

Latino Community College Students
Student Engagement and their Academic Outcomes

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Abstract

Latino students are the fastest growing racial/ethnic in the United States. Additionally, they are the fastest growing demographic enrolling in higher education, but unfortunately, they are still last when it comes to college completion. The theories of engagement and I-E-O are recognized as ways to describe academic performance in addition to persistence and completion. The Community College Survey of Student Engagement (CCSSE) has been used by community colleges to measure the engagement behaviors of students. The results of the study provide evidence in order to develop policies and procedures to aid in completion and academic success for Latino students.

The purpose of this study was to understand the engagement behaviors of Latino community college students to determine what demographic characteristics predict student engagement as measured by the five benchmarks of engagement from the CCSSE: level of academic challenge, active and collaborative learning, student-faculty interaction, student effort, and support for learning. Next, the study looked at how the demographic characteristics and student engagement benchmarks related to the academic outcomes of GPA, solving numerical problems, and academic skills. The benchmarks and demographic characteristics were regressed against the self-reported outcomes of GPA, solving numerical problems, and the composite score of academic skills. Results indicated that student engagement benchmarks instead of student demographic characteristics had a stronger relationship of predicting academic outcomes.

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Chapter One

Introduction

Statement of the Problem

Community colleges play an important role in the higher education landscape. Approximately 42% of U.S. undergraduate students attend a community college (Ma & Baum, 2016). Minority students make up 51% of community college enrollment but only 42% of total enrollment at four-year universities (Ma & Baum, 2016). Specifically looking at community college enrollment, Latino student enrollments make up 24% of total enrollment (AACC, 2018). The U.S. Census identifies as Latino any person of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin regardless of race (United States Census, 2018). The survey used for this study, the Community College Survey of Student Engagement (CCSSE), has students identify themselves as “Hispanic or Latino.” The term Latino is used throughout this dissertation to conform with the CCSSE but to avoid the constant repetition of the term “Hispanic or Latino.”

In recent years there have been many positives for Latino students. Latino students are graduating from high school at the fastest growing rate of all demographic groups (Carnevale & Fasules, 2017). As more Latino students graduate from high school, this sets the stage for more Latino students to see the value of and to enroll in post-secondary education. According to Carnevale and Fasules (2017), “Eighty-eight percent of Latinos believe a college degree is important for obtaining financial security compared to 74% of all Americans” (p.3). From 1992 to 2016, overall postsecondary enrollment for Latino students increased by 10% (Carnevale & Fasules, 2017). From 2011 to 2017, Latino student degree attainment grew by 39% (Santiago, Laurel, Martinez, Bonilla, & Labandera, 2019). Eighty percent of the increased credential and

degree attainment by all students can be accounted for by Latino students (Santiago et al., 2019). Even with these positive statistics, Latino students face challenges as they pursue education. Latino students have the lowest high school completion rate compared to other demographics and are the least likely to pursue higher education (Carnevale & Fasules, 2017). Only 45% of Latino students earn some kind of postsecondary education (Gandara et al., 2013). When looking at college completion rates, 21% of graduates are Latino while 45% of those students are white and 32% are black (Carnevale & Fasules, 2017).

Earning a community college degree has clear advantages. A study by the Federal Reserve Bank found that students who complete a degree at a community college earn 16% to 27% more than those with a high school diploma alone (Federal Reserve Bank, 2009). Unfortunately, not all students complete their degree. When comparing the completion rates of different racial/ethnic groups at two-year public institutions, 45.1% of completers were white, 43.8% were Asian, 33% were Latino, and 26% were black (Shapiro et al., 2017). There is some good news as Latinos lead all racial categories in certificate completion with 60% who enroll completing, compared to 47% of white students and 37% of black students. These data points make conversations about barriers to completion for students from marginalized groups important as administrators look to improve completion rates for all students.

Higher education research has shown there are best practices to improve the likelihood that a student will be retained to graduation (Kuh, 2009). Student engagement is the cornerstone of these practices. Engagement is defined as the degree to which a student is involved in their education and the extent to which an institution encourages that involvement through what are known as High Impact Practices (HIPs) (Kuh, 2009; Wolf-Wendel, Ward, & Kinzie, 2009). According to Kuh (2009), “Student engagement represents the time and effort students devote to

activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities” (p. 683). Some measures of student engagement include time on task, engagement with peers and faculty, quality of effort, and other factors (Kuh, 2009). If a specific population of students is not being retained to graduation, it is reasonable to look backwards to see what their level of engagement was, which could then lead to a discussion on how to engage students in their learning that could lead to degree completion and other positive outcomes. Student engagement is typically measured either by the National Survey of Student Engagement (NSSE) for four-year colleges and universities or by the Community College Survey of Student Engagement (CCSSE) for two-year colleges.

Purpose of the Study

The purpose of this study is to understand the rate and types of engagement of Latino students at community colleges, with specific emphasis on how their engagement is related to academic outcomes, specifically GPA and other academic measures as identified on the CCSSE. The CCSSE measures community college student engagement in five areas called benchmarks. The five benchmarks are academic challenge, active and collaborative learning, student-faculty interaction, student effort, and support for learners (CCSSE, 2017). These five engagement benchmarks assist institutions in determining where additional resources can be invested to support student success.

The CCSSE asks students to self-report how their experiences at college have contributed to their knowledge, skills, and personal development in the following areas: acquiring job or work-related skills, writing clearly and effectively, speaking clearly and effectively, thinking critically and analytically, solving numerical problems, working effectively with others, learning effectively on their own, developing clearer career goals, and gaining information about career

opportunities. This study looks at the relationship between the engagement benchmarks and three academic outcomes. The first is self-reported GPA, the second is how students rated themselves on solving numerical problems, and the third is an academic skills composite, combining the scores of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically.

Research Questions

This study sought to answer the following research questions:

1. What are the demographic characteristics of Latino community college students as self-reported on the CCSSE and as compared to non-Latino community college students?
2. When compared to their non-Latino peers, what is Latino community college student level of engagement and level of self-reported academic ability?
3. For Latino community college students, are there significant differences in student engagement benchmarks and academic outcomes based on:
 - a. Gender
 - b. Age
 - c. First-generation status
 - d. English as their native language
 - e. Full-time enrollment
 - f. Enrollment in a developmental course
 - g. Student engagement benchmarks?
4. For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?

5. For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict a self-reported composite measure of ability to write clearly and effectively, to speak clearly and effectively, and to think critically and analytically after controlling for relevant background characteristics?

Conceptual Framework

This study examines the influence of student demographic factors on student engagement and then how student engagement predicts academic outcomes. There are two overarching conceptual frameworks guiding this study. They are Kuh's (2009) theory of engagement and Astin's (1984) model of Input-Environment-Output (IEO). As mentioned above, engagement is about the time and energy a student spends engaged in activities that support their learning and the amount of resources an institution spends to encourage students to participate in those activities (Kuh, 2009). Astin's model looks at the characteristics students possess upon arriving on the college or university campus (I), the campus climate or environment they are exposed to while on campus (E) and the resulting outcome for the student (O) (Wolf-Wendel et al., 2009).

Many factors influence the likelihood a student will be academically successful in college. Astin's (1999) I-E-O says that it is the combination of the incoming student demographics combined with the college environment that influence outcomes. For the I or input, this study investigates the student demographic factors of race/ethnicity, age, gender, first-generation college student status, English as the native language, and enrollment in a developmental course. The study examines the ability of these demographic characteristics to predict engagement and self-reported academic outcomes. For the E or environment, this study evaluates the role of student engagement as measured by the CCSSE within the community college environment. While data shows engagement is important for all student groups, it can be

even more beneficial for students who come to college academically unprepared (Kuh, 2009). While not all Latino students come to college academically unprepared, they are more likely than white students to enroll in developmental/remedial classes, which makes them less likely to be retained to graduation (Bailey & Cho, 2010). Engagement provides positive opportunities for students who need extra assistance, which is a high proportion of community college students (Kuh, 2009). Finally, the O or output, represents the result of the input and environment. This study will look at the academic outcomes for this sample of students.

Significance of Study

This study is significant because it provides an analysis of large-scale quantitative data focusing on Latino students and how their level of engagement in community colleges is related to academic outcomes. The sample size will allow for policy implications to be made in order for institutions to make changes to better serve the Latino population. As stated earlier, the Latino population is the fastest growing segment of the U.S. population, with more than ever enrolling in K-12 education, graduating from high school, and continuing to post-secondary education (Santiago & Stettner, 2013). However, Latino students have the lowest post-secondary completion rate of all racial and ethnic demographics, and when they do complete, it is with the lowest levels of attainment in the form of short-term certificates instead of two or four-year degrees (Carnevale & Fasules, 2017). Lower levels of degree attainment results in lower employment opportunities and lower levels of economic attainment (Carnevale & Fasules, 2017). Community college administrators must understand the dynamics of the Latino population in order to best serve them and help them be successful.

The first part of this study takes descriptive look at the Latino community college population that completed the CCSSE at institutions that administer the CCSSE. This first part of

the study is important in order to have a baseline understanding of the Latino population in relationship to the rest of the community college population. In particular the study's focus on specific demographic characteristics such as gender, age, native language, enrollment in remedial coursework, and enrollment status provides a comprehensive picture of who Latino students are. Further, focusing on these specific demographic characteristics will enable those interested in understanding this particular population of community college students to better understand Latino student engagement. Community colleges enroll diverse groups of students, so it is important to understand specific characteristics within the Latino demographic that lead to student engagement in order to create targeted strategies.

One of the most significant outcomes of this study is that it allows an examination of whether and to what extent Latino students are engaged as measured by the CCSSE, how engagement of Latinos differs from their non-Latino peers, and how selected demographic characteristics affect engagement, and which engagement benchmarks predict self-reported academic outcomes for Latino students when controlling for the selected demographic variables. These findings inform the literature on student engagement in community colleges and also provide direction to community college administrators as they try to improve outcomes for Latino students. This is especially true for any engagement strategies that appear to be particularly influential for academic outcomes. Although the academic outcomes are self-reported, this study will at least provide administrators on individual college campuses the basis for further investigation that can link benchmarks to actual academic outcomes such as college GPA, number of credits accumulated, and graduation.

Organization of Dissertation

Chapter one introduced the problem, the research question's and conceptual framework guiding the study. Chapter two reviews the significant literature surrounding student engagement and as well as engagement challenges facing Latino students. Chapter three discusses the research methodology that was used to examine the research questions, including the data source used, sample population, variables utilized, and research analytics. Chapter four presents the results of the data analysis used in the quantitative study. Chapter five concludes the dissertation with suggestions for further research including limitations of the study and suggestions for implementation.

Chapter Two

Literature Review

This chapter begins with an overview of Kuh's (2009) theory of engagement and Astin's (1984) I-E-O model. It applies the framework of I-E-O to the specific context of Latino community college students and their student demographic characteristics. Next, this chapter looks at the role of environment, specifically engagement and how engagement is measured through CCSSE benchmarks. Finally, the framework will describe the outcome variables of GPA, solving numerical problems, and the academic skills composite of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically.

Engagement Overview

Student engagement involves the amount of time and energy a student puts into activities, both academic and non-academic, and the energy institutions spend encouraging students to participate in these types of activities (Kuh, 2009). Engagement looks at good practice, which includes how institutions allocate resources and develop opportunities to encourage student participation in beneficial activities, including those activities that lead to positive student success outcomes (Kuh, 2009; Wolf-Wendel, Ward, & Kinzie, 2009). For the purpose of this study, engagement was measured by using benchmark scores from the CCSSE. This study will utilize CCSSE data to analyze the role of engagement in impacting academic outcomes.

Astin's I-E-O Model

Astin's (1984) I-E-O model explains the relationship between inputs (student demographics such as high school achievement, parental level of education, native language, social economic status, etc.), environment (the college experience including interactions that students have on and off campus that impact their education and may lead to retention or lack of

retention), and outcomes (including academic such as GPA and credit completion, personal development, and graduation). Student engagement has to do with students interacting within the college environment and the institution providing support and encouragement to interact within that environment (Kuh, 2009; Wolf-Wendel et al., 2009). The following sections describe each component of Astin's framework and literature pertinent to this study.

Input

Input includes the characteristics that students bring with them to college (Astin, 1984). This study focuses on a sample of Latino community college students (and non-Latino for some comparative analyses). Input characteristics available in the CCSSE that are potentially relevant to engagement and academic outcomes include gender, age, enrollment status (full-time versus part-time), first-generation college student status, native language, and enrollment in a developmental course. These input demographic characteristics will be discussed including their importance to this particular study.

