

CHARACTERISTICS, STUDENT ENGAGEMENT, AND THE
RELATION TO ACADEMIC PERFORMANCE OF
RURAL COMMUNITY COLLEGE ATHLETES

by

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A DISSERTATION

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ABSTRACT

Rural community colleges are the only institutions of higher education for huge swaths of the United States. Their role in their communities requires them to serve a variety of functions, from education provider, to economic development center, to a source of entertainment. Often this entertainment comes in the form of community college athletics. As rural community colleges make up 61% of community college athletics programs (Bush, et al., 2009; Casteñeda, et al., 2006), these changes can impact a large number of students and communities. Despite the importance of this facet of rural community colleges, little is known about their athletes. This quantitative study sought to provide information regarding this oft-ignored area of intercollegiate athletics and provide information regarding the students who participate in this endeavor and their engagement with their institutions through their educational mission.

This study was designed to explore and compare the student engagement of rural community college student athletes to the student engagement benchmarks of the Community College Survey of Student Engagement (CCSSE). Determining if there was a predictive relationship, when controlling for background characteristics, between student athlete benchmark scores and self-reported GPA, was done through regression analysis. The results found that rural community college student athletes differ greatly from the general characteristics of rural community college students, and they are engaged in the campus at a high rate through almost all of the benchmarks. Race and academic preparedness greatly affected reported GPAs and all of the benchmarks were factors in predicting GPA, though not all positively.

DEDICATION

For my wife, Amy. For all the sacrifices, lost time, and unwavering support and love during this journey. I literally could not have done it without you, and this entire work is a testimony to how blessed I am to have you in my life. You lifted me up too many times to count and I am eternally grateful that you chose to have me be your partner in life. For my children, Maggie and Penny. I am sorry for the all of the time I missed playing with you and having to share my attention with my schooling. I promise to spend the rest of my life making it up to you. Your bright, smiling faces and your constant encouragement have helped push me past the finish line. I love you both more than I can ever tell or show you. For my parents, Pat and Steve, who despite all the odds thrown at you at such a young age never backed down and never let it stop you. You have remained my heroes throughout my entire life, you have inspired me and believed in me even when I didn't. For my in-laws Joe and Kathy, you have celebrated all of my successes and always rallied to my side. Thank you for raising the most incredible daughter, and letting me be a part of your family. To all of you, thank you for making this possible. I love you all, more with each passing day.

LIST OF ABBREVIATIONS AND SYMBOLS

B Unstandardized regression coefficient

β Standardized regression coefficient

CI Confidence interval

df Degrees of freedom

F F statistic

M Mean

n Number of cases

p Significance

R^2 R square

SD Standard deviation

t t-statistic

= Equal to

% Percentage or percent

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CHAPTER I:

INTRODUCTION

Overview

For over a century, community colleges have served the regions in which they reside through many ups and downs including enrollment, funding, external pressures from the communities they serve, and internal pressures from the students that enroll. While community colleges are a vital part of the higher education landscape in the United States, they often suffer from the mixed missions that they are expected to pursue as part of their role in higher education. Community colleges often have to balance between serving the students, for whom they are often one of few viable options available, and the elected officials who dictate the funding of these institutions. In addition to this balancing act, funding for these institutions has been affected by economic downturn, demographics, and shifting priorities in their states (Phelan, 2014). In Jaschik and Lederman's 2020 *Survey of College and University Business Officers*, community college business officers stated at a higher rate than any other group that their institution should use the impact and upheaval brought on by the COVID-19 pandemic to "make difficult but transformative changes in its core structure and operations to better position itself for long-term sustainability (pg. 7). Even before the pandemic, these institutions have had to determine how to best meet the needs of these constituencies and determine where their limited funding should be allocated and, in some cases, this has been done by making cuts.

To meet the cuts in funding, community colleges have had to eliminate programs and find efficiencies to meet their missions. In 2020, 47% of community college business officers stated that they have or would be eliminating administrative positions in the coming academic year and 60% stated they have or would be eliminating underperforming academic programs (Jaschik & Lederman, 2020). However, it is not just in academic programs where eliminations are being used to help solidify institutional budgets. One non-academic area where some community colleges have decided to make cuts is in their intercollegiate athletics programs. In some cases, these cuts have been in the number of sports offered, but in other cases, it has been the wholesale elimination of athletic programs. The National Junior College Athletic Association (NJCAA) saw the number of teams participating steadily grow to an all-time high during the 2013-2014 academic year, only to see it drop to a level that evaporated six years of growth by the next academic year, dropping even further the next year (National Junior College Athletic Association [NJCAA], 2017). During the first few months of the pandemic some community colleges moved some athletic teams to less expensive levels of competitive play, several community colleges have announced sport eliminations, and at least four have announced the total shuttering of their athletics programs ("Eastern Gateway Discontinues Sports", 2020; Norfolk Daily News, 2020; Nowlin, 2020; Wilson, 2020). These four institutions represent a cross-section of the community college landscape: urban and rural, large and small, located from Wyoming to Ohio to Florida.

For the rural community college, considerations around athletics are even more difficult choices to make. This is because, for rural community colleges, athletics plays an outsized role in almost every facet of the institution. A rural community college's student athlete enrollment may be between 5%-40% of their total enrollment (Whissemore, 2020). As community college

athletes must enroll as full-time students when participating in intercollegiate athletics, this population provides a large amount of FTE (full-time equivalent) for these institutions (California Community College Athletic Association [CCCCAA], 2020a; NJCAA, 2016; Northwest Athletic Conference [NWAC], 2020a). This means that whatever budgetary money may be saved from the cuts might be lost in tuition revenue and state appropriations; however, this also points out how important intercollegiate athletics is for community colleges in rural communities. Beyond enrollment, athletics can also serve as a source of auxiliary money from housing. In 2007 it was found that 93% of housing facilities in community college settings were located at rural community colleges (Moeck, et al.). Moeck, et al., (2007) also found almost 30% of these rural community colleges had dedicated housing for student athletes, which does not preclude the use of other such student housing by student athletes. This is not a new phenomenon as in 1988 Summers and Budig (as cited in Moeck, et al., 2008, p. 239) found that half of rural and/ or small colleges offered housing specifically for student athletes, but that 30% of all institutions surveyed had some on-campus housing which would also have been open to student athletes in some situations.

Athletics also provides rural community colleges with the opportunity to diversify their campuses. They can bring in student athletes of races and ethnicities who do not live in meaningful numbers within their service areas and can also bring students from other regions of the state, country, or world (Finkel, 2018). Another potential benefit of intercollegiate athletics for rural community colleges is the perception that the appearance of such extracurricular endeavors may lead students to perceive their enrollment at a community college as a more legitimate higher education experience, this can also increase this perception for parents, guidance counselors, and the public at large. As such all decisions related to intercollegiate

athletics made at a rural institution must consider the impact of that decision on its finances, enrollment, and its perception to the general public (Weisbrod, Ballou, & Asch, 2008).

Given the importance of these programs in the rural community college setting, it is important for these institutions to explore who these students are and what student engagement activities support academic success. In some cases, the largest population of racially and ethnically underrepresented students at a rural community college are located in their athletics program, and, in the pursuit of equity and supporting these students, it is important to provide the best services possible for these students in hopes that it can lead to better services and outcomes beyond the athletic program. For those student athletes who are local to the community they share with the college, their success is critical for the success of their communities as well. Since less than 30% of rural citizens achieve a credential higher than a high school diploma (Marré, 2017), each local student athlete that graduates increases this percentage. These communities are also facing higher unemployment and fewer resources, both human and capital (Crookston & Hooks, 2012). With the possibility of earnings being over \$8,000 more annually for community college graduates, (American Association of Community Colleges [AACC], 2021) the benefits for rural communities are substantial. Additional earnings from these graduating students increase the tax revenues for the communities through income taxes, sales taxes, and property taxes. As local taxes are provided to community colleges through appropriations in 37 states, the more taxes collected, the more money that will be sent to the coffers of the community college (Yuen, 2020).

As such a large percentage of enrollment at rural community colleges consists of student athletes, it is important for these institutions to know as much about them as possible. In addition, since rural community college athletes are often more diverse than the typical enrollee

at these institutions, it can also provide these colleges the opportunity to learn what policies and procedures will support student engagement and success for a more diverse student body as the demographics in rural communities shift (Slack & Jensen, 2020).

Background

The American Community College

The American community college finds its roots in a number of external factors during the end of the nineteenth century and into the early twentieth century. The impetus for the creation of what was then described as junior college came as a result of these external factors including demographic, political, and professional (Brint & Karabel, 1989). These external factors led to the creation of institutions that would provide the first two years of a college curriculum prior to either transferring to a university or moving on to employment. This allowed the increased number of high school graduates to pursue further education while not having to travel to remote locales to gain that education or straining existing universities with increased enrollment. In addition, many of these early junior colleges did not put a financial burden on those who wished to enroll (Harbour, 2015). This low cost was typically due to the fact that, while these institutions were often created with the encouragement or support of universities, the institutions themselves were generally extensions of the public school systems in the cities where they were founded (Dougherty, 1994). This emphasis on affordability and access continues to this day.

Trade schools and apprenticeship training had existed long before this time and had continued to be seen as an important part of the vocational training that was provided by both K-12 schooling and the potential employers themselves. While initially considered as separate from the goals of the junior college, there were some early programs at a host of these institutions

(Dougherty, 1995). Nonetheless, even early on, junior colleges saw an opportunity to expand their work and benefit from the increased funding for the work of vocational education. Since many of these institutions were extensions of a secondary school system that provided these programs already, they were well-positioned to take these steps (Cohen et al., 2013). Vocational education has now been ingrained in the community college model, and in some ways, this integration is what moved junior colleges into community colleges. The use of the term "community college" came into use once this comprehensive curriculum was enacted at these institutions (Beach, 2010). This work, increasing in the 1930s to its present status in the current day community college, is reflective of these institutions' responsiveness to their communities.

While suffering from enrollment declines since the end of the Great Recession, including an over 3% drop in enrollment, the largest in three years, during the 2018-2019 academic year which was then eclipsed by a 9.5% drop in the 2020 fall semester (Fain, 2019; St. Amour, 2020), community colleges remain a vital part of the higher education landscape. According to the American Association of Community Colleges (2020), 41% of all undergraduates were community college students in the fall of 2018.

Intercollegiate Athletics

Four Year College Athletics

Athletics has long been a part of the collegiate experience, not only in the United States but also abroad. Initially, athletics was relegated to an extracurricular activity and served a similar function as other activities such as student dramatic performance, dances, and similarly curricular-adjacent activities. Soon, the athletic endeavors of students began to be developed to help build school spirit and community on their campuses (Kissinger & Miller, 2009). As the community building portion of this endeavor matured, there came a desire to compete against

other institutions to instill community pride through proving their institution's superiority over other schools with whom they competed for students, resources, and academic stature, as well as using this perceived superiority to attract new students (Gurney et al., 2016).

The first recognized intercollegiate event was held in 1852 between the rowing teams of Harvard and Yale at a resort in New Hampshire (Bok, 2003, Hardy & Berryman, 1982, Kissinger & Miller, 2009) and was quickly followed by other events in different sports over the next decade. After the end of the Civil War, intercollegiate athletics exploded and became a major focus for colleges throughout the country. With this increased interest came increased concerns about various facets of intercollegiate athletics. Almost from the beginning, there were concerns regarding the integrity of the game as well as concerns related to the place of intercollegiate athletics in the higher education ecosphere. In 1889, college sports were still a student-organized endeavor, but there were numerous issues related to amateurism and other forms of cheating which led to Harvard's decision to leave the existing governing structure for football (Smith, 2011). As early as 1905, universities discussed reforming intercollegiate athletics and even the possibility of eliminating athletics on their campus (Perez, 2012).

Today intercollegiate athletics are overseen by a variety of governing bodies beyond those entities that reside on campus. These governing bodies include the National Collegiate Athletic Association (NCAA), the National Association of Intercollegiate Athletics (NAIA), the United States Collegiate Athletic Association (USCAA), and the National Christian College Athletic Association (NCCAA). The largest of these three bodies is the NCAA which is further split into Division I, Division II, and Division III. While some community colleges compete under the auspices of the NAIA and the USCAA, most compete under the governing bodies for community and/or technical colleges with the National Junior College Athletic Association

(NJCAA) being the largest of these community college-specific bodies and the second-largest intercollegiate athletic governing body overall (Osborne, et al., 2020).

Community College Athletics

Community college athletics arrived shortly after the creation of the sector. John Sexon, then Superintendent of Schools in Pasadena, California, presented parts of his paper regarding the four-year junior college report to the National Association of Secondary-School Principals in 1930; he stated that there were existing intercollegiate athletic leagues for junior colleges. Also, in 1930, the Chief of the Division of Research and Statistics for the California State Department of Education mentioned that some students were attracted to junior colleges due to "...a well-developed program of inter-scholastic athletics." (Morgan, 1930). This was not only a California endeavor, as a Kansas Junior College Dean made mention that interscholastic sports continued to be separated by those students in high school and those enrolled in the junior college where they competed against other schools at the same level (Farner, 1938). During this period leagues had already been developed for intercollegiate contests for junior colleges in sports such as football, all of which predated the creation of the National Junior College Athletic Association (NJCAA) in 1937 (Grafton, 1958).

Today, over 50,000 student athletes are participating in over 3,000 sports throughout the country under the auspices of the NJCAA, the largest of the governing bodies for community college athletics (National Junior College Athletic Association, 2017). Coupled with the California Community College Athletic Association (CCCCA) and the Northwest Athletic Conference (NWAC), these three agencies govern the intercollegiate athletic endeavors of over 700 different institutions across the country (NJCAA, 2020; CCCC, 2020b; NWAC, 2020b).

Statement of the Problem

Intercollegiate community college athletics is an important part of many rural community colleges. With the research suggesting that 61% of all intercollegiate athletic programs at the community college level are located at rural institutions (Bush, et al., 2009; Casteñeda, et al., 2006). The role of intercollegiate athletics in these rural community colleges is demonstrated by the large percentage of the total enrollment that athletes often represent at these institutions (Casteñeda, et al., 2006; Theis, 2009; Whissemore, 2020). As such, the engagement and success of these students is a key factor in the institution meeting its goals as an institution, and also for maintaining funding to continue their work.

With community colleges being highly dependent on tuition and state appropriations, student success is a financial concern, even more so than other sectors of higher education. The consistent decrease of financial resources being provided to community colleges by state agencies, institutions are being forced to make decisions regarding how to spend these dwindling resources. Faced with these reductions, the high cost of intercollegiate athletics at the community college level coupled with the lack of income makes it an attractive area for potential elimination or reduction. However, these proposed reductions could potentially negatively impact student success and engagement levels at community colleges as research has shown that student athlete performance often outpaces other students (Horton, 2015, Mendoza et al., 2012; Rishe, 2003; Umbach, et al. 2006).

While there is little information available on community college student athletes and their academic success or student engagement but there have been studies related to the collegiate experiences of student athletes in other areas. Umbach, et al. (2006) found that student athletes at four year institutions were at a minimum as engaged as their non-athlete peers, and that they felt

their campus was more supportive of their academic needs. Other findings have shown, that in comparison to their non-athlete peers, student athletes perform at a higher level in terms of GPA and credit hours earned; this was even true for underrepresented groups within the athletic subset (Horton, 2015; Mendoza et al., 2012). Graduation rates were found to be higher among student athletes as well (Rishe, 2003). However, there has been no equivalent study done regarding community college student athletes and their student engagement experience or academic success.

At public four-year institutions, 84.7% of all students persist to the next semester, while 75.6% of all students were enrolled in college the next fall (National Student Clearinghouse Research Center, 2020). For public two-year colleges, these numbers drop to 62.1% and 53.7% respectively, with the worst drops coming from Black and Hispanic or Latino students, who again enroll at a higher rate in this sector (National Student Clearinghouse Research Center, 2020). This troubling data brings with it concerns about how to better serve these students. Black or African American students participate at a higher rate than other racial/ethnic groups in intercollegiate athletics and the research suggests that Black/ African American student athletes perform at a higher level in terms of GPA and credit hours earned than their non-athletic counterparts (Horton, 2015). The success of these student athletes may provide a pathway to increasing success among their non-athletic peers, and help increase the student success of these students through the lens of their engagement on campus.

Since there has been little research related to community college athletics - and even less specifically focused on rural community college athletics - this study is designed to help fill gaps within the literature. With the need to increase student success in community colleges for the viability of the sector, focusing on a sub-group whose performance seems anomalous to their

institutional cohort may provide clues and policies that may help other students become successful. Since the characteristics of rural community college students have not been studied, this research will provide information about who this group is and help determine if their background characteristics explain some of their academic success. The use of Community College Survey of Student Engagement (CCSSE) data will allow us to explore the student engagement of this group and help further develop the benchmarks that seem most predictive for this group in hopes of translating it to the larger population. According to McClenney and Marti (2006), the CCSSE benchmarks were strongly connected to student GPA, therefore this study will use the student GPA data collected from the survey to help determine student success. This work will hopefully broaden the knowledge about this group of students and provide information on the best ways to support students for success.

Purpose

As community colleges face challenges of enrollment and financing in recent years, it is important to consider every facet of the community college experience and engagement (Crookston & Hooks, 2012; Fain, 2019; Phelan, 2014; St. Amour, 2020). For rural community colleges, one of the most visible and important components of their institutions is intercollegiate athletics (Finkel, 2018; Slack & Jensen, 2020; Weisbrod, Ballou, & Asch, 2008; Whissemore, 2020). As such, it is important for the entire campus community - from faculty to the board - to be as informed as possible about this group of students. The purpose of this study is to describe the characteristics of rural community college athletes and explore their engagement in areas that have shown to impact student athlete academic success at other levels of competition in conjunction with differences related to background characteristics. With this data, the goal is to

discover how this engagement may be related to the academic outcomes of rural community college athletes.

Research Questions

This study was conducted to describe the characteristics of rural community college athletes, the student engagement activities of these student athletes and the impact that various background characteristics have on this engagement, and to determine if there is any relationship between student engagement activities and GPA. This study will explore the following research questions:

1. What are the demographic and background characteristics (i.e., gender, race, first-generation status, educational background) of rural community college student athletes?
2. For rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning (i.e., presenting in class, working with other students outside of class, providing tutoring, participating in community-based projects as part of a course, etc.) based on: a. gender b. race/ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?
3. For rural community college athletes, are there significant differences in student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?
4. For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge (i.e., working harder than expected, applying theories and concepts to practical problems, number of books and papers

assigned, etc.) based on: : a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?

5. For rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction (i.e., discussing grades or assignments, talked about career plans, discussed ideas, etc.) based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?
6. assignments, talked about career plans, discussed ideas, etc.) based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?
7. For rural community college athletes, are there significant differences in student engagement benchmark of Support for Learners (i.e., how much does your college provide support to succeed through a variety of areas, encourage contact from diverse backgrounds, cope with non-academic responsibilities, etc.) based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?
8. For rural community college athletes, how predictive are the CCSSE benchmarks relative to college GPA?

Significance

Community colleges represent a large segment of American higher education and serve a tremendous number of students. Students served by community colleges are more diverse and often have access to fewer financial resources than their four-year counterparts. Rural community college student athletes can make up a large amount of their institution's total enrollment. In addition, student athletes at rural community colleges often provide these institutions with additional benefits. These benefits can include visibility and engagement within their community, as athletics has often been called the "front door" of an institution. If there is

success on the field or the court, it can also provide benefits with the enrollment and recruitment of students. The other benefits can be less quantifiable as well. Often student athletes at rural community colleges bring benefits to the college related to new viewpoints and life experiences that can provide a deeper and richer campus environment. In addition, rural community college athletes often come from outside of the local community which means that their expectations and backgrounds can bring new ideas and innovations that would otherwise be missing without this influx of new ideas. Finally, rural community college athletes are often a more diverse population than the region the institution inhabits. Again, this provides all students the opportunity to expand their worldviews and become more knowledgeable about the issues and experiences of those from rural, suburban, and urban settings and regions across the nation and sometimes the world. With these factors in mind, we must try to understand who these students are and in what ways do rural community colleges succeed in supporting them and providing them opportunities for success, and where there are places where these institutions could improve. Since this research provides information about the demographic and academic backgrounds of these students, it can help institutions make more informed decisions regarding how they recruit and support these students. This research may also help athletic administrators understand what student engagement activities have the greatest impact on their academic success and lead them to make more strategic decisions on how to advocate and assist these students. Since the group under study represents a larger cross-section of the national population than the non-athlete portion of the student body, the study may also be used by student success professionals to help develop programs that support under-represented groups or groups with similar academic background statistics (i.e., first-generation and developmental education students) with the data collected through this cohort of rural community college athletes. With

athletic program closure being increasingly considered in the sector, this study may give information that provides a clearer picture of who participates in these programs and the ancillary benefits that an athletics program may provide.

Definition of Terms

Benchmarks: For this study, the benchmarks are groups of conceptually related survey items that focus on institutional practices and student behaviors that promote student engagement and are positively related to student learning and persistence.

Center for Community College Student Engagement (CCCSE): The CCCSE is the umbrella organization for survey research, focus group work and related services for community and technical colleges of the University of Texas' College of Education. The CCCSE is the organization responsible for the Community College Survey of Student Engagement

Community college: For this study community college is defined as a college for which the highest degree awarded is an associate degree.

Community College Survey of Student Engagement (CCSSE): The CCSSE is a national survey designed to measure student engagement for community and technical colleges. It is housed at the University of Texas at Austin and was established in 2001.

First-Generation College Student: For this study, a first-generation college student is defined as a student for whom neither their mother, father nor legal guardian attended college for any period.

Rural community college: For the purpose of this study, a rural community college is a community college which is located in an area outside of a Metropolitan Statistical Area whose population does not exceed 500,000.

Student athlete: For this study, student athlete refers to any student who participates on a team sponsored by their college's athletic department.

Student engagement: For this study student engagement refers to the time and energy that students devote to educationally purposeful activities and their perceptions of the environment that their institution provides to support and facilitate their learning.

Student success: For this study, college success is defined as the self-reported college GPA as provided on Item 29 of the CCSSE.

Transfer student: For this study transfer students are those who identified themselves as having entered college at an institution other than the one at which they responded to the CCSSE.

Conceptual and Theoretical Framework

Conceptual Framework: Astin's IEO Model

The conceptual framework for this study is Astin's Input-Environment-Outcomes (I-E-O) model (1993). The IEO model provides a way to assess and explain the relationships that exist as a student progresses from admitted student through to their exposure to the college and the general college experience. The IEO model demonstrates the interplay between inputs, environment, and outcomes and how they contribute to the final result for the student. Inputs are the characteristics of the student at the time of their arrival on campus; the environment is the college ecosystem of programs, policies, faculty, other students, and experiences; and the outcomes are the student's characteristics after their exposure to the college ecosystem (Astin, 1993, p. 7). The end result of the IEO model is unique to each student, as they bring various experiences and backgrounds into the environment and then engage with it in different ways. The outputs will invariably be somewhat determined by the previous two steps. Astin (1993)

stated that outcomes can be either cognitive or non-cognitive. For this study, we looked at the inputs that the student athletes bring and then compared those variables to the environment in which they have engaged. The output, in this case, is the students' self-reported GPA, which would be in line with the cognitive outcomes suggested by Astin (1993) which are tied to educational achievement. There is an understood environmental event that they all share, being student athletes at a rural community college, however, this lived experience's interaction with the input variables will provide an opportunity to assess how the other inputs and environmental conditions may change the outcomes for these students.

Theoretical Framework: Astin's Student Involvement Theory

Astin's Student Involvement Theory (1984) believes that the quality and quantity of involvement on campus by a student will help increase and improve that student's learning and development. As the group of students under study are by their very nature involved on campus, it provides a framework to explore if greater involvement does in fact- translate to better student outcomes. Astin measures involvement through the metrics of time, energy, quality, and quantity- all metrics for which athletic participation would seemingly be a good fit (1984). The research suggests that student athletes are both heavily involved with their institutions due to practices, games, and other activities associated with their involvement in intercollegiate athletics, but simultaneously less involved in activities outside of athletics due to the time commitment that student athletes must meet as members of a team (Ishaq & Bass, 2019).

An area that can help delineate the difference from the IEO model and Student Involvement Theory could potentially be the Student Effort benchmark. In contrast to the IEO model which tends to put the onus on the institution, the Student Involvement Theory puts the

onus on the student. In this regard, Student Effort can provide some clarity in regards to best practices and where the interventions may need to be placed.

Summary

Student engagement is a key factor in student success and an area where community colleges often struggle in providing for their students. One group that generally outperforms its peers in success metrics is that of the student athlete. As rural community colleges often suffer from fewer resources and other infrastructure issues related to their location, these institutions provide an opportunity to explore how their student athletes engage and perform as possible roadmaps for assisting other students. This provides data on this group, including demographic and academic background data to provide a clearer picture of who these students are and determining if there are other reasons for their success. With the drop in funding and enrollment for community college in recent years, being able to identify success strategies and engagement opportunities are key for sustainability for this sector. This chapter provided a brief overview of community colleges and intercollegiate athletics, as well as the research questions to be answered as part of this study. The conceptual framework and theoretical framework were also discussed.

In chapter 2, a review of the literature related to community colleges, rural community colleges, intercollegiate athletics, community college athletics, and the CCSSE instrument will be provided. Chapter 3 will provide the research methodology and research design used to complete this study. In chapter 4, the results of this analysis will be provided. In our final chapter, the findings of the research will be provided, in conjunction with implications for practice and policy, along with possible pathways for future research.

CHAPTER II:

LITERATURE REVIEW

Overview

Community college intercollegiate athletics and its impact on its student engagement and student success has received little attention from researchers. Literature related to college athletics has more often focused on the larger, more visible “revenue sports” of football and basketball at institutions in the NCAA’s Division I, the highest level of intercollegiate athletics in the nation. Even less attention is given to intercollegiate athletics at rural community colleges. These institutions participate at a higher rate than their urban and suburban counterparts as well as service communities that are often under-resourced. Given the increased focus on community college outcomes from federal and state agencies as well as the increasingly difficult financial situation for public higher education, the impact that athletics has on enrollment and student success has become more important. For rural community colleges the challenge is even greater as their budgets are often smaller and the resources are less available in their communities. The engagement and success of these rural community college athletes can be the difference to maintain their existence and with it benefit these hard hit communities.

It is important to consider the context in which this research takes place. Important to developing this context is an exploration of the history of community colleges in the United States. This discussion will also include specific focus on issues related to rural community college issues, as the research sample is rural community college student athletes. In researching

intercollegiate athletics it is important to explore the development of this activity in both the larger context of higher education as well as the development in the community college sector specifically. While there is a paucity of research related to intercollegiate athletics for this sector of higher education, there has been some that will provide additional context.

Following this information is literature related to the costs and benefits of intercollegiate athletics to institutions and its student athletes. This will be followed by additional context related to the development and use of the CCSSE, the instrument for this study.

