-time-in-college students who enrolled full-time to ascertain how better to promote and recruit full-time student enrollment. In particular, reviewing potential barriers that could prevent a student from enrolling full-time and devising plans to remove or to minimize those challenges. Third, as first-time-in-college students are often not familiar with the college landscape and expectations (Lee, 2017), additional support and resources should be developed to provide further outreach to these students. These support measures could include specially trained advisors, specific to first-time-in-college students, increasing faculty interactions with the students before the semester starts, and streamlining admissions and registration procedures to decrease possible confusion. Finally, as first-time-in-college students frequently experience many non-academic challenges that other students might not, policymakers must develop recruitment plans and course schedules that accommodate the needs of these students.

Recommendations for Future Research

Future research can be recommended regarding the enrollment rates of full-time, male and female, first-time-in-college students based upon the results of this multiyear, statewide study. First, researchers are encouraged to determine whether the results of this investigation can be replicated using data from other states. Given that only Texas community college data were used in the calculations, the degree to which the findings would be generalizable to other states is unclear. Second, researchers should ascertain the enrollment rates of full-time male and female, first-time-in-college students who

enroll in 4-year higher education institutions. In this article, only enrollment rates from community college male and female, full-time, first-time-in-college students were reviewed. Therefore, the extent to which the results would apply to 4-year institutions is unknown. Third, investigators should examine the connection of demographic characteristics, such as age, race/ethnicity, and income, and non-academic responsibilities, such as children, employment, and familial support, on enrollment rates of full-time male and female, first-time-in-college students. As only gender and full-time enrollment were examined, the influence of those factors is uncertain. Fourth, researchers should determine the difference between the enrollment rates of full-time, male and female, non-first-time-in-college students in Texas community colleges, as well as community colleges in other states. Finally, researchers should conduct a study utilizing qualitative and/or mixed methods should be completed to ascertain the reasons for the relatively constant enrollment rates in Texas community colleges of full-time male and female students.

Conclusion

In this multiyear, statewide analysis, the enrollment rates off male and female, full-time, first-time-in-college students at Texas community colleges were analyzed for the 2003-2004 academic year through the 2018-2019 academic years. Full-time male and full-time female, first-time-in-college enrollment rates at Texas community colleges remained fairly stable at 46.34% and 53.66%, respectively, over time. Texas community colleges that displayed the greatest increase in enrollment rates for male and female, full-time, first-time-in-college students over the 16-year period were identified. Odessa College had the greatest increase in enrollment rates of full-time male, first-time-in-

college students, increasing by 10.0% between the 2003-2004 academic year and the 2018-2019 academic year. Western Texas College had the greatest increase in enrollment rates of full-time female, first-time-in-college students, increasing by 15.0% between the 2003-2004 academic year and the 2018-2019 academic year.

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Table 3.1

Descriptive Statistics for Texas Male, Full-time, First-Time-in-College Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	46.01	5.21
2004-2005	69	45.96	5.80
2005-2006	69	46.83	6.02
2006-2007	69	47.49	6.31
2007-2008	70	47.22	6.16
2008-2009	70	46.85	6.84
2009-2010	71	47.20	5.36
2010-2011	71	46.65	5.25
2011-2012	71	46.53	5.66
2012-2013	71	47.12	4.98
2013-2014	72	47.41	5.40
2014-2015	72	47.09	5.33
2015-2016	72	48.35	5.30
2016-2017	72	48.44	5.43
2017-2018	72	48.05	6.25
2018-2019	72	46.49	5.30

Table 3.2

Descriptive Statistics for Texas Female, Full-time, First-Time-in-College Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	53.99	5.21
2004-2005	69	54.04	5.80
2005-2006	69	53.17	6.02
2006-2007	69	52.51	6.31
2007-2008	70	52.78	6.16
2008-2009	70	53.15	6.84
2009-2010	71	52.80	5.36
2010-2011	71	53.35	5.25
2011-2012	71	53.47	5.66
2012-2013	72	52.87	4.98
2013-2014	72	52.59	5.40
2014-2015	72	52.91	5.33
2015-2016	72	51.65	5.30
2016-2017	72	51.56	5.43
2017-2018	72	51.95	6.25
2018-2019	72	53.51	5.30

Table 3.3

Descriptive Statistics for Texas Female, Full-time, First-Time-in-College Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	53.99	5.21
2011-2012	71	53.47	5.66
2018-2019	72	53.51	5.30

Table 3.4

Descriptive Statistics for Texas Male, Full-time, First-Time-in-College Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	46.01	5.21
2011-2012	71	46.53	5.66
2018-2019	72	46.49	5.30

Table 3.5

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Male, Full-time, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Odessa College	10.0
South Plains College	8.0
Dallas County Community College -North Lake College	7.0
San Jacinto College – Central Campus	6.0
Cisco College	6.0
Tyler Junior College	6.0
Lone Star College – CyFair	5.0
Clarendon College	5.0
Temple College	5.0
Alamo Community College – San Antonio College	4.0
Lone Star College – Tomball	4.0
Southwest Collegiate Institute for the Deaf	4.0
San Jacinto College – South Campus	4.0

Table 3.6

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Female, Full-time, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Western Texas College	15.0
El Paso Community College District	10.0
Northeast Texas Community College	8.0
Lee College	7.0
Texas Southmost College	7.0
Central Texas College	7.0
Galveston College	7.0
Dallas County Community College – Richland College	6.0
Lone Star College – Montgomery	6.0
Howard College	6.0

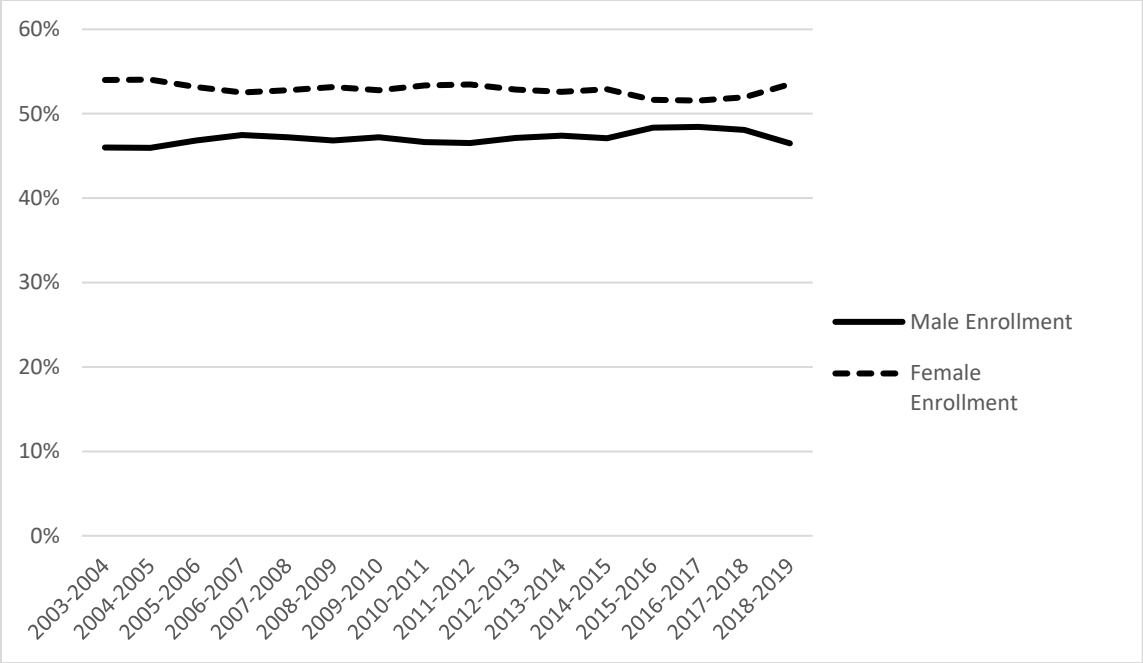

Figure 3.1. Total enrollment rates of male and female, full-time, first-time-in-college Texas community college students for the 2003-2004 academic year through the 2018-2019 academic year.