Latino college students. One of the key student input variables that this study examines is identifying as a Latino. The reason for this focus is because the institutions included in this study are community colleges, and 24% of total enrollment at community colleges is made up of Latino students (AACC, 2018). As the overall Latino population continues to grow in the United States, more Latino youth are headed to college (Santiago et al., 2019; Santiago & Stettner, 2013). In the fall of 2012, Latino students outnumbered white students in postsecondary enrollment, yet they had low levels of completion (Calderon, 2014; Carnevale & Fasules, 2017). When compared with white, black, and Asian demographic groups, Latino students have the second lowest retention and completion rates at 59.6% and 11.1% (National Student Clearinghouse Research Center, 2017). Sixty-five percent of Latino students enroll in open-

access, two-year community colleges that already have low retention and completion rates (Carnevale & Fasules, 2017; Contreras & Contreras, 2015; Gonzalez, 2015). This lack of academic success for Latino students is concerning for higher education administrators and forces the conversation to which, if any, demographic characteristics of the Latino population are predictors of success. When looking at indicators of college success, often the precollege characteristics of ACT/SAT scores are examined as they are the greatest predictor of college persistence and completion, but that is not always the case for Latino students (Gonzalez, 2015) and may not be relevant for community college students in particular. For Latino students, ACT/SAT scores has, in some cases, predicted completion, but the best predictors were academic-related skills, academic self-efficacy, socio-economic status, and institutional commitment (Gonzales, Brammer, & Sawilowsky, 2015; Musoba & Krichevskiy, 2014). Once the student is enrolled, the greatest predictor of college persistence is college grades or GPA (Musoba & Krichevskiy, 2014). Incoming GPA and ACT/SAT tests are not examined in this study, which is a limitation of the study and a recommendation for future research. Neither high school GPA or ACT/SAT score is available in CCSSE and it is very likely that a high proportion of community college students have not taken the ACT/SAT. Instead of looking at incoming GPA and ACT/SAT scores, this study will look at the engagement levels of Latino community college students to see how engagement predicts academic outcomes.

Age. In 2018, the average age of community college students was 28 with the median age being 24 (AACC, 2018). Fifty-one percent of community college students were 21 years of age or younger, 39% were between the ages of 22-39, and 10% were 40+ years old (AACC, 2018). The average age of community college students is higher than the average for four-year university students, which often labels them as adult or non-traditional if they are over the age of

25 (Saenz et al., 2011). This non-traditional label is not always a bad thing, as non-traditional-aged students at community colleges report higher levels of engagement, especially with their faculty members and other students (Saenz et al., 2011). Eighty percent of four-year students start their education under the age of 20, with only 58% of all community college students beginning their education before age 20 (Ma & Baum, 2016). When looking at trends in age of community college students, the percentage of traditional aged community college students has increased over the past decade growing from 55% identifying as age 18-24 to 58% (CCSSE, 2015). The percentage of non-traditional students ages 25-65+ has decreased from 44% to 42% (CCSSE, 2015). When combining the independent input variables of age and enrollment status, adult community college students who enroll part-time have a much lower completion rate than adult community college students who enroll full-time, 25.6% as compared to 49.5% (Juszkiewicz, 2017). This study will examine how, as students get older, their levels of student engagement and academic outcomes are affected.

Gender. More females than males enroll at community colleges with a ratio of 56% female to 44% male (AACC, 2018). Not only are more women than men enrolling in community colleges, but women are also complete at higher rates than men, with women completing at a rate of 41.5% compared with men at 35.5% (Juszkiewicz, 2017). While there are still more females than males enrolling in community colleges, nearly a decade of CCSSE data shows that male enrollment has increased by 3% with female enrollment decreasing by 3% (CCSSE, 2015). Gender is an important part of this study on engagement as female students tend to be more engaged than males (Saenz et al., 2011). This study examines how the demographic of gender influences both student engagement and academic outcomes.

Developmental coursework. Over half of all community college students enroll in remedial/developmental coursework, which means they are taking classes that do not apply towards their degree or final credit count (Bragg, 2013; Scott-Clayton & Rodriguez, 2015). Remedial coursework is often required when placement tests score students below the level that is required for college-level courses (CCSSE, 2016). There is some evidence that community college students do not graduate at the same rate as their four-year university counterparts, and part of this reason for this can be attributed to the need for remedial coursework that lengthens the path to graduation (Kena et al., 2014). Latino students are more likely than their white and Asian peers to take a developmental course, which can be detrimental to Latino students as it often leads to lack of completion (Gonzalez, 2015). While these courses are important for improving college-level readiness and success, students who are required to enroll in developmental courses often become frustrated with the increased course requirements for graduation and never complete (Scott-Clayton & Rodriguez, 2015).

Despite research that shows developmental courses can lower persistence, there is also research that shows enrollment in developmental coursework sequence within the context of a learning community can actually help underprepared students by helping them develop skills essential to success (Barbatis, 2010). This comes through positive interactions with faculty, recognition of college expectations, and helping to develop positive study habits (Barbatis, 2010). Additionally, developmental coursework can be positive for students when it includes more than just coursework, which some college have done by incorporating learning labs, tutoring, counseling, and faculty development (Grubb & Cox, 2005). While this study does not look at whether Latino students enroll in a learning community, it does look at the influence of taking a developmental course on student engagement and on academic outcomes.

Enrollment status. Community college students overwhelmingly enroll as part-time rather than full-time students. In 2018, only 37% of community college students attended full-time. Of these same students, one-third worked full-time, which could explain their part-time enrollment status (Ma & Baum, 2016). Often the reason for this is the financial situation of community college students. Community colleges enroll a higher percentage of high financial need students than four-year universities, with 31% of dependent students' parents earning less than \$30,000. Even with this financial need, the community college student population is less likely to apply for financial aid, with 61% of students applying for federal aid compared to 80% at four-year universities (Ma & Baum, 2016). Often community college students choose to attend college part-time so that they can work or attend to other responsibilities. This is because, like the rest of the community college population, paying for school and balancing school and work factor into the ability of Latino students to be academically successful (Rodríguez, Mosqueda, Nava, & Conchas, 2013). Latino students are loan adverse and instead choose the path of part-time enrollment and working sometimes full-time in order to finance their education (Musoba & Krichevskiy, 2014). If students do not apply for financial aid to pay for school and instead pay out of their own pocket, the need to work increases, taking away from time spent focusing on school. Unfortunately, the present study is unable to measure financial need as a variable, which is a limitation of the present study. However, this study does consider enrollment status, part-time and full-time, to see how it affects engagement and self-reported academic gains.

First-generation college student status. In addition to their part-time status and enrollment in developmental coursework, another demographic characteristic that is examined in this study is first-generation student status. Often community college students face the challenge

of being the first in their family to attend college, making them first-generation college students (Ma & Baum, 2016). Thirty-six percent of community college students are first-generation, meaning they are left to navigate the unfamiliar process of enrollment and completion often on their own (AACC, 2018). For students entering college for the first time, having a parent who has attended college can be just as great a predictor of college completion as academic ability (Ma & Baum, 2016). First-generation college students often lack the social capital to navigate the college search process, and that challenge can stay with them as they attend college and attempt to steer through the college environment (Arnold, Lu, & Armstrong, 2012). Lack of social and cultural capital may result in first generation community college students not knowing about or engaging in practices that could contribute to their success. The present study considers first-generation status as a variable to see how it relates to engagement and self-reported academic outcomes.

English as a native language. In addition to first-generation student status, another characteristic this study looks at is English as the native language. At least 19% of community college students identify as English Language Learners (ELL), for whom English is not the first language (AACC, 2018). For students who identify as ELL, academic success, along with retention and completion, can be a barrier as they navigate coursework that is often challenging without any form of assistance (Callahan, Wilkinson, & Muller, 2010). Based on these prior findings, ELL is an important independent variable used in the present study.

Environment

Within Astin's (1984) I-E-O model, environment is defined as the academic and social interaction of the student within the college climate and the factors that contribute to that interaction (1984, 1999). Environment includes the variables within the college environment,

including student interaction with faculty, staff, and other students. This interaction also includes time spent in clubs, organizations, and interaction with the facilities at the institution (Astin, 1993). This study used CCSSE student engagement benchmarks as the measurement of how students interacted with the college environment and the degree to which Latino students are engaged. In order to understand the degree to which Latino students are engaged, this study compares Latino student engagement benchmarks to non-Latino students, along with how Latino student demographic characteristics influence student engagement.

As mentioned above, engagement consists of two elements, the amount of time and effort a student puts in to their educational experience, both in and out of the classroom, and the amount of energy and resources an institution puts in to encouraging students to engage or participate in these activities, also in and out of the classroom (Kuh, 2009). Kuh identified the following elements of high-quality teaching and learning that also represent different dimensions of engagement. They include:

- Student-faculty contact
- Active learning
- Prompt feedback
- Time on task
- High expectations
- Respect for diverse learning styles
- Cooperation among students (Kuh, 2009).

When studying using Astin's (1984) I-E-O framework, engagement exists within the environment (Kuh, 2009). At the outset of a colleges experience precollege characteristics of GPA and ACT/SAT are looked at as strong predictors of first-year grades and persistence. This

changes once students are on on-campus, as the role of environment and engagement within that environment become more important (Kuh, 2009). In fact, for students coming to college unprepared, engagement can actually offset precollege characteristics (Kuh, 2009). Moving past the first year, the literature shows a strong link between student engagement and student success outcomes (CCSSE, 2007; CCSSE 2015; Kuh, 2009; McClenney, 2007; McClenney, Marti, & Adkins, 2007; Saenz et al., 2011). These outcomes can come in the form of academic success measures such as GPA and credit completion, early academic measures such as course completion in developmental courses, persistence measures from first-to-second term persistence, completion measures in terms of degree or certificate, and longevity measures such as time spent at college (McClenney et al., 2007). This study looks at the role of student engagement at the community college level and the outcome measurement of self-reported academic success.

Community college environment. Community colleges have long been known to enroll a diverse student population with a wide range of needs and interests (McClenney et al., 2007). According to Ma & Baum (2016),

Community colleges play a crucial role in American higher education. Their open admission policy, coupled with low tuition and geographic proximity to home, makes them an important pathway to postsecondary education for many students, especially first-generation college students and those who are from low-income families, as well as adults returning to school to obtain additional training or credentials. (p. 1)

Much of what we know about student engagement is based upon research looking specifically at traditional student populations, which leaves out a significant portion of the community college population, namely non-traditional working adults (Kuh, 2009). The

traditional student population is defined as: college-ready academically, enrolled full-time, enroll the fall after high school graduation, live on-campus, complete in 150% of the time (three years for a community college student and six years for a bachelor's degree student), parents have a college degree, are white non-Hispanic, do not work while enrolled, and make college choices based upon financial aid, academic programs offered, and institutional prestige (Santiago & Stettner, 2013). While data shows that engagement is important for all student groups, Kuh (2009) reports that it could be even more beneficial for students labeled as non-traditional, which can include students that come to college unprepared. Latino students can be categorized as non-traditional, making their needs different than the traditional student profile (Advisory Committee on Student Financial Assistance, 2005; Bean & Metzner, 1985; Bragg, 2013). Latino students can also be labeled as non-traditional if they fall into the category of first-generation college student, which many do (Advisory Committee on Student Financial Assistance, 2012).

Student engagement is important as there is growing pressure across higher education for greater accountability. From this need for increased accountability, the CCSSE was developed to measure student engagement and create student engagement benchmarks (McClenney et al., 2007).

CCSEE student engagement benchmarks. In 2001, the CCSSE was introduced to measure community college student engagement (McClenney, 2007). The results of the CCSSE indicate how students spend their time and what they gain from college, also known as outcomes (McClenney, 2007). From this information, institutions can use the data to make informed choices that can positively influence student engagement. A review of each of the benchmarks follows.

Active and collaborative learning. There are seven survey items on the CCSSE that asked students how they participated in behaviors associated with active learning, including asking how often they asked questions in class, made a class presentation, participated in a community-based project, and discussed ideas from class with someone outside of class (Nora, Crisp, & Matthews, 2011). Active and collaborative learning includes the degree to which students participate in class, interact with other students, and extend their learning past the classroom. Active and collaborate learning was found to be the most consistent predictor of student success (McClenney & Marti, 2006). In studies conducted by the Florida Department of Education, Achieving the Dream: Community Colleges Count, and the CCSSE Hispanic Student Success consortium, active and collaborative student learning was connected with three academic measures: the number of terms enrolled, credit hours completed, and GPA (McClenney, 2007).

Student effort. The amount of time on task, preparation, and the use of student services are all measurements of student effort. Survey questions related to student effort include the number of books read for personal enrichment during the school year, how many hours a week they spent studying, how often they prepared two or more drafts of a paper, worked on a project that required integrating ideas, came to class unprepared, used tutoring services, used skills labs, and used a computer lab (CCSSE, 2018; Nora et al., 2011). Again, according to the three validation studies from the Florida Department of Education, Achieving the Dream, and the CCSSE Hispanic Student Success Consortium, the degree to which students exhibit high levels of effort were connected with retention measures and, to a modest extent, with academic measures (McClenney & Marti, 2006). Number of terms enrolled and credit hours have been

found to consistently correlate with student effort and moderately correlate with the academic outcome of GPA (McClenney, 2007).

Academic challenge. This benchmark measures the extent to which students engage in challenging mental activities, including evaluation and synthesis, and the quantity and rigor of their academic work. Academic challenge includes ten survey items (CCSSE, 2018; Nora et al., 2011). According to the validation studies mentioned above, academic challenge was most closely associated with academic outcomes, specifically terms enrolled, credit hours completed, GPA, credit completion ratio, and degree/certificate completion (McClenney, 2007).