The American Community College

Since the first community college came into existence during the earliest part of the twentieth century, community colleges have grown to over 1,000 institutions across the United States (Crookston and Hooks, 2012). Community colleges serve almost half of all public postsecondary students in the United States (American Association of Community Colleges, 2014). In addition community colleges enroll a larger percentage of first-generation, English as a second language, non-traditional, and low-income students than their four-year counterparts, as well as enrolling a disproportionate number of students of color and parenting students (Bragg, Kim, & Barnett, 2006; U.S. Department of Education 2018). In addition to these groups, community college students are also more likely to have priorities and responsibilities beyond the pursuing of their degrees like parenting or full-time employment (Bragg, Kim, & Barnett, 2006; Cohen, Brawer, & Kisker, 2013; Li, Gandara & Assalone, 2018). The importance of these institutions is especially felt in rural areas of the nation. During the 1960's and 70's community college construction was booming, and a large number of these community colleges were located in rural counties (Crookston and Hooks, 2012). The effect of community colleges in rural communities is magnified due to the lower population density and more remote settings. Rural

Community Colleges make up 64% of all community colleges and serve 37% of all community college students (Hardy & Katsinas, 2007).

Since their creation in the Midwest, community colleges have gone through many changes. Cohen and Brawer (2008) provide evidence that many of the first community colleges were often seen as either an extension of secondary education or as truncated universities, providing preparation for university studies. This development came from a number of factors including changing demographics within the country, the perceived benefits of increased education opportunities by local officials, and their role in providing it, and a desire of high school administrators and faculty to expand their work and university administrators' desires to focus their work. From a demographic point of view, there were more students graduating from high school through free public education as it expanded throughout the United States. From a political standpoint there was a desire to both provide additional means of education for this group of constituents and potentially raise the standing of the communities that they represented through the creation of higher education opportunities in communities either underserved or too far away from existing tertiary education offerings. From a professional standpoint local superintendents and high school faculty sought the potential rise in stature that providing post-secondary education could bring. For the presidents of existing universities it provided them an opportunity to solve a variety of "problems" they perceived impeded their missions. Among these were the potential to alleviate the impact of increased enrollment from this group of growing high school graduates while at the same time enabling them to remove college preparatory work that resided in the first two years of the college curriculum and focus on research and work within the majors. It also allowed them to exclude students that they did not wish to accept and create a stratified higher education sector. From these desires the junior

college idea sprang in large part with a primarily liberal arts focus as well as the opportunity to meet the perceived gap between secondary and tertiary education. This also increased the number of communities served by higher education. During the years of the Depression and after World War II, job training became more entwined with community college missions. The “Higher Education for American Democracy” report provided by a 1947 presidential commission expressly called for the combining of the previous transfer focus with post-secondary vocational education (Jurgens, 2010). By the 1970’s and 1980’s workforce development became another avenue that these institutions could serve their communities, a practice that continues to this day (Cohen & Brawer, 2008; Hu & Bowman, 2016; Jurgens, 2010). In addition to these roles community colleges also lead in providing developmental education resources for students unprepared for some of the rigors of higher education as well as providing community and continuing education services for the communities in which they reside (Cohen, Brawer, & Kisker, 2013). However, changes continue even in the current generation of community colleges, Boggs (2011) makes the point that community colleges have maintained their place in higher education through “access, community responsiveness, creativity, and a focus on student learning”.

Throughout these changes community colleges maintain a critical role in expanding access for American students. This access has been provided by open door admission policies as well as low costs (Cohen & Brawer, 2008; Cohen, Brawer, & Kisker, 2013; Mullin, 2012). As discussions within the higher education sector have gravitated towards questions of access and affordability the role of the community college in meeting these needs has been magnified due to their historic focus on these issues (Jenkins et al., 2016, Romano, Wisniewski & Association for Institutional Research 2005). However, this role also leads to the troubles that community

colleges face related to funding. Since tuition is kept low as part of the access mission, it often cannot be used to recoup any losses that occur due to other funding shortfalls (Hicks & Jones, 2011).

While they have maintained their place in the higher education sector, community colleges find themselves struggling as they are provided fewer state and federal resources while serving more diverse student bodies and educational missions (Huelsman, 2015). Due to this situation, community colleges must now consider how they should focus as preparers of students for their four-year counterparts while continuing to meet the ever increasing pressures to primarily meet the economic development and career training needs of the communities in which they reside. With a new focus on success, completion, and career planning coupled with dwindling financial resources, a transformation of community colleges may be called for and with it an assessment of the programs and activities that the community colleges offer (McClenney, 2013; Mullin, 2012; Romano, 2012).

What are the causes and impacts of these dwindling resources? Community colleges were adversely affected during the economic downturn of the late 2000's and early 2010's, just as most institutions of higher education (Desrochers & Wellman, 2011). However, due the lack of endowments and lower tuition rates, community colleges have fewer opportunities to make up for lost revenue than their four-year counterparts. Even as the downturn subsided community colleges still find themselves on tenuous financial footing. According to Desrochers and Hurlburt (2014), community colleges had the greatest financial strain in higher education with drops in funding and cuts in spending. Community colleges in rural areas often have less access to resources than their urban and suburban colleagues. Even during periods where enrollment was

growing, budgets were still cut and space was limited (Nelson, 2010; Pennington, Williams, Karvonen, 2006).

In addition, as performance funding as a policy initiative has increased in states, there have come budgetary issues. The populations that are traditionally served to a greater degree by community colleges received less funding in some performance funding schemes (McKinney and Hagedorn, 2017) and when the performance funding is implemented with universal metrics across a system it often negatively affects community college funding (Dougherty, et al., 2012). Studies have also found that institutions, such as community colleges, that serve a larger proportion of students with lower socio-economic statuses are often negatively impacted when performance funding is enacted (Li, Gandara, & Assalone, 2018; McKinney & Hagedorn, 2017). With the lack of additional revenue sources, many institutions have had to look into changes that might be able to avoid increased financial damages while still meeting their missions.

To mitigate these issues, some community colleges have been forced into making changes about how they spend these dwindling resources. For some institutions this organizational change has included the elimination of programs for cost savings. One area where the elimination of programs has taken place has been in the area of student activities and athletics (Ganzert, 2000, Mitchell & King, 2018). Community college athletic programs have been eliminated across the nation due to cuts in state appropriations and budget issues (Chappelear, 2014; David, 2015). Due to the importance that athletic programs have within rural community colleges, the outcomes of these decisions need to be researched. However, there has been little research into the impact these changes have had on the institutions that have undertaken them. Research is needed to explore these issues and determine how these changes are planned and implemented as well as the effect they have on the institution.

An intercollegiate athletic program elimination is an organizational change that can be undertaken for a number of reasons. This change can be undertaken by presidents of community college when they feel that the mission of the school is not being served by the athletic program programs (Lawrence, Mullin, & Horton, Jr., 2009) while others have done so out of concern for the financial cost of such programs (Ashburn, 2007). However some research (Byrd & Williams, 2007; Williams & Pennington, 2006) suggests that presidents are not fully aware of the costs and budget for athletics and the choices made surrounding any changes in this area are done with little strategic planning.

Unlike program discontinuation within academic areas, there are few protections related to the employees and departments located within an athletic program. In addition, athletics are rarely, if ever, mentioned in the mission statements of community colleges and can be seen as purely extracurricular, a viewpoint Brand (2006) refers to as the “standard view”. This lack of protections and the perception of athletics as outside of the mission of a higher education institution can also make intercollegiate athletics an attractive option for elimination in times of financial struggle. Since community college athletics is often not expressly addressed in the mission statement of an institution and coupled with the perceived large cost of participating in intercollegiate athletics, these activities can be considered as non-essential in the life of the institution. Due to these issues, a number of community colleges have dropped athletic programs in recent years (Lawrence, Mullin, & Horton, Jr., 2009).

Rural Community Colleges

Since the population under study is rural community college athletes, it is important to understand the institutions they attend. As there is some disagreement as to the definition of what constitutes rural, there is some variance in the numbers related to how many community colleges

can be identified as rural community colleges. Rural community colleges are stated to represent 60% of all community colleges in the United States and 30% of total community college enrollment (Hardy & Katsinas, 2007; Miller & Tuttle, 2007; Strawn, 2019). For rural community colleges the size of the institutions were designated as being small below 2,500 students, and large at enrollments exceeding 5,000 students with the colleges in between these areas defined as medium, and in each of these cases rural community colleges tend to serve fewer students but with a higher proportion of them being full-time (Hardy & Katsinas, 2007).

Rural community colleges face issues often unique in higher education. While much of the research related to community college treats the sector monolithically, researchers focusing on rural institutions find that their issues, roles and struggles are different than those of their urban or suburban counterparts (Hardy & Katsinas, 2007). Rural communities have household incomes more than 20% lower than non-rural households, in addition they tend to be older, less healthy, and have lower levels of educational attainment (Miller & Deggs, 2012; Miller & Kissinger, 2007; Rush-Marlowe, 2021). In addition the economic base of rural communities has also changed in recent decades. Many rural farm communities in the Midwest suffered during the 1980's which led to the closure of heavy manufacturing plants and suppliers tied to agriculture, losses came again during the Great Recession and even more in the past year meaning the opportunities for employment in rural communities have been dropping for the last thirty years (Bray & Calloway, 2019; Friedel & Reed, 2019).

Hicks and Jones (2011) state that the influence of rural community colleges is outsized on their impact on their communities due to the smaller population base proportional to the economic, educational, and entertainment impact and benefit they bring compared to community colleges that exist in larger urban areas. The staffing needs required of any institution of higher

education regardless of enrollment can often mean that these rural community colleges can be the largest employers in their communities and these employees can shape these places in a way belied by their size (Miller & Deggs, 2012). However, due to this population base it also means that rural community colleges suffer from a variety of issues that their counterparts do not. In addition, due to the lower enrollments of many of these institutions they have a higher cost per student and often insufficient financial resources to meet the needs of their primary educational mission (Fluharty & Scaggs, 2007). While these lower enrollments are expected with the demographics of rural communities, it can lead to other issues that affect other members of the campus community.

Due to their small population bases, rural community colleges struggle with finding and retaining faculty that can serve their students and support the unique missions of rural community colleges (Eddy, 2013; Pennington, Williams, Karvonen, 2006). This struggle with finding and retaining talented faculty is often attributed to rural schools' lack of funding, with the lower income and higher levels of poverty that are endemic to rural areas in the United States (Fluharty & Scaggs, 2007). The human resources issue is affected in three different ways: first, salaries are not at a level to attract the most accomplished and trained staff, also employees of rural community colleges often have to perform a larger swath of duties than their positions would imply since there are not resources to fund highly specialized position for the institution, and finally the lack of specialization can also mean that roles specifically designed for obtaining grants and other funding sources cannot be created or funded which leads to a further lack of financial resources compared to their non-rural peers (Fluharty & Scaggs, 2007; Pennington, Williams, Karvonen, 2006).

Due to the community focused nature of rural community colleges, these institutions are also sometimes expected to engage their communities with methods that often require more time and are resource intensive, both in terms of human resources as well as financial. Torres et al. (2013), found that rural community colleges often expand their missions beyond educating students to; creating leadership programs for their communities, running small business development centers, continuing to run programs even when external funding is cut or lost, and in one case creating a construction company to hire their own graduates. In these situations funding did not increase to create or facilitate these initiatives, as such existing human and financial resources have to be leveraged to meet these expanded needs in their communities.

Rural community colleges are not only tapped to provide economic development, but they are also expected to provide cultural development for their communities as well. Some researchers have found that these campuses serve as “cultural centers” for their communities and are the only resource for cultural activities and experiences in their communities (Miller & Kissinger, 2007; Pennington et al., 2006). These institutions can also find themselves engaged in activities that blend the academic and economic workforce missions. Some rural community colleges find themselves engaged in literacy programs for adults, English as second language programs, others provide short-term retraining programs for the unemployed, and others provide training and internships in institutionally run business whose field would not be present if not provided by the institution (Friedel & Reed, 2019; Hardy & Katsinas, 2007; Miller & Tuttle, 2007; Pennington et al., 2006).

Rural institutions also sometimes provide social services for the communities they are located in by serving their students. Some of the larger barriers facing rural community college students are food insecurity, housing insecurity, transportation, mental health and access to

technology (Rush-Marlowe, R., 2021; Waters-Bailey et al., 2019). For some of these rural community colleges residence halls can support these students suffering from housing insecurity as the students can use financial aid to help pay for housing and can create housing stock in rural areas that may have little rental property available (Moeck et al., 2007; Waters-Bailey et al., 2019). In larger, more urbanized areas these functions or generally the purview of existing structures in either the private or public sector, but since rural communities have less resources the community colleges in these areas often assume these responsibilities (Torres, et al., 2013).

In addition to providing cultural experiences, they also provide entertainment options. These entertainment options can include art exhibits, theatre productions, events that bring speakers or entertainers to the area, and last but not least athletics (Miller & Kissinger, 2007; Pennington et al., 2006; Pflum, Nadler, Miller, 2017). The story of athletics at these rural community colleges can be found in the creation of intercollegiate athletics.

Intercollegiate Athletics

Intercollegiate athletics began as an 1852 crew event between Yale and Harvard (Kissinger & Miller, 2009), as an outgrowth of individual extracurricular activities on campuses. These events were followed by baseball and football competitions between schools in Massachusetts, New York, and New Jersey in the 1850's and 1860's (Twale & Korn, 2009) which led to the formalizing of the programs at various schools by the 1880's. However, this development still included a notion that athletics were extracurricular activities that extended no further than the grounds of the institution for some schools. Even though the initial intercollegiate athletic event took place in southern New Hampshire, home to neither Yale nor Harvard, the football team at Cornell was forbidden from leaving campus to play other institutions (Bok, 2003).

In 1905 intercollegiate athletics was pushed to the national forefront with the concerns regarding the safety of college football. President Teddy Roosevelt called the leaders of intercollegiate athletics to Washington to discuss the injuries and deaths occurring on college football fields. This early concern gave rise to the National Collegiate Athletic Association (NCAA) in the next year which created the first oversight for intercollegiate athletics beyond student-run or regional associations. As mentioned in its initial statement of purpose the Intercollegiate Athletic Association of the United States (as the NCAA was originally named), the organization was to ensure athletic programs were “maintained on an ethical plane in keeping with dignity and high purposes of education” (IAAUS as cited in Hardy & Berryman, 1982).

Intercollegiate athletics have long been a source of engagement and involvement from fans and college students. Even from their earliest days colleges and their fans invested time and money in supporting intercollegiate athletics, with almost 50,000 spectators attending a college football game in 1893 and Harvard and Yale building dueling stadiums which were the largest reinforced concrete structures in the world at the time (Clotfelter, 2015). By the 1900’s football stadiums were seating crowds of over 70,000 fans (Osburne, Jensen, & Weight, 2020).

As time has gone on, the idea of intercollegiate athletics as a near necessity has grown and the benefits of such areas have become generally accepted by the students, alumni, and supporters of the institution. The notion that intercollegiate athletics serves as the entry point for the public’s connection to the institution, also referred to as the “front porch” concept, is one repeated throughout the literature and in the discussions as to why an institution must move up in competition level, add a particular sport, or invest in their athletic program (Bass, Schaeperkoetter, & Bunds, 2015; Clotfelter, 2015; Katz & Heere, 2016; Pope & Pope, 2009).

This front porch concept has its foundation in the notion of intercollegiate athletics serving a marketing function for the university.

Community College Athletics

Community college athletics did not lag far behind their four year counterparts in the development of intercollegiate athletics. Athletics between community colleges have been a part of this sector for over 90 years. There were more than 30 junior colleges in California by 1929 and most participated in the Pacific Coast Intercollegiate Athletic Conference, and they sent almost 200 student athletes to the three largest universities in the state of California (Eells and Davis, 1929). In 1929 the California Junior College Federation, the precursor to the Commission on Athletics (COA) or the California Community College Athletic Association (CCCCAA), was founded to unite the athletic associations already existing in the state of California (Council on Athletics, n.d.). The National Junior College Athletic Association (NJCAA) was founded in 1937 by a number of California institutions already participating in intercollegiate athletics (National Junior College Athletic Association, n.d.). The NJCAA has expanded to over 500 schools throughout the United States. In 1946 the Washington State Junior College Athletic Conference was formed, which later became the Northwest Athletic Conference (NWAC) which sponsors sports for most of the community colleges in Washington, Oregon, and British Columbia (Northwest Athletic Conference, n.d.). These three organizations still serve as the governing entities for intercollegiate community college athletics within the United States. There are also a handful of programs who do not fall under the auspices of any of the governing organizations in the community college sector (Castañeda, Katsinas, & Hardy, 2006). The NJCAA reflected the difference between their community college membership and the memberships of the other governing bodies, by often moving in a more progressive manner in

relation to intercollegiate athletics in large part due to the demographic differences between these two memberships. Community colleges had traditionally enrolled women at greater numbers than their four-year counterparts, and this difference was demonstrated again through intercollegiate athletics. While the NCAA did not include women's sports into its bylaws until 1981 ("A History of Intercollegiate Athletics and the NCAA", 2015), while the NJCAA created a women's division in 1975 (Raepple, et. al., 1982).

The number of community colleges involved in intercollegiate athletics has varied throughout the decades and was often dependent upon location. Balmer (1967) studied community and junior colleges throughout the country and received surveys from 324 schools and found that 85% of the schools participated in intercollegiate athletics and a follow-up survey of Midwestern community colleges in 1973 found that 78% of these institutions participated (Hodges). However, in a 1975 study about North Carolina two-year institutions using Balmer and Hodges studies as a guide, less than 48% of the schools that participated were involved with intercollegiate athletics (Hardy).

In 2006 and 2009 over 500 institutions making up almost 60% of all community colleges districts chose to participate in intercollegiate athletics and of this group, 61% were classified as rural (Bush, et al., 2009; Casteñeda, et al, 2006). Rural community colleges are 8% more likely to host community college athletics and these students make up a higher percentage of their total student bodies due to their smaller size in some cases up to 40% of their total enrollment (Theis, 2009; Whissemore, 2020). For rural community colleges athletics can hold a special place for the communities in which they reside. According to Miller and Tuttle (2006) in their study of rural community college's effect on their communities, winning seasons carried with it a psychic effect on the well-being of the citizens in their home communities.

During 2009 the NJCAA had hit a 13 year high in membership (NJCAA, 2017), but in the last six years, the number of colleges that belong to the largest intercollegiate athletic association, the NJCAA, has dropped (Smith, 2015). In addition, the number of teams within the association have dropped by almost 300 since 2013-2014, however despite these drops the number of student athletes has actually increased, in large part due to increased participation in women's athletics at the remaining member colleges (NJCAA, 2017).

Costs and Benefits of Intercollegiate Athletics

Intercollegiate athletics remains a subject of constant debate in higher education. Much of this debate revolves around whether there is value brought to the institutions that host athletics, and if there is value is it worth the cost to the students and the institutions. The perceived costs and benefits for intercollegiate athletics can vary depending on the institution, its mission, type and the expectations for the institution. In this section we will discuss general costs and benefits for intercollegiate athletics.

Costs of athletics

The cost of athletics is often of concern for institutions of higher education. For institutions of higher education the cost of athletics is often considered when looking at decisions that need to be made related to financial concerns. Due to the visibility and cost of athletics at this highest level of intercollegiate athletic competition, this focus on the cost of athletics makes sense. In addition the argument can be made that athletics is not a part of the mission of an institution of higher education. While Harvard may have been founded in the seventeenth century, the first intercollegiate athletic activity did not occur with the institution until the middle of the nineteenth century demonstrating that college athletics isn't a requirement for higher

education status. As pointed out by French (2004) intercollegiate athletics are neither academic nor are they activities for students to develop in a co-curricular manner.

There is a great deal of debate regarding the cost of athletics within the realm of higher education. These costs range from monetary to reputational for the institutions that partake in intercollegiate athletics. Institutions who participate in Title IV financial aid programs and who have intercollegiate athletics are required to complete Equity in Athletics Disclosure Act forms which cover the number of athletes participating, the number of employed staff, and the amount of revenues and expenses (U.S. Department of Education, 2015). From these reports researchers can attempt to compare revenues and expenses as part of the reporting on Equity in Athletics Disclosure Act (EADA) forms. In a study conducted by Shulman and Bowen (2001) found that some institutions reported a surplus on their EADA report, but after further investigation found that this surplus was not an accurate reflection of the economic situation at the institution due to a lack of accounting of the subsidies provided to the athletic department by the institution.

According to other research, once university subsidies were eliminated the losses from the various divisions of NCAA ranged from \$174,000 to over \$1 million (French, 2004) after originally reporting over \$600,000 in profit with the subsidies included. One may assume that this situation has been created by the “arms race” related to hiring big time coaches and the influence that outside influences can bring to athletics in recent years, the research suggests that this situation has been occurring for some time. However, the largest subsidies were found to be given in the divisions where revenues were the lowest, meaning the costs on a per capita basis were higher for these institutions (Desrochers, 2013). The issues surrounding the accounting for the cost of athletics has been one that has been a persistent concern. Even in 1971 Koch found that while the data provided by institutions taking part in NCAA athletics at the time showed a

modest average revenue for each of the last several years, these amounts were not reflective of the actual expenditures of the institutions due to the lack of accounting for debt service and capital costs related to athletic participation.

While other divisions of NCAA are not expected to become self-sufficient there is an expectation that NCAA Division I (the highest level of competition in intercollegiate athletics) that they become at least cost neutral. Former NCAA Commissioner Myles Brand wrote in 2006, that this issue has been codified within the NCAA Division I philosophy statement. This expectation is driven in part by the existence of the so-called “revenue sports” within this division. Revenue sports have been defined as those sports who can generate more income than the cost of operating these sports (Horton, 2009). These sports are generally found at large NCAA Division I institutions and are often limited to football and basketball. These large schools and sports have access to resources often not available to other sports and colleges in other divisions of the NCAA or the other governing bodies of intercollegiate sports in the United States such as the National Association of Intercollegiate Athletics (NAIA), the United States Collegiate Athletic Association (USCAA), the National Christian College Athletic Association (NCCAA), or the three community college governing bodies of the NJCAA, the CCCAA, and the NWAC.

One of the reasons these programs are viewed differently is due to the fact that Division I programs have access to additional resources through athletic apparel companies and television contracts. However even with these opportunities just over a third actually claimed to have at least covered their own expenses (Brand, 2006). In 2013 only 20 of the over 120 athletics programs participating in the highest level of NCAA sponsored sport reported a profit during the fiscal year (Fulks, 2014, p. 8). Demonstrating that this is not a recent development, in 1977 only

30 athletic programs reported operating in the black (Frey, 1982). Beyond making a profit, there are other concerns related to the financial sustainability of college athletic programs. In the current climate, research has been released showing that less than barely a third of all the athletic programs in the highest level of college athletics in the country had reserves for a budgetary crisis similar to the one being faced now (Swanson & Smith, 2020).

Community colleges do not have athletic budgets found in the various divisions of the NCAA. In a 2010 study LaVetter and Kim found that of the community colleges they studied, 38% had a budget of less than a quarter of a million dollars and 29% had a budget between a quarter of a million dollars and half a million dollars. Some of the costs for running a program can be different depending on the level that the community college participates in, especially within the NJCAA's three divisions. For schools participating in NJCAA's Division I schools can provide tuition and fees, room and board, course books, \$250 maximum in class required supplies, and transportation costs for travel to and from the campus, in Division II all of the above can be provided with the exception of transportation costs, and in Division III no athletic aid is permitted (NJCAA, 2017)

Some of this fiscal imbalance can be attributed to the rise in costs in running athletic programs. The costs of college athletics come from a variety of sources. Often included in the list of possible factors are coaches' salaries, administrative positions specifically tied to athletics, as well as the cost of improving or building new facilities or venues (Desrochers, 2013; Smith, 2011). Desrochers (2013), also found that the growth in per-athlete spending had far exceeded the growth of per-student spending, growing by more than 50% in 5 years. These costs can be more pronounced in community colleges, especially those which serve rural areas. One such area is in transportation of athletic teams. In some cases existing motor pool vehicles are used, but in

many cases the athletics department purchased the vehicles that they used (LaVetter & Kim, 2010). According to LaVetter and Kim (2010) over a quarter of community college athletics programs had purchased either 12-passengers in vans (9%), 20+ passenger shuttle buses (12%), and 15-passenger vans (13%) within the last eight years. Another area of potential cost, especially during this period of online education has been the empty residence halls that rural institutions often use to house student athletes (Whissemore, 2020). Just as athletics can be a boon to community colleges, when that housing goes empty, it can become a burden. These costs are visited upon rural community colleges at a larger percentage as Moeck (as cited in Moeck, et al., 2008, p. 242) found that over a quarter of rural-serving colleges provided responses to a survey that they offered housing specifically to student athletes at their campuses.

Some of the cost of these programs has been placed on the backs of students, through increased athletics fees which made up the majority of funding for athletics outside of the department's own budgetary line (Jones, Rudolph, & Brown, 2018). Some research (Alexander and Kern, 2009) has suggested that athletics can provide opportunities for institutions to raise their fees, room and board since athletics makes the institution more attractive to these students, especially out of state students. Smith (2012) found that tuition and fee increases often followed football success. This research suggested that like Alexander and Kern, students may be more willing to pay more to become a part of a school with a great athletic reputation, but also the institutions may feel the need to raise these funds in part to keep these teams at the level of success that attracted the students. Increasingly, institutions are using these student fees to help defray the institutional costs for college athletics. These fees are mandatory for students to pay and these fees have grown each year throughout higher education which has raised the cost of attendance for these institutions (Jones et. al., 2018). With the concern regarding the cost of

higher education, it has been said that the funding of this trend through increased athletics fees, subsidizing athletics programs who do not make revenue and infrastructural decisions for athletics have been partially to blame for this increase (Center for College Affordability and Productivity, 2010; Suggs, 2009). These fee increases can be attributed to the cost of athletics to an institution as well, as it may price some students out of attending college or enrolling in as many courses as they may have initially intended or that would allow them to attain their degrees in a timely manner. This may cause them to postpone enrollment or to be less likely to retain or graduate.

Another potential cost for an institution related to athletics is the cost of a reputation. Athletics has been associated at times with crimes, inappropriate behavior from both students and employees, as well as an overall concern for the role athletics plays related to academics. There have been many cases where there have been crimes either associated or committed by college athletes. In addition, some college athletic programs have also been found to have performed in an unethical or illegal manner due to a desire to win. In some studies (Shulman and Bowen, 2001) it was found that student athletes did not perform as well as other admitted students and others (Bowen and Levin, 2003; Kuga, 1996) found there was a need to “redeem the academic integrity that has been tarnished by the practices and behaviors of individuals involved in...today’s athletic programs.” These perceptions can be highly detrimental to an institution, especially if the percentage of athletes is high and their struggles related to academics affects the overall rankings and statistics for the entire institution. Also the idea that the institution is driven by athletics primarily can lead to students with higher academic credentials to choose another institution for their academic career, thus lowering rankings. French (2004) points out that there

have been multiple cases of students rioting after big games that have led to large-scale damage to both the communities in which they reside as well as to the university itself.