CHAPTER IV

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE PART-TIME STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

In this multiyear, statewide investigation, the extent to which enrollment rates of male and female, part-time, first-time-in-college students enrolled in Texas community colleges differed from the 2003-2004 academic year to the 2018-2019 academic year was determined. From the 2003-2004 academic year to the 2011-2012 academic year, statistically significant differences were identified in the enrollment rates of both male and female, part-time, first-time-in-college students. Cohen's *d* effect sizes, calculated for both male and female, part-time students, were small (0.22). Enrollment rates for male and female, part-time, first-time-in-college students from the 2011-2012 academic year to the 2018-2019 academic year and from the 2003-2004 academic year to the 2018-2019 academic year were similar. Enrollment rates for male and female, part-time, first-time-in-college students enrolled in Texas community colleges remained consistently around 45% and 55%, respectively, during the 16 academic year span. Recommendations for future research as well as implications for policy were discussed.

Keywords: Part-time, First-time-in-college students, Enrollment rates, Texas community colleges, Male, Female

DIFFERENCES IN MALE AND FEMALE TEXAS COMMUNITY COLLEGE FIRST-TIME-IN-COLLEGE PART-TIME STUDENTS OVER TIME: A MULTIYEAR, STATEWIDE ANALYSIS

Community colleges perform a key role in providing students with opportunities to earn postsecondary credentials, such as a certificate or associate degree. Open admission policies, lower tuition and fees, and the close proximity of community colleges to students' homes and work places have resulted in increased accessibility to postsecondary education (Boggs, 2011; Cohen, Brawer, & Kisker, 2014; Ma & Baum, 2016). In particular, students who have historically encountered barriers to higher education, such as students who are from low-income backgrounds, racial/ethnic minorities, first-generation, and academically underprepared, have benefitted from the presence and growth of community colleges (Boggs, 2011; Cohen et al., 2014; Jabbar, Sánchez, & Epstein, 2017). Given the many characteristics of community colleges that have opened higher education to all students, geographic proximity might be the most crucial factor in school selection. Cohen et al. (2014) reported that the proximity of community colleges to students homes was more important to increasing accessibility than open admissions. Moreover, Jabbar et al. (2017) documented that institutional location was more important for students when examining institutional options and that certain groups of students, such as first-generation and racial/ethnic minorities, often were more constrained by financial and geographical concerns.

Geography is important to students and to the mission and function of community colleges. According to Boggs (2011), community colleges have a "responsibility for the economic development of the communities surrounding the colleges" (p. 3).

Additionally, Cohen et al. (2014) described that community college curriculum was developed to support and to assist the needs of the surrounding community. Community colleges often achieve this responsibility to the community by offering a wide range of educational opportunities. Such services include (a) non-credit courses for certifications and personal development, (b) developmental courses to increase mathematic and writing skills, (c) pathways for transferring to a 4-year college, and (d) associate and bachelor's degrees (Boggs, 2011; Cohen et al., 2014; Nuñez et al., 2011; Sanchez & Smith, 2017).

Associated with this mission to the local community, community colleges often enroll students from diverse demographic and educational backgrounds. According to the American Association of Community Colleges (2018), of the students who enrolled in community colleges in the fall 2016 semester, more than one half were a racial/ethnic minority, more than one third were first-generation, more than one third over the age of 25, and more than one half were female. Specifically, 63% of students who enrolled in community colleges enrolled part-time, and 59% of students enrolled in credit-level courses. In Texas, the diversity of students who enrolled in community colleges reflected the national data. In the fall 2015 semester, approximately 66% of students were an ethnic/racial minority, nearly 30% were over the age of 25, 57% of students were female, and 76% of students were enrolled part-time (Texas Higher Education Coordinating Board, 2018).

Given these trends in student enrollment, both nationally and in Texas, examining the characteristics of students might provide a better understanding of the community college population and how those characteristics are related to enrollment and persistence. As previously mentioned, more than one-third of students who enrolled in

community college were first-generation students. Some attributes associated with first-generation students when compared to non-first-generation students were (a) racial/ethnic minority, (b) more dependent on financial aid, (c) more likely to have additional responsibilities (e.g., familial dependents, employment), (d) more likely from a low socioeconomic status, and (e) more likely to not be college ready in mathematics, reading, and writing (Ampaw, Partlo, Hullender, & Wagner, 2015; Atherton, 2014; Fike & Fike, 2008; Harlow & Bowman, 2016; Lee, 2017; Ma & Baum, 2016). Further, first-generation students often perceive more barriers in higher education than non-first-generation students. Some perceived barriers included lack of faculty support, difficulty integrating into the college setting, and lack of understanding the cultural and academic norms of a college (Ampaw et al., 2015; Harlow & Bowman, 2016; Longwell-Grice, Adsitt, Mullins, & Serrata, 2016).

In particular, the challenges associated with financial aid and the affordability of college encountered by many first-generation students is worth examining. As previously mentioned, community colleges often attract students from low-income backgrounds because of lower tuition and fees when compared to 4-year institutions. Ma and Baum (2016) reviewed national data and determined that public, community college tuition and fees were approximately $6,000 lower than in-state, public 4-year college tuition and fees. Although community colleges represent a cheaper alternative to higher education, many students, including first-generation students, still struggle with managing the cost of college. Longwell-Grice et al. (2016) examined the perceptions of first-generation students toward college enrollment and their first-year experience and documented that money was commonly viewed by students as a barrier. Often, first-generation students

qualify for various forms of financial aid to assist with financial difficulties but encounter other problems. McKinney and Novak (2015) indicated that many first-year students do not submit or submit late the free application for federal student aid, resulting in the loss or lowering of federal financial aid. Longwell-Grice et al. (2015) noted that financial aid, when present, frequently was not sufficient to cover all expenses, especially non-academically-related expenses, such as transportation, food, and rent. Associated with these financial issues, first-generation students were more likely to enroll in community colleges on a part-time basis (Ampaw et al., 2015).

Considering the financial difficulties many students, such as first-generation students, encounter and the lack or insufficiency of financial aid, many students work while enrolled in community colleges. The need to work while enrolled in community college might be a substantial reason why part-time student enrollment is high. Part-time enrollment of community colleges students has increased over the past few decades due, in part, to more students working while enrolled in college (Cohen et al., 2014; Fike & Fike, 2008). According to the American Association of Community Colleges (2018), 63% of students who enrolled in community colleges during the fall 2016 semester were enrolled as part-time students. Moreover, Ma and Baum (2016) determined that 71% of part-time students who were enrolled in public, 2-year institutions were employed, with 38% of these students working full-time. The large number of students who worked while enrolled in college often resulted in increased difficulties balancing personal and academic responsibilities (Harlow & Bowman, 2016). Lee (2017) discussed that students prioritized work duties over academic duties and that students were not willing to decrease their income to enroll or to remain in college. These financial and work-school

balance difficulties might influence community college student enrollment, persistence, and completion rates. Part-time students exhibited lower persistence rates and higher dropout rates when compared to full-time students (Ampaw et al., 2015; Harlow & Bowman, 2016; Klempin, 2014; Lee, 2017; Sanchez, Lowman, & Hill, 2018).