Student-faculty interaction. This benchmark measures the extent that students and faculty communicate and interact in meaningful ways, both in and outside of the classroom. Interaction between students and faculty is the most important influencer in terms of student engagement and motivation (Chickering & Gamson, 1987). This benchmark includes six questions on how often students received prompt feedback from faculty and discussed grades or assignments with an instructor (CCSSE, 2018; Nora et al., 2011). This can include academic performance, career plans, and course content and assignments. The validation studies showed that the more a student interacts with faculty, the greater the outcome measures, though unlike the other benchmarks, there was no clear outcome that was the most dominant (McClenney, 2007). Despite the positive impact of this type of engagement, not all students seek out faculty assistance. Latino students in particular are not found to consistently seek out faculty support, and instead rely on their families and peers for support and motivation (Gonzalez, 2015). One of the reasons for this is a degree of intimidation, feeling that asking for help from faculty makes a student look inadequate (Pérez II, 2017). If Latino students feel like they are heard and respected

by their faculty, even if they are in the minority, this interaction is positive and can lead to improved engagement (Craft Defreitas & Bravo, 2012).

Support for learners. This benchmark measures students' perceptions of their college and assessment of their use of advising and counseling services. It is based on the idea that students are going to be more committed, therefore integrated and engaged, if they feel supported at their college (CCSSE, 2018). Seven questions are included in this benchmark and ask students how much they felt their college encouraged contact among students from different economic, social, and racial backgrounds. Another question asked students to identify how much the college provided them with the support to thrive, including the financial aid to afford college, along with how often they relied on academic advising and career counseling (Nora et al., 2011). The validation studies showed that support for learners positively predicted persistence outcomes but had very little connection with academic outcomes. This low connection indicates that because there is a low academic outcome, these are students that seek out support because they are coming to college academically unprepared (McClenney, 2007).

It is important for all students to build college support systems, which includes students building relationships with individuals working in student services. This is important in order for students to feel supported, which then can lead to positive outcomes (Chacón, 2013). The availability and development of support systems has been shown to impact the outcome of GPA (Tovar, 2015). Another way that Latino students engage with the campus community is through their involvement with campus counselors and advisors (Torres, 2006; Tovar, 2015). These interactions can vary, but research shows that conversations around such topics as career placement can predict GPA, to the degree that the failure to have career conversations can negatively affect GPA (Tovar, 2015). While interacting with campus staff and faculty are

important for academic outcomes, as mentioned above Latino students do not always feel they can turn to their faculty members for support (Craft Defreitas & Bravo, 2012; Storlie, Moreno, & Portman, 2014). If this is the case, their next option is to rely on their peers. This can come in the form of multicultural and Latino student organizations. This social support network is then important for motivation, persistence, and completion (Pérez II, 2017). The extent to which students engage with and feel supported by staff and faculty is measured by the student engagement benchmarks of support for learners and student-faculty interaction. This study will look at how student demographic characteristics influence the student engagement benchmarks and then how the student engagement benchmarks influence academic outcomes, such as GPA.

Output

According to Astin (1984), output is defined as the knowledge and skills that a student develops as a result of their college experience. Output that is caused by student engagement can be measured in different ways, including student learning (as measured by GPA or other academic measures), persistence, and overall satisfaction (Saenz et al., 2011). In light of Astin's (1984) model, the characteristics that a student brings with them to college, defined as input, as well as the experiences they have while in college, defined as environment, contribute to academic outcomes. For this study, the academic outcomes of self-reported GPA, self-reported ability to solve numerical problems, and the academic composite of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically will be examined.

GPA. The CCSSE measures student engagement benchmarks, but it also asks students to self-report their GPA, which is an academic output variable. As mentioned previously, high school GPA and ACT/SAT scores are precollege predictors of academic success and retention

during the first year. This changes after the first year once the student is in the college environment and engagement measures are then looked at as stronger predictors of desired outcomes (Kuh, 2009). The literature shows a positive relationship between student engagement and academic performance as measured by GPA (Carini, Kuh, & Klein, 2006). GPA is critical for students as it is often what employers look at as a reflection of a student's motivation and ability (Tovar, 2015). When looking specifically at Latino students, the engagement factors of time spent studying and commitment to a specific course of study have shown to predict Latino student GPA. Even with the importance placed on GPA as an academic outcome, research does not conclusively point towards GPA as being the only measure of academic achievement, bringing into question what other factors should be looked at to measure achievement (Carini et al., 2006; Kuh, 2009; Tovar, 2015). According to Kuh (2009),

The measures of good practices in undergraduate education consistently predicted development during the first college year on multiple objective measures of student development, effective reasoning and problem solving, well-being, inclination to inquire and lifelong learning, intercultural effectiveness, leadership, moral character, and integration of learning. (p.687)

Students who are actively engaged in their learning are developing life-long skills, such as critical thinking, that are necessary for personal development and that can lead to future success (Association of American College and Universities, 2008; Carini et al., 2006). These outcome measures are ones that are influenced by student engagement. This study examines at how student engagement influences the academic outcomes GPA, but it will also consider other self-reported academic outcomes, specifically solving numerical problems and the academic

skills composite of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically.

Solving numerical problems. The CCSSE asks students, based upon their experience in college, to rate their knowledge, skills, and personal development regarding the ability to solve numerical problems. Solving numerical problems, while not a comprehensive measure as is GPA, can be viewed as an academic outcome as defined above by Kuh (2009). This is an important outcome considering the role solving numerical problems can play regarding success in math classes. For Latino students, there is some research that says math achievement is the best predictor of academic outcomes and college completion (Gandara et al., 2013; Musoba & Krichevskiy, 2014). Unfortunately, many community college students, including Latino students, start in developmental coursework, including math, and then too often never make it to a college-level math course (Gonzalez, 2015). Developmental courses are highly correlated with noncompletion (Gonzalez, 2015). This study does not look at course completion, but does look at the role of student engagement, the student demographic characteristics of taking a developmental course along with the other student demographic characteristics, and their influence on the academic outcome of solving numerical problems.

Academic skills composite. In addition to solving numerical problems, the CCSSE also asks students to rate their knowledge, skills, and personal development regarding the ability to write clearly and effectively, speak clearly and effectively, and think critically and analytically. Also similar to solving numerical problems, these outcome variables could be viewed as academic outcomes that are produced through student engagement but not solely measured by GPA. These outcome variables are examples of cognitive gains, which Kuh (2009) identifies as outcomes of student engagement. These outcomes can be a result of student engagement both in

and out of the classroom. Similar to the problem of low math course completion rate, community college students, including Latino students, are also often placed in developmental English courses, which often do not lead to positive academic outcomes and college completion (Gonzalez, 2015). This study investigates the influence of student demographic characteristics, including taking a developmental course, along with student engagement benchmarks, and their role in predicting the academic outcome of academic skills.

Summary

This is a study of the role of student engagement in predicting academic outcomes. I summarized Kuh's (2009) theory of engagement and the role of engagement in Astin's (1984) I-E-O model. The input characteristics included in this study include Latino community college students and their demographic characteristics of age, gender, enrolling in a developmental course, enrollment status, first-generation college student status, and English as a native language. After describing the input characteristics, I analyzed the environment, specifically within the context of student engagement in the environment and the role of the CCSSE student engagement benchmarks. Finally, the output evaluated in this study is GPA, solving numerical problems, and the academic skills composite of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. This study examines the role of student demographic characteristics on student engagement and the role of student engagement on academic outcomes.

Chapter Three

Research Methodology

The purpose of this study was to examine how scores on the five CCSSE benchmarks (active and collaborative learning, supportive campus environment, student-faculty interaction, level of academic challenge, and enriching educational experiences) are related to academic achievement and outcomes of Latino community college students. The following research questions were addressed in this study:

1. What are the demographic characteristics of Latino community college students as self-reported on the CCSSE and as compared to non-Latino community college students?
2. When compared to their non-Latino peers, what is Latino community college students level of engagement and level of self-reported academic ability?
3. For Latino community college students, are there significant differences in student engagement benchmarks and academic outcomes based on:
 - a. Gender
 - b. Age
 - c. First-generation status
 - d. English as their native language
 - e. Full-time enrollment
 - f. Enrollment in a developmental course
 - g. Student engagement benchmarks?
4. For Latino community college students, to what extent do the five CCSSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?

5. For Latino community college students, to what extent do the five CCSSE student engagement benchmarks predict self-reported academic ability after controlling for relevant background characteristics?

This chapter outlines the data sources, sample, instrumentation, variables, and methods for the data analysis.

Data Source

The CCSSE is a survey instrument that measures the level of student engagement of community college students (CCSSE, 2007). CCSSE began in 2001 as a project of the Community College Leadership Program at the University of Texas at Austin. CCSSE works with the National Survey of Student Engagement (NSSE), which is a survey that focuses on student engagement at four-year colleges and universities. Guidance was provided in the development of the instrument by a National Advisory Board composed of community college leaders, higher education researchers, foundation partners, and other key representatives (McClenney, 2007). The original goal of CCSSE was to provide valuable information to community colleges in the areas of student learning and retention (CCSSE, 2017; McClenney, 2007). The CCSSE advertises itself as being a multi-use tool while focusing on three main areas: (1) establishing national norms on educational practice and performance by community and technical colleges that can serve as benchmarks for institutions, (2) identifying areas in which a college can enhance students' educational experiences, and (3) documenting and improving institutional effectiveness over time (McClenney, 2007). The latter two emphases allow an institution to diagnose and to monitor progress.

The CCSSE asks a variety of questions on the topic of student engagement. The results provide administrators with an idea of how students spend their time; in what ways and how

often the interact with faculty members, other professionals, and other students; and what they gain by attending college. The questions that have been created and selected reflect research on those best practices that predict and lead to increased student engagement that leads to persistence and completion. According to McClenney (2007),

Results from CCSSE are reported in terms of five benchmarks of effective educational practice, which are clusters items that assess (a) the frequency of students' engagement in Active and Collaborative Learning; (b) the level of Student Effort applied to educational pursuits; (c) the degree of Academic Challenge students experience at their colleges; (d) the amount of Student-Faculty Interaction that occurs in class, out of class, or online; and (e) the Support for Learners provided through institutional practice and students' use of certain college services. The survey is administered in class to students in randomly selected credit course sections during the spring term at participating colleges. (p.139)

Findings related to student engagement from the CCSSE have contributed to a number of national projects, including Tinto's Pathways project (CCSSE, 2020), the Manpower Demonstration Research Corporation's (MDRC) (MDRC, 2020a) Opening Doors project, and the Irvine Foundation's Student Support Partnership Integrating Resources and Education (SSPIRE) project (MDRC, 2020b). Additionally, nearly all colleges involved in *Achieving the Dream: Community Colleges Count* have participated in the survey (McClenney, 2007).

The specific data used for this study are the responses to the 2014, 2015, and 2016 CCSSE survey. Similar to the National Survey for Student Engagement, the CCSSE asks students to self-assess on a range of questions that fall under five student engagement benchmarks: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners (CCSSE, 2017). These benchmarks are reflective of

student engagement practices, which then lead to measurable outcomes such as course completion, GPA, and graduation (McClenney & Marti, 2006).

Survey Administration

The survey is administered yearly by participating institutions. The CCSSE response rate is between 75 and 80% (CCSSE, 2018). Institutions that administer the CCSSE credit the large number of participants to the survey's method of data collection, which includes distributing the questionnaire to classes in randomly selected sections of credit-level courses during spring terms (McClenney, 2007). The survey is administered by participating colleges in the spring to participating classes, and results are provided to member colleges in mid-summer through reports and an executive summary available via CCSSE online. Colleges can request custom benchmark data and frequency reports (CCSSE, 2018).

Sample

To create my sample, a data request was submitted for CCSSE data from 2014, 2015, and 2016. The final dataset included 17,683 Latino students from 694 colleges across 47 states. I only looked at students who indicated they had earned a high school diploma or GED, as I did not want to look at students that are still in high school and taking classes as dual credit or concurrent enrollment.

The data used in this study were acquired through a contractual partnership with the University of Texas-Austin, which administers the survey. The data were shared with the researcher in a .sav file and included individual responses to all survey questions, student reported and institutionally reported demographic data, as well as composite scores for each of the five engagement benchmarks. Like questions are grouped together according to the student engagement benchmark they represent, those benchmarks being active and collaborative

learning, academic challenge, student effort, student-faculty interaction, and support for learners (Appendix II). From the responses to the questions, composite benchmarks were created by CCSSE.

Composite benchmark scores are created by converting each question to an interval point scale of 0-100. Benchmark scores are then standardized around the mean of CCSSE cohort respondents' scores so that benchmarks have a mean of 50, a standard deviation of 25, and are weighted by full-time and part-time enrollment status. A standard deviation of 25 is used to ensure that over 95% of benchmark scores fall between zero and 100, providing an understandable scale for member colleges. (CCSSE, 2017).

Validity and Reliability of the CCSSE

A 2004 study by the Lumina Foundation researched the CCSSE to determine if there was a connection between the student engagement benchmarks as identified on the CCSSE and actual college outcomes (McClenney & Marti, 2006). The study looked at three external data sets: (1) data from the Florida Department of Education; (2) data from the Achieving the Dream project; and (3) student records from community colleges participating in the CCSSE that qualify as Hispanic-Serving Institutions (HSI). The three validation studies allowed for three sets of diverse audiences to be studied in order to compare data and most accurately examine the validity of the student engagement benchmarks and their connection to actual outcomes (McClenney & Marti, 2006). The three studies confirm positive relationships between student engagement as measured by the CCSSE and the community college outcomes measured in the three reports. The reports show a consistent correlation between CCSSE benchmarks and academic outcomes like GPA, degree completion, and attainment of important academic milestones (Mandarino & Mattern, 2010; McClenney & Marti, 2006; McClenney, 2007). In addition to the strong correlation

between CCSSE benchmarks and institutional outcomes, the Florida Department of Education study also showed that self-reported academic gains that students indicated on the CCSSE, things like GPA and credit hours completed, also related to actual academic achievement measures (McClenney & Marti, 2006). This is significant in that all items on the CCSSE are self-reported, which means a student could self-report both engagement and achievement as much higher than they actually are. The validation study showed this was not the case, indicating CCSSE is an accurate measure of student achievement (McClenney & Marti, 2006).