Researchers have also found that some intercollegiate athletic programs have developed their own internal culture of winning above the stated culture of the institution. In these studies the “culture of winning” relates to the idea that regardless of the mission of the institution success in athletic endeavors is valued over all else in relation to the work of the athletic department. According to some researchers (Tucker, 1992) these cultures of winning can actually have a negative impact on individuals not directly involved with intercollegiate athletics and the overall graduation rate of the institution, which most would consider one of the primary mission of an institution, due to the perception of favoritism towards athletes or a devaluing of academics over athletics. Perhaps more problematic for institutions with this particular intercollegiate athletic culture is that the desire for athletic success can lead to unethical behavior which can lead to a diminishing of the institution’s prestige and possible sanctions.

Costs of intercollegiate athletics for the athletes

An issue for student athletes can be found related to the student athletes perceptions of not only themselves but also the institution and representatives of the institution such as faculty and staff. These concerns help create the student athlete culture at institutions regardless of level or institutional type. Studies have found that student athletes often find themselves identified as athletes first and students second in relation to their roles on their respective questions. Over 60% of student athletes at 18 Division I-A institutions considered themselves athletes first (Potuto & O’Hanlon, 2007). One could be unsurprised by this number considering the amount of time consumed by students engaged in college athletics, especially at this, the highest level of competition, but research has found that this perception is not only found at this level. Another

study found that 93% of student athletes at a small, private Division II institution were identified as athletes by their faculty even though 16% of them had attempted to conceal that identity (Parsons, 2013). This finding was present with research on community college student athletes as well. Pflum, et al. (2017) performed a study based on Potuto and O'Hanlon's work at two Midwestern community colleges with their student athletes and found that a majority of this group of student athletes also saw themselves as athletes first, but not to the degree that their Division I-A counterparts reported. This was also true of study of 104 community college student athletes, but in the same study they found that freshman minority football players at the community colleges even more strongly identified with their role of athlete over the role as student (Kissinger, et al, 2011).

In a study on faculty and student perceptions of student athletes, a large number of the respondents felt they were perceived as being less intelligent and that they received negative treatment from these individuals (Simons, Bosworth, Fujita, and Jensen, 2007). Perhaps because of this negative perception, other studies have found that athletes may value their reputations over their own well-being. These studies found that athletes were less likely to pursue counseling due to their reputations and may struggle with these issues without support (Linder, Brewer, Van Raalte and Delange, 1991, Martin, Wrisberg, Beitel, and Lounsbury, 1997). Due to their connection to their identity as an athlete, there is a concern that by marginalizing them from the academic realm while celebrating their on-field achievements that they could struggle once that role has come to an end (Kissinger et al., 2011).

For rural community college student athletes other concerns other than those listed above can come into play. One of the issues that has been found for rural community college student athletes is that often these students may find themselves as one of a few members of their race or

ethnicity in these communities and as such may find themselves dealing with issues related to integrating within the communities in which they play (Pflum, Nadler, & Miller, 2017). The ability of these students to navigate these various identities as well as how their roles are defined external to themselves. In one study it was found that the student athlete's identity was impacted most by the institution's reinforcement of the particular identities (Kissinger & Watson, 2009). This reinforcement could take the form of placing a greater emphasis on winning, a balanced emphasis as both a student and an athlete, their expectations in regards to their connections to the communities in which the institution existed, or the expectations the institution has for the student athlete in relation to the institution (Pflum, Nadler, & Miller, 2017). Another issue for rural community college student athletes is the lack of counseling services for these students. Due to the funding apparatus of most community colleges, rural community colleges often find themselves without funds for a dedicated counseling department, an area where studies have found that student athletes are often of higher need and in rural communities are harder to access (Kissinger et al., 2011).

Benefits of Intercollegiate Athletics

There has been a number of studies related to the potential benefits of intercollegiate athletics. Again as with most research related to intercollegiate athletics, the main focus of the research available is NCAA Division I athletics. This research however creates the foundation of much of the commentary related to the benefits that intercollegiate athletics can provide.

One of the most common benefits mentioned within the research is that of the "Flutie Factor" (Mixon, 1995; Mixon, Trevino, & Minto, 2004; Peterson-Horner & Eckstein, 2015), which is the belief that intercollegiate athletic success can translate into an increase in the quality and quantity of applications for the successful institution. The Flutie Factor is based on the idea

that Boston College's last second win over the University of Miami in football via a 'Hail Mary' pass from Boston College quarterback Doug Flutie drew attention to the university and led to an increase in applications to Boston College.

While there is some debate as to the reality of the "Flutie Factor", many studies have demonstrated that there is some impact on applications for these institutions in the past (Tucker & Amato, 1993; Mixon & Ressler, 1995; Mixon, 1995). More recent studies have looked at this impact in some cases doing a meta-analysis of these initial studies. Pope and Pope (2009) found that football and basketball success led to an increase of up to 8% which included a range of SAT scores. While these increased applications ranged in SAT scores, the increased number allowed the institutions to be more selective in their admissions and increase their academic profile. Pope and Pope (2007) also found that these impacts are not found across all groups within the applicant population. In this research, Pope and Pope found that the increase in applications was found disproportionately in three subgroups: males, African-Americans, and student athletes. In addition local students are also more likely to enroll at nearby institutions due to athletic success (Perez, 2012). Out of state students also increase their enrollment based on athletic success (Mixon & Ressler, 2009) which can reap other benefits beyond the increase in enrollment.

Other benefits researchers have found related to intercollegiate athletics did not relate only to admissions, but to the remainder of the enrollment management funnel. Sung, et al. (2015) found that team identification explained some unique differences in relation to student success in academics. Student retention was found by another researcher to be positively impacted by attendance at college football games (Jones, 2010), but this research was limited to the schools located at the two highest levels of NCAA competition and covered football only. In

a study of community college athletes, it was found that after controlling for other factors athletes were more likely to retain than non-athletes, which has been found in other research related to this issue in the last few decades (Mendoza, Horton, & Mendez, 2012).

A number of researchers have pointed out that athletic success can provide institutions with higher visibility and perception of prestige, which in turn provides applicants with increased test scores and at higher numbers than previously experienced (Goff, 2000, Roy, Graeff, and Harmon, 2008, and Perez, 2012). Some researchers have even found that the retention rate for freshmen students can be positively affected by athletic success in football (Mixon, Jr. and Trevino, 2005). For institutions in this situation, athletics can provide a gateway that will improve the mission of the university or college while still celebrating the successes of the athletic programs. The data suggests that sometimes the merging of these different cultures can provide success in both realms (Charlton, 2011 and Peachey and Bruening, 2012). In these instances administrators used a focus on the development of the student-athlete as both a student and an athlete to increase retention and graduation rates for students. At South Atlantic University (a pseudonym) the athletic department embraced their role as a developer of student athletes beyond the expectation of even the administrators and as such increased the graduation rates for their athletes, while still pursuing success in their athletic endeavors (Charlton, 2011).

Schroeder (2010) found that some institutions and their athletic departments have connected beyond the enrollment management benefits and goals that they share. In this study the athletic department at Pacific Christian had connected their mission to the religious nature of the institution and specifically connected to the overall mission of the institution. Peachy and Bruening (2012) found an athletic administrator who changed the existing sub-culture within the athletic department to try and align certain areas of their department to become more in line with

the overarching culture of the institution. In this situation, some members of the coaching staff felt that the development of the student athlete had actually become more important than winning during his tenure. While this merging was not without conflict in these cases it does provide insight into how this sub-culture and primary culture can coexist and meet their own missions and goals.

In addition to these factors, some researchers have suggested that there may be additional benefits related to academic stature. While increasing the incoming class's academic profile will assist in the improvement of the institution's standing, some research suggests that it may go beyond the numbers and into qualitative assessments, such as reputation. Tobolowsky and Lowery (2014) demonstrated that athletic success in the form of appearances in major football bowl games provided institutions with the opportunity to brand themselves and burnish their reputations among the general public.

The benefits extend beyond that of enrollment and academics, and may actually provide financial benefits as well. While the increase of enrollment of out-of-state students has been mentioned before, Mixon and Ressler (2009) point out that this increase in enrollment also means an increase in tuition income from their out-of-state rate as well as payments of on-campus auxiliary services which can increase general income for the institutions. A study of housing on community college campuses showed that over a quarter of rural community college respondents offered housing for student athletes and the revenue generated by housing could contribute an additional three and ten percent to a rural community college's budget (Moeck et al., 2008).

Other studies have found a positive correlation between college athletics and contributions from alumni (Clotfelter, 2003; Holmes, Meditz, and Somers, 2008; Humphreys &

Mondello, 2007; Roy, Graeff, Harmon, 2008; and Wunnava & Lauze, 2001). These were especially true for winning programs. Other researchers have found that rather than limiting giving in other areas of the institution other than athletics, that athletic success can lead to more giving in both academics and athletics (Stinson & Howard, 2008). Some studies (McCormick and Tinsley, 1987, Tucker, 1992) found that athletic programs can also provide an “advertising effect” for the institution's support athletic teams which can lead to additional support for the institution both through applications and alumni giving.

Benefits of intercollegiate athletics for the athletes

These benefits do not only impact the institutions, but some researchers suggest that there are personal gains that intercollegiate athletics can provide to student athletes. Mendoza et al. (2012) found that student athletes in the Oklahoma Community College system had higher GPAs and were more likely to be retained than their non-athlete counterparts. At the NCAA level, some of this has been attributed to requirements placed upon the institutions under its purview. In 2003 and 2004 the NCAA enacted a Graduation Success Rate (GSR) Academic Progress Rate (APR) metric respectively which measures an institution's meeting academic standards for participation in NCAA athletics (Stokowski et al., 2017). The Stokowski study reported that increased emphasis on academic pursuits has led to an increase in both rates, and within a 5-year period increased the GSR by 4 points.

Graduation rates are a key indicator of student success for any institution and the outcome that students wish to obtain. Heydorn (2009) found that female student athletes graduated at a rate of 20% higher than their non-athlete counterparts. Rishe (2003) found that compared to all other students, that student athletes had higher graduation rates across the board. Student athletes have also reported that they are more motivated to complete a degree and find

the campus environment supportive which has been associated with success in college (Gayles, 2009; Rubin & Moses, 2017).

Students participating in NCAA sponsored sports are also provided access to student support services through their athletic department as a requirement of an institution participating in these sports (Kim et al., 2020). In some cases, this support can be in the form of athlete specific student support centers, but it can also be dedicated tutors and other academic support structures designed to help student athletes (Horton, Jr., 2009; Rubin and Moses, 2017). Daniel et al. (2006) found that some athletes were able to gain an almost 10% premium in future earnings than non-athletes. However, this premium is not uniform across all professions.

The benefits that student athletes received were not only academic, but in some cases personal or psychological. Oja and Clopton (2017) found that student athletes demonstrated increased leadership skills due to their engagement in athletics. In addition, student athletes often report being more engaged with many of the benchmarks being assessed through the CCSSE instrument. Kuh, et al. (2006) found that female athletes participated in more activities that would be considered active and collaborative learning activities. In fact, all athletes were more likely to participate in these types of learning activities than their non-athlete peers during the first and final years in college (Umbach et al., 2004). Minority student athletes also reported that their transition to college was easier than their non-athlete peers which may be in part due to the research that reported they feel their colleges provided more academic and social support (Oja and Clompton, 2017; Umbach et al., 2004).

First-Generation College Students

First-generation college students are an oft-studied group. However, there remains confusion about how to even define this group. The United States Department of Education

defines first-generation students as those whose parents or guardian did not complete a baccalaureate degree (2011). Whereas the CCSSE defines this group as having a parent who has attended at least some college (CCSSE, 2005). For the purposes of this study, the CCSSE definition will be used during data analysis due to the CCSSE survey being the instrument of study.

First-generation students make up a large portion of the community college student population. Much like student athletes, first-generation students often are different from their non-first-generation peers. First-generation students tend to be more female, students of color and with an income less than half of non-first-generation students (Center for First-Generation Student Success, 2019). Coupled with these factors, first generation students are also less likely to have experienced an academically challenging curriculum and are likely to enter college with the need for developmental or remedial education (Cataldi, et al., 2018; Quinn et al. 2019).

The differences are not only in the inputs the students bring to their institutions, but also their outcomes often differ as well. First-generation students are less likely to persist than their non-first generation peers. According to the National Center for Education Statistics first-generation students are 7% more likely to leave college without a credential than those whose parents have a bachelor's degree (Cataldi et al., 2018). In addition, first-generation students were found to have lower GPAs in a statistically significant way regardless of gender and race, with the exception of Black students (Holmes & Slate, 2017).

Due to the demographics of rural communities and the colleges located within these areas, rural community colleges have a large share of first-generation students in their college. Rural community college students also face issues related to transportation and financial insecurity, which are additional concerns for first-generation students since they come from

lower socio-economic households than non-first-generation students (Evans et al., 2020; Scott et al., 2016). These issues can come into play when assessing first-generation student engagement, since they are also more likely to work during their education (Scott et al., 2016).

Community College Survey of Student Engagement

The Community College Survey of Student Engagement (CCSSE) was developed in 2001 at the University of Texas at Austin's Community College Leadership Program. The purpose of the survey is to study student engagement and its relationship to positive outcomes for students in two year colleges. The CCSSE was based on the work done by Indiana University's development of the National Survey of Student Engagement's (NSSE) and uses a large number of the measurement items from that earlier instrument (Marti, n.d.). The survey is rooted in the work of Astin's theory of involvement (1984), Pace's work on student effort (1984), Tinto's model of student departure (1993) among others (McClenney & Marti, 2006).

The CCSSE is administered in the spring semester to randomly selected credit courses (CCSSE, n.d.a.). Sample sizes for the survey can range between 600 and 1,200 students which will be determined by the size of the institutional enrollment which also drives the number of sections surveyed. The surveys are paper based and the survey procedure is strictly outlined by the Center for Community College Student Engagement. This is all in the attempt to ensure that the process is consistent across all participating institutions, as the main goal of the CCSSE is benchmarking student engagement data at two year schools to national statistics.

Student engagement was selected as the primary evaluative subject due to the large amount of research that showed that positive student outcomes were strongly associated with student engagement. Kuh (2001) stated that instruments like the CCSSE were designed to measure and assess a student's participation and interaction with research-based best practices.

The CCSSE is also designed to assess institutional endeavors and activities related to supporting students to be engaged on campus. The CCSSE is based upon the research that believe that student engagement is significantly related to student success, and as such they have identified benchmarks designed to help institutions identify the areas where they are performing well and where they need to improve.

The benchmarks were developed as part of the Model of Educational Practices (MEEP) which provides community and technical colleges comparison scores for their work (Marti, n.d.). The five constructs of MEEP are analogous with the five CCSSE benchmarks: Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction; and Support for Learners. Each benchmark is connected to specific questions on the CCSSE and composite scores are developed by these responses. Each benchmark and item are derived but the existing research related to student engagement. McClenney, Marti, and Adkins (2007) provided explanation and correlation for each of the benchmarks:

Active and Collaborative Learning: Measures the extent to which students participate in class, engage with other students, and extend learning beyond the classroom. It is correlated with credit completion, degree completion, and GPA.

Student Effort: Measures the time on task, preparation, and use of student services. It is correlated with credit completion, persistence and retention.

Academic Challenge: Measures the extent that students will engage in challenging mental activities, higher order thinking, quantity and quality of their work. It is correlated with credit hours completed, degree completion, and GPA.

Student-Faculty Interaction: Measures the amount of communication regarding academic performance, career planning, and course related issues. It was

correlated with credit hours completed, GPA, persistence, retention, and degree completion.

Support for Learners: Measures the student's perception of their college as well as their use of advising and counseling services on the campus. Correlated with persistence and retention.

Summary

This chapter provided an overview of the literature consulted for this study. The chapter provided contextual data related to the development of the American community college and its role on the higher education landscape. Literature related to the specific issues and concerns related to rural community colleges, and its current status in regards to funding and their home communities. Next was a review of the research surrounding the creation of intercollegiate athletics and its status within higher education, which was followed by the scholarship regarding community college athletics. With some information specific to the state of rural community college athletics. The current research related to benefits and costs of intercollegiate athletics was then provided. These benefits and costs were provided for the field as a whole, institutionally, and then individually. Rural community college athlete research was provided in the section as well to help inform and provide context related to the findings of the study. Finally the chapter closed with the literature related to the instrument used in collecting the data for the study, the CCSSE. This section provided information on its development and the philosophical and theoretical underpinnings of the survey. A discussion of the benchmarks of the survey was provided.

CHAPTER III:

METHODOLOGY

Overview

The objective of the study is to describe the characteristics of rural community college athletes and explore their engagement in areas that have shown to impact student athlete academic success at other levels of competition in conjunction with differences related to background characteristics. With this data, the goal is to discover how this engagement may be related to academic outcomes of rural community college athletes.

The dependent variable for this study is academic success as defined by the self-reported GPA of the respondents to the survey. Of particular focus is the possibility of statistically significant differences between identified student engagement areas and the background characteristics of rural community college athletes as well as differences related to student outcomes. The goal of the study is to provide community college administrators with data to identify areas for improvement and focus to encourage and support student success among this portion of their student population.

This chapter will provide the research methodology including the design of the research, the sources for the data, the sample, the instrument, and variables. In addition, the research questions will be outlined in this chapter along with the positionality of the researcher, ethical considerations, delimitations, and limitations of the study.

Research Design

This study will utilize a quantitative research design which used data previously collected from multiple years' iterations of the CCSSE survey. An ex post facto research design was used to examine the responses of students to the CCSSE during the 2017, 2018, and 2019 survey administrations. In an ex post facto research design the researcher attempts to find the potential causal relationships through the comparison of circumstances associated with observed outcomes along with recognizing the factors that exist when these outcomes both occur and do not occur (Lord & Syracuse School District, 1973). Ex post facto research design can provide comparisons among different groups without being able to control the independent variable which allows it to mimic an experimental design, but with additional distance from undue impact from the research (Lammers & Badia, 2005). The ex post facto approach can assist with the generalization and replication of the findings, removes concerns of the researcher influencing the findings, but without the economic or time costs to the researcher (Creswell, 2014; Lammers & Badia, 2005).

As mentioned previously, survey used for this research was CCSSE survey. The CCSSE was established in 2001 by the Community College Leadership Program at the University of Texas at Austin. The survey is based in part on the National Survey of Student Engagement (NSSE), and was designed to replicate the purpose of the NSSE in a community college setting to provide information on activities and actions that can help illuminate what works and improve on what doesn't (CCSSE, n.d.b.).

Research Questions

This study was conducted to explore the following research questions:

1. What are the demographic and background characteristics (i.e., gender, race, first—generation status, educational background) of rural community college student athletes?
2. For rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning (i.e., presenting in class, working with other students outside of class, providing tutoring, participated in community based projects as part of a course, etc.) based on: a. gender b. race/ ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?
3. For rural community college athletes, are there significant differences in student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) based on: a. gender b. race/ ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?
4. For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge (i.e., working harder than expected, applying theories and concepts to practical problems, number of books and papers assigned, etc.) based on: a. gender b. race/ ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?

5. For rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction (i.e., discussing grades or assignments, talked about career plans, discussed ideas, etc.) based on: a. gender b. race/ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?
6. For rural community college athletes, are there significant differences in student engagement benchmark of Support for Learners (i.e., how much does your college provide support to succeed through a variety of areas, encourage contact from diverse backgrounds, cope with non-academic responsibilities, etc.) based on: a. gender b. race/ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?
7. For rural community college athletes how predictive are the CCSSE benchmarks relative to college GPA?

Population and Sample

A secondary analysis of the survey responses provided on the 2017, 2018, and 2019 CCSSE was conducted as part of this study. The initial dataset included approximately 14,000 responses representing 582 institutions. Although 621 different community colleges participated in the CCSSE administrations during this period, the sample for this study were students located in 582 unique institutions as they were the only participating institutions that sponsored intercollegiate athletics. The dataset for this study consisted of only students who had identified themselves as being a member of an athletic team sponsored by the institution at which they were completing the CCSSE through their response to question 44 on the instrument. The sample was further delineated by students whose institutions were identified by the CCSSE as being

located in a rural area. This provided a list of 340 institutions across 42 states who had students who qualified under this delineation. The final sample used for the study consisted of 9,171 students who participated in college athletics at a rural community college.

Instrumentation

A survey was the instrument used for this quantitative study. The Community College Survey of Student Engagement (CCSSE) was the survey used for the research. The CCSSE responses for respondents who identified themselves as participating on an athletic team sponsored by their institution were provided to the researcher from the 2017, 2018, and 2019 iterations of the survey. The question related to participation in an athletic endeavor sponsored by the institution was first asked to all respondents during the 2017 survey. The final dataset represented 42 states and 340 institutions.

The CCSSE was developed to capture the experiences and activities of students in community colleges in 2001, based on the work of the NSSE in the four year sector. The CCSSE has evolved over time from the post-revision version of 2005-2016 to the “CCSSE Refresh” which was released in 2017 (CCSSE, n.d.c.). The CCSSE was developed based upon the research into student engagement of Astin, Pace, Pascarella and Terenzini and Tinto (Marti, n.d.). The standard survey consists of 47 questions some of which feature sub-questions and which cover student demographic information, pre-enrollment data, as well as questions about student experiences and perspectives on institutional services.

The CCSSE constructed benchmarks to gauge and assess the most effective educational practices and how student engagement connects to these benchmarks (Marti, n.d.). McClenney, Marti, and Adkins (2007) state that the benchmarks that the CCSSE is based upon are: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and

support for learners are what the research suggests are the most connected to student outcomes. Active and collaborative learning is defined as participating in class, interacting with students, and activities that extend learning beyond classroom settings. Student effort focuses on time on task, student preparation, and the student's use of student services while academic challenge measures the amount of more complex activities in the cognitive domain that the student engages in coupled with the rigor and amount of the work. The student-faculty interaction benchmark measures the amount of time and instances that students and faculty communicate with multiple facets of the student's academic life from individual assignments to career planning. Finally, support for learners measures the use of advising and counseling along with their attitude towards their institution.

Based on a large-scale validation study that was conducted on the CCSSE, the researchers found that these benchmarks were predictive of student success as defined by persistence and academic achievement - specifically in community colleges - as well as the number of terms enrolled and completed credit hours (McCormick & McClenney, 2012). However, some research showed that the benefits of the various benchmarks varied in their impact on persistence and/ or academic outcomes (McClenney, Marti, & Adkins, 2007).

Data Collection

This study used data from three years of CCSSE data from the 2017, 2018, and 2019 iterations of the survey. The dataset was provided by the CCSSE and contained all students who answered question 44: "Are you a student-athlete on a team sponsored by this college's athletics department?" in the affirmative during the period of study. Students who had submitted the survey before were excluded from the dataset by the CCSSE prior to sending it to the researcher (M. Bohlig, personal communication, April 15, 2021). The initial dataset for the study included

582 colleges from 43 different states. This was later limited to only those colleges whose location was identified as rural which lowered the colleges included to 340 with 42 states represented.

The CCSSE is designed to be completed in a 50 minute class period and is administered during the spring semester from February through April at participating campuses (CCSSE, n.d.d.). The respondents self-assess their time spent on various activities, their relationships with other members of the campus community, their perceptions of the academic activities they engage in, and provide data related to their demographic, academic, and familial background along with information about their future plans. The survey is completed using a paper format and is facilitated by the CCSSE liaison, the campus coordinator, and the survey administrator (CCSSE, n.d.a.). The CCSSE liaison is a staff member at the CCSSE and works with the other roles who are located at the participating campuses to encourage the timely completion and submission of the survey.

Approval was sought through the University of Alabama's Institutional Review Board (IRB) to conduct a study on community college athletes and their student engagement. An IRB application was submitted requesting approval for use of secondary data in an ex post facto study of three years of CCSSE data. The submitted application was approved by IRB for use of this dataset. The approval document can be found as Appendix C.

Reliability and Validity

Researchers have attempted to determine the reliability of the CCSSE to determine if there is replicability in the findings of the survey. Marti (n.d.) and Mandarino and Mattern (2010), both explored this issue and found the CCSSE had measurement invariance throughout multiple iterations and administrations of the survey. Mandarino and Mattern (2010), found that

the benchmarks of academic challenge, student-faculty interaction, and support for learners were extremely consistent, while active and collaborative learning was close, but not quite to the level of certainly reliability tests. These findings were largely in line with the findings of Marti (n.d.), who additionally found that this consistency was found through test-retest reliability analysis beyond the use of Cronbach's alpha values for determining construct reliability.

McClenney and Marti (2006) undertook a study to examine the validity of the CCSSE in connecting student engagement and student outcomes. This study looked at CCSSE data in conjunction with external data sources during the 2002, 2003, or 2004 administrations of the CCSSE. This study looked at data from the Florida Department of Education, data from Achieving the Dream, and student records from Hispanic-Serving Institutions (HIS) or members of the Hispanic Association of Colleges and Universities (HACU) who had participated in the CCSSE previously. This study demonstrated that many of the CCSSE variables, had a strong correlation in student outcomes and they found that there was a “strong support for the validity of the use of the CCSR (Community College Student Report) as a measure of institutional process and student behaviors that impact student outcomes.” (McClenney & Marti, 2006).

In another study, McClenney, Marti, and Adkins (2007) found that the five benchmarks were predictably related to outcome measures. In this study, the benchmarks for academic challenge and support for learners had the most impact on GPA and persistence respectively. This study found that each of the different benchmarks did not correlate equally with every academic outcome. The active and collaborative learning and student-faculty interaction benchmarks correlated with terms enrolled, credit hours completed, and to a lesser degree GPA, while student effort and the support for learners benchmark showed correlation

with persistence and the academic challenge benchmark had the most impact on academic outcomes (McClenney, Marti, & Adkins, 2007).

Variables in the Study

This study is designed in part to analyze the engagement and success of rural community college student athletes with a specific look at differences between various background characteristics of the surveyed students.

Dependent variables

For research question 2-6 the dependent variables are, respectively:

1. Active and Collaborative Learning
2. Student Effort
3. Academic Challenge
4. Student-Faculty Interaction
5. Support for Learners

For research question 7 the dependent variable is considered academic success. For the purposes of this study, a student's academic success is measured by their self-reported grade point average (GPA). Students report this information in Question 29 of the CCSSE.

Table 1 below provides the details of the questions and response options for these dependent variables. Students who selected "I do not have a GPA" for their overall college GPA were excluded from the analysis as the variable is the sole determinant of the Academic Success dependent variable. The responses for Academic Success were converted for the purpose of analysis into an interval level variable with A converting to 4, B converting to 3, C converting to 2 and D or Lower converting to 1. This does have the impact of raising any student who would

have reported an F grade to the level of those with a D, for academic eligibility purposes students would be equally ineligible with either grade.