Financially-related and work-related issues might not be the only reasons why part-time student enrollment has increased and continues to be high in community colleges. In addition to work-related concerns, many students who enroll in community colleges experience other obligations, such as familial dependents, lack of academic skills (e.g., time management, lack of confidence), and lack of academic expectations (Ampaw et al., 2015; Lee, 2017). In a recent investigation, Lee (2017) analyzed specific challenges and barriers that part-time students perceived when enrolled in community colleges. Lee documented that in addition to financial barriers, part-time students often experienced academic and personal challenges. Such academic and personal barriers expressed by the part-time students included a decreased sense of belonging on campus, conflicts between work schedule and limited course offerings, unfamiliarity with academic policies, and difficulties with time management. Specifically, Lee (2017) established that 83% of part-time students identified the inability to balance personal responsibilities and academic responsibilities as a major challenge when enrolled in community college.

Another potential factor that has resulted in the increase in part-time student enrollment at community colleges is gender. Cohen et al. (2014) determined that female student enrollment has increased and this increase in female enrollment, in part, has led to an increase in part-time enrollment. From 2000 to 2016, female student enrollment in

community colleges increased by 30% (National Center for Education Statistics, 2017) and in the fall 2016 semester, female students represented more than one half of the student population in both national and Texas community colleges (American Association of Community Colleges, 2018; Texas Higher Education Coordinating Board, 2017). Academically, female students often exhibit higher GPAs, higher completion and graduation rates, and greater coping skills when compared to males enrolled in community colleges (Heller & Cassady, 2017; Juszkiewicz, 2017). However, female students tend to have more factors unrelated to academic variables that force them to enroll part-time. Heller and Cassady (2017) addressed the perceived challenges and barriers of first-year male and female community college students. They established that females identified higher levels of academic anxiety and perceived barriers compared to males and that females identified family concerns as their primary concern whereas males indicated work was their primary barrier. In their study, females described increased barriers involving family issues, such as health of dependents, childcare, and family responsibilities than was described by males (Heller & Cassady, 2017).

In an effort to ameliorate some of the difficulties these first-time-in-college, part-time students encounter and to support these students, Texas enacted two educational programs. *Closing the Gaps by 2015: The Texas Higher Education Strategic Plan* (*Closing the Gaps*), an educational initiative between the 2000 and 2015 academic years, sought to enhance student participation rates and to improve student completion rates in Texas higher education institutions (Texas Higher Education Coordinating Board, 2005). One aspect of this initiative was focused on ensuring the affordability of higher education in Texas by providing more grants and scholarships based on financial need and by

monitoring tuition and fees at postsecondary institutions to avoid deterring student enrollment. Building on *Closing the Gaps, Texas Higher Education Strategic Plan: 2015–2030: 60x30TX* (*60x30*) is a Texas educational initiative to increase student completion rates in postsecondary institutions to 60% by 2030 (Texas Higher Education Coordinating Board, 2015). Although the primary goal of *60x30* is to increase student completion, another important aspect of this program is to limit student loan debt. Considering the financial instability that many students encounter, particularly first-time-in-college and part-time students, these educational approaches might have improved student completion.

Statement of the Problem

As previously discussed, part-time students comprise a substantial portion of students who enroll in community colleges and a considerable percentage of these part-time students are employed because of issues surrounding the affordability of college. Often, low-income students enroll in community colleges due to lower tuition and fees compared to 4-year institutions, yet these students still struggle to afford both college and personal expenses, requiring these students to work (Ma & Baum, 2016). As Lee (2017) mentioned, for part-time students, the income provided by their employment was more important and took precedence over enrolling and persisting in community college. Given these financial difficulties, financial aid could play a major role in facilitating part-time student enrollment and assisting their success once enrolled. However, many part-time, community college students encounter difficulties associated with financial aid, in particular, applying for financial aid and receiving enough financial aid. McKinney and Novak (2014) discussed that many low-income students who qualified for financial aid

did not complete the free application for federal student aid. Ma and Baum (2016) indicated that community college students who had the greatest financial need, often, were less likely to apply for financial aid. Even when part-time students apply for financial aid, frequently the financial aid is unavailable or insufficient to support all costs associated with an individual student. As part-time students enroll in fewer credit hours, often, they do not qualify for the full amount of federal financial aid, which requires a student be enrolled for 12 credit hours per semester (Klempin, 2014). Therefore, the amount of financial aid available for part-time students is limited. Moreover, even if part-time students receive enough financial aid to cover all academically-related expenses, this financial aid, often, does not completely cover personal expenses, causing the student to work. As Longwell-Grice et al. (2016) affirmed, financial aid often did not cover expenses associated with college, such as transportation and rent.

The lack of applying for financial aid, the lack of sufficient financial aid to cover all expenses, and the need to work by part-time students might influence their enrollment and completion rates. Part-time students have exhibited higher rates of attrition and lower rates of graduation compared to full-time students often due to multiple conflicting obligations, such as work and family (Ampaw et al., 2015; Natale & Jones, 2017). Further, Juszkiewicz (2017) reported that part-time students enrolled in community colleges had a completion rate of 20.4% and first-time-in-college, part-time students had an even lower completion rate of 17.0%. She further determined that part-time students who did not complete were likely to re-enroll but at a different institution. Therefore, by analyzing the enrollment trends of first-time-in-college, part-time students, educational administrators and policymakers could establish the effectiveness of current educational

measures to assist and promote student completion at community colleges and to provide an affordable education at community colleges.

Purpose of the Study

The purpose of this investigation was to determine the percentages of male and female first-time-in-college students who were enrolled part-time in Texas community colleges. Specifically, the changes among male and female first-time-in-college, part-time students who were enrolled in Texas community colleges in the 2003-2004 academic year through the 2018-2019 academic year were identified. Analyses were performed to ascertain the extent to which the enrollment percentages of female and male Texas community college first-time-in-college, part-time in college students had changed between the 2003-2004 and the 2018-2019 academic years.

Significance of the Study

Given the substantial number of part-time students who enroll in community colleges and the poor completion rates among these students, particularly first-time-in-college, part-time students, examining the effectiveness of educational policies that guide community college practices toward first-time-in-college, part-time students should be investigated. Texas policies, such as *Closing the Gaps* and *60x30*, were designed to increase student enrollment and completion, yet community college completion rates continue to be low, especially among part-time students. McKinney and Hagedorn (2017) indicated that the success of these educational initiatives will rely heavily on the improvement of student success at community colleges because more than one half of students enrolled Texas postsecondary institutions are attending community colleges. Therefore, the thorough examination of these programs might identify effective practices

to increase student enrollment and completion as well as ineffective strategies that might hinder student enrollment and completion in Texas community colleges. Through the identification of successful measures and practices, community college administrators and state legislators can design and implement new educational initiatives to support and improve student success further.

Moreover, community colleges are under additional pressure to increase student success rates because of recent legislation that ties state funding to student success (Natale & Jones, 2018). In 2013, Texas endorsed a performance-based funding model for postsecondary institutions, including community colleges, which apportioned 10% of funding on the outcomes of certain student performance metrics (McKinney & Hagedorn, 2017; Natale & Jones, 2018). Some of the metrics that determine institutional funding are: completing developmental courses, achieving semester hour benchmarks (e.g., 15 hours, 30 hours), and attaining a degree or certificate (McKinney & Hagedorn, 2017). Considering the consequence of student performance on funding and the importance to demonstrate to lawmakers and the general public the validity and worth of community colleges, administrators should identify and implement effectual strategies to assist student enrollment, persistence, and graduation rates.