In addition to the three national survey studies listed above, a study by Marti (2009) also demonstrated the CCSSE's validity by conducting exploratory factor analysis. The author determined the benchmarks to be reliable, useful, and compelling (Marti, 2009). A second validity study was conducted at the Humber Institute of Technology and Advanced Learning, an Ontario college, to determine the validity of the CCSSE with a sample of Canadian students (Mandarino & Mattern, 2010). Table 1 shows that for the Martin study, two of the five benchmarks had alpha reliability values that were above the standard of .70. For the Humber study, three of the five benchmarks, Academic Challenge, Student-Faculty Interaction, and Support for Learners, were found to have reliability above the standard of .70. The other two benchmarks, Active and Collaborative Learning and Student Effort were under the standard (Mandarino & Mattern, 2010).

Table 1

CCSSE alpha reliability scores for student engagement benchmarks

Benchmark	Marti (2009)	Humber (2010)
Active and Collaborative Learning	0.66	0.64
Student Effort	0.56	0.38
Academic Challenge	0.80	0.75
Student-Faculty Interaction	0.67	0.74
Support for Learners	0.76	0.74

(Mandarino & Mattern, 2010)

Variables

Independent variables. This study investigated the relationship between Latino students' demographic characteristics and their levels of engagement. The independent demographic variables and how they were coded included:

1. Gender (Male=0, Females=1)
2. Age (18-19=0, 20-21=1, 22-24=2, 25-29=3, 30-39=4, 40-49=5, 50-64=6, 65+=7)
3. First-generation college student (Yes=0, No=1)
4. English as native language (Yes=0, No=1)
5. Enrollment full-time (Yes=0, No=1)
6. Enrollment in developmental course (Yes=0, No=1)

Scores on the five engagement benchmarks determined by CCSSE, listed below, also serve as independent variables:

1. Active and collaborative learning
2. Student effort

3. Academic challenge
4. Student-faculty interaction
5. Support for learners

The specific questions that comprise each benchmark can be found in Appendix II.

Dependent variable – self-reported/perceived outcomes. There are three dependent variables in this study. The first is self-reported GPA. Question 29 of the CCSSE asks students to identify the following: “At this college, in what range is your overall college grade point average (GPA)? Students then select: A, B, C, D or lower, I do not have a GPA at this college. For the purpose of the analysis, A was converted to 4, B to 3, C to 2, D to 1, and F to 0, thus creating an interval level variable.

The second dependent variable is the self-reported growth in solving numerical problems. This answer addresses the question of, “How much has your experience at this college contributed to your knowledge, skills, and personal development in the following areas: solving numerical problems”. Students used the following Likert scale to respond: 1=very much, 2=quite a bit, 3=some, and 4=very little.

For the final dependent variable, an academic skills composite was created that combined the responses to the self-reported gains of the following outcomes: writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. To create the academic skills composite, a Cronbach's alpha test to determine the reliability of combining the Likert questions to see if the scale hung together. In order for it to be reliable, it had to have a reliability score of at least .8, which it did. Following the Cronbach's alpha test, I added the three outcome scores together and divided them by three to determine the outcome score for the final dependent variable of academic skills.

Data Analysis

The data obtained from the CCSSE was used to determine if a relationship existed between the five student engagement benchmarks and the academic outcome of GPA and the two additional academic measures for Latino students. The data were coded into the Statistical Package of Social Sciences (SPSS) and then analyzed. Table 2 shows the relationship between the research questions, variables, and the statistical tests that were run. The following analysis approach (listed in Appendix I) was used to determine if there was a relationship between independent and dependent variables:

Step 1: Composite Variables. The first step in the data analysis process was to create composite variables for each benchmark. From the responses to the questions, composite benchmarks were created by CCSSE. Composite benchmark scores are created by converting each question to an interval point scale of 0-100 (CCSSE, 2015). The CCSSE groups like questions together in order to align with the benchmarks. The questions that align with the benchmarks have a reliability of at least .7 (Mandarino & Mattern, 2010). The raw data file was used to determine the reliability of the benchmarks. The variables were suitably reliable, which allowed composite variables for each of the independent variables by using the mean for each of the items. The reliability statistics for each benchmark are listed in Table 1.

Step 2: Descriptive Statistics. In order to better understand the data, descriptive statistics were calculated for the demographic characteristics including gender, age, first generation college student status, native language, enrollment status and enrollment in a developmental course. This analysis included the means (M), standard deviations (SD), and in some cases frequency distributions for a range of scores for independent and dependent

variables. Additionally, descriptive statistics were run comparing the means of the sample of Latino students against the means of the entire population minus Latino students.

Step 3: Correlation and T-Tests. As a next step, I ran t-tests and correlations to determine relationships between the variables. A correlation was conducted to see the relationship between student age and the student engagement benchmark scores. For the categorical independent variables of gender, first-generation student status, English as their native language, and full-time enrollment, t-tests were conducted. T-tests were used to compare the means of the two different groups, meaning male and female, first-generation or non-first generation, English as their native language or English not their native language, and full-time or part-time enrollment on each of the benchmarks. Differences were determined to be statistically significant at the .05 alpha level.

Step 4: Multiple Regression Analysis. A linear regression was run to determine which independent variables were shown to significantly predict the dependent variables while controlling for Latino demographic variables. Three outcomes were studied: self-reported GPA, academic outcome- numerical, and academic outcome- non-numerical composite. Conducting this analysis showed the predictive power of the independent variables, which for this study are the CCSSE student engagement benchmarks.

Limitations of the Data

Two important student demographic factors were left out of this study that could have impacted the results found: high school achievement and socio-economic status. Both of these characteristics have an influence on a student's college experience, but because no measure of either is included on the CCSSE, they were not looked at in this study. Additionally, the CCSSE is not administered to all Latino students, only Latino students at CCSSE institutions and in

courses in which the CCSSE is administered are included. As a result, the sample might not be representative of the entire population of Latino community college students.

The CCSSE benchmarks were constructed based upon student engagement theories, which might not fit the model of Latino or community college student engagement. Other theories could have been used instead to provide a model of student engagement that more aligns with Latino or community college student characteristics. Further study could reveal theories that are more appropriate to measure Latino student engagement.

A final limitation of this study is that it relies on self-reported data. When asked to report their own information, students can report in a wide variety of ways from a very high perspective of themselves to a very low perspective. In this study, Latino students reported high levels of academic outcomes in the form of growth in solving numerical problems and the academic skills composite, which may not be reflected in actual grades or GPA.

Summary

The purpose of this study was to determine if a relationship existed between student engagement and self-reported academic outcomes such as college GPA and other academic gains. The sample was Latino students at community colleges. The data that were used was the Community College Survey of Student Engagement that measures student engagement by asking questions that align with student engagement benchmarks. The data were analyzed to determine if a relationship existed between levels of student engagement and academic outcomes. This chapter included an overview of the population, a description of the data collection instrument, and a discussion of the research method and data analysis. The next chapter presents the research findings from the data collection and analysis.

Chapter Four

Findings

The purpose of this study was to determine how demographic characteristics and student engagement benchmarks established by the Community College Survey of Student Engagement (CCSSE) predict academic outcomes for Latino community college students within the United States. Specially, the study sought to answer the following questions:

1. What are the demographic characteristics of Latino community college students as self-reported on the CCSSE and as compared to non-Latino community college students?
2. When compared to their non-Latino peers, what is the level of engagement and level of self-reported academic ability of Latino community college students?
3. For Latino community college students, are there significant differences in student engagement benchmarks and academic outcomes based on:
 - a. Gender
 - b. Age
 - c. First-generation status
 - d. English as their native language
 - e. Full-time enrollment
 - f. Enrollment in a developmental course
 - g. Student engagement benchmarks?
4. For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?

5. For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict self-reported academic ability after controlling for relevant background characteristics academic ability after controlling for relevant background characteristics?

The first section of this chapter describes the scales and basic demographics of the sample. The second section discusses the t-tests and correlations between student population demographics and student engagement benchmarks. The third section reviews the predictors of academic outcomes for Latino students based on multiple demographic characteristics and engagement benchmarks.

The Sample

The population of Latino community college students who graduated from high school or who had a GED who participated in the 2014, 2015, or 2016 cohorts of the CCSSE survey was 16.4% (n=17,683) of the entire survey population (N=107,429). The Latino sample population used for the statistical analysis was limited to students who responded to the question of their self-reported GPA and their self-reported growth in the areas of writing clearly and effectively, speaking clearly and effectively, thinking critically and analytically, and solving numerical problems. This was required in order to obtain the answers to the outcome variables.

Table 2 reports the demographic information of the sample of Latinos in comparison to non-Latinos. There are more female students in the Latino sample (58.5%) than males and the largest age group is 18 to 19 years old (32.7%) followed closely by 20 to 21 years old (29.1%). Approximately 42% of Latino students in the sample are first-generation college students (41.9%), which is greater than the percentage of non-Latinos who hold this status (21.4%) but lower than the national community college average of 36% reported by AACC in 2018. About

half of the Latinos reported that their native language is English (52.4%) compared to 90% of non-Latinos in the CCSSE sample. More than two-thirds of both Latinos and non-Latinos in the sample report being full-time students. Of the sample, a slight majority of Latino students enrolled in a developmental course (53.2%) while 50% of non-Latinos did.

Table 2

Latino and non-Latino student demographic descriptive statistics

Variable		Latino (n=17,683)		Non-Latino (n=85,683)	
		Perc. (%)	Freq. (N)	Perc. (%)	Freq. (N)
Individual Characteristics					
Gender	Male	41.4	7,316	44.2	37,865
	Female	58.5	10,337	55.5	47,591
	Missing	0.2	30	0.3	227
Age	18 to 19	32.7	5,778	30.2	25,845
	20 to 21	29.1	5,141	23.9	20,451
	22 to 24	15.6	2,763	14.2	12,130
	25 to 29	11.1	1,964	11.9	10,238
	30 and older	11.2	1,980	19.0	16,294
	Missing	0.4	67	0.4	341
First-generation college student	First-generation	41.9	7,401	21.4	18,324
	Not first generation	34.5	6,098	58.8	50,341
	Missing	23.7	4,184	19.9	17,018
English as their native language	English is their native language	52.4	9,258	90.3	77,372
	English not their native language	47.5	8,400	9.5	8,157
	Missing	0.1	25	0.2	154
	Missing				
Enrollment status	Part-time enrollment	31.4	5,535	27.1	23,220
	Full-time enrollment	68.6	12,130	72.9	62,462
	Missing	0	0	0.0	0
Enrolled in a developmental course	Not in a developmental course	44.1	7,802	47.7	40,865
	Enrolled in a developmental course	53.2	9,403	49.7	42,620
	Missing	2.7	478	2.6	2,198
	Missing				

Descriptive Statistics- Engagement and Outcomes

Comparison of engagement benchmark means by Latino compared to non-Latino students. The CCSSE has five benchmarks: (1) active and collaborative learning; (2) student effort; (3) academic challenge; (4) student-faculty interaction; and (5) support for learners. These benchmark scores are created based upon the questions that are associated with these student engagement areas. Each student who takes the CCSSE is given an average composite score in each of the five engagement benchmarks on a scale of 1-100. The higher the score, the greater level of engagement within that benchmark.

Independent sample t-tests were conducted to examine whether differences in student engagement benchmarks between Latino and non-Latino students who responded to the CCSSE are statistically different. Table 3 shows the means, standard deviation, t-test value, and significance level of Latino and non-Latino students for the five benchmarks. As mentioned above, while CCSSE does convert the scores to a 1-100 scale, CCSSE also identifies that the benchmarks have a mean of 50 and full-time and part-time student scores are weighted (CCSSE, 2015). Within this context, neither Latino nor non-Latino students scored higher than a 54 for any of the benchmarks, meaning that when looking at student engagement for these two populations, the scores fall around the mean.

Digging deeper into Table 3, all of the t-test values were statistically significant, therefore these results demonstrate that Latino students are distinct from their non-Latino peers in terms of the engagement benchmark scores. Of the five benchmarks, three of the five benchmarks Latino students demonstrated higher levels of engagement than non-Latino students. The benchmarks where Latino students had higher means were academic challenge, student effort, and support for learners. The greatest mean differences between groups was in support for learners where there

was a 4.1-point difference between the means. Latino students scored higher than non-Latino students, meaning they felt more support than their non-Latino classmates. In terms of the student effort benchmark, Latino students also reported higher means than their non-Latino counterparts, meaning they felt they put more effort into their learning than their non-Latino counterparts report. The next significant mean difference was academic challenge, where Latino students again felt greater levels of challenge than their non-Latino counterparts. For the last two benchmarks, non-Latino students reported significantly higher levels of student-faculty interaction and active and collaborative learning than their Latino peers.