Table 1. Dependent Variables

Variable	Coding
Student Engagement	
<i>Active and Collaborative Learning</i>	
Asked questions in class or contributed to class discussions	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Made a class presentation	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Worked with other students on projects during class	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Worked with classmates outside of class to prepare class assignments	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Tutored or taught other students (paid or voluntary)	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Participated in a CBP (service-learning activity) as part of a regular course	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Discussed ideas from your readings or classes with others outside of class	1 = Never 2 = Sometimes 3 = Often 4 = Very often

Student Effort

Prepared two or more drafts of a paper or assignment before turning it in	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Worked on a paper or project that required integrating ideas or information from various sources	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Come to class without completing readings or assignments	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	0 = None 1 = 1–4 2 = 5–10 3 = 11–20 4 = More than 20
How many hours a week do you spend preparing for class	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30
How often have you used peer or other tutoring during the current academic year?	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
How often have you used skill labs during the current academic year?	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
How often have you used the computer lab during the current academic year?	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times

Academic Challenge

This year how often have you worked harder than you thought you could to meet an instructor's standards or expectations

1 = Never
2 = Sometimes
3 = Often
4 = Very often

During the current academic year, how much has your coursework at this college emphasized the following mental activities? Analyzing the basic elements of an idea, experience, or theory

1 = Very little
2 = Some
3 = Quite a bit
4 = Very much

Forming a new idea or understanding from various pieces of information

1 = Very little
2 = Some
3 = Quite a bit
4 = Very much

Making judgements about the value or soundness of information, arguments, or methods

1 = Very little
2 = Some
3 = Quite a bit
4 = Very much

Applying theories or concepts to practical problems or in new situations

1 = Very little
2 = Some
3 = Quite a bit
4 = Very much

Using information you have read or heard to perform a new skill

1 = Very little
2 = Some
3 = Quite a bit
4 = Very much

Number of assigned textbooks, manuals, books, or packets of course readings

0 = None
1 = 1–4
2 = 5–10
3 = 11–20
4 = More than 20

Number of written papers or reports of any length

0 = None
1 = 1–4
2 = 5–10
3 = 11–20
4 = More than 20

Mark the response that best represents the extent to which your examinations during the current academic year have challenged you to do your best work at this college

- 1 = Extremely easy
- 2 = (2)
- 3 = (3)
- 4 = (4)
- 5 = (5)
- 6 = (6)
- 7 = Extremely
challenging

How much does this college emphasize the following?
Encouraging you to spend significant amounts of time studying

- 1 = Very little
- 2 = Some
- 3 = Quite a bit
- 4 = Very much

Student-Faculty Interaction

Used e-mail to communicate with an instructor

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Very often

Discussed grades or assignments with an instructor

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Very often

Talked about career plans with an instructor or advisor

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Very often

Discussed ideas from your readings or classes with instructors outside of class

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Very often

Received prompt feedback (written or oral) from instructors on your performance

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Very often

Worked with instructors on activities other than coursework	1 = Never 2 = Sometimes 3 = Often 4 = Very often
<i>Support for Learners</i>	
Providing the support you need to help you succeed at this college	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Helping you cope with your non-academic responsibilities (work, family, etc.)	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Providing the support you need to thrive socially	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Providing the financial support you need to afford your education	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
How often have you used the following services during the current academic year?	
Academic advising/planning	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
Career counseling	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times

Academic Success

At this college, in what range is your overall college grade point average (GPA)? 1 = D or lower
2 = C
3 = B
4 = A

Independent variables

This study investigated the relationship between background characteristics of student athletes at rural community colleges and their engagement and academic success on campus. The background characteristics served as the independent variables for the study. When answering research question one, the variables were reported as they were present in the data file as seen below in Table 2.

Table 2 Background Characteristic Variables and Coding for research question 1.

Variable	Coding
Gender Identity	1 = Man 2 = Woman 3 = Other 95 = I prefer not to respond
Race/ Ethnicity	1= American Indian or Alaska Native 2= Asian 3= Black or African American 4= Hispanic or Latino 5= Native Hawaiian 6= Pacific Islander (non-Native Hawaiian) 7= White 8= Other 9= 2 or more 10= I prefer not to respond
Age	2 = 18–19 3 = 20–21 4 = 22–24 5 = 25–29 6 = 30–39 7 = 40–49 8 = 50–64 9 = 65+

International student or non-resident alien	0 = No 1 = Yes
Is English your native (first) language?	0 = No 1 = Yes
First-Generation	0= Not first-generation 1= first-generation
Taken or plan to take developmental coursework/ Have not taken And do not plan to take developmental coursework	0 = Non-developmental 1 = Developmental
Did you begin college at this college or elsewhere	1 = Started Here 2 = Started Elsewhere

For research questions 2-6, some changes were made to the variables to help provide clarity for future replication and to appropriately represent the student responses, as these questions go beyond descriptive statistics. The first change is in regards to the race variable. The CCSSE provides a number of race/ethnicity options, but they do not align with the way data is collected by the Integrated Postsecondary Education Data System (IPEDS). Within IPEDS, students identify ethnicity (whether they are Hispanic or Latino or not), prior to identifying their race, which is broken down by American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White (National Center for Education Statistics, n.d.). In 2016 the U.S. Department of Education submitted a report regarding promising practices focusing on race and ethnicity in higher education which reported on educational statistics using only the categories of White, Black, Hispanic, and Asian. Based in part by this reporting structure, the decision was made to keep the Hispanic/ Latino classification as it was reported. However, within the U.S. Department of Education report they also identified specific endeavors as representing Asian, Native Hawaiian, and Other Pacific Islander needs as a

composite group and mention the development of Department of Education initiatives that combined Asian Americans and Pacific Islanders for the purposes of higher education endeavors (U.S. Department of Education, 2016). This, coupled with the Department of the Interior's Office of Civil Rights' (n.d.) identification of Asian American and Pacific Islander Serving Institutions (AAPISIs) as a funding group within the Minority Serving Institution Program, led to the decision to combine the Asian and Native Hawaiian or Other Pacific Islander populations. While the researcher recognizes the different pressures and issues that these populations face, the fact that federal funding and specific programmatic initiatives combine these two groups in their literature and selection process supports the decision to combine these unique populations into a singular group for this study and research questions. Thirdly, the categories of "Other", "2 or More", and "I Prefer not to Say" are options within the race/ethnicity question. While the number of students that fall into these three categories in total is sizable and important to study, the lack of specificity in regards to biracial and multiracial identities makes it impossible to accurately report with any certainty data pertaining to this population and their specific lived experience. For the purpose of this study, the variable for race/ethnicity is limited to Asian/Pacific Islander, Black or African American, Hispanic or Latino, and White. With the inability to identify the multiracial students' specific racial and ethnic components, and the small size of the remaining ethnicities, they were excluded from the research related to race/ethnicity.

The second change was made within Gender Identity. While the CCSSE allows students to respond beyond the dichotomous choice of male or female, it does not provide the option for respondents to delineate beyond not answering the question or selecting "Other". Due to this lack of data related to the specific gender identity of the student the variable is reported as either male or female with other entries excluded. These are displayed below in Table 3.

Table 3 Background Characteristic Variables and Coding for research questions 2-7.

Variable	Coding
Gender Identity	1 = Man 2 = Woman
Race/ Ethnicity	1= American Indian or Alaskan Native 2= Asian/ Pacific Islander 3= Black or African American 4= Hispanic or Latino 7= White
Age	2 = 18–19 3 = 20–21 4 = 22–24 5 = 25–29 6 = 30–39 7 = 40–49 8 = 50–64 9 = 65+
First-Generation	0= Not first-generation 1= first-generation
Taken or plan to take developmental coursework/ Have not taken And do not plan to take developmental coursework	0 = Non-developmental 1 = Developmental
Did you begin college at this college or elsewhere	1 = Started Here 2 = Started Elsewhere

For research question 7, the independent variables are the CCSSE benchmarks and their standardized scoring as created by CCSSE. The benchmarks are:

1. Active and Collaborative Learning
2. Student Effort
3. Academic Challenge
4. Student-Faculty Interaction
5. Support for Learners

Data Analysis

Using the SPSS Statistics software, version 27, the data received from CCSSE were analyzed through multiple steps to gain the answers to the research questions guiding the project.

Table 4 provides the variables, research questions, and the statistical analysis used. The following approaches were used in the research to gain answers on the topics studied.

Table 4 Research Questions and Methods

Research Question	Independent Variable	Dependent Variable	Statistical Approach
What are the demographic characteristics (i.e., gender, race, first--generation status, educational background) of rural community college student athletes?	None	None	Descriptive Statistics
For rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?	Gender Race/ ethnicity First-generation status Enrollment in a developmental course Transfer status	Active and Collaborative Learning	T-test and ANOVA
For rural community college athletes, are there significant differences in student engagement benchmark of Student Effort based on:	Gender Race/ ethnicity First-generation status Enrollment in a developmental course	Student Effort	T-test and ANOVA

a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?	Transfer status		
For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course e. transfer status?	Gender Race/ ethnicity First-generation status Enrollment in a developmental course Transfer status	Academic Challenge	T-test and ANOVA
For rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction based on: a. gender b. race/ ethnicity c. First-generation status d. Enrollment in a developmental course and e. Transfer status?	Gender Race/ ethnicity First-generation status Enrollment in a developmental course Transfer status	Student-Faculty Interaction	T-test and ANOVA
For rural community college athletes, are there significant differences in student engagement	Gender Race/ ethnicity First-generation status	Support for Learners	T-test and ANOVA

benchmark of Support for Learners based on: a. gender b. race/ ethnicity c. first-generation status d. enrollment in a developmental course and e. transfer status?	Enrollment in a developmental course Transfer status		
For rural community college athletes how predictive are the CCSSE benchmarks relative to college GPA?	Active and collaborative learning Student effort Academic challenge Student-faculty interaction Support for learners	College GPA	Hierarchical Linear Regression

Composite variables were identified or created for this research. As described in the section related to differences between the reported independent variable between research question 1 and the subsequent research questions, students who identified as Asian, Native Hawaiian, or Pacific Islander were merged into a new composite variable named Asian/Pacific Islander. CCSSE created composite benchmark scores and provided them within their dataset's codebook. The benchmarks scores are converted to the same scale and then standardized around the mean of respondent scores, which make the scores have a mean of 50 with a standard deviation of 25 and allows the benchmark scores to fall between 0 and 100 95% of the time (CCSSE, 2017). It is these composite benchmark scores that are used in the analysis of the five benchmarks from the survey.

For research question 1, descriptive statistics were generated of the dataset to provide background characteristics of the population under study. The characteristics calculated using

this analysis include the frequency and percentage of rural community college athletes by gender identity, race/ethnicity, age, citizenship status, native English status, 1st generation status, developmental coursework status, and transfer status. This analysis provided the background of the students under study and provided insight into their experiences prior to enrollment at their institution.

Research questions 2-4 required a t-test to be run for all dichotomous variables to determine relationships between the variables. The dichotomous independent variables included all pre-enrollment background characteristics with the exception of race/ethnicity. These t-tests allowed each variable to be compared by these sub-categories within the independent variable to determine if there was a statistically significant difference regarding their relationship with the specific benchmarks under study: Student-Faculty Interaction, Student Effort, and Support for Learners. Gender, First-generation status, Enrollment in a developmental course, and Transfer status were all studied using a t-test to determine the relationship between the benchmarks listed above for each dichotomous variable. The significance level for these characteristics was determined to be statistically significant at the .05 level ($p > .05$). For Race/Ethnicity, a one-way ANOVA was used to examine the differences for these populations (Asian/Pacific Islander, Black or African American, Hispanic or Latino, and White) with regards to the levels at which they engage or perceive the specific benchmarks under study for this question. Just as it was for the t-tests, statistical significance was set at the .05 level ($p > .05$).

For research question 7, a linear regression analysis was used to examine the relationship and potential predictive ability of the CCSSE benchmarks related to the GPA provided by the respondents. With this analysis, significant correlations could be found and explored with additional regression to determine if there were additional relationships to be studied in other

characteristics. This allowed me to determine which variables and benchmarks have a positive relationship with student success, as defined by self-reported GPA.

Ethical Considerations

Approval for this study was provided by the University of Alabama IRB. The dataset provided to the researcher by CCCSE was de-identified both by student as well as institution. The approval letter from the IRB can be found in Appendix C. This study was completed on secondary survey information. The researcher was not involved in the collection of the data and has no information on the personal data of any of the respondents. As the research was secondary and the subjects could not be identified, contacted, nor re-identified, it was approved under exempt review.

Delimitations

The data provided to the researcher for this study was limited to participants who had identified themselves as being members of a team sponsored by the participating institution's athletics department. As such, the findings of this study will be limited only to those students who so self-identified. The study is further limited to only the institutions that participated in the CCSSE during these years and who had athletic teams sponsored by their athletic department. The institutions where these students attended were further limited by being identified as being located in a rural setting by the CCSSE. The data is limited in its time frame to only the 2017, 2018, and 2019 CCSSE administrations. This study represents the data from the 340 institutions which meet these criteria. All participants were 18 years of age or higher.

For research questions, 2-6 students who selected a gender identity other than male or female were excluded from the research related to potential gender differences related to the CCSSE benchmarks. Additionally, the composite variable "Asian/Pacific Islander" was created

which included all respondents who identified as Asian, Native Hawaiian, and Pacific Islander on the survey. This variable, in addition to Black or African American, Hispanic or Latino, and White were the only race/ ethnicity selections included within the analysis related to race and ethnicity and the CCSSE benchmarks. This means that the "More than One" race category was not included, despite making up a large percentage of the study population.

For research question 7, students who did not provide an answer or responded "I do not have a GPA at this college" were removed from the sample. As this question relates to the predictive ability of the CCSSE benchmarks related to college GPA, any respondent without this information would not be able to provide the data necessary to analyze.

Limitations

The following limitations are acknowledged by the research in the presentation of this research. This study was conducted using secondary survey data provided by the CCSSE. As such the study is limited to only the institutions that undertook the completion of the instrument during the years under study. It is possible that these institutions may not be reflective of rural community college intercollegiate athletic participation. As the survey data is de-identified, it cannot be connected to any particular institution. With regards to community college athletics, there are three main governing bodies as well as the possibility of membership in others. Each of these governing bodies has its own policies and requirements, and the differences between these bodies may be the impetus for individual responses. However, this cannot be accounted for in the data, as the institutions are not identified. In addition, the student self-selects whether they meet the criteria in the question and the data is based on the assumption that this information is provided accurately. Finally, the CCSSE is administered during the spring academic term generally between the 4th week of the term and May in randomly selected credit-bearing courses

(CCSSE, n.d.a). Any athlete that was not retained between the fall semester and the spring semester would therefore be missing from the sample. This may mean that the information provided may not be generalizable to the total student athlete population as non-persisting student athletes would not be included in the data. This may cause the results of the data to skew to students with higher scores in the areas being studied and in self-reported GPA. The variable of College GPA is self-reported and may under- or over-report the transcribed GPAs of these students.

Researcher Positionality

Merriam (2009) expounds on the need for the researcher to explain their biases, perspective, and pre-existing assumptions as a way of maintaining the integrity of both the research and the researcher. As a researcher, I am aware of my potential biases and the role that my own experiences will lead to certain assumptions. I am a graduate of a community college with a large and expansive athletic program located in an urban area. During my enrollment, I did not attend or support the athletic program but was aware that it did exist and the facilities for the program were used by the campus for other endeavors. At no point have I been employed by an athletic department at a higher education institution, nor have I participated as a student-athlete.

I have spent 15 years working in higher education with 9 years of that time working at primary associate degree-granting institutions in the area of enrollment management as either a Director or Assistant Vice President. I have also served as an adjunct instructor for four institutions as well as done guest lectures and consulted at two others, of these positions only one was at a rural community college. Two of the associate degree-granting institutions for which I worked were urban community colleges, while the third was a rural institution. The rural

institution had an intercollegiate athletic program under the auspices of the NJCAA which had been downsized within the previous two years prior to my arrival. Of the urban community colleges, one had never had athletic programs nor did they have the facilities to engage in one, while the other was my alma mater which had invested even more funding into their NJCAA programs since my enrollment and had built additional facilities.

Most of my research in higher education has been from a pragmatist perspective. As such my main concern is with what works in regards to the actions we take as administrators or educators within our field. As the focus of this work is to determine the practical implications of this research for the sector I am interested in the why and how (Creswell, 2014, p. 28). However, for this particular research, I am forced to take a somewhat post-positivist viewpoint, due to the nature of the instrument and the answers being sought. As there is a hope to discover at least some semblance of cause and effect within the data collected and to provide comparisons between different populations within our target group. Since this is a secondary source study, interaction with the participants is nil and, as such, there is a distance and impartiality that I can provide through my analysis.

Summary

The purpose of this study is to describe the characteristics of rural community college athletes and explore their engagement in areas that have shown to impact student athlete academic success at other levels of competition in conjunction with differences related to background characteristics. With this data, the goal is to discover how this engagement may be related to academic outcomes of rural community college athletes. The study will be a post hoc study of CCSSE survey from the years 2017-2019. All students within the sample are self-identified members of an athletic team sponsored by an institution located in a rural area. The

research schema for the study was outlined in this chapter along with the reasons behind the study's design. The independent and dependent variables for each research question were provided in the chapter, along with the factors that led to any changes in the variables from the original dataset.

CHAPTER IV

FINDINGS

Overview

This chapter provides an overview of the quantitative results and analysis of the study. The chapter is organized by the results of each research question of the study. The purpose of this study was to determine the demographic characteristics and the relationship between student engagement benchmarks and student success for rural community college athletes based on background characteristics. The responses from the 2017, 2018, and 2019 Community College Survey of Student Engagement (CCSSE) were examined for this study. The respondents included in this study are those students who identified themselves as “a student-athlete on a team sponsored by this college's athletics department” on question 44 of the CCSSE and whose institution was identified as being in a rural location. Specifically, the study sought to answer the following questions:

1. What are the demographic and background characteristics (i.e., gender, race, first-generation status, citizen and language background, educational background) of rural community college student athletes?
2. For rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning (i.e., presenting in class, working with other students outside of class, providing tutoring, participating in community-based projects as part of a course, etc.) based on:

- a. gender
- b. race/ethnicity
- c. first-generation status
- d. enrollment in a developmental course
- e. transfer status

3. For rural community college athletes, are there significant differences in student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) based on:

- a. gender
- b. race/ethnicity
- c. first-generation status
- d. enrollment in a developmental course
- e. transfer status

4. For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge (i.e., working harder than expected, applying theories and concepts to practical problems, number of books and papers assigned, etc.) based on:

- a. gender
- b. race/ethnicity
- c. first-generation status
- d. enrollment in a developmental course
- e. transfer status

5. For rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction (i.e., discussing grades or assignments, talked about career plans, discussed ideas, etc.) based on:

- a. gender
- b. race/ethnicity
- c. first-generation status
- d. enrollment in a developmental course
- e. transfer status

6. For rural community college athletes, are there significant differences in student engagement benchmark of Support for Learners (i.e., how much does your college provide support to succeed through a variety of areas, encourage contact from diverse backgrounds, cope with non-academic responsibilities, etc.) based on:

- a. gender
- b. race/ethnicity
- c. first-generation status
- d. enrollment in a developmental course
- e. transfer status

7. For rural community college athletes, how predictive are the CCSSE benchmarks relative to college GPA?

The first section provides descriptive statistical and frequency analysis on the background characteristics of rural community college student athletes. This analysis provides information on demographic characteristics such as gender, race, age, and international status but also includes information on family and personal educational background regarding first-generation,

developmental education, and transfer status. The second section provides analysis using t-tests and ANOVA tests regarding the respondent's background characteristics and the CCSSE identified benchmarks. The third and final section discusses the predictive ability of the CCSSE identified benchmarks in relation to academic success for rural community college student athletes through the use of hierarchical logistic regression analysis.

Research Question 1: What are the demographic and background characteristics (i.e., gender, race, first-generation status, citizen and language background, educational background) of rural community college student athletes?

The first research question asked: What are the background characteristics of rural community college student athletes as reported on the CCSSE? The first group of data uses descriptive statistics and frequencies to provide information related to the background characteristics of rural community college student athletes. The sample size of rural community college student athletes is 9,171. Frequencies were employed in Tables 5 and 6 to measure the distribution of the student athletes' background characteristics. The tables reflect the number of rural community college student athlete participants in the CCSSE surveys from 2017-2019. The number of respondents varied throughout these questions.

Gender Identity, Race, Age, Citizenship and ESL Status

Students identified their gender identity through responses on an item on the CCSSE. Of the 9,124 student athletes who responded to this question, 55.7% identified themselves as male and 41.6% identified themselves as female. 2.7% of respondents either identified themselves as "Other" or selected the "I prefer not to respond" option of the question. While the question allows for gender identity beyond female and male, it does not allow students to provide additional information regarding their gender identity. Students also provided information

regarding their race in the survey with 9,115 student athletes providing this information. The majority of students identified themselves as White with 51.9% (n=4,730) of the respondents choosing this option. The next largest group was Black or African American students who made up 18% (n=1,641) of the population under study. Hispanic or Latino student athletes represented 11.4% (n= 1,037) followed by student athletes selecting “2 of More” representing 10.1% (n= 920). The remainder of the responses represented less than 3% of the total, with American Indian or Alaska Native, Asian, Pacific Islander and Native Hawaiian making up 2.5% (n=224), 1.6% (n=114), .6% (n=56), and .4% (n=36) respectively. Students identified themselves as “Other” at a rate of 1.5% (n=140) and preferring not to respond by 2.1% (n=187), rates higher than a number of the identified race/ ethnicities. Students were also asked to identify themselves by age in categories ranging from 18-19 to 65+ which 9,142 respondents did. The majority of these students were 18-19, with 58.7% (n=5,367) identifying themselves as such and 32.5% (n=2974) identifying themselves as 20-21. With over 90% of the respondents identifying themselves in these 4 years, it is not surprising that the overwhelming number of students, (95.8%, n=8,758) were identified as being traditionally aged students, that being 24 years of age or younger.

Additional demographic information was also collected regarding the students’ international status or whether they were English as a Second Language learners. For these questions, the percentages were very close for each of these questions. The respondents (n=9,171) in the survey were 84.3% (n=7,638) American citizens, as opposed to international student or non-resident alien 15.7% (n= 1,425). English was the native language of 83.4% (n=7,629) of the respondents while 16.6% (n=1,514) were English as a Second Language learners.

Table 5

Background Characteristics of the Sample Population (n=9,171)

Variable	n	%
Gender Identity		
Female	3799	41.6
Male	5085	55.7
Other	107	1.2
I prefer not to respond	133	1.5
Total	9124	
Race		
American Indian or Alaska Native	224	2.5
Asian	114	1.6
Black or African American	1641	18.0
Hispanic or Latino	1037	11.4
Native Hawaiian	36	.4
Pacific Islander (non-Native Hawaiian)	56	.6
White	4730	51.9
Other	140	1.5
2 or More	920	10.1
I prefer not to respond	187	2.1
Total	9115	
Age		
18-19	5367	58.7
20-21	2974	32.5
22-24	417	4.6
25-29	145	1.6
30-39	98	1.1
40-49	49	.5
50-64	30	.3
65+	62	.7
Total	9142	
International student or non-resident alien		
No	7638	84.3
Yes	1425	15.7
Total	9171	

English your native (first) language		
No	1514	16.6
Yes	7629	83.4
Total	9143	

Educational Background

In Table 6, the educational background and college history of the respondents are provided. The items related to this area were first-generation status, if they were a transfer student and if the respondent had taken or would need to take a developmental course. For the CCSSE's purpose, they consider any student whose parent has attended some college as not being first-generation. This is a different standard than the Department of Education (2011) uses for Federal TRIO Programs, which defines a first-generation college student as "an individual both of whose parents did not complete a baccalaureate degree" or if resided and supported by one parent that this parent "did not complete a baccalaureate degree". For first-generation status, the respondents were heavily not first-generation, with 71.1% (n=6,524) of the respondents identifying as such with only 28.9% (n=2,647) being first-generation. Another question explored was whether the students transferred prior to their enrollment at their current institution. For this variable, it was found that 82% (n=7,500) of the respondents had begun their college careers at their current institution, while 18% (n=1,644) had begun elsewhere and transferred. Finally, college readiness of the rural community college student athlete was considered and it was found that this population was more closely matched than the previous academic background questions. When answering whether the student had taken or planned on taking developmental coursework, the respondents stated that 57.1% (n=5,233) were not involved with developmental studies, and 40.3% (n=3,695) had done so or were planning to do so. Results of these questions are reported in Table 6.

Table 6.

Educational Background Characteristics of the Sample Population (n=9171)

Variable	n	%
First-Generation		
Not First-Generation	6524	71.1
First-Generation	2647	28.9
Total	9171	
Transfer		
Started here	7500	82.0
Started elsewhere	1644	18.0
Total	9144	
College Readiness		
Non-developmental	5233	57.1
Developmental	3695	40.3
Total	8,928	

Research Question 2: Related to rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning (i.e., presenting in class, working with other students outside of class, providing tutoring, participated in community based projects as part of a course, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?

Research question 2 asked related to demographic and educational background statistics, are there differences in how these rural community college athletes engage in Active and Collaborative Learning. To determine the differences for these groups independent t-tests were run for all dichotomous variables, and a one-way ANOVA was run for race/ethnicity due to the number of variables within the group.

Analysis indicated that there was a statistically significant difference in means in first-generation students compared to non-first-generation students. For this group, first-generation

students had a higher mean ($M=59.73$, $SD\ 26.33$) than non-first-generation students ($M=57.47$, $SD\ 25.58$). Again the assumption of homogeneity of variances was violated, but a finding of statistically significant difference was still made with these groups, $M= -2.26$, $95\%CI\ [-3.44, -1.09]$, $t\ (4774.9) = -3.76$, $p < .001$. The same was found in this benchmark between students who were identified as needing developmental coursework and those that did not.

For this group, students who were identified as needing developmental coursework had a higher mean ($M=60.29$, $SD\ 26.36$) than those that did not ($M=56.47$, $SD\ 25.25$). However, since the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = <.001$) in the initial t-test, a Welch t-test was run to determine the differences in engagement in Active and Collaborative Learning between developmental education identified and non-developmental education identified student athletes. After this, it was determined that there was a statistically significant difference between these two groups, $M= -3.82$, $95\%CI\ [-4.91, -2.73]$, $t\ (7738) = -14.4$, $p < .001$.

There were no statistically significant differences between the means of rural community college athletes for Active and Collaborative Learning based on gender identity or transfer status. The results of this analysis are reported below in Table 7.

Table 7

Results of t-Test for Active and Collaborative Learning

Variable	t	p (p<.05)	M	SD
Gender Identity	.212	.832		
Female			58.0	25.3
Male			58.1	26
First-Generation	-3.76	<.001		
Not First-Generation			57.47	25.58
First-Generation			59.73	26.33

Transfer	.276	.783		
Started here			58.14	25.69
Started elsewhere			57.95	26.49
College Readiness	-6.86	<.001		
Non-developmental			56.47	25.25
Developmental			60.29	26.36

A one-way ANOVA was used to explore the differences between various races/ethnicities in regards to Active and Collaborative Learning. In running this analysis, it was found that the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = <.001$) in the initial analysis. A Welch ANOVA was used to interpret the results related to the difference in engagement in Active and Collaborative Learning by race and ethnicity. The Active and Collaborative Learning benchmark was found to be statistically significant for the different race and ethnicity groups in the study, Welch's $F(3,958.7)=22.04$, $p=<.001$. For the Active and Collaborative Learning benchmark, AAPI student athletes were found to have the highest mean for the benchmark ($M=62.4$, $SD\ 27.8$) followed by Black or African American student athletes ($M=61.5$, $SD\ 25.1$), Hispanic or Latino student athletes ($M=58.9$, $SD\ 24.5$) and White student athletes reported the lowest mean for Active and Collaborative Learning ($M= 55.8$, $SD\ 25.6$). Due to the assumption of homogeneity of variances being violated, a Games Howell post hoc test was run to determine if there were any statistically significant differences between the populations. Within the race/ ethnic categories there were statistically significant differences found between White student athletes and AAPI ($p=.004$), Black or African American ($p=<.001$), and Hispanic or Latino ($p=.002$) student athletes, but no such differences between any of the other populations. This data is reported below in Table 8.