Research Questions

The research questions addressed in this investigation were (a) What is the gender diversity of Texas community college first-time-in-college, part-time students?; (b) What is the difference in the enrollment percentages of Texas female community college first-time-in-college, part-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-

2004 and the 2018-2019 academic years?; (c) What is the difference in the enrollment percentages of Texas male community college first-time-in-college, part-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?; (d) What trends were present in the gender diversity of first-time in college part-time students enrolled in Texas community college first-time-in-college, full-time students in the 2003-2004 through the 2018-2019 academic years?; and (e) Which community colleges exhibited the greatest percent differences in first-time-in-college, part-time students between the 2003-2004 academic year and the 2018-2019 academic year? The first research question was repeated for the 2003-2004 through the 2018-2019 academic years whereas the remaining research questions, with the exception of the trends questions, were addressed for three academic year comparisons. The trend questions involved all 16 academic years of data.

Method

Research Design

A non-experimental, causal-comparative research design was used for this empirical investigation (Creswell & Creswell, 2018; Johnson & Christensen, 2017). An archival dataset was examined to ascertain the degree to which differences might be present in the percentages of male and female, first-time-in-college, part-time students at Texas community colleges. Because both the independent variable and the dependent variables had occurred previously, other variables that might have been present and that might have influenced the dependent variable could not be examined in this study (Creswell & Creswell, 2018).

The particular academic years in which male and female students were enrolled in Texas community colleges were the independent variable in this empirical study. Data were analyzed for the 2003-2004 through the 2018-2019 academic years. In this investigation, the dependent variables were the percentages of student enrollment who were male and the percentages of student enrollment who were female students and who were enrolled in Texas community colleges during this period. Only data on students who were first-time-in-college, part-time students enrolled in Texas community colleges were analyzed from the 2003-2004 through the 2018-2019 academic years.

Participants and Instrumentation

Participants in this study were first-time-in-college, part-time students who enrolled in a Texas community college between the 2003-2004 and the 2018-2019 academic years. Archival data for all Texas community colleges were acquired from the Texas Higher Education Coordinating Board Interactive Accountability System for these academic years. Individual community colleges report all data, such as student enrollment numbers, student enrollment status (i.e., full-time, part-time, and both) and student demographic information, obtained from the Texas Higher Education Coordinating Board. These data compiled by the Texas Higher Education Coordinating Board were publicly available through the Texas Higher Education Coordinating Board Interactive Accountability System. A total of 16 years of data were examined for this study.

Results

The Texas Higher Education Coordinating Board links gender and enrollment status of students with the academic year and with first-time-in-college status, therefore paired samples *t*-tests were used in this study. Parametric paired sample *t*-tests were determined to be appropriate because the majority of the underlying assumptions for this inferential statistical procedure were met (Slate & Rojas-LeBouef, 2011). Results will now be reported by research question.

Results for Research Question One

To answer the first research question, "What are the enrollment percentages of male and female first-time-in-college, part-time students in Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year?" descriptive statistics were calculated. As revealed in Tables 4.1 and 4.2, part-time male and female enrollment percentages over this 16-year period were quite consistent. The part-time, male, first-time-in-college Texas community college enrollment rates ranged from a low of 42.51% in the 2003-2004 academic year to a high of 46.48% in the 2009-2010 academic year. Accordingly, the part-time, male enrollment of first-time-in-college Texas community college students varied by only 3.97 percentage points in this 16-year period. The part-time, female, first-time-in-college Texas community college enrollment rates ranged from a low of 53.52% in the 2009-2010 academic year to a high of 57.49% in the 2003-2004 academic year. As such, the part-time, female enrollment of first-time-in-college Texas community college students varied by only 3.97 percentage points in this 16-year period.

Insert Tables 4.1 and 4.2 about here

Results for Research Question Two

To answer the second research question, "What is the difference in the enrollment percentages of Texas female community college first-time-in-college, part-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?", three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparisons, a statistically significant difference was revealed in part-time, female enrollment percentages, $t(68) = 1.97$, $p = .05$. The difference represented a small effect size (Cohen's *d*) of 0.22 (Cohen, 1988). A statistically significantly lower enrollment rate was present for Texas part-time, female, first-time-in-college students in the 2003-2004 academic year, 57.49%, than in the 2011-2012 academic year, 55.93%, a difference of 1.56%. Between the 2011-2012 and 2018-2019 academic years, a statistically significant difference in part-time, female enrollment percentages, $t(69) = -0.70$, $p = .49$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas part-time, female, first-time-in-college students were 55.94% and 56.73%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas part-time, female enrollment percentages, $t(67) = 0.90$, $p = .37$. Part-time, female enrollment percentages were 57.64% and 56.70% in the 2003-2004 and 2018-2019 academic years, respectively. Table 4.3 contains the descriptive statistics for these analyses.

Insert Table 4.3 about here

Results for Research Question Three

Regarding the third research question, "What is the difference in the enrollment percentages of Texas male community college first-time-in-college, part-time students between the 2003-2004 and the 2011-2012 academic years, between the 2011-2012 and the 2018-2019 academic years, and between the 2003-2004 and the 2018-2019 academic years?", three paired samples *t*-tests were calculated. For the 2003-2004 and 2011-2012 academic year comparisons, a statistically significant difference was yielded in part-time, male enrollment percentages, $t(68) = -1.97$, $p = .05$. The effect size (Cohen's *d*) was small, 0.22 (Cohen, 1988). A statistically significantly higher enrollment rate was present for Texas part-time, male, first-time-in-college students, 42.51%, in the 2003-2004 academic year than in the 2011-2012 academic year, 44.07%, a difference of 1.56%. Between the 2011-2012 and 2018-2019 academic years, a statistically significant difference in part-time, male enrollment percentages, $t(69) = 0.70$, $p = .49$, was not present. In the 2011-2012 and the 2018-2019 academic years, the enrollment rates of Texas full-time, male, first-time-in-college students were 44.06% and 43.27%, respectively. Lastly, between the 2003-2004 and 2018-2019 academic years, a statistically significant difference was not present in Texas part-time, male enrollment percentages, $t(67) = -0.90$, $p = .37$. Part-time, male enrollment percentages were 42.36% and 43.30% in the 2003-2004 and 2018-2019 academic years, respectively. Revealed in Table 4.4 are the descriptive statistics for these analyses.

Insert Table 4.4 about here

Results for Research Question Four

In reference to the fourth research question, "What trends were present in the gender diversity of first-time-in-college, part-time students enrolled in Texas community college first-time full-time students in the 2003-2004 through the 2018-2019 academic years?", descriptive statistics were calculated. Depicted in Figure 4.1 are the enrollment trends over time of male and female, part-time, first-time-in-college Texas community college students for the 2003-2004 academic year through the 2018-2019 academic year. Part-time, first-time-in-college, female enrollment rates were slightly higher than part-time, first-time-in-college, male enrollment rates for every academic year. Both male and female enrollment rates over time remained relatively consistent over the 16-year span.

Insert Figure 4.1 about here

Results for Research Question Five

To answer the fifth research question, "Which community colleges exhibited the greatest percent differences in first-time-in-college, part-time students between the 2003-2004 academic year and the 2018-2019 academic year?", descriptive statistics were calculated separately for male and female students. As revealed in Table 4.5, Southwest Collegiate Institute for the Deaf had the greatest percent increase of 44% for male, first-time-in-college, part-time enrollment in Texas community colleges, between the 2003-

2004 academic year and the 2018-2019 academic year. Following Southwest Collegiate Institute for the Deaf were Trinity Valley Community College (15%) and Southwest Texas Junior College (14%).