Table 3

Means and Standard Deviations, Latino and Non-Latino Students and Engagement Benchmarks

Variables	Population	N	Mean	SD	T-test Value
Active & Collaborative Learning	Latino	18,352	51.92	25.35	4.97***
	Non-Latino	89,070	52.94	25.28	
Academic Challenge	Latino	18,352	54.08	24.51	-8.34***
	Non-Latino	88,927	52.41	24.70	
Student Effort	Latino	18,352	54.18	24.70	-11.72***
	Non-Latino	89,060	51.82	24.86	
Student- Faculty Engagement	Latino	18,348	51.42	24.74	6.58***
	Non-Latino	88,938	52.76	25.10	
Support for Learners	Latino	18,323	54.77	25.47	-19.96***
	Non-Latino	88,405	50.66	24.74	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$

Comparison of means of outcome variables of GPA, solving for numerical problems, and academic skills. Table 4 shows the breakdown of means and standard deviations for the academic outcomes comparing Latino to non-Latino students. The t-values and p-values for the academic outcomes suggest that there are significant differences between Latino and non-Latino students for the outcome variables of GPA, self-assessment of growth in solving numerical

problems, and the self-assessment composite of academic skills (non-numerical). The data in Table 4 show that the differences on the outcome variables are statistically significant for Latino and non-Latino students, and that Latino students have higher means for self-perceived growth while reporting a lower mean for GPA.

Table 4

Means and Standard Deviations, Latino and Non-Latino Students and Academic Outcomes

Variables	Population	N	Mean	SD	T-Test Value
GPA	Latino	17,690	3.01	.611	24.588***
	Non-Latino	84,743	3.14	.622	
Solving Numerical Problems	Latino	17,420	2.88	.964	-16.324***
	Non-Latino	83,342	2.75	.950	
Academic Skills Composite (non-numerical)	Latino	17,496	3.03	.759	-24.812***
	Non-Latino	83,672	2.87	.780	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$

T-Tests and Correlations Comparing Demographic Characteristics and Student

Engagement Benchmarks for Latino Students

This section presents the results of t-tests to examine differences in benchmarks by various demographic characteristics for the Latino sample. In addition, I ran a correlation to look at the relationship between age and the various benchmarks. These analyses do not include those who do not identify as Latino. These analyses were conducted in response to the following research question:

- For Latino community college students, are there significant differences in student engagement based on:
 - Gender
 - First-generation status

- English as their native language
- Full-time enrollment
- Enrollment in a developmental course
- Student engagement benchmarks?

I analyzed these independent variables for the student engagement benchmarks of active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners.

T-tests between Latino student demographic characteristics and student engagement benchmarks. For the demographics of gender, first-generation status, English as native language, enrolled full-time, and enrollment in developmental course, independent variable t-tests were run to determine if there were significant differences between specific demographic characteristics and the each of the engagement benchmarks.

Gender. When comparing male to female Latino students, Table 5 shows that female students have significantly higher levels of student engagement for four of the five benchmarks. The benchmark with the greatest mean difference was student effort, with a 6.1 mean difference. Women rated themselves higher in academic challenge, support for learners, and student-faculty interaction than their male counterparts. In contrast, the benchmark of active and collaborative learning showed very little difference between male and female students and the difference was not statistically significant.

Table 5

Means and Standard Deviations, Latino Male and Female Students

Variables	Gender	N	Mean	SD	T-test Value
Active & Collaborative Learning	Male	7,316	52.047	25.609	-.708
	Female	10,337	52.320	25.086	
Academic Challenge	Male	7,316	52.232	23.712	-9.818***
	Female	10,336	55.883	24.775	
Student Effort	Male	7,316	50.818	24.566	-16.238***
	Female	10,337	56.882	24.351	
Student- Faculty Engagement	Male	7,316	50.349	25.444	-5.900***
	Female	10,336	52.622	25.062	
Support for Learners	Male	7,310	53.330	24.706	-6.817***
	Female	10,323	55.980	25.926	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$; variations in n numbers across items are related to occasions of missing survey data.

Enrollment status. Table 6 shows that for Latinos, full-time students are more engaged across all benchmarks when compared to their part-time enrolled Latino peers. All benchmarks were statistically significant and showed large differences between means. The greatest mean difference was in active and collaborative learning, followed by academic challenge, student effort, student-faculty engagement, and finally support for learners. For each of these variables, full-time Latino students reported higher levels of engagement than their part time peers.

Table 6

Means and Standard Deviations, Latino Part-time and Full-Time Students

Variables	Enrollment	N	Mean	SD	T-test Value
Active & Collaborative Learning	Part-time	5,553	46.165	24.352	-21.744***
	Full-time	12,130	54.963	25.254	
Academic Challenge	Part-time	5,552	48.810	24.710	-20.718***
	Full-time	12,130	56.907	23.841	
Student Effort	Part-time	5,553	49.096	24.453	-19.435***
	Full-time	12,130	56.767	24.317	
Student- Faculty Engagement	Part-time	5,550	46.578	24.828	-18.378***
	Full-time	12,128	54.028	25.100	
Support for Learners	Part-time	5,542	51.388	25.488	-12.388***
	Full-time	12,121	56.481	25.295	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$; variations in n numbers across items are related to occasions of missing survey data.

First-generation student status. Table 7 shows that when comparing Latino first-generation college students with Latino students that were not first-generation college students, the student engagement results were varied. The greatest mean differences between the two populations was in support for learners, which was an area where first-generation students scored significantly higher than non-first-generation Latino students. The next greatest mean difference was in student effort, where first generation students also reported higher scores. The third greatest mean difference was for active and collaborative learning, where students that were not first generation reported higher means, which was different than the previous benchmarks. First generation college students had significantly higher academic challenge scores than their peers whose parents went to college. Finally, student-faculty engagement had the lowest mean difference and the difference between first generation and non-first-generation students was not statistically significant, meaning that there was not a real difference between first and non-first-

generation college students when it came to interacting with faculty. This was in contrast to the other four benchmarks that were statistically significant.

Table 7

Means and Standard Deviations, Latino First-Generation Students

Variables	First-Generation	N	Mean	SD	T-test Value
Active & Collaborative Learning	First-gen	7,401	51.766	25.210	-3.342***
	Not first-gen	6,098	53.225	25.300	
Academic Challenge	First-gen	7,400	54.850	24.476	.244***
	Not first-gen	6,098	54.704	24.476	
Student Effort	First-gen	7,401	54.857	24.598	4.120***
	Not first-gen	6,098	53.098	24.802	
Student- Faculty Engagement	First-gen	7,400	51.636	25.322	-.125
	Not first-gen	6,095	51.690	24.914	
Support for Learners	First-gen	7,394	56.090	25.408	7.818***
	Not first-gen	6,091	52.668	25.147	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$; variations in n numbers across items are related to occasions of missing survey data.

English as the native language. Table 8 shows that when comparing Latino students whose native language was English to those whose native language was not English, three of the benchmark score means showed statistically significant differences. The greatest mean difference was for support for learners, where students whose native language was not English scored higher than their English as native language classmates. The next two greatest mean difference were in student effort followed by academic challenge, where non-native English speakers also had higher means. For the final two engagement benchmarks, active and collaborative learning and student-faculty engagement, the mean differences were not significantly different for native and non-native speakers of English. In sum, when compared to native-English speakers, non-native English speakers in the CCSSE scored higher for the

benchmarks of support for learning, student effort, academic challenge and the differences were statistically significant.

Table 8

Means and Standard Deviations, Latino Students, English as their Native Language

Variables	English as native lang.	N	Mean	SD	T-test Value
Active & Collaborative Learning	Yes	9,258	52.340	25.652	1.033
	No	8,400	52.006	24.925	
Academic Challenge	Yes	9,258	53.569	24.591	-4.611***
	No	8,300	55.264	24.176	
Student Effort	Yes	9,258	52.948	24.760	-8.050***
	No	8,400	55.929	24.376	
Student- Faculty Engagement	Yes	9,254	51.771	25.529	.386
	No	8,399	51.624	24.945	
Support for Learners	Yes	9,248	53.723	25.152	-9.126***
	No	8,390	56.723	25.683	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$; variations in n numbers across items are related to occasions of missing survey data.

Took a developmental course. Table 9 shows that across all five benchmarks, Latino students who took a developmental course reported significantly higher engagement scores than their Latino peers who did not take developmental courses. All benchmarks showed statistically significant differences between the mean scores between those who did take a developmental/remedial course and those who did not, with the greatest difference again in support for learners followed by student effort. Students who took a developmental course showed slightly higher means on student-faculty engagement than students who did not take a developmental course and this difference was statistically significant. The smallest mean difference was in active and collaborative learning, where again students who took a developmental course had a higher mean, meaning they reported participating more often in active and collaborative learning than their classmates who did not take a developmental course.

Table 9

Means and Standard Deviations, Developmental Course vs No Developmental Course

Variables	Took Dev. Course	N	Mean	SD	T-test Value
Active & Collaborative Learning	No	7,802	50.875	25.281	-6.093***
	Yes	9,403	53.234	25.287	
Academic Challenge	No	7,802	52.907	24.996	-7.191***
	Yes	9,403	55.582	25.073	
Student Effort	No	7,802	50.090	24.215	-20.134***
	Yes	9,403	57.561	24.246	
Student- Faculty Engagement	No	7,801	49.418	25.074	-10.501***
	Yes	9,401	53.466	25.244	
Support for Learners	No	7,800	51.028	24.956	-18.509***
	Yes	9,401	58.148	25.251	

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$; variations in n numbers across items are related to occasions of missing survey data.

Correlation between age and the five student engagement benchmarks. As age is an interval variable, a correlation was conducted to see the relationship between student age and the student engagement benchmark scores. This information is recorded in Table 10. Most of the relationships were statistically significant, but showed weak correlations. The relationship between age and the student-faculty interaction benchmark score was not statistically significant, meaning that between age and the degree to which students interacted with their faculty. Table 10 shows that age had the strongest relationship with the benchmark of student effort. Support for learning was a negative predictor, meaning that older students were less likely to feel supported than were younger students,

Table 10

Demographic Variable of Age Correlated with Student Engagement Benchmarks (N=17,683)

	Active and collaborative learning	Student effort	Academic challenge	Student-faculty interaction	Support for learners
Age	.048 ***	.067 ***	.065 ***	.012 n/a	-.024 ***

Note. * indicates correlation is significant at the less than .05 level; ** indicates significance at the less than .01 level; *** indicates significance at the less than .001 level.

Demographic and Engagement Predictors of Students' Academic Outcomes

This section presents the results of multiple linear regression analyses to examine what demographic characteristics and student engagement benchmarks are predictive of academic outcomes. These analyses were conducted in response to the following research questions:

- For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?
- For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict self-reported academic ability after controlling for relevant background characteristics?

Model 1 uses linear regression to examine the relationship of the demographic characteristics and the five engagement benchmarks to self-reported GPA. Models 2 and 3 use the same demographic characteristics to predict the two self-assessment growth outcomes, numerical literacy and the composite for other academic outcomes. The other academic outcome composite was made up the scores for the following: self-reported growth in writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. With this set of models, I was able to determine which student demographic characteristics and which

benchmarks were statistically significant and had a positive relationship on GPA and the additional academic outcomes.

Model 1: Factors that influence student self-reported GPA. Table 11 presents the results of linear regression analysis including student demographic variables and student engagement benchmarks as predictors of self-reported college GPA. Model 1 showed the percentage of variance for the independent variables in relationship to students' GPA with an estimation of $R^2 = 0.064$, $F(1, 12,550) = 47.77$, $p < .001$. In other words, controlling for various input variables, Model 1 predicted about 6% of the variance in students' self-reported college GPA. The highest and most significant student engagement benchmark predictor of self-reported GPA was student effort followed by active and collaborative learning. All of the benchmarks were statistically significant except student-faculty interaction. The significant student demographic predictors of self-reported GPA were taking a developmental course, which was a negative predictor, followed by full-time enrollment. The next highest and most significant student demographic predictor of self-reported GPA was status as a first-generation college student and being an older student. All of the demographic variables were significant predictors of GPA at the .05 level.

Table 11

Results of Model 1, Demographic and Student Engagement Predictors of Students' Self-Reported GPA (N = 17,683), Latino Students

	Coefficient (β)	Significance (p-value)
Female	.045	***
Age	.051	***
Enrolled full-time	.065	***
First generation college student	.054	***
English is native language	.026	*
Took a developmental course	-.125	***
Active and collaborative learning benchmark score	.302	***
Student effort benchmark score	.353	***
Academic challenge benchmark score	.141	***
Student-faculty interaction benchmark score	.046	
Support for learners benchmark score	.088	**

Note. * indicates $p < .10$; ** indicates $p < .05$; *** indicates $p < .001$

Model 2: Factors that influence student self-assessed gains in solving numerical problems. Table 12 presents the results of linear multiple regression analysis in Model 2, which used student demographic variables and student engagement benchmarks to predict the self-reported gains in solving numerical problems. Model 2 explained about 20% of the variance in students' self-reported gains in solving numerical problems with an estimation of $R^2 = .205$, $F(1, 12,486) = 178.51$, $p < .001$.