Table 8

ANOVA for Race/Ethnicity for Active and Collaborative Learning

Variable	F	df	p (p<.05)	M	SD
Race/Ethnicity	22.04	3, 958.7	$p<.001$		
Asian/ Pacific Islander				62.4	27.8
Black or African American				61.5	25.1
Hispanic or Latino				58.9	24.5
White				55.8	25.6

Research Question 3: Related to rural community college athletes, are there significant differences in student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?

In research question three, the research continues from the paradigm established in the previous question. For this portion of the study, the determination significant difference for rural community college athletes related to the student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) was sought. These differences were studied based on: gender, race/ethnicity, first-generation status, enrollment in a developmental course, and transfer status. Again, t-tests and an ANOVA, specifically for race/ethnicity, were run to provide data for this question.

The results for the following analysis can be found in Table 9 below the description. The independent-sample t-test was run to determine if there were differences between the groups listed regarding the student effort benchmarks. For males and females student effort (i.e.,

preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.), there was homogeneity of variances as determined by Levene's test for equality of variances ($p=.139$). Female student athletes ($M= 57.34, SD= 23.0$) reported a higher mean for the student effort benchmark than their male counterparts ($M= 53.34, SD 22.69$), which was a statistically significant difference between these two groups, $M=-4.0, 95\% \text{ CI } [-4.96, -3.04], t(8882)=-8.17, p<.001$. Beyond gender identity, the research also found that there were statistically significant differences between first-generation students and non-first-generation students, $M=-2.6, 95\% \text{ CI } [-3.43, -1.10], t(9168)=-3.806, p<.001$. With this group, first-generation students reported a higher mean ($M=54.20, SD 22.80$) than non-first-generation students ($M=54.20, SD 22.80$). For transfer student status, those who started at the institution where the survey was taken reported a higher mean for Student Effort ($M=55.66, SD 22.88$) than their transfer counterparts ($M= 51.34, SD 23.61$). Transfer students and non-transfer students also had statistically significant differences, $M=4.31, 95\% \text{ CI } [3.06, 5.57], t(2365.2)= 6.74, p<.001$. The assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = .041$) in the initial t-test, a Welch t-test was run to determine the differences in engagement to determine if there were statistically significant differences. Finally, students requiring developmental education courses as opposed to those who do not, $M=-7.02, 95\% \text{ CI } [-7.98, -6.06], t(7738.2)=-6.86, p<.001$. With this group students who did not need developmental coursework reported a higher mean for Student Effort ($M=58.87, SD 22.46$) than those who had taken or needed to take developmental coursework ($M=51.85, SD 22.86$).

Table 9

Results of t-Test for Student Effort

Variable	t	p (p<.05)	M	SD
Gender Identity	-8.17	<.001		
Female			57.3	22.7
Male			57.3	23
First-Generation	-4.53	<.001		
Not First-Generation			54.20	22.80
First-Generation			56.6	23.70
Transfer	6.74	<.001		
Started here			55.66	22.88
Started elsewhere			51.34	23.92
College Readiness	-14.4	<.001		
Non-developmental			51.85	22.86
Developmental			58.87	22.46

A one-way ANOVA was used to explore the differences between various races/ethnicities in regards to Student Effort. In running this analysis, it was once again found that the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = .024$) in the initial analysis. A Welch ANOVA was used to interpret the results related to the difference in engagement in Student Effort by race/ethnicity which was found to be statistically significant, Welch's $F(3,965.9)=57.7, p<.001$. For Student Effort, Black or African American student athletes were found to have the highest mean for the benchmark ($M=60.0$, SD 22.8). Hispanic or Latino student athletes had the next highest mean ($M=58.6$, SD 22.2) followed by White ($M=52.3$, 22.7) and AAPI student athletes ($M=52.1$, SD 26.0). A Games Howell post hoc test was run to determine if there were any statistically significant differences between the populations. Within the race/ ethnic categories there were no statistically significant differences found between AAPI student athletes and White student athletes or Black or African American

student athletes and Hispanic or Latino student athletes. However, Black or African American student athletes did have statistically significant differences with AAPI ($p < .001$) and White student athletes ($p < .001$). Hispanic or Latino student athletes also had statistically significant differences with AAPI ($p = .011$) and White student athletes ($p < .001$). The results of this ANOVA are found in Table 10.

Table 10
ANOVA for Race/Ethnicity for Student Effort

Variable	F	df	p ($p < .05$)	M	SD
Race/Ethnicity	57.7	3, 965.9	$p < .001$		
Asian/ Pacific Islander				52.9	26.0
Black or African American				60.0	22.8
Hispanic or Latino				58.6	22.2
White				52.3	22.6

Research Question 4: For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge (i.e., working harder than expected, applying theories and concepts to practical problems, number of books and papers assigned, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?

Research question for sought to determine the differences between these various groups of rural community college student athletes related to Academic Challenge. Again, to determine the differences for these groups, independent t-tests were run for all dichotomous variables, and a one-way ANOVA was run for race/ethnicity due to the number of variables within the group.

A statistically significant difference was found to exist between males and females related to the Academic Challenge benchmark. The assumption of variances was violated, as assessed by Levene's test for equality of variances ($p = 0.002$) in the initial t-test, a Welch t-test was run to

determine the differences by gender identity in Academic Challenge and it found that females reported a higher Academic Challenge ($M= 51.3$, $SD= 23.2$) than males ($M=47$, $SD= 22.4$) which was statistically significant, $M= -4.41$, 95% CI $[-5.37, -3.44]$, $t(8028)=-8.976$, $p=<.001$. For the other groups studied for this question, there was no statistically significant difference for the groups. While first-generation, non-transfer, and developmental students had slightly higher means, in each case the difference was less than a point difference and did not show any statistically significant difference. Table 11 provides this analysis for Academic Challenge.

Table 11

Results of t-Test for Academic Challenge

Variable	t	p (p<.05)	M	SD
Gender Identity	-8.98	<.001		
Female			51.38	23.2
Male			46.97	22.4
First-Generation	-.234	.815		
Not First-Generation			48.63	22.90
First-Generation			48.75	23.19
Transfer	1.42	.154		
Started here			48.83	22.78
Started elsewhere			47.91	23.92
College Readiness	-1.9	.056		
Non-developmental			48.32	23.27
Developmental			49.26	22.40

A one-way ANOVA was used to explore the differences between various races/ethnicities in regards to Academic Challenge. Just as in the previous two benchmarks the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality

of variances ($p = .017$) in the initial analysis. A Welch ANOVA was used to interpret the results related to the difference in engagement in Academic Challenge by race/ethnicity which was found to be statistically significant, Welch's $F(3,963.4)=3.7, p=.012$. As you can see below in table 12, for Academic Challenge, Hispanic or Latino student athletes were found to have the highest mean for the benchmark ($M=60.0$, $SD\ 22.8$) meaning that they reported higher engagement in challenging mental activities. Hispanic or Latino student athletes had the next highest mean ($M=58.6$, $SD\ 22.2$) followed by White ($M=52.3$, $SD\ 22.7$) and AAPI student athletes ($M=52.1$, $SD\ 26.0$). A Games Howell post hoc test was run to determine if there were any statistically significant differences between the populations. Within the race/ ethnic categories there were no statistically significant differences found between AAPI student athletes and White student athletes or Black or African American student athletes and Hispanic or Latino student athletes. Hispanic or Latino student athletes had statistically significant differences from White student athletes ($p<.001$).

Table 12
ANOVA for Race/Ethnicity for Academic Challenge

Variable	F	df	p ($p<.05$)	M	SD
Race/Ethnicity	3.7	3, 963.3	$p=.012$		
Asian/ Pacific Islander				49.9	25.9
Black or African American				49.3	23.0
Hispanic or Latino				50.4	22.5
White				48.0	22.8

Research Question 5: Related to rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction (i.e., discussing grades or assignments, talked about career plans, discussed ideas, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?

Research question four looked at Student-Faculty Interaction differences between rural community college student athletes. Once again, to determine the differences for these groups independent t-tests were run for all dichotomous variables, and a one-way ANOVA was run for race/ethnicity due to the number of variables within the group. These results are provided below in table 13.

The assumption of homogeneity of variances was not violated, as assessed by Levene's test for equality of variances ($p = 0.651$). The male mean Student-Faculty Interaction score is lower than female student athletes' mean for this benchmark. The difference between the male score ($M=56.45$, $SD\ 24.32$) and the female score ($M= 59.1$, $SD\ 24.32$) is a statistically significant difference, $M=-2.65$, 95% CI $[-3.67, -1.63]$, $t(8878) = -5.08$, $p < .001$. Likewise, first-generation and non-first-generation students also found statistically significant differences. The assumption of homogeneity of variances was not violated ($p=.036$), and first-generation students reported higher means ($M=59.20$, $SD\ 24.90$) than non-first-generation students ($M=56.91$, $SD\ 24.20$). This difference was found to be statistically significant with $M=-2.29$, 95% CI $[-3.39, -1.19]$, $t(9164) = -4.06$, $p < .001$. Students' college readiness also produced some statistically significant differences, with $M=-4.56$, 95% CI $[-5.59, -3.54]$, $t(8925) = -8.70$, $p < .001$. For these students, those athletes needing or having taken developmental coursework had higher means ($M=55.60$, $SD\ 24.11$) than those who did not ($M=60.17$, $SD\ 24.62$). Transfer students, however, did not have statistically significant differences with non-transfer students.

Table 13
Results of t-Test for Student-Faculty Interaction

Variable	t	p ($p < .05$)	M	SD
Gender Identity	-5.08	<.001		
Female			59.1	24.3
Male			56.45	24.32

First-Generation	-4.06	<.001		
Not First-Generation			56.91	24.20
First-Generation			59.20	24.90
Transfer	-.328	.743		
Started here			57.53	24.29
Started elsewhere			57.75	25.00
College Readiness	-8.7	<.001		
Non-developmental			55.60	24.11
Developmental			60.17	24.62

A one-way ANOVA was used to explore the differences between various races/ ethnicities in regards to Student-Faculty Interaction. In running this analysis it was once again found that the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = <.001$) in the initial analysis. A Welch ANOVA was used to interpret the results related to the difference in engagement in Student Effort by race/ ethnicity. The Student- Faculty Interaction benchmark was found to be statistically significant for the different race and ethnicity groups in the study, Welch's $F(3,959.9) = 32.0, p < .001$. For the Student-Faculty Interaction benchmark, Black or African American student athletes were found to have the highest mean for the benchmark ($M=62.4, SD 25.2$) meaning that they reported higher interactions with their faculty than the other populations. AAPI student athletes ($M=59.1, SD 27.3$) were the second highest mean followed by Hispanic or Latino student athletes ($M=57.7, SD 24.9$) with White student athletes reporting the lowest mean for Student-Faculty Interaction ($M= 55.5, SD 23.4$). Within the race/ ethnic categories there were statistically significant differences found between Black or African American student athletes and Hispanic or Latino ($p < .001$) and White ($p < .001$) student athletes, and Hispanic or Latino student athletes had the same with Black or African American ($p < .001$) and White ($p = .05$) student

athletes. AAPI student athletes had no such differences between any of the populations. This is all shown below in table 14.

Table 14
ANOVA for Race/Ethnicity for Student-Faculty Interaction

Variable	F	df	p (p<.05)	M	SD
Race/Ethnicity	32.0	3, 959.9	$p<.001$		
Asian/ Pacific Islander				59.1	27.3
Black or African American				62.4	25.2
Hispanic or Latino				57.7	24.9
White				55.5	23.4

Research Question 6: Related to rural community college athletes, are there significant differences in student engagement benchmark of Support for Learners (i.e., how much does your college provide support to succeed through a variety of areas, encourage contact from diverse backgrounds, cope with non-academic responsibilities, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?

To determine the differences for these groups, independent t-tests were run for all dichotomous variables, and a one-way ANOVA was run for race/ethnicity due to the number of variables within the group. The results of this analysis are shown in Table 15.

The assumption of homogeneity of variances was not violated, as assessed by Levene's test for equality of variances ($p = 0.778$). The male mean Student Support score ($M=55.24$, $SD 24.19$) was lower than female student athletes' mean ($M=56.92$, $SD 24.01$) for this benchmark which is a statistically significant difference, $M=-1.68$, 95% CI $[-2.7, -.66]$, $t(8827)=-3.24$, $p=.001$. For each of the other variables, the assumption of homogeneity of variances was not violated as well ($p=.013$, $p=.352$, and $p=.523$ respectively). First-generation students had a higher mean ($M=57.53$, $SD 25.04$) for student support than non-first-generation students

(M=55.12, SD 24.02). For this group the difference was statistically significant, $M=-2.42$, 95% [-3.52, -1.31], $t(9107)=-4.29$, $p<.001$. Transfer student and non-transfer student engagement with Student Support was also statistically significant, $M=1.92$, 95% [.619, 3.23], $t(9081)=2.89$, $p=2.89$. For this grouping, transfer students had a lower engagement mean ($M= 54.24$, SD 24.71) than non-transfer students ($M= 56.16$, SD 24.71) which means that student athlete transfer students engage in student support initiatives less than non-transfer students on campus.

Table 15

Results of t-Test for Student Support

Variable	t	p (p<.05)	M	SD
Gender Identity	-3.24	.001		
Female			56.92	24.01
Male			55.24	24.19
First-Generation	-4.295	<.001		
Not First-Generation			55.12	24.02
First-Generation			57.53	25.04
Transfer	2.89	.004		
Started here			56.16	24.25
Started elsewhere			54.24	24.71
College Readiness	-10.00	<.001		
Non-development			53.65	24.12
Developmental			58.85	24.13

A one-way ANOVA was used to explore the differences between various races/ethnicities in regards to the Student Support benchmark. This analysis can be found below in table 16. As with all of the previous ANOVA analyses the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = <.001$) in the initial analysis. A Welch ANOVA was used to interpret the results related to the difference by

race and ethnicity. The Student Support benchmark was found to be statistically significant for the different race and ethnicity groups in the study, Welch's $F(3,959.1) = 19.8, p < .001$. For the Student Support benchmark, AAPI students athletes were found to have the highest mean for the benchmark ($M = 59.1, SD = 27.1$) followed by Black or African American student athletes ($M = 58.5, SD = 25.6$), Hispanic or Latino student athletes ($M = 58.5, SD = 23.6$) with White student athletes reported the lowest mean ($M = 54.2, SD = 23.1$). Within the race/ethnicity categories, there were statistically significant differences found among White student athletes and AAPI ($p = .03$), Black or African American ($p < .001$), and Hispanic or Latino ($p = .002$) student athletes, but no such differences between any of the other populations.

Table 16.

ANOVA for Race/Ethnicity for Student Support

Variable	F	df	p ($p < .05$)	M	SD
Race/Ethnicity	19.8	3, 959.1	$p < .001$		
Asian/ Pacific Islander				59.1	27.1
Black or African American				58.5	25.6
Hispanic or Latino				58.5	23.6
White				54.2	23.1

Research Question 7: For rural community college athletes how predictive are the CCSSE benchmarks relative to college GPA?

To explore this question hierarchical linear modeling was employed. The hierarchical multiple regression was run to determine if the CCSSE benchmarks improved the prediction of student academic success as represented by self-reported GPA. Prior to the running of the regression the assumptions for such an analysis were tested. During this process there was found a potential issue related to multicollinearity between the two gender identity variables (male and female). In following the recommendation of Bauguley (2012), the variables were kept in for

one iteration of the regression. Another regression was run without the gender identity variables included to compare the outcomes of both regressions and their associated models.

There were three regression models tested to explore this question and to discover one that is most predictive. This was a three stage hierarchical multiple regression where self-reported GPA served as the dependent variable as the representation of academic success. The results of these models are displayed in this section. The initial model considered race/ethnicity and gender identity, while the second model includes gender identity, race/ethnicity, first-generation status, transfer status, and college preparedness represented by developmental education requirements. The final model includes all of the previous variables and adds the standardized benchmark scores for the five CCSSE identified benchmarks or Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners. This order was determined as being the most closely related to the lived experience of students. This lived experience is based upon the chronological order in which these variables occur to the student athletes. The first block included items present from birth such as demographic information, the second block covered educational background which would only be determined at entrance into the institution such as the need for developmental education, and the final block is populated by the benchmark scores that relate to the student's current lived experience at the institution in the form of the student engagement benchmarks.

Results of the Models

The background characteristics in the first model were limited to the demographic characteristics of gender identity and race/ethnicity. Gender identity continues to be defined as the dichotomous variable of male or female. Race/ ethnicity was limited to the categories determined for the five previous research questions of AAPI, Black or African American,

Hispanic or Latino, and White. It was found that the race/ethnicity and gender identity accounted for a statistically significant amount of variance for predicting self-reported GPA, $F(6, 8559) = 61.25, p < .001$. For this initial model, the adjusted R^2 was .041, indicating that 4% of the variance in the self-reported GPA could be explained by the race/ethnicity and gender identity of the student athlete. In model two educational background data including first-generation status, transfer status, and developmental education status was added. The addition of the educational background characteristics led to a statistically significant increase in R^2 of .062 (explaining 6% of the variance), $F(3, 8556) = 63.141, p < .001$. In the final model the standardized benchmark scores of the five CCSSE scores were added. By adding the standardized benchmark scores of the five CCSSE benchmarks of Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners to the prediction of self-reported GPA as the third model was statistically significant, with an adjusted R^2 of .077 (accounting for almost 8% of the variance), $F(5, 8551) = 29.566, p < .001$. As explained by model 3, 7.7% of the variance of self-reported GPAs by rural community college athletes can be explained by the combination of demographic factors, educational background factors, and by the standardized engagement scores of the CCSSE benchmarks.

The following demographic characteristics were statistically significant predictors of self-reported GPA: race/ethnicity being reported as either Black or African American or White. Students who identified themselves as Black or African American also had a lower self-reported GPA, whereas students who identified as White had a higher self-reported GPA. For all other race/ ethnicities and for either gender identity there was no statistical significance related to predicting self-reported college GPA. In regards to the educational background characteristics, recommendation of developmental coursework and first-generation status were found to be

statistically significant predictors for the self-reported GPA. For those students advised to enroll in a developmental education course their self-reported college GPA was lower than those who were not, the same was true for first-generation students as compared to their counterparts. All of the CCSSE benchmarks were found to be statistically significant predictors of self-reported GPA. However, in this group it was found that Student-Faculty Interaction was a negative predictor of GPA. Meaning the higher the score a student athlete has with this benchmark, the more likely that the self-reported GPA was lower. The results are provided in Table 17 below.

Table 17
Hierarchical Regression Analysis for Variables Predicting Self-Reported College GPA

Variable	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	<i>B</i>	β	<i>B</i>	β	<i>B</i>	β
Constant	2.979**		3.093**		2.849	
Gender Identity						
Female	.066	.043	.053	.035	.030	.019
Male	-.041	-.027	-.057	-.038	-.068	-.045
Race/Ethnicity						
AAPI	-.065	-.014	-.031	-.006	-.039	-.008
Black or African American	-.175**	-.089	-.157**	-.080	.164**	-.083
Hispanic or Latino	.024	.010	.031	.021	.045	.019
White	.183**	.122	.023**	.100	.163**	.108
First- Generation			-.090**	-.054	-.092**	-.055
Transfer			.014	.487	.022	.011
College Readiness (Developmental)			-.199**	-.131	-.212**	-.139
CCSSE Benchmarks						
Active and Collaborative Learning					.002**	.077
Student Effort					.001*	.031
Academic Challenge					.002**	.059
Student-Faculty Interaction					-.002**	-.052
Support for Learners					.001*	.038

Note. * $p < .05$, ** $p < .001$

Summary

This chapter discussed the results of the data analyses used to answer the research questions for this study. The data were analyzed through descriptive statistics, *t*-tests, ANOVA, and hierarchical logistic regression. Results for each of these analyses were presented with the research question for which they provided the answer. From the descriptive analysis, we learned the demographic background of rural community college student athletes. We found they are overwhelmingly traditional-aged, non-first-generation, non-transfer students and English speaking citizens of the United States. They are majority White and male, and over 40% of them are recommended for developmental coursework when they enroll.

The use of inferential statistics provided additional information regarding this group. Student-athletes who are first-generation or have taken or are taking developmental education have higher benchmark scores than those who do not meet either of those criteria. Men and women have fairly similar means, but women generally are more engaged than male student athletes. Black or African American student athletes at rural community colleges often have one of the two highest means for each of the benchmarks developed by CCSSE, whereas White student athletes typically have the lowest means in each of these areas.

The hierarchical logistic regression attempted to discern if there was anything predictive regarding the CCSSE benchmarks for student success as defined by self-reported GPA. In this regression, the demographic and educational background of the students were accounted for prior to adding the benchmarks. The benchmarks were all statistically significant in predicting GPA, but Student-Faculty Interaction had a negative impact on self-reported GPA.

In Chapter 5, we will discuss the findings of this study and determine what this data may mean for the students and their institutions. New lines of potential research will be discussed and recommendations related to policy and practice will be provided.

CHAPTER V

DISCUSSION, CONCLUSION, AND IMPLICATIONS

Overview

The purpose of this study was to describe the characteristics of rural community college athletes and explore their engagement in areas that impact student athlete academic success in conjunction with differences related to background characteristics. With this data, the goal is to discover how this engagement may be related to academic outcomes of rural community college athletes. This chapter will discuss the findings of this research and provide the findings of this study based upon each research question. The potential implications of these results are then discussed and policy and practice suggestions are made based on the research.

The population studied for this research includes all respondents of the 2017, 2018, and 2019 CCSSE survey who identified themselves as members of an athletic team sponsored by their institution's athletic department, and whose institution is identified as being located in a rural area. These surveys were undertaken in the spring of the years listed and consisted of a total of 9,171 respondents, representing 340 different institutions.

Summary of the Study

Chapter 1 provided information regarding community colleges and the issues that face them with a special emphasis on those issues facing rural community colleges. The chapter provided the state of the communities that count on rural community colleges to provide post-secondary education and so much more. The chapter also provided context related to the

experiences of community college athletics in these settings. It also provided the guide for learning more about this population and determining if student engagement and success are different for members of this group and if so where can we improve our services or export them to other populations. Framing the study was the introduction of Astin's IEO model and his Theory of Student Involvement. This provides the lens through which this study took place.

Chapter 2 discussed the literature related to these students and the institutions for which they play their sport. The chapter discussed the issues that exist for rural community college athletes and their institutions. The costs and benefits of intercollegiate athletics for both the institution and the athlete were discussed. Following this discussion, information was provided regarding the CCSSE. Information about its development, use, and benchmarking were provided to help explain the instrument being used for the study.

Chapter 3 presented the quantitative methodology for this study. The research questions were provided, as was a description of the population under study. Discussion of the CCSSE instrument was provided to continue the discussion from the previous chapter and provide more clarity regarding the survey. The reliability and validity of the study and the instrument were then provided. The dependent and independent variables for the study were provided, with clarifications regarding any changes to the dataset from its provided form. Since gender identity and race/ethnicity had to be recorded for some of the research questions, tables were provided to demonstrate which version of each variable was being reported for each question. The data analysis was provided with information regarding the decisions related to those choices.

Chapter 4 reported the findings of the research. The chapter provided the results of each of the research questions with their tables. Descriptive statistics provided the background information on these students including information related to demographics as well as

educational preparedness and experiences. T-tests and ANOVAs were then performed to compare rural community college athletes with their peers. Finally, a hierarchical linear regression was run and the results provided to determine if there was any predictive information related to the relationship between the CCSSE benchmarks and academic success when controlling for background characteristics.

Chapter 5 will discuss the findings of the study. The results will be interpreted and the potential implications for policy and process will be discussed. Pathways for potential future research will also be provided.

Discussion of the Findings

Research Question One. *What are the demographic and background characteristics (i.e., gender, race, first—generation status, citizen and language background, educational background) of rural community college student athletes?*

This research question was designed to provide information regarding the demographic and background characteristics of rural community college student athletes. This group of students consisted of 9,171 students from 340 institutions across 42 states. This information is a key part of the conceptual framework of the IEO model, as it represents the “Inputs” portion of the model. To gather this information, descriptive statistics were used to provide the data needed for subsequent research questions by identifying the independent variables. The characteristics are grouped between demographic background and then educational background.

Demographic Background. The variables assessed in this question included demographic information such as gender identity, race, age, national status, and English language status. Other variables were considered and information was assessed, but they were not considered vital for the study based on the literature on the topic. The data provided were later used in a modified

format due to the results from this assessment. The initial variable explored was gender identity. There were 9,124 students for whom the response was valid in the survey and who met the criteria of the study. For this variable, it was found that Males made up a majority of the population (55.7%), with Females making up 41.6% of the sample. This question provides options beyond the binary variable of sex, with gender identity. For these students, 1.5% of the student athletes preferred not to answer the question and 1.2% provided the response of “Other”. While the “Other” option was provided, there was no option to clarify this choice any further to determine what the respondents intended to communicate regarding this choice.

The next area explored was race/ethnicity. For the CCSSE, Hispanic or Latino is classified as a race rather than an ethnicity and, as such, is reported here similarly. For this question, students had the opportunity to choose from 10 different options related to race, and each option was selected by the sample. The number of respondents to this question was 9,115 and White students represented 51.9% of all respondents with Black or African American being the second largest group at 18%. Beyond these two options, the only other groups with double-digit representation in the sample were Hispanic or Latino students (11.4%) and 2 or More (10.1%) respondents. In both of these cases, this represents almost 1,000 instances for each group. The remainder of the respondents belonged to groups whose size was considerably smaller than the top four. Each group consisted of less than 250 students with some as low as 36. For these remaining groups, 2.5% identified themselves as American Indian or Alaska Native, 2.1% preferred not to respond, 1.6% were Asian, 1.5% were Other, .6% were Pacific Islander (non-Native Hawaiian), and .4% were Native Hawaiian. Again, the “Other” option did not provide additional commentary for the respondents to identify their racial identity further.

Age was the next grouping explored, and perhaps unsurprisingly for community college student athletes, the responses were much heavier on the younger responses. As a note, students who are under 18 years old are excluded from CCSSE data. The age category was broken down into 8 categories with 9,142 respondents. There was no option to prefer not to answer for this item. 18-19 year students made up a majority of the respondents representing 58.7% of the group. 20-21 year olds were the second largest group with 32.5% of the total respondents. 22-24 year olds made up 4.6% of the group, meaning that 95.8% of the total sample would be classified as traditionally aged students (18-24 years old). There were respondents in each of the age groups, with the percentages lowering with each increase in age. 25-29 year olds (1.6%), 30-39 (1.1%), 40-49 (.5%), 50-64 (.3%) demonstrated this decrease, but 65+ respondents were larger than the 40-49 and 50-64 groupings with a .7% representation in the total.