Insert Table 4.5 about here

For female, first-time-in-college, part-time enrollment in Texas community colleges, Western Texas College had the greatest percent increase of 22% from the 2003-2004 academic year to the 2018-2019 academic year. Coastal Bend College (16%) and Victoria College (14%) were second and third respectively. Table 4.6 contains the descriptive statistics.

Insert Table 4.6 about here

Discussion

In this multiyear statewide study, enrollment rates for male and female, first-time-in-college students enrolled part-time in Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year were reviewed. For 16 academic years, the enrollment rates for both male and female, part-time, first-time-in-college students changed by 3.97 percentage points. In the 2003-2004 academic year, part-time male, first-time-in-college students enrollment rates reached a low of 42.51% and in the 2009-2010 academic year a high of 46.48%. Enrollment rates for part-time female, first-time-in-college students in Texas community college were lowest in the 2009-2010 academic year (53.52%) and highest in the 2003-2004 academic year (57.49%). Overall,

enrollment rates were relatively unchanged for both male and female, part-time, first-time-in-college students enrolled in Texas community colleges.

A statistically significant difference (p = .05) was determined for the enrollment rates of both male and female, part-time, first-time-in-college students enrolled in Texas community colleges between the 2003-2004 academic year and the 2011-2012 academic year. However, enrollment rates for all other years were quite consistent and did not result in any statistically significant differences. Over the 16 academic years, enrollment rates increased by 0.91 percentage points for part-time male, first-time-in-college students at Texas community colleges. During the same timeframe, enrollment rates decreased by 0.91 percentage points for part-time female, first-time-in-college students at Texas community colleges. Enrollment rates for part-time male, first-time-in-college students at Texas community colleges averaged 44.82% over the 16 academic years and for part-time female, first-time-in-college students at Texas community colleges averaged 55.18% over the 16 academic years.

Connections with Existing Literature

Enrollment rates for part-time, male and female, first-time-in-college students were fairly consistent between the 2003-2004 academic year and the 2018-2019 academic year, as revealed by the findings of this multiyear, statewide investigation. Part-time female, first-time-in-college enrollment rates were higher than part-time male, first-time-in-college students who enrolled in Texas community colleges and these results were congruent with the findings of other researchers (American Association of Community Colleges, 2018; Ampaw et al., 2015; Cohen et al., 2014; Texas Higher Education Coordinating Board, 2017). According to Ampaw et al. (2015) observed that

male, first-time-in-college students exhibited lower enrollment rates in community colleges than female, first-time-in-college students. Additionally, Cohen et al. (2014) noted that female students who enrolled in community colleges were more likely to enroll part-time than full-time when compared to male students. Heller and Cassady (2017) reported that first-year, female students frequently perceived more barriers than male first-year students enrolled in community colleges leading to higher part-time enrollment by female students. Lastly, the Texas Higher Education Coordinating Board (2017) determined that more than half of part-time student enrollment in Texas community colleges were female students. As revealed by the findings of this study, the enrollment rates of part-time female students in Texas community colleges averaged 55.18%.

Implications for Policy and for Practice

Several implications for policy and practice can be made based upon the findings of this multiyear, statewide investigation, in which the enrollment rates of part-time male and female, first-time-in-college students in Texas community colleges were determined. From the 2003-2004 academic year to the 2018-2019 academic year, part-time, male and female, first-time-in-college student enrollment rates over remained mostly unchanged. First, community colleges should examine current strategies for the recruitment and enrollment of part-time, first-time-in-college students. Lee (2017) noted that part-time students often experienced greater difficulty transitioning into community college than full-time students. Therefore, community colleges should provide additional support and resources to part-time students to help ease this transition and provide professional development and training to college employees in departments, such as advising, financial aid, and faculty, who frequently interact with part-time students. Second,

community colleges should work to ameliorate the effects of non-academic barriers, such as childcare, food insecurity, and transportation difficulties, as these barriers often prevent students from enrolling in community colleges or remaining enrolled in community colleges (Heller & Cassady, 2017; Lee, 2017).

Third, given that part-time enrollment is associated with lower success and persistence rates (Juszkiewicz, 2017; Klempin, 2014), policymakers and community college administrators need to identify meaningful and specific interventions to support and retain part-time students. Fourth, community colleges should determine methods to increase the engagement and integration of part-time students into the academic environment. Lee (2017) reported that part-time, community college students identified a lack of connection and belonging as a serious challenge to their education. Therefore, measures should be developed and implemented to better incorporate part-time students into the community college environment, as well as encourage a sense of belonging within in the community college. Finally, community colleges should work to develop degree plans and course schedules that accommodate part-time student schedules. Part-time community college students reported a lack of options, regarding courses and degree plans (Lee, 2017) and community college administrators should be cognizant of part-time student availability when building course schedules.

Recommendations for Future Research

Based upon the findings of this Texas, statewide investigation, various recommendations for future research can be made regarding the enrollment rates of part-time, male and female, first-time-in-college students. First, given that only data from Texas community colleges were examined for this investigation, researchers should

determine if other states have similar enrollment rates. Due to this study being based solely on Texas community college, part-time, first-time-in-college students, the degree to which the findings would be generalizable to part-time, first-time-in-college students in other states is unclear. Second, further investigation is needed in regard to the enrollment rates of part-time, first-time-in-college students at 4-year postsecondary institutions. In this study, only community college enrollment rates of part-time male and female, first-time-in-college students were determined. Therefore, the extent to which the findings would be generalizable to 4-year institutions is unknown. Third, researchers are encouraged to examine the enrollment rates of part-time male and female students who are not first-time-in-college students to determine if any connections exist between these two groups. Fourth, further research is recommended into the influence of other factors, such as race/ethnicity, age, and employment status, on part-time male and female, first-time-in-college enrollment rates. Given that in this investigation, only the influence of gender on the enrollment rates of part-time, first-time-in-college students were examined, the degree to which these other characteristics might affect enrollment rates in Texas community colleges is unknown. Finally, investigators should conduct studies using mixed methods and/or qualitative research to ascertain underlying causes for the enrollment rates of part-time, first-time-in-college students and to provide further information to aid policymakers in future decisions.

Conclusion

In this multiyear, statewide analysis, Texas community college enrollment rates were analyzed for the 2003-2004 academic year through the 2018-2019 academic years for part-time, male and female, first-time-in-college students. Inferential statistical analyses revealed a statistically significant increase for part-time male, first-time-in-

college students between the 2003-2004 academic year and the 2011-2012 academic year. Furthermore, a statistically significant decrease was revealed in the enrollment rates of part-time female, first-time-in-college students between the 2003-2004 academic year and the 2011-2012 academic year. However, other than these two academic years, no statistically significant difference occurred. Part-time male, first-time-in-college students had enrollment rates consistently around 43.29% during the 16 academic years whereas part-time female, first-time-in-college students at Texas community colleges remained fairly constant around 56.71%. Also identified in this article were the Texas community colleges that exhibited the greatest increase in enrollment rates for male and female, part-time, first-time-in-college students over the 16-year period. Southwest Collegiate Institute for the Deaf had the greatest increase in enrollment rates of part-time male, first-time-in-college students, increasing by 44.0% between the 2003-2004 academic year and the 2018-2019 academic year. Western Texas College had the greatest increase in enrollment rates of female, part-time, first-time-in-college students, increasing by 22.0% between the 2003-2004 academic year and the 2018-2019 academic year.