Model 2 showed that the student engagement benchmarks that best predicted solving numerical problems was academic challenge and support for learners followed by student effort. Active and collaborative learning were negative predictors, meaning that when Latino students had higher levels of engagement for active and collaborative learning, this resulted in a decrease in the outcome of solving numerical problems. All student engagement benchmarks were statistically significant except student-faculty interaction. The student demographic variables that were the best predictors of solving numerical problems were being female, first-generation

student status, and taking a developmental course. Gender and first-generation status were negative predictors, meaning that females and first-generation students were less likely to score higher on self-assessment of growth in solving numerical problems. Being enrolled full-time and being a first-generation college student were the only student demographic characteristics that were not significant predictors of solving numerical problems.

Table 12

Results of Model 2, Demographic and Student Engagement Predictors of Self-Reported Gains in Solving Numerical Problems (N=17,683), Latino Students

	Coefficient (β)	Significance (p-value)
Female	-.095	***
Age	-.019	***
Enrolled full-time	.030	
First generation college student	-.078	***
English is native language	.017	
Took a developmental course	.042	**
Active and collaborative learning benchmark score	-.107	**
Student effort benchmark score	.579	***
Academic challenge benchmark score	1.119	***
Student-faculty interaction benchmark score	-.008	
Support for learners benchmark score	1.095	***

Note. * indicates $p < .10$; ** indicates $p < .05$; *** indicates $p < .001$

Model 3: Factors that influence gains in academic skills (non-numerical). Model 3 showed what variables were predictors of the composite score that combined the self-assessment of growth in writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. Model 3 explained 34% of the variance in students' self-reported gains in academic skills (non-numerical) with an estimation of $R^2 = .341$, $F(1, 13,037) = 613.41$, $p < .001$.

The best student engagement benchmark predictors of academic skills were academic challenge and support for learners. All of the student engagement benchmarks were statistically

significant predictors of academic skills. The student demographic characteristics that were the most predictive were being a first-generation college student and taking a developmental course. Being a first-generation college student was a negative predictor of self-assessment of growth in academic skills, meaning that if a Latino student was not a first-generation college student, they had a higher score for the academic skills composite. Almost all of the independent variables were significant, with the exception of full-time enrollment and English as their native language.

Table 13

Results of Model 3, Demographic and Student Engagement Predictors of Self-Reported Gains in Academic Skills (non-numerical) (N=17,683), Latino Students

	Coefficient (β)	Significance (p-value)
Female	.109	***
Age	-.032	***
Enrolled full-time	-.023	
First generation college student	-.151	***
English is native language	-.007	
Took a developmental course	.136	***
Active and collaborative learning benchmark score	.065	***
Student effort benchmark score	1.460	***
Academic challenge benchmark score	4.204	***
Student-faculty interaction benchmark score	.291	***
Support for learners benchmark score	2.944	***

Note. * indicates $p < .10$; ** indicates $p < .05$; *** indicates $p < .001$

Conclusion

This chapter discussed the results from data analyses. The descriptive analyses revealed that the study sample of Latino community college students who had graduated from high school or earned their GED, they were majority female, age 18-19, and were first-generation college students. Within the Latino student sample, most stated English was their native language, they were attending school full-time, they had taken a developmental course, and the majority had earned 1-14 credits. Additionally, the study compared Latino students to non-Latino students

regarding student demographic characteristics and student engagement benchmarks. For the non-Latino students, the majority were female between the ages of 18-21, they were not first-generation college students, English was their native language, they enrolled full-time, and they did take a developmental course. When looking at the mean statistics for the student engagement benchmark scores, Latino students had scores that were statistically different than the rest of the population. Of the five benchmarks, three of the five benchmarks demonstrated higher levels of engagement for Latino students than non-Latino students. The benchmarks where Latino students had higher means were academic challenge, student effort, and support for learners.

The final analyses conducted were regressions to determine what demographic characteristics and student engagement benchmarks were predictive of academic outcomes. The first model looked at the academic outcome of GPA, which showed to have a weak relationship in predicting the outcome of GPA, though there were independent variables that predicted GPA. Older female students, first-generation college students, enrolled full-time, who spoke English as their native language, and were using grants and scholarships to pay for school all reported higher GPA's.

Models 2 and 3 showed the results of the independent variables of student demographic characteristics and student engagement benchmarks and their relationship with the academic outcomes of solving numerical problems and the academic skills composite. While the relationship between the independent variables and GPA was weak, models 2 and 3 showed a strong relationship. Student demographic variables varied regarding which showed a positive relationship with the academic outcomes. What was constant was that almost all the student engagement benchmarks were strong predictors of the academic outcomes. The one student engagement benchmark that did not always come up as a statistically significant predictor of

academic outcomes was student-faculty interaction. Chapter Five will discuss the specific findings of this study, summarize the implications of the study, review study limitations, and outline recommended further research in this topic.

Chapter Five

Conclusion

This chapter discusses the results of the research conducted and the potential implications for policy and future research. The first section of the chapter provides a summary of the research questions and explains the findings of this study as it relates to the literature. The second section identifies the study limitations, policy implications of the study, and future research implications. The fourth and final section provides concluding thoughts.

Summary of Research

The purpose of this study was to explore the role that Latino student demographic characteristics and the five engagement benchmarks defined by the Community College Survey of Student Engagement (CCSSE) play in predicting self-reported GPA and the academic outcomes of writing clearly and effectively, speaking clearly and effectively, thinking critically and analytically, and solving numerical problems. The study was broadly framed by Astin's argument that college outcomes are at least in part a result of the interaction between individual characteristics and engagement with the environment. The findings are presented through this framework. The study examined the relationship between demographic characteristics and engagement scores of Latino students, as well as the extent to which the CCSSE engagement benchmarks predicted students' self-reported GPA and self-perceived learning as measured by the academic outcomes. The findings reinforce a positive outlook for Latino community college students. The major findings are organized by research question.

Research question 1: What are the demographic characteristics of Latino community college students as self-reported on the CCSSE and compared to non-Latino community college students?

Finding 1: Latino students at CCSSE institutions may not represent community college students nationally. The Latino students in the sample were predominately female (59%) and most of them were between the ages of 18-21 (62%). Of the non-Latino students in the CCSSE study, females were also the majority (56%) and most were also between the ages of 18-21 (54%). The study of Latino students showed that 69% were enrolled full-time, 42% were first-generation college students, and 53% had enrolled in a developmental course. Of the non-Latino population, 73% were enrolled full-time, 21% were first-generation college students, and 49% enrolled in a developmental course. The CCSSE data for both Latino and non-Latino is somewhat different from that reported by American Association of Community Colleges (2016), which shows 37% of community college students are enrolled full-time, 36% are first-generation college students, and 67% enroll in a developmental course. Additionally, Santiago (2019) found that Latino students were more likely to enroll part-time (60%) and only (40%) enrolled full-time. The differences could be because of the fact that the Latino students in my sample were from specific institutions that participate in CCSSE and were enrolled in specific courses within those campuses, whereas AACC reports demographic data from all community colleges. Recognizing that the CCSSE sample is not reflective of all community colleges and all Latino students is important when trying to generalize the results, yet the findings from this study and the recommendations can be used for CCSSE or non-CCSSE institutions.

Research question 2: When compared to their non-Latino peers, what is Latino community college student level of engagement and level of self-reported academic ability?

The second research question looked at the levels of engagement of Latino students and compared them against non-Latino student CCSSE population in order to understand the degree of Latino engagement as compared to their non-Latino peers.

Finding 2: Latino students are more likely to feel supported as learners than non-Latino students. For Latino students, the student engagement benchmark of support for learners was significant for all student demographic characteristics. Latino students had a 4.1 point higher mean score than non-Latino students on this benchmark. This finding suggests that they feel more included and welcome in the campus environment than their non-Latino counterparts. Latino students who felt the most support were female, full-time, first-generation college students, with English as their native language, who took a developmental course, and were younger. The literature shows that Latino students who feel supported and are able to build a sense of family on campus will progress towards graduation, even if they do not report higher GPAs or scoring higher on standardized tests (Gonzalez, 2015). The bonds Latino students build with college staff and faculty can help Latino students progress past what can be a difficult first transitional year.

Finding 3: Latino students are more likely to score higher for the academic challenge benchmark than non-Latino students. Latino students scored higher on the student engagement benchmark of academic challenge than their non-Latino peers. Academic challenge represents rigor, which is important in educational work (McClenney et al., 2007). Academic challenge measures things like organizing information, applying theories or new concepts, or using information to perform a new skill (McClenney, 2007). High levels of challenge are most closely associated with academic outcomes, such as GPA. It makes sense that increased academic challenge would yield positive academic outcomes for students as it means students

are rising to the challenge of their learning. When looking at the results of the study, Latino students who scored higher for on academic challenge were older female students who enrolled full-time, were first-generation college students, and who had taken a developmental course. For Latino students to score high on academic challenge is a good thing because it means they are experiencing the rigor of a college education, and despite demographic characteristics that might present a challenge, they are rising to that challenge and engaging in their education.

Finding 4: Latino students are less likely to engage in active and collaborative learning, and to interact with faculty members than non-Latino students. The two benchmarks on which Latino students scored lower than non-Latino students were active and collaborative learning and student-faculty engagement. This is a concern because, of all benchmarks, active and collaborative learning is the greatest predictor of outcome measures including higher grades and course completion (McClenney, 2007). Active and collaborative learning involves asking questions and engaging in the classroom, which often Latino students do not do for fear of looking ignorant (Gonzalez, 2015). Finally, active and collaborative learning requires students to engage in class related activities, which the literature suggests may be difficult for some Latino students because of work and family commitments (Reyes & Nora, 2012).

The study also found that Latino students scored lower on the benchmark of student-faculty engagement, which supports the literature that Latino students often seek out the support of families and peers instead of faculty (Gonzalez, 2015; Pérez II, 2017). Latino students rely on their peers and families over their faculty for both social and academic support and often feel too intimidated or feel inadequate, which can result in fewer interactions with faculty (Pérez II, 2017). Unfortunately, student-faculty interaction is also a predictor of academic outcomes such

as GPA (McClenney, 2007). As mentioned above, research shows that Latino students can feel intimidated by their faculty and be afraid to interact and ask questions. These prior findings may explain why this study found lower levels of student-faculty interaction for Latino students when compared to their non-Latino peers (Gonzalez, 2015).

Finding 5: Latino students showed higher on two of the three academic outcomes than their non-Latino peers. All of the outcomes on the CCSSE are self-reported, and for the outcome of GPA, Latino students reported lower estimated GPA's than their non-Latino peers. The additional two academic outcomes are also self-reported, but for these Latino students rated themselves higher than their non-Latino peers did. These outcomes were solving numerical problems and the academic skills composite of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. This finding indicates that Latino students perceive they are making academic gains, even if they are not reporting it with higher GPAs. While Latino students do not report GPAs that are as high as their non-Latino counterparts, they do believe they are learning. This will be discussed later when looking at the relationship between engagement and academic outcomes, but it supports the literature that GPA is not always the best measure of academic success for Latino students (Gonzalez, 2015; Musoba & Krichevskiy, 2014).

Research question 3: For Latino community college students, are there significant differences in student engagement benchmarks and academic outcomes based on: gender, first-generation status, English as their native language, full-time enrollment, enrollment in a developmental course, student engagement benchmarks?

Finding 6: First-generation, English as a second language, developmental coursework, and age have mixed relationships with Latino students' engagement. This

study looked specifically at Latino student demographic characteristics and their relationship with the student engagement benchmarks. This study showed mixed results with some demographic variables being related to student engagement benchmarks and some not having statistically significant relationships. The present study of Latino students suggests that first-generation community college students were more engaged than non-first-generation Latino students in the areas of academic challenge, student effort, and support for learners, all generally believed to support retention. This is important, because for Latino first-generation students, the literature shows that as the first in their families to go to college, they often do not have the support system at home to go to college as compared with their second-generation college-going peers (Gloria & Castellanos, 2012). Without a college support system at home, developing a support system on-campus is critical for student success. The data from this study holds hope that Latino students are building these on-campus support systems.

Students whose native language was English scored higher than their non-native speakers in the areas of active and collaborative learning and student-faculty engagement, but lower in academic challenge, student effort, and support for learners. One way to address these challenges is for English Language Learners to enroll in learning communities. English language learners who enroll in learning communities situated in an ESL department can experience different levels of support and challenge, which can lead to increased engagement, especially if those learning communities create supportive learning environments for students. (Smith, 2010). Smith (2010) reports that English as a second language learners put forth more effort and report more support for their learning often because of the enrollment settings they experience in the community college environment.

Students who took a developmental course in this study had higher means in student engagement, which is also contrary to the literature that says developmental students are less likely to be successful (Gonzalez, 2015). Taking a developmental course had a negative relationship to GPA, meaning that students who took developmental courses, tended to have lower grades. This finding is not surprising. Many community college students come to college academically unprepared, which often places them in developmental coursework. Over half the students in this study took a developmental course, and the literature shows Latino students are more likely than their white peers to enroll in a developmental course, which can then negatively impact academic outcomes, including GPA (Bailey & Cho, 2010) as it appears to do in my study. If higher student engagement leads to greater academic outcomes, then there is a discrepancy in this study as students in developmental courses had higher levels of student engagement but that did not result in higher GPAs. This requires further investigation.