The next two questions provided data related to international status and their language background. Students were asked if they were an international or non-resident alien student, and the response provided identified 15.7% of the sample as being non-citizens of the United States and 84.3% being citizens. This was from a sample size of 9,171. The students were also asked to describe their English language background. 9,143 students responded to this question and 83.4% stated that English was their first language compared to 16.6% stating it was not. The students who stated that English was not their first language does not immediately correlate with lesser fluency. Students are asked about their enrollment in ESL courses for another item, and these items are not identical populations.

Educational Background. Descriptive statistics were run in regards to variables related to the academic background of the students. These educational background questions continue the attempt to explore the inputs that this group enters the environment of the community college.

The items selected for these questions related to the student's identification as being a first-generation student, a transfer student, and a student recommended to enroll in a developmental education course. This data provides additional context about pre-enrollment educational background for this group, self-reported high school GPA was not included in this group since there can be high variability in the grading structures of high schools and the remaining data points have a standardized definition in the context of the CCSSE.

First-generation is defined by the CCSSE as a student for whom neither of their parents has attended college at any time. As a reminder, this definition is not the same operationalized definition for eligibility related to TRiO grant applications and their services which defines it as neither parent receiving a bachelor's degree. For this data point, the CCSSE definition was used, and of the 9,171 valid responses, 71.1% of rural community college student athletes identified themselves as being non-first-generation students, leaving 28.9% (n=2647) of respondents as first-generation students.

The next variable focused on the entry point and preparation for these students into higher education. This was accomplished by gathering descriptive data on item 1 regarding where the student's college education began and a composite variable created by CCSSE related to developmental education. For this item, it was found that 82% (n=7500) of the 9,144 respondents began their college careers at the institution they were currently enrolled in while only 18% (n=1644) had begun elsewhere. For the developmental education variable, it was determined that 57.1% (n=5233) did not take or plan to take developmental coursework and 40.3% (n=3695) have taken or plan to take developmental coursework (by their own self-report). This leaves 3.6% of the respondents unaccounted for. There is an item related to what the respondents did when told to enroll in a developmental course during their first semester. For this

item, only 34.8% of the students stated that this was not applicable to them. However, the CCSSE recognizes that the item may not provide the full picture regarding developmental education, and has selected to use a composite based on other items in the survey related to individual enrollment items related specifically to certain types of developmental courses.

Research Question Two. *For rural community college athletes, are there significant differences in student engagement benchmark of Active and Collaborative Learning (i.e., presenting in class, working with other students outside of class, providing tutoring, participated in community based projects as part of a course, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?*

To answer this question, t-tests and an ANOVA were run to determine the differences between the groups identified in the research question in regards to the benchmark, Active and Collaborative Learning. The results of these analyses provided information about the difference between these groups and how active and collaborative learning was engaged in by each of these groups both individually and in comparison to each other.

As mentioned previously, the CCSSE allows for multiple gender identities to be selected beyond male and female. However, since there is no additional information related to the students' specific gender identity, the item was transformed into a binary variable limited to just female and male. As such, the sample size for this analysis was 8,826 limited to respondents with a valid response for gender identity with this change. For gender identity, a *t*-test was run which found that there was no statistically significant difference between the two groups in regards to Active and Collaborative Learning. Males had a slightly higher mean in the standardized active and collaborative learning benchmark score, but it was less than .1 different

than females. This is, however, male student athletes' highest mean among all of the benchmarks.

In regards to race/ethnicity, an ANOVA analysis provided insight into this group of students. For the race/ethnicity question the groups were limited to a new composite data point, Asian/ Pacific Islander which combined the students who identified as Asian, Native Hawaiian, and Non-Native Hawaiian Pacific Islander into a single group, Asian/ Pacific Islander. While students identifying as two or more races were a sizable population, there was not enough information regarding this group, i.e. racial makeup, to make them appropriate to analyze as a single group for comparison purposes. This left the four largest populations in the study as Asian/ Pacific Islander, Black or African American, Hispanic or Latino, and White.

As an overarching point, race and ethnicity was found to be statistically significant in regards to the comparisons of the student engagement with Active and Collaborative Learning. Between the individual groups, there were differences between each one that provided additional information about their experiences. The highest rate of engagement through Active and Collaborative Learning was found with Asian/ Pacific Islander student athletes. Following closely behind this group were Black or African American students who had a mean score of 61.5 out of 100. Hispanic and Latino students scored 58.9, while White students participated at a lower rate than any of the other groups in this analysis. As a group White had statistically significant differences with all other groups in this portion of the study. Something that was not found between any race/ethnic group.

First-generation students engaged in Active and Collaborative learning at a higher level than their peers in this group. The mean score for first-generation students was over 2 points higher than those students who were not first-generation. While this may seem surprising

regarding the perception that many have regarding first-generation students, it has been found in recent research that first-generation students can and often do score higher in academic engagement, despite they often have other responsibilities to tend to beyond their education (CCSSE, 2005; Dong, 2019). The differences between these two groups were statistically significant, but that it was a positive correlation for first-generation students.

Students who had taken or planned to take developmental coursework and those who were not were analyzed next. Again, it was found that there was a statistically significant difference between these two groups of students. The mean for developmental students was higher than those who were not developmental students. As there is overlap between these variables, with first-generation students being more likely to be developmental students, it may not surprise that there is this similarity. In addition, the nature of developmental courses often requires students to be more active and collaborative, especially as the practice has included longer seat time classes and the more recent move into co-requisite courses which can lead to more opportunities for collaboration.

Finally, the difference between transfer and native students for rural community college athletes was looked at to determine if differences existed between these groups. Transfer students reported lower scores in regards to active and collaborative learning from their responses in the CCSSE. This could be attributed to their longer tenure in college as a group than the native population. While transfer students did report less engagement through active and collaborative learning, the difference was not statistically significant.

For Active and Collaborative Learning benchmark the higher means for first-generation and developmental education students might have been a surprising finding. However, when looking at the nature and potential overlap of these two groups it may not be surprising to see

them perform parallel to each other. Since Active and Collaborative Learning involves active engagement in their learning, and working with others, the change in how developmental education has been provided in the last 10 years has likely made this score increase for this benchmark among this population (CCSSE, 2016).

Research Question Three. *For rural community college athletes, are there significant differences in student engagement benchmark of Student Effort (i.e., preparing multiple drafts of a paper, working on a paper or project that required integrating ideas, coming to class without completing readings or assignments, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?*

Student effort details how much work a student does as an active participant within their own education. In many ways, this aligns this benchmark with the thinking behind student engagement theory, where a student's time and effort in being engaged and involved are the primary focus for leading to increased engagement and associated success (Astin, 1984).

An independent sample t-test was run to explore the differences between this demographic and educational background characteristics. For students by gender identity, there was a statistically significant difference between males and females in this study. Females reported a higher level of student effort than their male counterparts. This is in line with research that has demonstrated that female student athletes have a tendency to take their academic endeavors more seriously, and have a higher graduation rate than their male peers (Kuh, et al., 2006; Umbach et al., 2004).

For race/ethnicity there is a statistically significant difference between race/ethnicity generally. Among the individual groups, the ranges vary but they perform as two sets of pairs in relation to the benchmark. The two highest means for the Student Effort benchmark are Black

or African American students ($M= 60$) and Hispanic or Latino students ($M= 58.6$). Between these two groups, there is no significant difference in regards to their reporting of their engagement in student effort. Asian/ Pacific Islanders report the second-lowest mean for student effort ($M=52.9$), followed by White students with a 52.9 mean. Again these two groups have no significant difference in their scores. However, both Black or African American and Hispanic or Latino students' scores have a statistically significant difference between both Asian/ Pacific Islander and White students.

First-generation students reported a higher mean for student effort than their counterparts as well. The mean difference was lower than many of the other pairings, but it was still found to be statistically significant. This may be due to the fact that Student Effort is in part based on the student's perspective of how much work they are putting into their coursework. As first-generation students are more likely to come to college under-prepared they often feel they must work harder and perceive the work they do as more difficult (Dong, 2019).

Transfer students reported lower means for student effort than native students in the study. With native students reporting a 55.66 mean on student effort, and transfer students reporting 51.34. This is one of the few times that a statistically significant difference exists between these two groups related to the student engagement benchmarks.

Lastly, developmental education students and non-developmental students were compared for differences in regard to student effort as well. For this benchmark, developmental students reported a higher mean ($M=58.87$) than non-developmental students ($M= 51.85$). Again, this was a statistically significant difference between these two groups. Just as with first-generation students, the perception of the amount of work being completed. CCSSE (2005) reported that academically unprepared students consistently score higher in student effort than non-

developmental students. They reported that they prepare more drafts, write more papers, and have to put forth more effort in their courses in general by response than academically prepared students.

Of all of the student engagement benchmarks, Student Effort had the biggest differences between the groups. This finding is interesting as Student Effort is the benchmark most closely associated with GPA (CCSSE, 2005) and in keeping with the concepts behind Student Engagement Theory (Astin, 1984) would seem to be the best predictor of success. However, as we visit the predictive ability of the benchmarks for rural community college athletes, the findings are mixed.

Research Question Four. *For rural community college athletes, are there significant differences in student engagement benchmark of Academic Challenge (i.e., working harder than expected, applying theories and concepts to practical problems, number of books and papers assigned, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?*

Academic Challenge was evaluated to determine if there were significant differences between the studied subpopulation of intercollegiate athletes at a rural community college. Academic Challenge is most associated with academic outcomes as opposed to Student Effort which is related to persistence, even though there are a number of items that could be potentially perceived as similar (McClenney, Marti, & Adkins, 2007).

For Academic Challenge, females again had a higher mean than their male peers. Males reported a 46.97 mean and females reported a mean of 51.38. This difference was again statistically significant for this engagement benchmark. Given the fact that female athletes perform better on academic endeavors than their male counterparts, it may seem intuitive that

they would perform better on Academic Challenge as it covers activities shown to be positively correlated with student GPA. (Kuh, et al., 2006; Umbach et al., 2004).

Academic Challenge was then compared against the race/ethnicity categories in the study. Again, race/ethnicity was found to provide a statistically significant difference in relation to the benchmark. Once more White student athletes had the lowest mean among the groups ($M=48.0$), which led to a statistically significant difference between them and the group with the highest mean on the benchmark, Hispanic or Latino student athletes. Asian/ Pacific Islanders had the second highest mean within the group ($M=49.9$), which places them at almost exactly the midpoint for the benchmark among all participants with CCSSE respondents. Black or African American students were just behind Asian/ Pacific Islander respondents with a mean of 49.3.

For first-generation and transfer students, there were no statistically significant differences between the groups. First-generation students had a slightly higher mean than non-first-generation students ($M=48.75$ and $M=48.63$), just as native students had with transfer students ($M=48.83$ and $M=47.91$). For college readiness comparisons, there was no statistically significant difference between the two, but it was very close ($p=.056$). This finding was slightly surprising as the Academic Challenge benchmark is one that has, in the past, seen academically unprepared students score highly (CSSE, 2005).

Overall, the Academic Challenge benchmark has the lowest mean as a whole. Of all the populations and subpopulations studied related to this benchmark, only two groups, females and Hispanic or Latino, scored above the average for respondents on the survey. This leads to a question of whether student athletes in rural community colleges choose not to participate in these activities in a purposeful way or if they are advised in such a way to avoid these endeavors. As this benchmark is closely aligned with academic outcomes, the question of how long the

effect of these low Academic Challenge scores follows these students during their academic careers is one that would need to be answered (McClenney, Marti, & Adkins, 2007).

Research Question Five. *For rural community college athletes, are there significant differences in student engagement benchmark of Student-Faculty Interaction (i.e., discussing grades or assignments, talked about career plans, discussed ideas, etc.) based on: gender, race/ethnicity, first-generation status, enrollment in a developmental course, and transfer status?*

Student-Faculty Interaction is a benchmark that is of deeper interest than the others due to the literature related to faculty relationships with student athletes. In considering this through the I-E-O model, student-faculty engagement has the possibility to negatively or positively affect the “Environment” that these student athletes reside within. Research has shown that student athletes often feel stereotyped by their professors (Parsons, 2013; Simons, Bosworth, Fujita, and Jensen, 2007). Other research has also pointed out that female athletes are more likely to interact with their faculty than their non-athlete female peers (Umbach, et al., 2004). As faculty are the most visible members of the environment outside of their peers and coaches, the results of these responses and the differences between these groups can provide new paths for exploration.

For female and male student athletes at rural community colleges, the scores for these two groups are both above the overall mean for the item among CCSSE test takers. For female athletes, their mean of 59.1 constitutes the highest mean of any of the benchmarks on the survey for this group. Male student athletes have a mean of 56.45. This is a statistically significant difference between the two groups. Umbach, et al. (2004) reported that male student athletes interact in a pattern closely aligned with other male students, but female student athletes interact more than their peers. This would seem to suggest that rural community college female athletes tend to interact at a higher rate than most groups.

The findings for race/ethnicity are ones that require closer inspection. While the theoretical underpinning of both the CCSSE itself and Student Engagement Theory is that more engagement is beneficial for the students, research shows that interactions between student athletes and their faculty do not automatically provide positive outcomes (Astin, 1984, McClenney et al., 2007, Parsons, 2003). Black or African American student athletes had the highest mean of all the groups studied, even outside of race/ethnicity (M= 62.4). This is in keeping with other studies that show that Black or African American students, and in particular Black or African American males outperform all other groups when it comes to working with faculty on campus (CCSSE, 2005). Asian/ Pacific Islanders report the second-highest mean (M=59.1), followed by Hispanic or Latino (M=57.7), and finally White student athletes (M=55.5). For these groups, Black or African American students had statistically significant differences with Hispanic and Latino and White students, and Hispanic and Latino student athletes also had a statistically significant difference between each other as well.

There has been a wealth of research that reports the lack of engagement with the faculty by first-year students (Dong, 2019; Hutchison, 2017). With this in mind, one would expect that first-generation students would score themselves lower than their non-first-generation counterparts regarding this particular student engagement benchmark. However, in this study, first-generation students actually outpaced their peers and had one of the highest means for any group (M=59.20). The difference between first-generation and their peers is statistically significant. The mean for non-first-generation students is one of the lower out of the various groups being compared with a mean of 56.91. This particular data point can serve as a place to consider if first-generation athletes at rural community colleges, if not all student athletes who are first-generation may behave differently than their non-athlete peers.

Academically unprepared students also have higher student-faculty interaction mean than non-developmental students. Developmental student athletes have a 60.17 mean compared to the 55.60 mean for non-developmental student athletes. This is a statistically significant difference between these two groups. This benchmark is connected to academic and persistence outcomes, which is intriguing considering the problems that developmental students have with these outcomes (CCSSE, 2006; McClenney, Marti, and Adkins, 2007).

As opposed to the other groups in the study there was not a statistically significant difference in the means for transfer students and native students. Transfer students reported a slightly higher ($M=57.75$) than native students ($M=57.53$). However, this benchmark is unique in the sense that it is the only benchmark where Transfer students had a higher mean than native students in regards to all of the student engagement benchmarks.

Research Question Six. *For rural community college athletes, are there significant differences in student engagement benchmark of Support for Learners (i.e., how much does your college provide support to succeed through a variety of areas, encourage contact from diverse backgrounds, cope with non-academic responsibilities, etc.) based on: gender, race/ ethnicity, first-generation status, enrollment in a developmental course, and transfer status?*

The Support for Learners benchmark is correlated with persistence rather than GPA. This benchmark is related to the use of services such as advising and counseling services. For student athletes, counseling has been recognized as an area where rural community college athletes may have fewer opportunities to engage with it or may be less likely to engage (Kissinger, et al., 2011). The concern is that male student athletes may be less likely to pursue assistance through counseling services. Looking at this benchmark through the IEO model lens, this benchmark could be highly indicative of the environment (E) that the students are exposed to in a general

sense and their engagement with it determining how much they choose to engage towards their own success.

In regards to this study, male student athletes have lower scores than females in regards to the Student Support benchmark, with males having a mean of 55.24 and females having a 56.92 mean. This is a statistically significant difference for these groups. Since men make up a larger amount of the sample it is possible that this is somewhat impacted by the notion that male student athletes will often avoid counseling due to reputational concerns (Linder, Brewer, Van Raalte and Delange, 1991, Martin, Wrisberg, Beitel, and Lounsbury, 1997).

Race/ethnicity is a statistically significant difference for this benchmark. For the groups involved, Asian/ Pacific Islander student athletes had the highest mean for all races/ethnicities ($M= 59.1$), while Black or African American and Hispanic and Latino student athletes each had a Mean of 58.5. White students had the lowest mean ($M= 54.2$) and also were statistically significantly different from all other race/ ethnicities.

First-generation students again outperformed their peers with a mean of 57.53 for this benchmark as compared to a 55.12 mean for multigenerational students. This finding was somewhat surprising given that some research has suggested that first-generation students can perceive issues as confirming their own imposter syndrome and are therefore less likely to seek out help (Garriott et al., 2017, Ward, Siegel, & Davenport, 2012). This result was a statistically significant difference between these two groups.

Transfer students had a lower mean ($M=54.24$) than native students in this study ($M=56.16$). This was a statistically significant difference between these two groups, as was the difference between developmental and academically prepared students. For this pairing, developmental students again had a higher mean for the benchmark, with a mean of almost 60%

(M= 58.85) as compared to their academically prepared peers. This is in keeping with previous research regarding this benchmark. McClenney, Marti, and Adkins (2007) postulated that this may be indicative that supportive campus environments and support services may help academically underprepared students succeed.

Research Question Seven. *For rural community college athletes how predictive are the CCSSE benchmarks relative to college GPA?*

A hierarchical, logistical regression was conducted to determine how predictive the benchmarks are in relation to self-reported college GPA. The final model predicted approximately 8% of the variance in students' self-reported GPA. Looking at the unique individual contributions of the predictors, the results provided some insight into the relationships between demographic, educational background, and the student engagement benchmarks with self-report college GPA. In viewing this through the lens of the IEO model, each model provided information regarding the relationships between inputs (i.e. demographic characteristics, educational background), the environment (i.e. educational background and student engagement benchmark scores), and the outcomes (i.e. self-reported GPA).

Many of the demographic characteristics of the rural community college athlete were not predictive of self-reported GPA in the study. Gender identity was not statistically significant in preceding college GPA, nor was identifying as Asian/ Pacific Islander or Hispanic or Latino. However, students who identified as Black or African American were a negative predictor of self-reported college GPA, and identifying as White was a positive predictor of self-reported GPA. These two demographic characteristics were two of the highest predictors of self-reported GPA. Since Black or African American students make up such a small number of total rural community college students, the lack of belonging that these student athletes may feel may be

reflected in this finding (Pflum, Nadler, & Miller, 2017). In regards to gender identity, there was no statistically significant difference between females and males. However, that is not to say that there was no difference. Female athletes perform better overall than their male counterparts academically. Regarding the predictive nature of gender identity towards college GPA, female identity was less predictive than identifying as a male but identifying as a male served as a negative predictor of self-reported GPA.

Educational background characteristics can function as both representative of inputs, as they are identities that the students bring with them to the college, but in some cases can be part of the environment. Case in point are developmental education students. Development education students are often placed into developmental coursework based upon their pre-enrollment statistics, either high school GPA, standardized test scores, or a combination of these items (CCSSE, 2016). However, enrollment in developmental courses is also part of the environment of the community college as both a policy, program, and an experience. Transfer can also straddle both areas as well. Transfer students bring this identity with them into college, but their ability to transfer is also based on policy within admissions. Other educational background characteristics can be pure inputs as they are purely extant prior to enrollment. For this study first-generation status exists as an input.

Transfer student status was not a significant predictor of college GPA, however developmental and first-generation status were statistically significant predictors of college GPA. First-generation status was predictive and statistically significant, however, this predictive quality is negative. This finding is consistent with much of the research related to student success for first-generation students. The biggest predictor of college GPA from the study was developmental education status. Those students who are placed into developmental education

were predicted to have a lower college GPA than those who were not. This is not surprising as the reasons behind enrollment in developmental courses are connected to poor performance prior to enrollment. However, it does provide an insight that enrollment in developmental courses does not lead to higher GPA after enrollment in those courses.

In relation to the CCSSE benchmarks, they were all statistically significant in regards to college GPA. The benchmarks that served as the most significant predictor of college GPA were Active and Collaborative Learning and Academic Challenge. According to McClenney, Marti, and Adkins (2007), their validation studies found that these specific benchmarks were most closely correlated with GPA. With this being the case, it seems that these benchmarks continue to correlate with college GPA even with rural community college athletics. Student Effort and Support for Learners were also statistically significant in relation to college GPA, but at a lower level than the other benchmarks.

Finally, Student-Faculty Interaction was also found to be statistically significant related to self-report GPA. However, for Student-Faculty Interaction there was a negative association with the score and self-reported GPA, the only benchmark for which this was true. McClenney, et al. (2007) mentioned that two of the validation studies showed a correlation with GPA and the Student-Faculty Interaction benchmark. The reasons for this negative connection may be provided by the research regarding student athlete culture. The issue of faculty perceiving student athletes in a negative manner may help lead to this result (Parsons, 2013; Simons, Bosworth, Fujita, and Jensen, 2007). This element of environment could lead to major issues related to student success. Theoretically, if student-faculty interaction leads to negative outcomes of GPA and the reasons for this are not explored and institution or athletic department could

exacerbate student success issues by pursuing a well-documented high impact practice by increasing interaction between student athletes and their faculty.

Conclusions from the Findings

This research provided another set of data that had previously been unavailable. It explored the background characteristics of rural community college athletes, providing a more robust understanding of this population of students and what they bring to the colleges in which they enroll. Secondly, this study provided information related to their behavior within student engagement benchmarks based on various background characteristics. With this group of students making up a sizable portion of rural community colleges, understanding their behaviors can assist in the improvement of serving this group. It also explored how the inputs and environment that these students experience have influenced and impacted their outcomes through their GPAs.

Conclusion One. *Rural community college student athletes are not representative of rural community college student bodies*

In looking at data related to rural community colleges who had reported their data through the Integrated Postsecondary Education Data System (IPEDS), the rural community college athletes are not demographically similar to the average rural community college student (see Appendix D). While the IPEDS database did not have information related to the academic background of these students, it did have information related to demographic information of race, gender, and age. Below are the differences between the sample of this study and those found in IPEDS and a previous study.

Based on IPEDS data from the 2018-2019 academic year, rural community colleges were 57.42% female and 42.58%. In 2008, Tietjen-Smith et al. found that 60.5% of rural community

college students in that study were female. The population in this study was almost the exact reverse of these datasets. This is not altogether surprising as males are approximately 46% more likely to participate in intercollegiate athletics at the community college level (NJCAA, 2017).

In addition, the race and ethnicity of the rural community college athlete is also different from that of the average rural community college student. In comparison to rural community colleges' average enrollment for an academic year, the average rural community college athlete is less likely to be Asian, Hispanic or Latino or White, and more likely to be Black, Native Hawaiian and other Pacific Islander, or multi-racial. Multi-racial students are over three times more present in rural community college athletics than they are in the general enrollment (10.1% for athletes and 3.04% for overall enrollment), and Native Hawaiians and other Pacific Islander are five times more represented but still a small percentage of the total (1% for athletes and .2% for overall enrollment). Black student athletes were approximately 7% more represented than in the general rural community college population, which has remained relatively unchanged over the decade between the IPEDS data set and the results of Tietjen-Smith et al. (2008).

One area demonstrating the changing nature of rural community colleges has been the growth of Hispanic or Latino students in rural community colleges. In 2008, rural community colleges had the lowest percentage of Hispanic or Latino students of all sectors (Tietjen-Smith et al.). By 2018, the second-largest racial group in rural community colleges is Hispanic or Latino students, representing an over 184% growth for this population. Despite this growth, their representation on athletics teams has not kept pace, with 11.4% of student athletes being Hispanic or Latino and being the third largest group represented in athletics.

Age is another area where rural community college athletes differ from the general enrollment of rural community colleges. Due to the nature of their involvement in intercollegiate

athletics, coupled with eligibility requirements, rural community college student athletes are much younger than the general population. Whereas athletes are over 95% traditional college age, the general population of rural community college students is 20% non-traditional.

Conclusion Two. *Rural community college student athletes appear to be more engaged than the average community college student.*

In regards to their behaviors related to the CCSSE benchmark data, rural community college students behave in a different manner than non-athletes. For almost every benchmark, and regardless of variable tested, rural community college student athletes participate above the average for each of the benchmarks. This was true even for background characteristics that traditionally score low for these benchmarks. First-generation and development students perform well above the expected levels for areas related to the benchmarks for Academic Support and Student-Faculty Interaction. The only area where rural community college student athletes perform below the average is in Academic Challenge. This does lead to the question if student athletes avoid academic challenge in an attempt to maintain academic eligibility for athletic participation, or for eligibility after transfer. Or is this lesser academic challenge due to advising for these students which either make assumptions regarding their abilities or protect their eligibility?

Conclusion Three. *There appears to be a relationship between rural community college student athlete's interactions with faculty and lower GPAs*

Another benchmark that requires more discussion is Student-Faculty Interaction. The highest mean scores for almost all characteristics was Student-Faculty interaction. In this benchmark, they were often in the upper 50s or lower 60s for this mean, which is a significant result. However, despite this high mean score for this interaction, the regression analysis for this

benchmark showed a negative relationship to the student outcome studied, college GPA. The findings that the more a student athlete interacts with faculty at a rural community college, would seem counter-intuitive. However, the nature of these interactions is presented as neutral in their respective CCSSE items, and this may obscure what these interactions actually entail. Since the literature has stated that the relationship between student athletes and faculty can be fraught throughout all levels of higher education, this finding does lead to pause about what should be done.

Conclusion Four. *Academic success may be more difficult for some rural community college student athletes due to race*

Race was also predictive for college GPA among these student athletes. Given the demographic makeup of rural community colleges, there may be issues related to those students who come from underrepresented populations in the communities where they enroll. Rural community colleges have become more diverse over the last decade, but the increase in minority students has come almost exclusively from Hispanic or Latino students. In regards to minority students, Hispanic or Latino student athletes have performed better than other minority groups related to self-reported GPA and were the only group whose interactions with the various benchmarks positively correlated with GPA. This may be due to the larger representation that this group has in regard to other racial minorities. Also, Hispanic or Latino students reported higher levels of engagement in Student Effort and Academic Challenge, both of which have been positively correlated to GPA in other validation studies.

While Hispanic or Latino engagement was not statistically significant for college GPA, it was for Black or African American students. The predictive nature of Black or African American student engagement scores and college GPA was the third-highest rate for the entire population.

Unfortunately, there was a negative relationship between Black or African American student athlete student engagement and their self-reported GPA. Despite the fact that Black or African American students reported more engagement in almost every benchmark they also reported the lowest GPA as a group. This, coupled with the fact that identifying as White had the second-highest rate of predictability and in this case it was a positive relationship, is somewhat troubling. White students consistently had the lowest engagement means for all of the benchmarks and yet their reported GPA was the highest. Since the basic premise of the CCSSE and Astin's Theory of Student Involvement (1984) are predicated on the notion that more engagement is beneficial for students, it is concerning that students who have higher student engagement would have lower self-reported GPAs based on the race/ethnicity of the student.