In examining the enrollment rates of part-time, male and female, first-time-in-college students in Texas community colleges over time, the effectiveness of Texas educational policies remains unclear. Statewide educational initiatives, such as *Closing the Gaps* and *60x30*, were designed, at least in part, to increase enrollment rates of first-time-in-college students. Further investigation is needed to determine which approaches were successful in supporting part-time, first-time-in-college student enrollment and

which methods were ineffectual in increasing part-time, first-time-in-college student enrollment.

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Table 4.1

Descriptive Statistics for Texas Male, Part-time, First-Time-in-College Students Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	42.51	6.32
2004-2005	69	44.93	7.03
2005-2006	69	44.26	5.84
2006-2007	69	45.21	6.44
2007-2008	70	44.78	7.94
2008-2009	70	45.40	8.60
2009-2010	71	46.48	8.42
2010-2011	71	45.81	6.96
2011-2012	71	44.12	7.85
2012-2013	72	44.15	6.58
2013-2014	72	45.12	6.17
2014-2015	72	44.87	7.02
2015-2016	72	45.74	6.15
2016-2017	72	46.26	7.66
2017-2018	72	44.13	7.56
2018-2019	72	43.42	7.50

Table 4.2

Descriptive Statistics for Texas Female, Part-time, First-Time-in-College Students Community College Students Between the 2003-2004 and 2018-2019 Academic Years

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	57.49	6.32
2004-2005	69	55.07	7.03
2005-2006	69	55.74	5.84
2006-2007	69	54.79	6.44
2007-2008	70	55.22	7.94
2008-2009	70	54.60	8.60
2009-2010	71	53.52	8.42
2010-2011	71	54.19	6.96
2011-2012	71	55.88	7.85
2012-2013	72	55.85	6.58
2013-2014	72	54.88	6.17
2014-2015	72	55.13	7.02
2015-2016	72	54.26	6.15
2016-2017	72	53.74	7.66
2017-2018	72	55.87	7.56
2018-2019	72	56.58	7.50

Table 4.3

Descriptive Statistics for Texas Female, Part-time, First-Time-in-College Students Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	57.49	6.32
2011-2012	70	55.94	7.88
2018-2019	68	56.70	7.52

Table 4.4

Descriptive Statistics for Texas Male, Part-time, First-Time-in-College Students Community College Students for the Beginning Point, Midpoint, and Ending Points

Academic Year	*n* of community colleges	*M%*	*SD%*
2003-2004	69	42.51	6.32
2011-2012	70	44.06	7.88
2018-2019	68	43.30	7.52

Table 4.5

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Male, Part-time, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Southwest Collegiate Institute for the Deaf	44.0
Trinity Valley Community College	15.0
Southwest Texas Junior College	14.0
Alvin Community College	10.0
Texas Southmost College	10.0
Dallas County Community College-Cedar Valley College	9.0
Blinn College District	9.0
Ranger College	8.0
San Jacinto College–North Campus	7.0
Navarro College	7.0

Table 4.6

Descriptive Statistics of the Top Ten Texas Community Colleges with the Greatest Increase in Texas Female, Part-time, First-Time-in-College Students Between the 2003-2004 and 2018-2019 Academic Years

Texas Community College	*M*% Change
Western Texas College	22.0
Coastal Bend College	16.0
Victoria College	14.0
Panola College	13.0
Angelina College	12.0
Northeast Texas Community College	9.0
South Plains College	8.0
Del Mar College	8.0
Weatherford College	8.0
Tyler Junior College	8.0

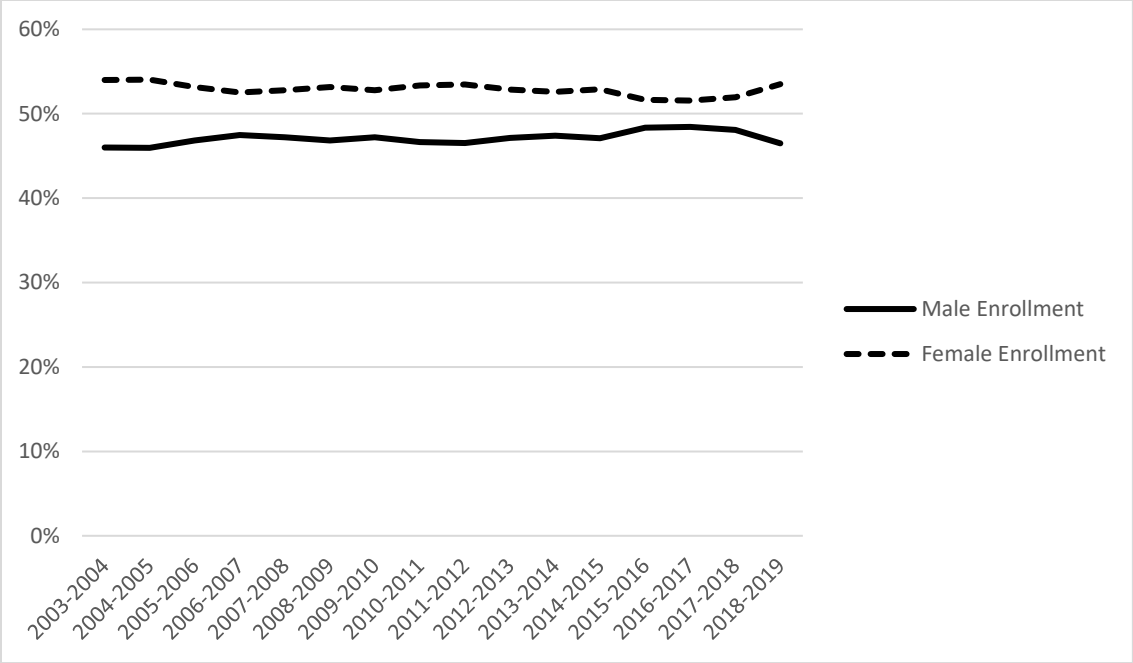

Figure 4.1. Total enrollment rates of male and female, part-time, first-time-in-college Texas community college students for the 2003-2004 academic year through the 2018-2019 academic year.

CHAPTER V

DIFFERENCES IN MALE AND FEMALE FIRST-TIME-IN-COLLEGE STUDENT ENROLLMENT AT TEXAS COMMUNITY COLLEGES: A MULTIYEAR, STATEWIDE INVESTIGATION DISCUSSION AND CONCLUSION

Discussion

The purpose of this journal-ready dissertation was to determine the degree to which changes have occurred among male and female, first-time-in-college students who were enrolled full-time, part-time, and both (full-time and part-time) in Texas community colleges from the 2003-2004 academic year through the 2018-2019 academic year. Another purpose was to ascertain the extent to which differences were present in the enrollment rates of full-time, part-time, and both, male and female, first-time-in-college students between the 2003-2004 academic year (i.e., beginning point) and the 2011-2012 academic year (i.e., midpoint); between the 2011-2012 academic year and the 2018-2019 academic years (i.e., ending point); and between the 2003-2004 academic year and the 2018-2019 academic year. By examining several years of data, the extent to which trends were present in the enrollment rates of male and female, first-time-in-college students was determined. In this chapter, for each of the three studies that comprise this journal-ready dissertation, results are discussed and summarized. Furthermore, the implications of these findings for policy and practice are considered and followed by recommendations for future research. Finally, this chapter will conclude with a summary section.