This study showed that as older students had higher engagement scores than their younger counterparts, except in the area of support for learners. The findings from my study support Bragg's research, as the Latino sample in this study showed a negative relationship between age and perceptions of support. Older students often struggle to navigate the college system that is required to obtain a degree and lack the support to finish (Bragg, 2013). The support for learners benchmark measures things such as the degree of social and financial support that students feel in addition to access to career and academic counseling. While older students might be engaged in classroom activities, measured by the other engagement benchmarks, the data shows they are not experiencing the same level of social and financial support outside of the classroom as their younger classmates.

Finding 7: Female Latino students are more engaged than male Latino students. The research showed female Latino students had statistically higher student engagement mean scores than male students for all benchmarks. Lower engagement scores for male students might be part of the explanation why Latino males are more likely to drop out and pursue employment instead of educational opportunities as compared to Latina females (Pérez II, 2017). Again, if student engagement leads to academic outcomes, if male Latino students are not experiencing positive academic outcomes, it would make sense that they would be less likely to persist. This finding supports the existing literature that Latino male students struggle more in higher education than Latina females (Saenz & Ponjuan, 2009). Outreach programs specifically targeted at male Latino secondary and post-secondary success are important to reverse the gender gap that is growing between male and female Latino students (Saenz & Ponjuan, 2009).

Finding 8: Full-time Latino students are more engaged than part-time Latino students. Not surprisingly, full-time Latino students also had statistically higher means for all engagement benchmarks, which aligns with the national literature that all community college students are more successful when enrolled full-time (CCSSE, 2015). The literature shows that students enrolled full-time spent more time making class presentations, working with classmates outside of class, came to class more prepared, communicated more with their instructors, and met more frequently with career advisors than their peers only enrolled part-time- which are all measures of student engagement. The literature also revealed that part of the struggle for part-time students is that they often work more than 30 hours per week, which can hinder engagement in many high-impact engagement practices (CCSSE, 2015). The data from this study found full-time enrollment status is also a predictor of higher GPA, which is consistent with the literature on college students (Saenz et al., 2011).

Research question 4: For Latino community college students, to what extent do the five CCSSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?

Following Astin (1999), outputs in this study were measured as self-reported GPA and by two additional self-reported academic measures of solving numerical problems and academic skills. The academic skills outcome variable was the composite of three self-reported measures of writing clearly and effectively, speaking clearly and effectively, and thinking critically and analytically. The final findings measure how Latino students did in regards to these three outcome variables.

Finding 9: Age, active and collaborative learning, academic challenge, and student effort are related to grades. The student demographic characteristic that had the strongest relationship with GPA was age, which showed that as Latino students get older, their GPA's increase. This is an interesting finding because it contradicts the literature indicating that non-traditional students can struggle when it comes to academic outcomes because of their diverse educational and social needs (Bragg, 2013). There is a relationship with age and higher GPA, which could be attributed to family characteristics that are motivating Latino students to be successful. For example, research shows that adult students who are married and have children have higher motivations be academically successful than students who are not, which could explain the data found in this study (Leppel, 2002). When looking at both student demographic characteristics and student engagement benchmarks, the strongest correlation with GPA, was active and collaborative learning. The next strongest correlation with GPA was student effort and then academic challenge. This supports the literature that academic challenge and support for

learners are the most consistent predictors of transcript-derived student outcomes, such as GPA (McClenney & Marti, 2006).

Active and collaborative learning leads to higher grades because the benchmark measures the extent to which students are engaged in the classroom, work with other students outside the classroom, and extend their learning beyond the classroom. Active and collaborative learning also measures how active a participant a student is in their learning, recognizing that learning is not a spectator sport (Chickering & Gamson, 1987). While more academically challenging courses or activities might be met initially with resistance by students, eventually students see the extra challenge as the rewards of a rigorous college experience, which can then lead to higher-order learning opportunities and increased academic performance (Nora et al., 2011). Finally, students who feel a greater sense of support and satisfaction from their college experience are going to be more committed, which results in greater academic success (Nora et al., 2011).

Research question 5: For Latino community college students, to what extent do the five CCSSE student engagement benchmarks predict self-reported academic outcomes after controlling for relevant background characteristics?

Finding 10: For Latino students, student engagement benchmarks when compared to student demographic characteristics, were better predictors of self-perceived academic outcomes for GPA. Student engagement benchmarks had an even stronger relationship with the other academic outcomes. When both student demographic characteristics and student engagement benchmarks were examined, this study found that student engagement benchmark had a stronger relationship with the academic outcomes than any of the student demographic characteristics. The regressions in particular show that engagement benchmarks are better

predictors of academic outcomes than are student demographic characteristics. The top four predictors of GPA were active and collaborative learning, student effort, academic challenge, and support for learners. This indicates that for institutions wanting to improve GPAs for Latino students, they should look at ways to improve student engagement as opposed to trying to address student demographic characteristics.

The regression model 2 examined the relationship between student demographic characteristics, student engagement benchmarks, and solving numerical problems. Model 3 looked at the relationship between student demographic characteristics, student engagement benchmarks, and academic skills (non-numerical). Models 2 and 3 explain more of the variance in self-reported academic outcomes than Model 1, which predicted GPA. This means that Latino students do not report higher GPAs than their non-Latino peers, but they do report higher academic outcomes for the other outcomes, which suggests that the Latino students in this study believe they are learning, even if it is not measured in GPA. The finding that Latino students self-report academic skill growth is significant because it supports the literature that Latino student academic abilities are not always best measured by GPA and standardized tests (Gonzales, Brammer, & Sawilowsky, 2015; Musoba & Krichevskiy, 2014). Since student demographic characteristics and student engagement benchmarks are better predictors of self-reported growth measures than self-reported GPA, a recommendation of future study is to look at how self-report measures can be better used when measuring and reporting student achievement.

The benchmarks academic challenge and support for learners were the best predictors of experiencing learning gains in solving numerical problems and academic skills (non-numerical). Academic challenge represents the extent to which students engage in challenging mental activities, such as evaluation and synthesis, as well as the quantity and rigor of their academic

work (McClenney et al., 2007). The data shows that academic challenge was the greatest predictor of solving numerical problems, which supports the literature that shows academic challenge is most closely related with academic measures (McClenney et al., 2007).

Policy Implications

The findings in this study suggest several policy implications for higher education institutions that are invested in increasing outcomes for Latino students. According to CCSSE data used in this study, there are smaller percentages of Latino males pursuing higher education than females. Of the Latino population in this study, 56% were female compared to 42% that were male. Additionally, this study showed that males scored lower than females on all student engagement benchmarks. Furthermore, the student engagement benchmarks were predictors of all three academic outcomes. The findings of this study confirms findings from other studies showing that male community college students struggle (Pérez II, 2017; Saenz & Ponjuan, 2012; Saenz & Ponjuan, 2009). This study provides insights into why male community college students may struggle. Institutions can use these findings to develop and provide campus resources that provide assistance specifically to male Latino students. One way to do this, according to the literature, is to reinforce positive relationships on campus, including relationships with faculty, staff, and peers (Pérez II, 2017). For male Latino students in particular, support from peers can contribute to persistence and degree completion, but what educators often miss is that it also helps with students' motivation and development, which can improve academic outcomes. This support can come in form of minority-based organizations directed specifically at male Latino students (Pérez II, 2017). This could look like faculty requiring students to attend one

organizational meeting, joining a student organization, or even offering a student organization as an extension of the classroom.

When looking at output measures, the study revealed that academic skills growth as reported in models 2 and 3 were easier to predict by looking at student engagement than GPA. The variance for models 2 and 3 was greater, meaning the same independent variables used in all three models did a better job of predicting the outcome variables in models 2 and 3 than in model 1. The study showed that Latino students' self-reported academic gains, even if the t-tests conducted did not reveal higher GPA's when compared to their non-Latino peers. Latino students report they are learning, even if that learning is not translated into improved GPAs. This presents a series of questions for administrators to dig into further. These include: What additional ways can learning be measured in addition to GPA? For students that reported high levels of academic outcomes but low GPAs, does their actual GPA reflect this self-reported information? What can be done to move self-reported academic outcomes into actual higher GPAs for Latino students? These questions will be touched on later in suggestions for future research.

This study revealed that Latino students reported lower GPA's than their non-Latino peers. Efforts to raise Latino GPA's should include focusing on strategies that increase active and collaborative learning and student-faculty engagement. One strategy to improve active and collaborative learning was mentioned above regarding encouraging peer interaction through multicultural organizations and involvement (Pérez II, 2017). In addition to interaction between peers, to address student-faculty interaction, institutions that enroll high percentages of Latino students should make it a priority to recruit, hire, and develop staff and faculty with similar backgrounds, experiences, and the same race/ethnicity as Latino students (Gloria & Castellanos,

2012). This would be important for Latino students because research has shown a positive impact on their academic self-efficacy to see successful people who look like them (Gloria & Castellanos, 2012). In addition to hiring more Latinos, institutions can encourage interaction between Latino students and their faculty by encouraging faculty to engage with students outside the classroom through campus organizations, student government, sports clubs, religious organizations, tutoring, out-of-class discussions, and other interactions (Reyes & Nora, 2012). Although a challenge in community colleges where a high percentage of faculty are part-time, increasing faculty-student interaction supports active and collaborative learning.

Future Research

Literature indicates that more Latino students are attending college at the fastest growing rate of all minority groups, but they are still the lowest in completion (Santiago et al., 2019). Based upon Astin's I-E-O model and low national academic and persistence outcomes of Latino students, I expected to find the data in this study to show that the sample was not engaged socially and academically as measured by CCSSE benchmarks. What I found was the opposite. Student engagement scores showed Latino students are just as engaged as the rest of the cohort for some of the student engagement benchmarks. This suggests that something else is happening in community colleges that is not reflected in the extant research. This study suggests two major avenues for future research.

Expanded measures for academic metrics and reporting. To date, three validation studies have been done to determine the reliability of the CCSSE, specifically regarding its ability to predict student engagement that leads to specific outcomes. The outcomes that the three validity studies looked at were the ability of the engagement benchmarks to predict academic outcomes (GPA and credit completion), early academic measures (course completion and grades

in developmental courses), persistence measures (first-to-second-term and first-year-to-second-year persistence), completion measures (completion of a cluster of courses), and longevity measures (number of terms enrolled and credit hours completed). As previously stated, ACT/SAT scores and incoming GPA is not always a good predictor for Latino students, especially when those scores place Latino students into developmental coursework. Fifty-three percent of Latino students enroll in developmental courses, which means they are at risk of not persisting. This study showed that because Latino students are engaged, and they do believe they are learning, as evidenced by their self-perceived growth on the academic outcomes, there is reason to investigate additional academic outcomes for Latino students that can be measured, in addition to GPA. A future study should look at what additional academic measurements could be used to measure academic skills for students, and even specifically Latino students. If students feel that they are learning, but that learning is not reflected in a strong GPA, students are going to be less likely to persist. Colleges could look into expanding their metrics for academic success beyond GPA.

Use of self-reported GPA in comparison to institutionally reported GPA. Another future research study would be to compare the results of the self-reported CCSSE data with institutional data on GPA and academic skill development. Even the GPA reported on the CCSSE is student self-reported, therefore it would be interesting to see the similarities and differences between how students report their outcomes as compared to the actual outcomes. This study found that Latino student engagement is a predictor of academic skill development. Furthermore, Latinos are scoring higher than their non-Latino peers for these academic skills, but not for GPA. A study that compared institutional data with self-reported student data would show if students are actually making gains or if they are just reporting that they are gaining. This

study could be both quantitative to compare the data but also qualitative to follow-up with students to see why they rated themselves the way they did, especially if the institutional data did not show that they were making academic gains.

Conclusion

This study explored the levels of student engagement for Latino students and the student demographic characteristics that were correlated with those benchmarks. Secondly, it looked at the relationship between the demographic characteristics and the student engagement benchmarks, and the dependent variables of self-reported GPA, solving numerical problems, and the composite of academic skills (non-numerical). Finally, it sought to determine to what extent student demographic characteristics and student engagement benchmarks predicted the academic outcomes of GPA and the additional academic outcomes. The findings report that almost all student demographic variables are significant when looking at GPA and the additional academic outcomes. It also saw that there is a weak relationship, but still significant, between the student demographic characteristics, student engagement benchmarks, and GPA. Finally, while the extent to which GPA could be predicted by the was weak, there was a strong relationship between the variables and the two additional academic outcomes.

Latino students are a growing population on college campuses, especially community college campuses. They are the fastest growing rate in terms of population demographics but are the lowest in terms of completion. It is important for college staff to acknowledge the specific needs of this population and find ways to improve engagement and ultimately outcomes. By focusing on engagement measures that are working and identifying the barriers to specific outcomes, we can improve the outcomes across the board and better serve this population.