Implications for Policy and Practice

The findings in this study suggest a number of potential policy opportunities that exist for rural community colleges and their student athletes. With student athletes making up a large amount of enrollment at some rural colleges, policies that can support these students can in turn support the institution and the other students enrolled. In many ways the outcomes of this study are encouraging. Rural community college student athletes engage in the various benchmarks at a higher rate than average, which bodes well for their opportunity to be successful in their academic endeavors. However, the reported GPA's of the students in this survey provide some cause for alarm as a fifth of all students self-reported a GPA of a C or lower, and all student race and ethnicity groups with the exception of Hispanic or Latino and White reported an average of a sub 3.0 GPA.

The findings of this study revealed that there is a distinct difference between the reported GPA's based on race and ethnicity. Despite a higher than average engagement scores on almost

every student engagement benchmark, Black or African American student athletes reported lower GPA's than their white counterparts. The research suggests that this is an issue throughout college athletics. However, in the case of rural community colleges the additional layer of these students being largely relegated in athletics is cause for evaluation. For rural community colleges a campus climate audit would provide additional information about the environment that has been created for students, especially when looking at race and ethnicity. With the engagement scores of these athletes being so high, but the GPAs still being lower than their peers a campus climate survey may provide opportunities to discover areas of needed change for those students who are not as engaged and involved on campus.

Rural community college athletic departments will need to take stock of the time that student athletes participate in their sports in comparison to their academic endeavors. Research has shown that student athlete engagement is often limited to their participation in their sport due to the extraordinary time demands playing require (Horton, 2009; Horton, 2015). By developing partnerships with student affairs, athletics departments can help transition student athletes into other areas of campus engagement during off-seasons. This engagement may have the benefit of providing the students a lens to be viewed from beyond their work on the court or field.

In addition, rural community college athletic departments can look into ways to integrate their student athletes more into the community. This integration can be done through tapping local leaders throughout the community to provide services and activities to allow the student athletes the opportunity to be seen as more than just an athlete but also as a local leader. With an increase in visibility beyond their identities as student athletes is can provide the students with the opportunity to make connections beyond the athletic department and the college environment.

Another policy that may need to be enacted, or at least considered is related to student-faculty interactions. Given the high means for this benchmark, that it lead to a negative correlation related to GPA is discouraging. Rural community colleges will need to explore if this benchmark is similarly correlated for non-student athletes and how it is correlated between various subpopulations. Institutions will need to discover if the interaction benchmark is capturing issues due to behavior and actions of students, faculty, or both. With this research institutions can then enact solutions to solve this issue, whether it be faculty trainings or student skill development. This may also mean that institutions look at the make-up of their faculty and determine if there is proper representation among that population. Providing opportunities for mentorship and leadership for faculty to tap into the rich resource that is this group may provide students with additional positive interactions with faculty to create a positive impact on student GPA.

Another option requires support and discussion from every stakeholder in student athletics. This includes the governing bodies, peer institutions, and the rural community colleges themselves. These groups may also need to look at policies related to eligibility and entrance for student athletes. While student athletes seem to perform at level that would place them in good stead with the average rural community college student, there are still issues that need to be addressed. The NCAA Division I requires institutions to collect, report, and improve their Academic Progress Rate that “holds institutions accountable for the academic progress of their student athletes through a team-based metric that accounts for the eligibility and retention of each student-athlete for each academic term” as well as a Graduation Success Rate that takes into account transfer and other athletic specific issues regarding non-completion (National Collegiate Athletic Association, n.d.). This program could be implemented by NJCAA or other governing

bodies, without the penalties, to help build the data on student success and graduation in a standardized format to help support member institutions determine areas where support is needed. The NJCAA or consortiums of rural community colleges could be formed to assist with the collection and reporting of this data, since these community colleges are often understaffed and under-resourced, which will help them perform these actions. This database could help provide guidance regarding the best practitioners in the sector and build a knowledge base that can encourage new actions that will improve rural community college student athletes' success and all other student athletes as well.

Another practice that can be enacted would be a more strategic engagement of students based on the data presented here. Since Academic Challenge is closely correlated to GPA, and this benchmark was the lowest scoring among these students, there is an opportunity to create specific engagement activities to increase this score. This score was especially low for Black or African American student athletes and a specific intervention for this group may pay dividends for these students. The question for rural community colleges' athletic departments and advising processes is whether this lack of engagement with Academic Challenge is created, encourages or merely a by-product of the time demands on students and their schedule. The issue may be found in the major selected by rural community college athletes, or the recommendations they received from advising staff or coaches. A review of majors and coursework for rural community college student athletes could help determine whether or not students are entering coursework with less Academic Challenge factors. This could also be tied in with pre-enrollment statistics related to test scores, high school college preparation, and high school GPA.

Finally, rural community colleges' student athletes were majority male, and the ratio is almost exactly the inverse of the rural community college's gender breakdown. However,

research demonstrates that women's athletic teams perform better on almost all academic metrics than men's athletics teams. Since athletes are a large part of the enrollment plans and student bodies of these institutions it would appear that increasing the number of women's athletics teams would benefit the rural community college in a variety of ways. More women athletes means additional enrollment, and with their academic outcomes it would also increase the metrics most often considered in performance funding. This would allow the institution to improve in persistence, retention, and graduation rates while adding new enrollment into their campuses. In their 2008 work, Castañeda, Katsinas, and Hardy found that while intercollegiate athletics were overrepresented by males, there was little research related to the demand but that the growth of women's athletics as a whole demonstrated that there was an opportunity to increase participation. As such, the expansion of women's athletics would have a two-fold impact, in improving student success metrics for rural community college and also addressing inequity in the participation of intercollegiate athletics at the community college level.

Recommendations for Future Research

Use of institutional GPA as opposed to self-reported GPA.

To further explore the correlation between the CCSSE data related to engagement and academic success among these rural community college athletes, research could be pursued that compared institutional data related to the participants' actual GPA and the engagement benchmarks. In addition, if there was a significant difference between the self-reported GPA and the institutional GPA additional research could be undertaken to see if there is a demographic or other background characteristic that could provide an avenue for study if such a difference exists. In addition, other metrics used in the admissions process should be included in this research. Nationally standardized test scores, unweighted high school GPAs, and other such data would

need to be included. This would provide more accurate data and allow the conclusions made in the study to have more validity.

Comparisons to other community college athletes based on urbanicity.

It is thought that rural community college athletes have unique issues in regards to student athletes in the community college sector. However, there is no research to specifically test this hypothesis. A replication of this study for both urban and suburban community college athletic programs would provide additional research related to community college athlete engagement and student success. If the findings imply that the engagement scores remain constant across all areas, or if student demographics play a smaller role in the student success outcomes, then community colleges as a whole can begin to look at the environments that they have created for their student athletes. This comparison data would allow us to see if student athletes who enroll at community colleges where they may find more comfort in their surroundings perform differently than those rural community college students who may be less represented on campus and what impact that may have on their student success.

The development of a more sophisticated statistical model

While this study used the standardized scores on the student engagement benchmarks to determine if there were correlations regarding student success, the model used was limited in its scope. The creation of a model which includes additional variables that might be able to provide more clarity related to the most predictive characteristics related to student success would be useful. There are a number of other factors that could be brought into a model that have been demonstrated to affect student success in other research. A model that takes these factors into account, might provide additional explanation of the variance related to the research. In addition,

building other student success variables into model (i.e., persistence, credit hours earned, etc.) could also deepen our understanding of the outcomes for these student athletes.

Qualitative research regarding the lived experiences of rural community college student athletes

With the use of self-reported GPA, the full account of a student's grades is not available through this research. As mentioned previously, receiving the transcribed GPAs of the student athletes would provide more data about the actual outcomes being delivered to these students. To further delve into this subject additional study at specific institutions could provide the opportunity to add qualitative elements to the research to explore why students either under- or over-reporting their GPA based on their own perspectives. This would also allow students to discuss their answers related to the questions on the CCSSE. Since some of CCSSE questions do not have a value proposition embedded within them, the student can interpret them in any way they wish. The qualitative data would provide the rural community college student athletes with the opportunity to explain their answers and provide their own lived experiences to the researchers. This data could then be combined with the previously developed quantitative data to create a fuller picture of the experience these students have at their colleges.

Conclusion

This study was designed to help shed light on a little researched portion of higher education, the rural community college student athlete. With funding at a crisis level, these institutions struggle to provide a wealth of programs and activities that larger urban community colleges do not. As the only oasis in an education desert, rural community colleges give opportunities and access to millions of Americans. Student athletes are often a large part of this group, sometimes as much as 40% of total enrollment at a rural community college. With this

outsized impact of these colleges it is important to know who these students are and how do they engage and succeed in these environments.

This study described the characteristics of rural community college athletes through a variety of different groupings. Demographic background information on their gender identity, race/ ethnicity, their age, international status, and English language status was reported using descriptive statistics. Educational background information on first-generation student, transfer student status and the need for developmental education was also reported. The level of engagement by many of these background characteristics were then compared regarding the student athletes engagement in the CCSSE survey based upon their benchmarks of Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction; and Support for Learners. Finally the relationship between these benchmarks and student outcomes based on self-reported GPA was provided and discussed while accounting for student inputs related to demographics and educational backgrounds.

Rural community colleges have long been asked to do much with little. The choice for many of their students is their college or no college at all. Due to this they attempt to provide the full college experience for their students, which includes athletics. However in recent years the value of providing college athletics has come under scrutiny and the value of such endeavors are facing increasingly limited budgets. In the light of these challenges it seemed important to explore who these students are and the potential impact they have on rural community colleges. The goal of the study was to increase the literature available about this group of students. Provide details about who they are and the impact they can have. With their disproportioned impact on rural community college campuses, student athletes can provide a look at how this group can assist these campus outside of their chosen field of play and in the classroom.

As a group they are engaged in a way that few students on a rural community college can be. They represent the institutions across their regions, and yet they often don't see themselves reflected in the student body. They have outside commitments from their studies that are also institution related, and they persist and retain at a higher rate than the average rural community college student.

Despite all these challenges they are engaged in large part in the very activities the research demonstrates will lead them to student success. They can be the guideposts for how rural institutions can support their other non-student athletes to engage at the same level of the student engagement benchmarks. This is a group that, if nurtured and supported can pay dividends for these schools in every conceivable manner. They help enrollment, student success metrics, student life, and diversity and inclusion. Hopefully this study provides pathways to develop practices that can support these students and help them keep rural community colleges the vibrant and important part of the higher education landscape they are.

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APPENDIX A: COMMUNITY COLLEGE SURVEY OF STUDENT ENGAGEMENT

THE COMMUNITY COLLEGE
SURVEY
OF STUDENT
ENGAGEMENT

6. During the current academic year, how much reading and writing have you done at this college? (Please respond to each item)

	None	1-4	5-10	11-20	More than 20
a. Number of assigned textbooks, manuals, books, or packets of course readings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Number of written papers or reports of any length	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Mark the response that best represents the extent to which your examinations during the current academic year have challenged you to do your best work at this college.

Extremely challenging 1 2 3 4 5 6 7 Extremely easy

8. Which of the following have you done, or are you currently doing at this college? (Please respond to each item)

	Yes	No
a. Internship, field experience, co-op experience, or clinical assignment	<input type="radio"/>	<input type="radio"/>
b. An English course taught specifically for students whose first language is not English (ESL, ESOL)	<input type="radio"/>	<input type="radio"/>
c. Developmental/remedial reading course (also referred to as Basic Skills, College Prep, etc.)	<input type="radio"/>	<input type="radio"/>
d. Developmental/remedial writing course (also referred to as Basic Skills, College Prep, etc.)	<input type="radio"/>	<input type="radio"/>
e. Developmental/remedial math course (also referred to as Basic Skills, College Prep, etc.)	<input type="radio"/>	<input type="radio"/>
f. Honors course	<input type="radio"/>	<input type="radio"/>

9. How much does this college emphasize the following? (Please respond to each item)

	Very much	Quite a bit	Some	Very little
a. Encouraging you to spend significant amounts of time studying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Providing the support you need to help you succeed at this college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Providing the support you need to thrive socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Providing the financial support you need to afford your education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. About how many hours do you spend in a typical 7-day week doing each of the following? (Please respond to each item)

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

11. How much has your experience at this college contributed to your knowledge, skills, and personal development in the following areas? (Please respond to each item)

	Very much	Quite a bit	Some	Very little
a. Acquiring job- or work-related knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Writing clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Speaking clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Thinking critically and analytically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Solving numerical problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Working effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Learning effectively on your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Developing clearer career goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Gaining information about career opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. This section has three parts. Please answer all three parts, indicating (1) how often you have used the following services during the current academic year, (2) how satisfied you are with the services, and (3) how important the services are to you at this college. (Please respond to each item)

	(1) Frequency of Use				(2) Satisfaction				(3) Importance		
	5 or more times	2-4 times	1 time	Never	Very	Some-what	Not at all	N.A.	Very	Some-what	Not at all
a. Academic advising/planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Career counseling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Job placement assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Peer or other tutoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Skill labs (writing, math, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Child care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Financial aid advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Computer lab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Student organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Transfer advising/planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Library resources and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Services for students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Services for active military and veterans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. During the current academic term at this college, I completed registration before the first class session(s).
☐ Yes; I was registered for all of my courses before the first class session(s)
☐ Mostly; I was registered for most of my courses before the first class session(s)
☐ Partly; I was registered for some of my courses before the first class session(s)
☐ No; I was not registered for any of my courses before the first class session(s)
14. The one response that best describes my experience with orientation when I first came to this college is:
☐ I took part in an online orientation prior to the beginning of classes
☐ I attended an on-campus orientation prior to the beginning of classes
☐ I enrolled in an orientation course as part of my course schedule during my first academic term
☐ I was not aware of a college orientation
☐ I was unable to participate in orientation due to scheduling or other issues
15. During my first academic year at this college, I participated in a first-year experience program.
☐ Yes
☐ No
16. During my first academic term at this college, I participated in an organized learning community (a formal program in which groups of students take two or more classes together).
☐ Yes
☐ No
17. During my first academic term at this college, I participated in a student success course (a course that teaches the skills needed to succeed in college).
☐ Yes
☐ No
18. I was told that I should enroll in a developmental/remedial course (also referred to as Basic Skills, College Prep, etc.) in my first academic term at this college, and I...
☐ Did enroll in more than one of these courses
☐ Did enroll in one of these courses
☐ Did not enroll in any of these courses
☐ Not applicable

SERIAL #

PLEASE DO NOT MARK IN THIS AREA

○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○

19. During the current academic term at this college, my instructors clearly explained a class attendance policy that specified how many classes I could miss without a penalty.
- ☐ All of my instructors explained a class attendance policy
- ☐ Most of my instructors explained a class attendance policy
- ☐ Some of my instructors explained a class attendance policy
- ☐ None of my instructors explained a class attendance policy

20. Before the end of my first academic term at this college, an advisor helped me develop an academic plan (a personalized plan with a defined sequence of courses for completing a college certificate or degree and/or for transferring to a 4-year college or university).
- ☐ Yes
- ☐ No
- ☐ I'm still in my first academic term; I have not yet developed an academic plan

21. Someone at this college contacts me if I am struggling with my studies to help me get the assistance I need.
- ☐ Yes
- ☐ No
- ☐ Not applicable

22. During the current academic year at this college, I have participated in supplemental instruction/supplemental learning (extra class sessions with the instructor or an experienced student).
- ☐ Never
- ☐ Less than 1 time a week
- ☐ 1–2 times a week
- ☐ 3–4 times a week
- ☐ More than 4 times a week

23. How likely is it that the following issues would cause you to withdraw from class or from this college? (Please respond to each item)

Very likely	Likely	Somewhat likely	Not likely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- a. Working full-time
- b. Caring for dependents
- c. Academically unprepared
- d. Lack of finances
- e. Transfer to a 4-year college or university

	Extremely	Quite a bit	Somewhat	Not very
1. I am very satisfied with my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I am satisfied with my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. How supportive are your friends of your attending this college?

25. How supportive is your immediate family of your attending this college?

26. Indicate which of the following are your reasons/goals for attending this college.
(Please respond to each item)

[illegible]

- a. Complete a certificate program
- b. Obtain an associate degree
- c. Transfer to a 4-year college or university
- d. Obtain or update job-related skills
- e. Change careers
- f. Self-improvement/personal enjoyment

SERIAL #

PLEASE DO NOT MARK IN THIS AREA

○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○

27. Indicate which of the following are sources you use to pay for your tuition at this college.
(Please respond to each item)

Indicate which of the following are sources you use to pay for your tuition <u>at this college</u> . (Please respond to each item)	Major source	Minor source	Not a source
a. My own income/savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Income/savings from family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Employer contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Active military or veteran benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Grants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Scholarships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Student loans (bank, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Public assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. When do you plan to take classes at this college again?

- ☐ I will accomplish my goal(s) during this academic term and will not be returning
- ☐ I have no current plan to return
- ☐ Within the next 12 months
- ☐ Uncertain

29. At this college, in what range is your overall college grade point average (GPA)?

- ☐ A
- ☐ B
- ☐ C
- ☐ D or lower
- ☐ I do not have a GPA at this college

30. In what range was your overall high school grade point average (GPA)?

- ☐ A
- ☐ B
- ☐ C
- ☐ D or lower
- ☐ I do not remember

31. When do you most frequently take classes at this college? (Mark only one)

- ☐ Day classes (morning or afternoon)
- ☐ Evening classes
- ☐ Weekend classes

32. During the current academic term, how many classes are you taking...
(Please respond to each item)

[illegible]

33. How many total credit hours have you earned at this college, not counting the courses you are currently taking this academic term?

- ☐ None
☐ 1–14 credits
☐ 15–29 credits
☐ 30–44 credits
☐ 45–60 credits
☐ Over 60 credits

34. How many **total** academic terms have you been enrolled at **this college**?

- ☐ This is my first academic term
☐ This is my second academic term
☐ This is my third or fourth academic term
☐ This is my fifth or sixth academic term
☐ I have been enrolled more than six academic terms

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

- ☐ Yes
☐ No

36. How would you evaluate your overall educational experience **at this college**?

- ☐ Excellent
☐ Good
☐ Fair
☐ Poor

37. Do you have children who live with you and depend on you for their care?

- ☐ Yes
☐ No

38. Mark your age group.

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

39. Your gender identity:

- ☐ Man
☐ Woman
☐ Other
☐ I prefer not to respond

40. Are you married?

Yes	No
<input type="radio"/>	<input type="radio"/>

41. Is English your native (first) language?

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

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

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

43. Are you an international student or non-resident alien?

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

44. Are you a student-athlete on a team sponsored by **this college's** athletics department?

<input type="radio"/>	<input type="radio"/>
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45. What is your racial or ethnic identification? *(Mark all that apply)*

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

46. What is the highest academic credential you have earned? (Mark only one)

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

47. Who in your family has attended at least some college? (Mark all that apply)

- ☐ Mother
- ☐ Father
- ☐ Brother/Sister
- ☐ Child
- ☐ Spouse/Partner
- ☐ Legal Guardian
- ☐ No one

Additional Items
(Please respond to these items if requested)

- | | |
|---|---|
| 1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 11. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 12. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 13. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 14. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 15. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 6. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 16. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 7. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 17. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 8. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 18. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 9. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 19. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |
| 10. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E | 20. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E |

Using the list provided, please fill in the bubbles that correspond to the code indicating your program, major, or pathway of study. In the top row, indicate the first number in the program code. In the bottom row, indicate the second number in the program code.

<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9

(Please begin here)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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PLEASE DO NOT MARK IN THIS AREA

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SERIAL #

APPENDIX B: CCSSE 2019 CODEBOOK

Item	Variable	Responses
Item 1		
1. Did you begin college at this college or elsewhere?	ENTER	1 = Started here 2 = Started elsewhere
Item 2		
2. Thinking about this current academic term, how would you characterize your enrollment at this college?	ENRLMENT	1 = Part-time 2 = Full-time
Item 3		
3. Have you taken this survey in another class this academic term?	TAKEB4	0 = No 1 = Yes
Item 4: In your experiences at this college during the current academic year, about how often have you done each of the following?		
4a. Asked questions in class or contributed to class discussions [ACTCOLL]	CLQUEST	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4b. Made a class presentation [ACTCOLL]	CLPRESEN	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4c. Prepared two or more drafts of a paper or assignment before turning it in [STUEFF]	REWROPAP	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4d. Worked on a paper or project that required integrating ideas or information from various sources [STUEFF]	INTEGRAT	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4e. Come to class without completing readings or assignments [STUEFF]	CLUNPREP	1 = Never 2 = Sometimes 3 = Often 4 = Very often

Item	Variable	Responses
4f. Worked with other students on projects during class [ACTCOLL]	CLASSGRP	1 = Never 2 = Sometimes 3 = Often 4 = Very often

Item	Variable	Responses
Item 4: In your experiences at this college during the current academic year, about how often have you done each of the following?		
4g. Worked with classmates outside of class to prepare class assignments [ACTCOLL]	OCCGRP	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4h. Tutored or taught other students (paid or voluntary) [ACTCOLL]	TUTOR	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4i. Participated in a community-based project (service-learning activity) as part of a regular course [ACTCOLL]	PARTICCBP	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4j. Used e-mail to communicate with an instructor [STUFAC]	EMAIL	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4k. Discussed grades or assignments with an instructor [STUFAC]	FACGRADE	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4l. Talked about career plans with an instructor or advisor [STUFAC]	FACPLANS	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4m. Discussed ideas from your readings or classes with instructors outside of class [STUFAC]	FACIDEAS	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4n. Received prompt feedback (written or oral) from instructors on your performance [STUFAC]	FACFEED	1 = Never 2 = Sometimes 3 = Often 4 = Very often

Item	Variable	Responses
Item 4: In your experiences at this college during the current academic year, about how often have you done each of the following?		
4o. Worked harder than you thought you could to meet an instructor's standards or expectations [ACCHALL]	WORKHARD	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4p. Worked with instructors on activities other than coursework [STUFAC]	FACOTH	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4q. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.) [ACTCOLL]	OOCIDEAS	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4r. Had serious conversations with students who differ from you	CONVSTUDIFF	1 = Never 2 = Sometimes 3 = Often 4 = Very often
4s. Skipped class	SKIPCLAS	1 = Never 2 = Sometimes 3 = Often 4 = Very often
Item 5: During the current academic year, how much has your coursework at this college emphasized the following mental activities?		
5a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	MEMORIZE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5b. Analyzing the basic elements of an idea, experience, or theory [ACCHALL]	ANALYZE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5c. Forming a new idea or understanding from various pieces of information [ACCHALL]	NEWIDEAS	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

Item	Variable	Responses
Item 5: During the current academic year, how much has your coursework at this college emphasized the following mental activities?		
5d. Making judgements about the value or soundness of information, arguments, or methods [ACCHALL]	EVALUATE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5e. Applying theories or concepts to practical problems or in new situations [ACCHALL]	APPLYING	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5f. Using information you have read or heard to perform a new skill [ACCHALL]	PERFORM	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Item 6: During the current academic year, how much reading and writing have you done at this college?		
6a. Number of assigned textbooks, manuals, books, or packets of course readings [ACCHALL]	ASSIGREAD	0 = None 1 = 1–4 2 = 5–10 3 = 11–20 4 = More than 20
6b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment [STUEFF]	BKREADOWN	0 = None 1 = 1–4 2 = 5–10 3 = 11–20 4 = More than 20
6c. Number of written papers or reports of any length [ACCHALL]	NUMPAPRRPTS	0 = None 1 = 1–4 2 = 5–10 3 = 11–20 4 = More than 20

Item	Variable	Responses
Item 7		
7. Mark the response that best represents the extent to which your examinations during the current academic year have challenged you to do your best work at this college [ACCHALL]	CHALNGXAM	1 = Extremely easy 2 = (2) 3 = (3) 4 = (4) 5 = (5) 6 = (6) 7 = Extremely challenging
Item 8: Which of the following have you done, or are you currently doing at this college?		
8a. Internship, field experience, co-op experience, or clinical assignment	DONEINTRN	0 = No 1 = Yes
8b. An English course taught specifically for students whose first language is not English (ESL, ESOL)	DONEESL	0 = No 1 = Yes
8c. Developmental/remedial reading course (also referred to as Basic Skills, College Prep, etc.)	DONEDEVRD	0 = No 1 = Yes
8d. Developmental/remedial writing course (also referred to as Basic Skills, College Prep, etc.)	DONEDEVWR	0 = No 1 = Yes
8e. Developmental/remedial math course (also referred to as Basic Skills, College Prep, etc.)	DONEDEVMT	0 = No 1 = Yes
8f. Honors course	DONEHNRS	0 = No 1 = Yes
Item 9: How much does this college emphasize the following?		
9a. Encouraging you to spend significant amounts of time studying [ACCHALL]	ENVSCHOL	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9b. Providing the support you need to help you succeed at this college [SUPPORT]	ENVSUPRT	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds [SUPPORT]	ENVDIVRS	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

Item	Variable	Responses
Item 9: How much does this college emphasize the following?		
9d. Helping you cope with your non-academic responsibilities (work, family, etc.) [SUPPORT]	ENVNACAD	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9e. Providing the support you need to thrive socially [SUPPORT]	ENVSOCAL	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9f. Providing the financial support you need to afford your education [SUPPORT]	FINSUPP	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Item 10: About how many hours do you spend in a typical 7-day week doing each of the following?		
10a. Preparing for class (studying, reading, writing, rehearsing, doing homework, etc.) [STUEFF]	ACADPR01	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30
10b. Working for pay	PAYWORK	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30
10c. Participating in college-sponsored activities (organizations, campus publications, student government, intramural sports, etc.)	PARTICXCUR	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30

Item	Variable	Responses
Item 10: About how many hours do you spend in a typical 7-day week doing each of the following?		
10d. Providing care for dependents living with you (parents, children, spouse, etc.)	CAREDE01	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30
10e. Commuting to and from classes	COMMUTE	0 = None 1 = 1–5 2 = 6–10 3 = 11–20 4 = 21–30 5 = More than 30
Item 11: How much has your experience at this college contributed to your knowledge, skills, and personal development in the following areas?		
11a. Acquiring job- or work-related knowledge and skills	GNWORK	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11b. Writing clearly and effectively	GNWRITE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11c. Speaking clearly and effectively	GNSPEAK	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11d. Thinking critically and analytically	GNANALY	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11e. Solving numerical problems	GNSOLVE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

Item	Variable	Responses
Item 11: How much has your experience at this college contributed to your knowledge, skills, and personal development in the following areas?		
11f. Working effectively with others	GNOTHERS	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11g. Learning effectively on your own	GNINQ	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11h. Developing clearer career goals	GNCARGOAL	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
11i. Gaining information about career opportunities	GNGAINCAR	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
Item 12.1: How often have you used the following services during the current academic year?		
12.1a. Academic advising/planning [SUPPORT]	FREQACAD	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1b. Career counseling [SUPPORT]	FREQCACOU	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1c. Job placement assistance	FREQJOBPL	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1d. Peer or other tutoring [STUEFF]	FREQTUTOR	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times

Item	Variable	Responses
Item 12.1: How often have you used the following services during the current academic year?		
12.1e. Skill labs (writing, math, etc.) [STUEFF]	FREQLAB	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1f. Child care	FREQCHLD	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1g. Financial aid advising	FREQFAADV	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1h. Computer lab [STUEFF]	FREQCOMLB	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1i. Student organizations	FREQSTORG	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1j. Transfer advising/planning	FREQTRADV	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1k. Library resources and services	FREQLIB	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times
12.1l. Services for students with disabilities	FREQDISABSV	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times

Item	Variable	Responses
12.1m. Services for active military and veterans	FREQMILSVCS	0 = Never 1 = 1 time 2 = 2–4 times 3 = 5 or more times

Item	Variable	Responses
Item 12.2: How satisfied are you with the services?		
12.2a. Academic advising/planning	SATACAD	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2b. Career counseling	SATCACOU	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2c. Job placement assistance	SATJOBPL	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2d. Peer or other tutoring	SATTUTOR	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2e. Skill labs (writing, math, etc.)	SATLAB	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2f. Child care	SATCHLD	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2g. Financial aid advising	SATFAADV	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2h. Computer lab	SATCOMLB	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.