Summary of Study One Results

In the first study for this journal-ready dissertation, the enrollment rates of male and female, first-time-in-college students enrolled in Texas community colleges for the 2003-2004 academic year to the 2018-2019 academic year were examined. Sixteen years of archival data from the Texas Higher Education Coordinating Board Interactive Accountability System were collected and analyzed. Over this period, the enrollment rates for both male and female, first-time-in-college students who enrolled in Texas community colleges remained fairly unchanged. For male, first-time-in-college students,

enrollment rates were highest in the 2016-2017 academic year at 47.35% and lowest in the 2003-2004 academic year at 44.26%. For female, first-time-in-college students, enrollment rates were highest in the 2003-2004 academic year at 55.74% and lowest in the 2018-2019 academic year at 52.65%. During the 16-year span, enrollment rates for male and female, first-time-in-college students varied by only 3.09 percentage points.

Enrollment rates for the beginning point and midpoint in male, first-time-in-college students were 44.26% and 45.33%, respectively and for female, first-time-in-college students were 55.74% and 54.67%, respectively. For the midpoint and ending point, enrollment rates were 45.33% and 44.95%, respectively for male, first-time-in-college students. For the midpoint and ending point for female, first-time-in-college students, enrollment rates were 54.67% and 55.05%, respectively. Finally, enrollment rates for male, first-time-in-college students for the beginning point and ending point were 44.26% and 44.95%, respectively, representing an increase of 0.91 percentage points. Furthermore, enrollment rates for female, first-time-in-college students for the beginning point and ending point were 55.74% and 55.05%, respectively, representing a decrease of 0.91 percentage points. As such, enrollment rates for male and female, first-time-in-college students who enrolled in Texas community colleges were relatively consistent.

Summary of Study Two Results

Reviewed in the second investigation in this journal-ready dissertation were the enrollment rates of full-time, male and female, first-time-in-college students who enrolled in Texas community colleges between the 2003-2004 academic year and the 2018-2019 academic year. Archival data for 16 years from the Texas Higher Education

Coordinating Board Interactive Accountability System were obtained and analyzed. Enrollment percentages for full-time male, first-time-in-college students ranged from a high of 48.44% during the 2016-2017 academic year to a low of 45.96% during the 2004-2005 academic year, whereas enrollment percentages for full-time female, first-time-in-college students ranged from a high of 54.04% during the 2004-2005 academic year to a low of 51.56% during the 2016-2017 academic year. Therefore, enrollment percentages for both male and female, full-time, first-time-in-college students varied by only 2.48 percentage points during the 16-year period.

Enrollment percentages for the beginning point and midpoint in full-time male, first-time-in-college students were 46.01% and 46.53%, respectively and for full-time female, first-time-in-college students were 53.99% and 53.47%, respectively. Enrollment percentages for the midpoint and ending point were 46.53% and 46.49%, respectively for full-time male, first-time-in-college students. For female, first-time-in-college students, enrollment percentages for the midpoint and ending point were 53.47% and 53.51%, respectively. Finally, full-time male, first-time-in-college students had enrollment percentages of 46.01% and 46.49% for the beginning point and ending point. Therefore, full-time male, first-time-in-college student enrollment percentages increased by 0.48 percentage points between the beginning and ending points. Full-time female, first-time-in-college student enrollment percentages were 53.99% and 53.51% for the beginning and ending points. Accordingly, full-time female, first-time-in-college enrollment percentages decreased by 0.48 percentage points between the beginning and ending points. Given this information, enrollment percentages for male and female, full-time,

first-time-in-college students who enrolled in Texas community colleges were fairly constant.

Summary of Study Three Results

Analyzed in the third investigation of this journal-ready dissertation were the enrollment rates of part-time, male and female, first-time-in-college students who enrolled in Texas community colleges. Archival data for 16 years from the Texas Higher Education Coordinating Board Interactive Accountability System were acquired and investigated. Enrollment percentages for part-time male, first-time-in-college students ranged from a high of 46.48% during the 2009-2010 academic year to a low of 42.51% during the 2003-2004 academic year. Enrollment percentages for part-time female, first-time-in-college students ranged from a high of 57.49% during the 2003-2004 academic year to a low of 53.52% during the 2009-2010 academic year. Overall, male and female, part-time, first-time-in-college student enrollment rates differed by 3.97 percentage points during the 16-year period.

Statistical analyses revealed that the enrollment rates of part-time, male and female, first-time-in-college students for the beginning point and midpoint were statistically significantly different, albeit a small effect size. Part-time male, first-time-in-college students were 42.51% and 44.06%, respectively and for part-time female, first-time-in-college students were 57.49% and 55.94%, respectively. As for the midpoint and ending points, for part-time male, first-time-in-college students, enrollment rates were 44.06% and 43.30%, respectively. However, for part-time female, first-time-in-college students, enrollment rates for the midpoint and ending point were 55.94% and 56.70%, respectively. Lastly, the enrollment rates for part-time male, first-time-in-college

students were calculated to be 42.51% and 43.30% for the beginning point and ending point. Accordingly, enrollment rates from the beginning point and ending point for part-time male, first-time-in-college student enrollment rates increased by 0.79 percentage points. Female, part-time, first-time-in-college student enrollment percentages were 57.49% and 56.70% for the beginning and ending points. Consequently, part-time female, first-time-in-college enrollment percentages decreased by 0.79 percentage points between the beginning point and ending point. Enrollment rates of Texas community college, part-time male and female, first-time-in-college students were mostly unchanged over the 16-year span.

Summary of Results Across All Three Studies

In all three articles, enrollment rates for female, first-time-in-college students were higher than were enrollment rates male, first-time-in-college students in Texas community colleges, regardless if the enrollment was full-time or part-time. Over the 16 academic years (i.e., from the 2003-2004 academic year to the 2018-2019 academic year) examined, enrollment rates remained relatively constant. The differences in enrollment rates over time were 3.09% for both (i.e., full-time and part-time) male and female, first-time-in-college students, 2.48% for full-time male and female, first-time-in-college students, and 3.97% for part-time male and female, first-time-in-college students. In regard to enrollment rate differences between the beginning point and midpoint, midpoint and ending point, and beginning point and ending point, statistically significant results were calculated for only part-time male and part-time female, first-time-in-college students between the beginning point and midpoint.

Connections with Existing Research Literature

In this journal-ready dissertation, the findings of all three articles were commensurate with existing literature. As delineated in the first article, the enrollment rates of male, first-time-in-college-students averaged 45.98% over the 16-year period whereas the enrollment rates of female, first-time-in-college students averaged 54.02% over the same time frame. These results are congruent with the findings of other investigators (American Association of Community Colleges, 2018; Ampaw et al., 2015; Atherton, 2014; Sanchez & Smith, 2017) who noted enrollment percentage differences of first-time-in-college students by gender. Regarding enrollment rates of male and female, full-time, first-time-in-college students, rates were relatively unchanged with full-time female enrollment higher than full-time male enrollment throughout the 16 academic year period. These findings are congruent with the findings of other researchers (American Association of Community Colleges, 2018; Ampaw et al., 2015; Juszkiewicz, 2017; Texas Higher Education Coordinating Board, 2019). Another finding of the second article was that female, first-time-in-college enrollment rates were lower from the 2003-2004 academic year to the 2018-2019 academic year, a finding also supported by previous research (Juszkiewicz, 2017). For the third article, enrollment rates for part-time, male and female, first-time-in-college students were relatively constant between the 2003-2004 academic year and the 2018-2019 academic year. Part-time female, first-time-in-college enrollment rates were higher than part-time male, first-time-in-college students who enrolled in Texas community colleges and these results were commensurate with the results of other investigators (American Association of Community Colleges, 2018; Ampaw et al., 2015; Cohen et al., 2014; Texas Higher Education Coordinating Board, 2017). Additionally, the findings that first-time-in-college female students

enrolled in community colleges at a greater rate than male first-time-in-college students were consistent with previous findings (Heller & Cassady, 2017).