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Appendix I- Research Questions and Methods

Research methods: Question 1

Research Question 1	Independent Variable	Dependent Variable	Statistic
What are the demographics of Latino community college students as self-reported on the CCSSE?	None	None	Descriptive statistics
Research Question 2	Independent Variable	Dependent Variable	Statistic
When compared to their non-Latino peers, what is Latino community college student level of engagement and level of self-reported academic ability?	<ul style="list-style-type: none"> • Latino • Non-Latino 	<ul style="list-style-type: none"> • Active and collaborative learning • student effort • Academic challenge • Student-faculty interaction • Support for learners • GPA • Solving numerical problems • Academic skills composite 	T-Test

Research Question 3	Independent Variable	Dependent Variable	Statistic
For Latino community college students, are there significant differences in student engagement benchmarks and academic outcomes?	<ul style="list-style-type: none"> • Gender (categorical) • Age (nominal) • First-generation college student status (categorical) • Native language (categorical) • Enrollment status, part-time versus full-time (categorical) • Enrollment in a developmental course (nominal) 	<ul style="list-style-type: none"> • Active and collaborative learning • student effort • Academic challenge • Student-faculty interaction • Support for learners • GPA • Solving numerical problems • Academic skills composite 	T-test or correlation
Research Question 4	Independent Variable	Dependent Variable	Statistic
For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict academic success in the form of self-reported GPA after controlling for relevant background characteristics?	<ul style="list-style-type: none"> • Active and collaborative learning • Student effort • Academic challenge • Student-faculty interaction, • Support for learners 	Self-reported GPA <ul style="list-style-type: none"> • 	Regression

Research Question 5	Independent Variable	Dependent Variable	Statistic
<p>For Latino community college students, to what extent do the five CCSE student engagement benchmarks predict self-reported academic ability after controlling for relevant background characteristics academic ability after controlling for relevant background characteristics?</p>	<ul style="list-style-type: none"> • Active and collaborative learning • student effort • Academic challenge • Student-faculty interaction, • Support for learners 	<p>Outcome 1: Academic skills-numerical Outcome 2: Academic skills non-numerical</p>	<p>Regression</p>

Appendix II-Questions of CCSSE that Comprise Composite Engagement Benchmarks

Active and Collaborative Learning	
Survey Number	Description
4a	Asked questions in class or contributed to class discussion
4b	Made a class presentation
4f	Worked with other students on projects during class
4g	Worked with other classmates outside of class to prepare class assignments
4h	Tutored or taught other students (paid or voluntary)
4i	Participated in a community-based project (service-learning activity) as part of a regular course
4q	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

Student Effort	
Survey Number	Description
4c	Prepared two or more drafts of a paper or assignment before turning it in
4d	Worked on a paper or project that required integrating ideas or information from various sources
4e	Come to class without completing readings or assignments
6b	Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
10a	Hours spent per week: Preparing for class (studying, reading, writing, rehearsing, doing homework, etc.)
12d1	Peer or other tutoring
12e1	Skills labs (writing, math, etc.)
12h1	Computer lab

Academic Challenge	
Survey Number	Description
4o	Worked harder than you thought you could to meet an instructor's standards or expectations
5b	Analyzing the basic elements of an idea, experience, or theory
5c	Forming a new idea or understanding from various pieces of information
5d	Making judgements about the value or soundness of information, arguments, or methods

5e	Applying theories or concepts of practical problems in new situations
5f	Using information you have read or heard to perform a new skills
6a	Number of assigned textbooks, manuals, books, or book-length packs of course readings
6c	Number of written papers or reports of any length
7	Rate the extent to which your examinations have challenged you to do your best work
9a	Amount of emphasis by college: Encouraging you to spend significant amounts of time studying

Student-Faculty Interaction	
Survey Number	Description
4j	Used e-mail to communicate with an instructor
4k	Discussed grades or assignments with an instructor
4l	Talked about career plans with an instructor or advisor
4m	Discussed ideas from your readings or classes with instructors outside of class
4n	Received prompt feedback (written or oral) from instructors on your performance
4p	Worked with instructors on activities other than coursework

Support for Learners	
Survey Number	Description
9b	Providing the support you need to help you succeed at this college
9c	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
9d	Helping you cope with your non-academic responsibilities (work, family, etc.)
9e	Providing the support you need to thrive socially
9f	Providing the financial support you need to afford your education
12a1	Academic advising/planning
12b1	Career counseling

Appendix III- 2005-2016 CCSSE Survey

The Community College Student Report

Instructions: It is essential that you use a No. 2 pencil to complete this survey. Mark your answers as shown in the following example: ● Correct Mark ✘✘✘✘ Incorrect Marks

1. Did you begin college at this college or elsewhere? Started here Started elsewhere
2. Thinking about this current academic term, how would you characterize your enrollment at this college? Full-time Less than full-time
3. Have you taken this survey in another class this term? Yes No

4. In your experiences at this college during the current school year, about how often have you done each of the following?

	Very often	Often	Sometimes	Never
a. Asked questions in class or contributed to class discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Made a class presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Come to class without completing readings or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Worked with other students on projects during class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Worked with classmates outside of class to prepare class assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Tutored or taught other students (paid or voluntary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Participated in a community-based project as a part of a regular course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Used the Internet or instant messaging to work on an assignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Used e-mail to communicate with an instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Discussed grades or assignments with an instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Talked about career plans with an instructor or advisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Discussed ideas from your readings or classes with instructors outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Received prompt feedback (written or oral) from instructors on your performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Worked with instructors on activities other than coursework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Had serious conversations with students of a different race or ethnicity other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Had serious conversations with others who differ from you in terms of their religious beliefs, political opinions, or personal values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Skipped class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. During the current school year, how much has your coursework at this college emphasized the following mental activities?

	Very much	Quite a bit	Some	Very little
a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Analyzing the basic elements of an idea, experience, or theory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Synthesizing and organizing ideas, information, or experiences in new ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Making judgments about the value or soundness of information, arguments, or methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Applying theories or concepts to practical problems or in new situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Using information you have read or heard to perform a new skill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PLEASE DO NOT MARK IN THIS AREA

SERIAL #

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

	None	1 - 5	6 - 10	11 - 20	21 - 30	More than 30
a. Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	<input type="radio"/>					
b. Working for pay	<input type="radio"/>					
c. Participating in college-sponsored activities (organizations, campus publications, student government, intercollegiate or intramural sports, etc.)	<input type="radio"/>					
d. Providing care for dependents living with you (parents, children, spouse, etc.)	<input type="radio"/>					
e. Commuting to and from classes	<input type="radio"/>					

11. Mark the number that best represents the quality of your relationships with people at this college.

Your relationship with:

a. Other Students

Friendly,

supportive, sense of belonging

7 6 5 4 3 2 1

Unfriendly, unsupportive,
sense of alienation

b. Instructors

Available, helpful, sympathetic

7 6 5 4 3 2 1

Unavailable, unhelpful, unsympathetic

c. Administrative Personnel & Offices

Helpful, considerate, flexible

7 6 5 4 3 2 1

Unhelpful, inconsiderate, rigid

12. How much has YOUR EXPERIENCE AT THIS COLLEGE contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Acquiring job or work-related knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Writing clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Speaking clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Thinking critically and analytically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Solving numerical problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Using computing and information technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Working effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Learning effectively on your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Understanding yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Understanding people of other racial and ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Developing a personal code of values and ethics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Contributing to the welfare of your community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Developing clearer career goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Gaining information about career opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. At what other types of institutions are you taking classes this term? (Please mark all that apply)

- None
- High school
- Vocational/technical school
- Another community or technical college
- 4-year college/university
- Other

25. How many classes are you *presently* taking at OTHER institutions?

- None
- 1 class
- 2 classes
- 3 classes
- 4 classes or more

26. Would you recommend this college to a friend or family member?

- Yes
- No

27. How would you evaluate your entire educational experience at this college?

- Excellent
- Good
- Fair
- Poor

28. Do you have children who live with you?

- Yes
- No

29. Mark your age group.

- Under 18
- 18 to 19
- 20 to 21
- 22 to 24
- 25 to 29
- 30 to 39
- 40 to 49
- 50 to 64
- 65+

30. Your sex:

- Male
- Female

31. Are you married?

- Yes
- No

32. Is English your native (first) language?

- Yes
- No

33. Are you an international student or foreign national?

- Yes No

34. What is your racial identification? (Mark only one)

- American Indian or other Native American
 Asian, Asian American or Pacific Islander
 Native Hawaiian
 Black or African American, Non-Hispanic
 White, Non-Hispanic
 Hispanic, Latino, Spanish
 Other

35. What is the highest academic credential you have earned?

- None
 High school diploma or GED
 Vocational/technical certificate
 Associate degree
 Bachelor's degree
 Master's/doctoral/professional degree

36. What is the highest level of education obtained by your:

	Father	Mother
a. Not a high school graduate	<input type="radio"/>	<input type="radio"/>
b. High school diploma or GED	<input type="radio"/>	<input type="radio"/>
c. Some college, did not complete degree	<input type="radio"/>	<input type="radio"/>
d. Associate degree	<input type="radio"/>	<input type="radio"/>
e. Bachelor's degree	<input type="radio"/>	<input type="radio"/>
f. Master's degree/1st professional	<input type="radio"/>	<input type="radio"/>
g. Doctorate degree	<input type="radio"/>	<input type="radio"/>
h. Unknown	<input type="radio"/>	<input type="radio"/>

37. Using the list provided, please fill in the bubbles that correspond to the code indicating your program or major. Using the first column, indicate the first number in the program code, using the second column, indicate the second number in the program code.

<input type="checkbox"/>	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>

Appendix IV- Research Approval

March 18, 2019

Hi Tara,

I approve your request to use CCSSE data for your dissertation research. [Click here to download the datapackage](#). Please retain this email as proof of permission to use these data.

The download file is a zip file including the data set in a comma-separated format (csv), a codebook, and a document that explains how the benchmarks are created and when to use weights.

Please let me know if you have any questions.

Good luck with your dissertation research.
Mike.

E. Michael Bohlig, Ph.D. | Assistant Director of Research

Center for Community College Student Engagement
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Data Use Agreement Community College Survey of Student Engagement

The Community College Survey of Student Engagement (CCSSE) instrument is copyrighted. Data collected through CCSSE administration and maintained as part of the Center for Community College Student Engagement's (CCCSE) national database is the property of CCCSE. These data will be made available only for use in research projects approved by CCCSE in advance and only upon favorable review of the requestor's submission of the following information:

- 1. List of the specific CCSSE item(s) and/or the specific group of colleges or college types for which data are requested, along with an indication of the survey year(s) for which the data are requested (this description of data requested must be very specific for CCCSE staff to be able to respond to your request);**

I am requesting CCSSE cohort data from 2014, 2015, and 2016 that included Latino students as part of their demographic.

- 2. Written permission from college president(s)/CEO(s), if data for a specific college or colleges are requested (as contrasted with aggregate data);**

Not required

- 3. Statement of the objective of the applicant's survey or study, along with clearly stated research questions;**

I am looking to see if Latino student engagement, as measured by the CCSSE benchmarks, yields academic outcomes in the form of academic measures of GPA and the personal success measures listed on question 11. My research questions are:

- 1. For students that identify as Latino or Hispanic, is there a relationship between first-generation status and student engagement?*
- 2. For students that identify as Latino or Hispanic, is there a relationship between English as their native language and student engagement?*
- 3. For students that identify as Latino or Hispanic, is there a relationship between part-time and full-time enrollment and student engagement?*
- 4. For students that identify as Latino or Hispanic, is there a relationship between Pell eligibility and student engagement?*
- 5. For students that identify as Latino or Hispanic, is there a relationship between enrollment in developmental course and student engagement?*
- 6. For students that identify as Latino or Hispanic, is there a relationship between high school GPA and student engagement?*
- 7. Holding constant first-generation college student status, native language, enrollment status (part-time versus full-time), Pell grant eligibility, enrollment in a developmental course and high school GPA, to what extent does overall student engagement as identified by the CCSSE predict academic success in the form of self-reported GPA earned for Hispanic or Latino students attending community colleges?*
- 8. Holding constant first-generation college student status, native language, enrollment status (part-time versus full-time), Pell grant eligibility, enrollment in a developmental course and high school GPA, to what extent does overall engagement student engagement as identified by the CCSSE predict the increase of self-reported knowledge, skills, and personal success as defined by the self-reported answer from question 11 from the CCSSE?*

- 4. Expected completion date of the research;**

I am hoping to defend my research May 2019.



5. Name, title, organization and complete contact information for the principal investigator; if the requested use is for a dissertation study, please provide also the same information for the dissertation committee chairperson.

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Agreement:

Applicant must agree to the following conditions:

1. Applicant will provide to CCCSE both electronic and hard copies of the proposal for subject research (e.g., the dissertation proposal for doctoral studies), including the overview of proposed research, research questions, literature review, and description of methodology. These materials shall be provided in a timeframe that allows CCCSE staff at least 3 weeks for review and comment prior to finalization of the research proposal.
2. Applicant will provide to CCCSE an electronic copy of the results of data analysis; electronic and hard copies of the subject report or study; and the appropriate citation for the work. The signature below also indicates permission to cite the report or study, with appropriate credit, on the CCCSE Web site.
3. When data on CCSSE's items are reported, applicant will include the following citation: "Data used with permission from the Center for Community College Student Engagement, *The Community College Survey of Student Engagement* [date of survey version -- e.g., 2007], The University of Texas at Austin."
4. Permission is valid for one-time use only but may be renewed with written permission from CCCSE.
5. Applicant agrees to comply with provisions set forth in CCCSE's policy statement on Responsible Uses of Survey Data (see link at bottom of page at www.cccse.org).

Tara Lindahl

Please Print Principal Investigator's Name

Tara Lindahl

Principal Investigator's Signature

2/15/19

Date

Please return this information to the address listed below or email to data@cccse.org.

The University of Texas at Austin
Center for Community College Student Engagement
3316 Grandview Street, Austin, TX 78705