Implications for Policy and Practice

Given the results of this multiyear, statewide analysis, several implications for policy and practice can be made. First, educators, administrators, and policymakers must work to identify and allocate sources of funding and resources to address the various barriers that exist for many first-time-in-college students. In particular, additional funding could provide scholarships and grants to help mitigate the financial burdens associated with enrolling in postsecondary institutions. Additionally, these financial resources could provide funding to offset non-academic costs, such as childcare, transportation, and healthcare. Moreover, providing scholarships and grants could potentially decrease the number of hours first-time-in-college students need to work and would allow more time to focus on academic responsibilities. Second, as many first-time-in-college students must work to afford enrolling in college, college administrators should develop and implement robust work-study programs or provide more on-campus employment specifically for these students. These programs would aid in providing financial support for the students and also assist in the integration of first-time-in-college students into the college environment. Third, community colleges need to develop training for staff and faculty to provide a better understanding of the challenges first-time-in-college students encounter and how to support these students best. Specifically, financial aid advisors and academic advisors should be trained on how to best assist first-time-in-college students, as well as to educate first-time-in-college students on important issues, such as applying for FAFSA and other financial resources, developing and

maintaining a budget (i.e., financial literacy), and understanding the nuances of higher education. Faculty should be trained to develop targeted assignments that resonate with first-time-in-college students, as well as provide additional academic interventions, such as one-on-one mentoring.

Fourth, postsecondary institutions should provide additional opportunities to help integrate and give a sense of belonging to first-time-in-college students. Such opportunities could include the formation of clubs and organizations dedicated to first-time-in-college students, the assignment of mentors or peers who were first-time-in-college students, and the availability of on-campus employment. Fifth, policymakers and college administrators should recognize the importance of part-time students and concentrate on improving the overall experience for these students. Often, postsecondary institutions do not consider the availability of part-time students when developing course schedules and offerings, determining meeting times for clubs and programs, and providing opportunities for academic resources, such as tutoring. More work is needed to ensure that part-time students receive support and assistance equivalent to what full-time students encounter.

Recommendations for Future Research and Practice

Several recommendations for future research regarding enrollment rates of first-time-in-college students are suggested based upon the results of this multiyear, statewide investigation. First, researchers should determine the extent to which the findings of this study are generalizable to other states. Given that only Texas community college data were analyzed herein, the degree to which the findings could be applied to other states is unknown. Second, researchers are encouraged to examine data from 4-year institutions

as this study only incorporated data from community colleges. To ascertain the extent to which these results are generalizable to 4-year college students, further research is recommended. A third recommendation would be to determine the effect of other demographic characteristics, such as age, race/ethnicity, and socioeconomic level, on enrollment rates in Texas community colleges. As only gender was examined in this study, the influence of other demographic factors on enrollment rates is uncertain. Lastly, as only empirical quantitative data were analyzed in this study, researchers should conduct qualitative and/or mixed methods research to gain greater insights into the various factors, in particular non-academic barriers and challenges, such as childcare, employment, and transportation, that influence enrollment rates and to provide information for college administrators and policymakers.

Conclusion

The purpose of this multiyear, statewide study was to determine the degree to which changes have occurred in the enrollment percentages of male and female, first-time-in-college students who were enrolled full-time, part-time, and both (full-time and part-time) in Texas community colleges in the 2003-2004 academic year through the 2018-2019 academic year. For male and female, first-time-in-college students who enrolled both full-time and part-time, inferential statistical analyses did not reveal any statistically significant differences over the 16-year period and overall enrollment rates, for both male and female students, remained relatively constant. Regarding full-time male and female, first-time-in-college enrollment rates, statistically significant changes were not present between the 2003-2004 academic year and the 2018-2019 academic year. Similarly, the enrollment percentages for male and female, full-time, first-time-in-

college students remained fairly constant over time. Concerning male and female, first-time-in-college students who enrolled part-time in Texas community colleges, a statistically significant difference was present between the 2003-2004 academic year and the 2011-2012 academic year. During that timeframe, part-time male, first-time-in-college student enrollment rates were higher while part-time female, first-time-in-college student enrollment rates were lower at a statistically significant value. Given these results, more work is needed by community college administrators and policymakers to identify the potential barriers and challenges first-time-in-college students might encounter and to provide additional support and assistance to mitigate those barriers and challenges. Findings of all three studies of this journal-ready dissertation were commensurate with the extant literature.

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APPENDIX

orsp@irb.shsu.edu
Thu 9/26/2019 8:17 AM
To:
Maynard, John;
Slate, John;
Cc:
Miles, Sharla;

Date: Sep 26, 2019 8:17 AM CDT TO: John Maynard John Slate FROM: SHSU IRB PROJECT TITLE: DIFFERENCES IN MALE AND FEMALE FIRST-TIME-IN-COLLEGE STUDENT ENROLLMENT AT TEXAS COMMUNITY COLLEGES: A MULTIYEAR, STATEWIDE INVESTIGATION PROTOCOL #: IRB-2019-288 SUBMISSION TYPE: Initial ACTION: Exempt DECISION DATE: September 26, 2019 EXEMPT REVIEW CATEGORY: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met: (i) The identifiable private information or identifiable biospecimens are publicly available; (ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects; (iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or (iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq. Greetings, Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. **Since Cayuse IRB does not currently possess the ability to provide a**

"stamp of approval" on any recruitment or consent documentation, it is the strong recommendation of this office to please include the following approval language in the footer of those recruitment and consent documents: IRB-2019-288/September 26, 2019. We will retain a copy of this correspondence within our records. * **What should investigators do when considering changes to an exempt study that could make it nonexempt?** It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research. In this case, please make available sufficient information to the IRB so it can make a correct determination. If you have any questions, please contact the IRB Office at 936-294-4875 or irb@shsu.edu. Please include your project title and protocol number in all correspondence with this committee. Sincerely, Donna M. Desforges, Ph.D. Chair, Committee for the Protection of Human Subjects PHSC-IRB

VITA

JOHN PHILLIP MAYNARD II

Doctorate of Education–Higher Education Leadership, May 2020
Sam Houston State University, Huntsville, TX.
Dissertation: *Differences in Male and Female, First-Time-in-College Student Enrollment at Texas Community Colleges: A Multiyear, Statewide Investigation*

Master of Science Degree, Physiology, May 2008
North Carolina State University, Raleigh, North Carolina
Bachelor of Science Degree, Biological Sciences, May 2006
North Carolina State University, Raleigh, North Carolina

Bachelor of Science Degree, Animal Sciences, May 2006
North Carolina State University, Raleigh, North Carolina
Bachelor of Art Degree, Spanish Language and Culture, May 2006
North Carolina State University, Raleigh, North Carolina

PROFESSIONAL EXPERIENCE
Dean of Instruction, **Lone Star College**, 2019-Present

Professor of Biology, **Lone Star College,** 2012-2019

Lead Faculty, **Lone Star College,** 2013-2019
Professor of Anatomy and Physiology, **Horry Georgetown Technical College**, 2008-2012

PRESENTATIONS AND PUBLICATIONS
Maynard, J. P. (2017, April). A*natomy and Physiology Study Abroad Development in London, England.* Lone Star College International Travel Fair, The Woodlands, TX.
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