Item	Variable	Responses
12.2i. Student organizations	SATSTORG	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.

Item	Variable	Responses
Item 12.2: How satisfied are you with the services?		
12.2j. Transfer advising/planning	SATTRADV	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2k. Library resources and services	SATLIB	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2l. Services for students with disabilities	SATDISABSVC	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
12.2m. Services for active military and veterans	SATMILSVCS	0 = Not at all 1 = Somewhat 2 = Very 99 = N.A.
Item 12.3: How important are the services to you at this college?		
12.3a. Academic advising/planning	IMPACAD	1 = Not at all 2 = Somewhat 3 = Very
12.3b. Career counseling	IMPCACOU	1 = Not at all 2 = Somewhat 3 = Very
12.3c. Job placement assistance	IMPJOBPL	1 = Not at all 2 = Somewhat 3 = Very
12.3d. Peer or other tutoring	IMPTUTOR	1 = Not at all 2 = Somewhat 3 = Very
12.3e. Skill labs (writing, math, etc.)	IMPLAB	1 = Not at all 2 = Somewhat 3 = Very

Item	Variable	Responses
Item 12.3: How important are the services to you at this college?		
12.3f. Child care	IMPCHLD	1 = Not at all 2 = Somewhat 3 = Very
12.3g. Financial aid advising	IMPFAADV	1 = Not at all 2 = Somewhat 3 = Very
12.3h. Computer lab	IMPCOMLB	1 = Not at all 2 = Somewhat 3 = Very
12.3i. Student organizations	IMPSTORG	1 = Not at all 2 = Somewhat 3 = Very
12.3j. Transfer advising/planning	IMPTRADV	1 = Not at all 2 = Somewhat 3 = Very
12.3k. Library resources and services	IMPLIB	1 = Not at all 2 = Somewhat 3 = Very
12.3l. Services for students with disabilities	IMPDISABSVC	1 = Not at all 2 = Somewhat 3 = Very
12.3m. Services for active military and veterans	IMPMILSVCS	1 = Not at all 2 = Somewhat 3 = Very
Item 13		
13. During the current academic term at this college, I completed registration before the first class session(s).	COMPLREG	0 = No; I was not registered for any of my courses before the first class session(s) 1 = Partly; I was registered for some of my courses before the first class session(s) 2 = Mostly; I was registered for most of my courses before the first class session(s) 3 = Yes; I was registered for all of my courses before the first class session(s)

Item	Variable	Responses
Item 14		
14. The one response that best describes my experience with orientation when I first came to this college is:	EXPORIENT	0 = I was unable to participate in orientation due to scheduling or other issues 1 = I was not aware of a college orientation 2 = I enrolled in an orientation course as part of my course schedule during my first academic term 3 = I attended an on-campus orientation prior to the beginning of classes 4 = I took part in an online orientation prior to the beginning of classes
Item 15		
15. During my first academic year at this college, I participated in a first-year experience program.	PARTICFYE	0 = No 1 = Yes
Item 16		
16. During my first academic term at this college, I participated in an organized learning community (a formal program in which groups of students take two or more classes together).	PARTICLRNC	0 = No 1 = Yes
Item 17		
17. During my first academic term at this college, I participated in a student success course (a course that teaches the skills needed to succeed in college).	PARTICSSC	0 = No 1 = Yes
Item 18		
18. I was told that I should enroll in a developmental/remedial course (also referred to as Basic Skills, College Prep, etc.) in my first academic term at this college, and I...	TOLDENRDEV	0 = Did not enroll in any of these courses 1 = Did enroll in one of these courses 2 = Did enroll in more than one of these courses 99 = N.A.
Item 19		
19. During the current academic term at this college, my instructors clearly explained a class attendance policy that specified how many classes I could miss without a penalty.	ATTNDPOLICY	0 = None of my instructors explained a class attendance policy 1 = Some of my instructors explained a class attendance policy 2 = Most of my instructors explained a class attendance policy 3 = All of my instructors explained a class attendance policy

Item	Variable	Responses
Item 20		
20. Before the end of my first academic term at this college, an advisor helped me develop an academic plan (a personalized plan with a defined sequence of courses for completing a college certificate or degree and/or for transferring to a 4-year college or university).	DEVACADPLN	0 = No 1 = Yes 97 = I'm still in my first academic term; I have not yet developed an academic plan.
Item 21		
21. Someone at this college contacts me if I am struggling with my studies to help me get the assistance I need.	STRGLASSIST	0 = No 1 = Yes 99 = N.A.
Item 22		
22. During the current academic year at this college, I have participated in supplemental instruction/supplemental learning (extra class sessions with the instructor or an experienced student).	PARTICSI	0 = Never 1 = Less than 1 time a week 2 = 1–2 times a week 3 = 3–4 times a week 4 = More than 4 times a week
Item 23: How likely is it that the following issues would cause you to withdraw from class or from this college?		
23a. Working full-time	WRKFULL	1 = Not likely 2 = Somewhat likely 3 = Likely 4 = Very likely
23b. Caring for dependents	CAREDEP	1 = Not likely 2 = Somewhat likely 3 = Likely 4 = Very likely
23c. Academically unprepared	ACADUNP	1 = Not likely 2 = Somewhat likely 3 = Likely 4 = Very likely
23d. Lack of finances	LACKFIN	1 = Not likely 2 = Somewhat likely 3 = Likely 4 = Very likely

Item	Variable	Responses
23e. Transfer to a 4-year college or university	TRANSFER	1 = Not likely 2 = Somewhat likely 3 = Likely 4 = Very likely

Item	Variable	Responses
Item 24		
24. How supportive are your friends of your attending this college?	FRNDSUPP	1 = Not very 2 = Somewhat 3 = Quite a bit 4 = Extremely
Item 25		
25. How supportive is your immediate family of your attending this college?	FAMSUPP	1 = Not very 2 = Somewhat 3 = Quite a bit 4 = Extremely
Item 26: Indicate which of the following are your reasons/goals for attending this college.		
26a. Complete a certificate program	GOALCERT	0 = No 1 = Yes
26b. Obtain an associate degree	GOALAA	0 = No 1 = Yes
26c. Transfer to a 4-year college or university	GOALTR4YR	0 = No 1 = Yes
26d. Obtain or update job-related skills	GOALJOBSKILL	0 = No 1 = Yes
26e. Change careers	GOALCHGCAR	0 = No 1 = Yes
26f. Self-improvement/personal enjoyment	GOALSELFIMP	0 = No 1 = Yes
Item 27: Indicate which of the following are sources you use to pay for your tuition at this college.		
27a. My own income/savings	PAYOWNINC	1 = Not a source 2 = Minor source 3 = Major source
27b. Income/savings from family	PAYFAM	1 = Not a source 2 = Minor source 3 = Major source
27c. Employer contributions	PAYEMPLOYER	1 = Not a source 2 = Minor source 3 = Major source
27d. Active military or veterans benefits	PAYMILBEN	1 = Not a source 2 = Minor source 3 = Major source

Item	Variable	Responses
Item 27: Indicate which of the following are sources you use to pay for your tuition at this college.		
27e. Grants	PAYGRANT	1 = Not a source 2 = Minor source 3 = Major source
27f. Scholarships	PAYSCHOL	1 = Not a source 2 = Minor source 3 = Major source
27g. Student loans (bank, etc.)	PAYSTULOANS	1 = Not a source 2 = Minor source 3 = Major source
27h. Public assistance	PAYPUBASSIST	1 = Not a source 2 = Minor source 3 = Major source
Item 28		
28. When do you plan to take classes at this college again?	WHENTKAGN	1 = I will accomplish my goal(s) during this academic term and will not be returning 2 = I have no current plan to return 3 = Within the next 12 months 4 = Uncertain
Item 29		
29. At this college, in what range is your overall college grade point average (GPA)?	COLGPA	1 = D or lower 2 = C 3 = B 4 = A 97 = I do not have a GPA at this college
Item 30		
30. In what range was your overall high school grade point average (GPA)?	HSGPA	1 = D or lower 2 = C 3 = B 4 = A 98 = I do not remember
Item 31		
31. When do you most frequently take classes at this college?	TIMCLASS	1 = Day classes (morning or afternoon) 2 = Evening classes 3 = Weekend classes

Item	Variable	Responses
Item 32: During the current academic term, how many classes are you taking...		
32a. Face-to-face (a class in which all instruction is face-to-face in a classroom)	NUMCLF2F	0 = None 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 or more
32b. Online (a class in which all instruction is online)	NUMCLOL	0 = None 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 or more
32c. Hybrid (a class that is a mixture of face-to-face and online instruction)	NUMCLHYB	0 = None 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 or more
Item 33		
33. How many total credit hours have you earned at this college, not counting the courses you are currently taking this academic term?	TOTCREARND	0 = None 1 = 1–14 credits 2 = 15–29 credits 3 = 30–44 credits 4 = 45–60 credits 5 = Over 60 credits
Item 34		
34. How many total academic terms have you been enrolled at this college?	TOTTERMS	1 = This is my first academic term 2 = This is my second academic term 3 = This is my third or fourth academic term 4 = This is my fifth or sixth academic term 5 = I have been enrolled more than six academic terms
Item 35		
35. Would you recommend this college to a friend or family member?	RECOMMEN	0 = No 1 = Yes

Item	Variable	Responses
Item 36		
36. How would you evaluate your overall educational experience at this college?	OVRALLEXP	1 = Poor 2 = Fair 3 = Good 4 = Excellent
Item 37		
37. Do you have children who live with you and depend on you for their care?	CHILDREN	0 = No 1 = Yes
Item 38		
38. Mark your age group.	AGENEW	1 = Under 18 2 = 18–19 3 = 20–21 4 = 22–24 5 = 25–29 6 = 30–39 7 = 40–49 8 = 50–64 9 = 65+
Item 39		
39. Your gender identity:	GENDER	1 = Man 2 = Woman 3 = Other 95 = I prefer not to respond
Item 40		
40. Are you married?	MARRIED	0 = No 1 = Yes
Item 41		
41. Is English your native (first) language?	ENGFIRST	0 = No 1 = Yes
Item 42		
42. Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?	MILITARY	0 = No 1 = Yes
Item 43		
43. Are you an international student or non-resident alien?	INTRNATSTU	0 = No 1 = Yes

Item	Variable	Responses
Item 44		
44. Are you a student-athlete on a team sponsored by this college's athletics department?	STUATHLETE	0 = No 1 = Yes
Item 45: What is your racial or ethnic identification? (Mark all that apply)		
45a. American Indian or Alaska Native	RACETHAMIND	0 = Not marked 1 = Marked
45b. Asian	RACETHAS	0 = Not marked 1 = Marked
45c. Black or African American	RACETHAA	0 = Not marked 1 = Marked
45d. Hispanic or Latino	RACETHLAT	0 = Not marked 1 = Marked
45e. Native Hawaiian	RACETHHI	0 = Not marked 1 = Marked
45f. Pacific Islander (non-Native Hawaiian)	RACETHPI	0 = Not marked 1 = Marked
45g. White	RACETHWH	0 = Not marked 1 = Marked
45h. Other	RACETHOTHR	0 = Not marked 1 = Marked
45i. I prefer not to respond	RACETHNO	0 = Not marked 1 = Marked
Item 46		
46. What is the highest academic credential you have earned?	HIGHESTED	0 = None 1 = GED 2 = High school diploma 3 = Vocational/technical certificate 4 = Associate degree 5 = Bachelor's degree 6 = Master's/doctoral/professional degree
Item 47: Who in your family has attended at least some college? (Mark all that apply)		
47a. Mother	SOMECOLMO	0 = Not marked 1 = Marked
47b. Father	SOMECOLFA	0 = Not marked 1 = Marked

Item	Variable	Responses
47c. Brother/Sister	SOMECOLSIB	0 = Not marked 1 = Marked

Item	Variable	Responses
Item 47: Who in your family has attended at least some college? (Mark all that apply)		
47d. Child	SOMECOLCHLD	0 = Not marked 1 = Marked
47e. Spouse/Partner	SOMECOLSP	0 = Not marked 1 = Marked
47f. Legal Guardian	SOMECOLGUAR	0 = Not marked 1 = Marked
47g. No one	SOMECOLNONE	0 = Not marked 1 = Marked

Item	Variable	Responses
The items below are derived CCSSE variables.		
Taken or plan to take developmental coursework/Have not taken and do not plan to take developmental coursework	DEVED	0 = Non-developmental
		1 = Developmental
Traditional/nontraditional-age students	TRADAGE	0 = Nontraditional-age
		1 = Traditional-age
First-generation/not first-generation students	FIRSTGEN	0 = Not first-generation
		1 = First-generation
Credit hours completed	CREDIT	1 = 0 to 29 credits
		2 = 30+ credits
Race/Ethnicity	RACE_ETH	1 = American Indian or Alaska Native
		2 = Asian
		3 = Black or African American
		4 = Hispanic or Latino
		5 = Native Hawaiian
		6 = Pacific Islander (non-Native Hawaiian)
		7 = White
		8 = Other
		9 = 2 or more
		10 = I prefer not to respond
Credential/not credential-seeking	CREDENTIAL	0 = Not credential-seeking
		1 = Credential-seeking
Urbanicity	LOCATION	1 = Urban
		2 = Suburban
		3 = Rural
Size of college	SIZE	1 = Small
		2 = Medium
		3 = Large

Item	Variable	Responses
The items below are the calculated weights and raw benchmarks.		
Institutional weight based on proportions of full-time and part-time enrollment in the primary sample	IWEIGHT	
The items below are the calculated weights and raw benchmarks.		
Raw active and collaborative learning benchmark score	ACTCOLL	
Raw student effort benchmark score	STUEFF	
Raw academic challenge benchmark score	ACCHALL	
Raw student-faculty interaction benchmark score	STUFAC	
Raw support for learners benchmark score	SUPPORT	
The items below are standardized benchmarks (i.e. standardized across the cohort to have a mean of 50 and standard deviation of 25 at the respondent level).		
Standardized active and collaborative learning benchmark score	ACTCOLL_STD	
Standardized student effort benchmark score	STUEFF_STD	
Standardized academic challenge benchmark score	ACCHALL_STD	
Standardized student-faculty interaction benchmark score	STUFAC_STD	
Standardized support for learners benchmark score	SUPPORT_STD	

APPENDIX C: IPEDS DATA

Institution Name	Grand total (EFFY2019 UG)	Grand total men (EFFY2019 UG)	Grand total women (EFFY2019 UG)	American Indian or Alaska Native total (EFFY2019 UG)	Asian total (EFFY2019 UG)	Black or African American total (EFFY2019 UG)	Hispanic or Latino total (EFFY2019 UG)	Native Hawaiian or Other Pacific Islander total (EFFY2019 UG)	White total (EFFY2019 UG)	Two or more races total (EFFY2019 UG)	Race/ethnicity unknown total (EFFY2019 UG)	Nonresident alien total (EFFY2019 UG)	Asian/Pacific Islander Combined
Aaniih Nakoda College	265	117	148	234	0	0	1	0	30	0	0	0	0
Aiken Technical College	3097	1114	1983	27	39	1040	186	3	1735	32	33	2	42
Alamance Community College	5490	2106	3384	33	97	1066	789	8	2999	177	152	169	105
Alaska Christian College	113	48	65	102	0	0	0	3	5	3	0	0	3
Ancilla College	496	188	308	1	0	111	50	0	306	15	3	10	0
Arkansas Northeastern College	2006	792	1214	3	10	509	81	1	1381	20	1	0	11
Arkansas State University-Mountain Home	1867	735	1132	10	9	9	65	2	1663	67	42	0	11
Arkansas State University-Newport	4869	1999	2870	22	70	620	146	2	3639	58	275	37	72
Atlantic Cape	7744	3062	4682	39	596	1012	1544	15	3388	155	785	210	611

Community College													
Aviator College of Aeronautical Science and Technology	373	348	25	2	66	19	90	0	86	8	67	35	66
Barton County Community College	13325	7539	5786	112	1122	1679	1557	89	7758	452	460	96	1211
Beaufort County Community College	2049	671	1378	3	12	506	209	1	1218	42	50	8	13
Belmont College	1268	419	849	0	3	21	6	1	1186	48	3	0	4
Berkshire Community College	2243	826	1417	17	44	172	179	5	1618	62	138	8	49
Black River Technical College	2182	766	1416	9	3	70	46	4	1987	19	44	0	7
Blackfeet Community College	496	158	338	456	0	0	1	0	39	0	0	0	0
Bladen Community College	1663	528	1135	249	3	436	139	3	717	49	66	1	6
Blue Mountain Community College	3297	1395	1902	81	22	38	1043	14	1906	105	86	2	36
Blue Ridge Community and	7829	2949	4880	28	109	400	367	23	6701	161	40	0	132

Technical College													
Blue Ridge Community College	5603	2234	3369	17	120	287	628	5	4190	207	92	57	125
Brookdale Community College	17100	8057	9043	77	793	1603	2452	47	11178	183	604	163	840
Brunswick Community College	2000	736	1264	23	18	236	166	1	1383	83	90	0	19
Bucks County Community College	13315	5638	7677	51	674	727	943	17	9534	341	965	63	691
Butte College	13659	6338	7321	166	836	300	3876	43	7394	782	130	132	879
Cankdeska Cikana Community College	293	113	180	253	0	3	3	0	32	2	0	0	0
Carl Sandburg College	2928	1001	1927	7	25	196	204	0	2195	121	180	0	25
Carroll Community College	4256	1758	2498	12	108	243	205	5	3465	89	116	13	113
Cecil College	3201	1160	2041	10	45	280	180	3	2444	156	38	45	48
Cedar Valley College	16540	6301	10239	53	1128	6268	4996	16	3099	302	611	67	1144
Central Arizona College	8518	3681	4837	384	157	580	2891	29	3438	307	640	92	186
Central Maine	3746	1690	2056	16	24	298	73	2	2220	66	1006	41	26

Community College													
Central Pennsylvania Institute of Science and Technology	291	127	164	1	2	6	5	1	276	0	0	0	3
Cerro Coso Community College	9825	4229	5596	161	416	668	3993	32	3854	516	171	14	448
Chatfield College	344	79	265	0	4	139	6	0	193	2	0	0	4
Chattahoochee Valley Community College	2232	857	1375	7	21	963	143	8	989	73	28	0	29
Chesapeake College	2790	959	1831	33	43	405	161	2	1888	87	129	42	45
Chief Dull Knife College	416	166	250	344	0	0	0	0	72	0	0	0	0
Clarendon College	3775	2015	1760	41	26	433	738	8	1790	5	643	91	34
Clatsop Community College	2096	1168	928	20	26	38	230	11	1119	61	591	0	37
Cloud County Community College	2711	1117	1594	10	25	169	211	5	1923	96	143	129	30
Coahoma Community College	2529	1034	1495	4	3	2329	10	6	134	16	19	8	9
Coconino Community College	5900	2766	3134	1178	77	129	1094	30	2824	268	299	1	107

College of Southern Maryland	9809	3889	5920	45	342	2568	712	35	5268	606	183	50	377
College of the Muscogee Nation	275	120	155	234	0	0	10	0	0	31	0	0	0
College of the Redwoods	6345	2860	3485	311	206	198	1374	34	3562	552	106	2	240
College of Western Idaho	20998	8851	12147	185	397	343	3375	67	14937	504	1116	74	464
Colorado Northwest ern Community College	1722	739	983	8	19	38	192	4	1182	43	203	33	23
Columbia College	3602	1643	1959	64	63	140	710	14	2561	9	41	0	77
Columbia-Greene Community College	2069	752	1317	5	74	163	168	0	1561	62	34	2	74
Community College of Vermont	9567	3144	6423	59	169	229	266	5	7692	585	330	232	174
Connors State College	2721	885	1836	549	12	203	155	1	1286	456	39	20	13
Copiah-Lincoln Community College	3949	1453	2496	13	10	1665	47	1	2049	29	135	0	11
Copper Mountain	2321	845	1476	13	71	162	839	12	1039	160	25	0	83

Community College													
Cossatot Community College of the University of Arkansas	1948	673	1275	22	4	214	479	1	1145	80	0	3	5
Crafton Hills College	9306	4118	5188	26	574	394	4575	15	3199	482	29	12	589
Cumberland County College	4149	1429	2720	23	74	684	1402	5	1628	137	188	8	79
Dabney S Lancaster Community College	1387	522	865	8	9	56	33	0	1212	55	13	1	9
Dakota College at Bottineau	1276	515	761	42	7	115	66	3	889	67	32	55	10
Dakota County Technical College	3490	1998	1492	13	140	359	246	4	2341	128	243	16	144
Davidson County Community College	5123	1845	3278	39	95	717	452	2	3519	127	157	15	97
Delta College	10809	4580	6229	42	100	780	786	3	8167	308	569	54	103
Denmark Technical College	842	321	521	3	8	625	12	0	132	3	59	0	8
East Central College	3570	1399	2171	20	31	34	78	3	3274	80	36	14	34

East Central Community College	3192	1225	1967	180	12	1056	83	6	1721	64	48	22	18
East Mississippi Community College	6066	2626	3440	18	55	2830	122	1	2769	139	132	0	56
Eastern Shore Community College	818	323	495	2	9	229	112	2	423	28	4	9	11
Eastern West Virginia Community and Technical College	635	190	445	1	3	9	13	0	594	14	1	0	3
Edgecombe Community College	2828	660	2168	23	9	1550	132	2	966	39	84	23	11
Edison State Community College	4508	1778	2730	7	47	113	107	9	3995	123	97	10	56
Finger Lakes Community College	8907	3888	5019	34	148	418	483	1	6189	182	1445	7	149
Flathead Valley Community College	3615	1568	2047	79	30	14	22	11	2754	106	583	16	41
Fletcher Technical	3070	1037	2033	151	34	678	100	28	1803	129	117	30	62

Community College													
Fulton-Montgomery Community College	2771	1173	1598	5	26	141	363	1	1719	95	329	92	27
Garrett College	835	397	438	4	2	131	17	1	654	13	0	13	3
Germanna Community College	9583	3778	5805	45	287	1448	1155	22	5752	670	154	50	309
Glen Oaks Community College	1610	717	893	5	14	66	194	2	1246	48	34	1	16
Gogebic Community College	1195	496	699	19	8	21	18	0	1068	26	34	1	8
Halifax Community College	1499	627	872	40	10	806	37	2	514	12	75	3	12
Harford Community College	8123	3434	4689	26	251	1325	428	11	5647	283	65	87	262
Henderson Community College	2023	649	1374	5	13	197	70	1	1609	99	29	0	14
Herkimer County Community College	3524	1451	2073	20	58	358	214	3	2521	41	113	196	61
Highland Community College	4724	1936	2788	92	46	482	152	7	3277	302	366	0	53
Holmes Community College	8352	2813	5539	13	86	3659	135	1	4279	59	119	1	87

Illinois Valley Community College	4549	1947	2602	9	45	94	795	4	3395	58	149	0	49
Imperial Valley College	10628	4686	5942	17	79	157	9744	3	435	52	137	4	82
James Sprunt Community College	1572	521	1051	12	8	423	319	2	734	26	21	27	10
Jefferson College	5539	2078	3461	22	50	114	159	6	5017	122	23	26	56
John C Calhoun State Community College	15020	6991	8029	183	328	2484	937	3	10107	711	146	121	331
John Wood Community College	2935	1179	1756	8	26	120	41	0	2547	57	133	3	26
Johnston Community College	5331	1973	3358	32	46	807	769	10	3389	93	157	28	56
Kaskaskia College	5492	2220	3272	18	56	265	122	4	4834	154	38	1	60
Kennebec Valley Community College	3341	1191	2150	28	20	42	59	14	2591	34	545	8	34
Keweenaw Bay Ojibwa Community College	109	31	78	61	0	2	0	0	35	11	0	0	0
Kirtland Community College	1914	728	1186	19	12	21	48	2	1720	30	61	1	14

Kishwaukee College	4736	2095	2641	22	89	675	987	1	2700	159	74	29	90
Lac Courte Oreilles Ojibwe College	391	104	287	307	0	3	3	0	74	0	4	0	0
Lake Tahoe Community College	7185	4055	3130	40	508	367	1901	32	3654	297	353	33	540
Lakes Region Community College	2002	1039	963	1	6	9	31	0	1547	43	363	2	6
Lakeshore Technical College	3596	1601	1995	14	277	58	107	9	2901	176	54	0	286
Lane Community College	15319	7185	8134	198	362	272	2000	69	9277	913	1732	496	431
Lanier Technical College	5861	2469	3392	20	158	596	1055	7	3817	137	1	70	165
Lassen Community College	4890	4091	799	88	191	879	1670	49	1726	193	69	25	240
Laurel Technical Institute	206	31	175	0	0	8	4	1	182	6	5	0	1
Leech Lake Tribal College	255	98	157	224	0	3	0	2	25	1	0	0	2
Lincoln Trail College	1314	612	702	4	16	39	32	2	1171	47	3	0	18
Little Big Horn College	495	188	307	482	0	0	4	0	8	1	0	0	0

Little Priest Tribal College	220	72	148	181	0	19	0	0	9	4	7	0	0
Lord Fairfax Community College	9054	3452	5602	30	186	398	903	11	6960	359	145	62	197
Louisiana Delta Community College	5616	2223	3393	16	23	2056	151	70	2603	141	537	19	93
Luna Community College	1591	715	876	18	9	22	1249	2	246	4	41	0	11
Lurleen B Wallace Community College	2514	1038	1476	16	11	534	48	1	1827	61	11	5	12
Madisonville Community College	5588	3065	2523	23	15	248	160	5	4745	119	272	1	20
Marion Military Institute	417	312	105	4	10	77	37	0	257	31	1	0	10
Marshalltown Community College	2422	1023	1399	55	45	58	388	2	1289	46	440	99	47
Martin Community College	983	334	649	3	5	269	18	1	477	2	207	1	6
Maysville Community and Technical College	5332	2345	2987	8	13	146	126	5	4744	121	168	1	18

McDowell Technical Community College	1395	527	868	7	16	34	118	2	1178	13	16	11	18
McHenry County College	10941	5222	5719	11	278	195	2531	10	6903	406	590	17	288
Mendocino College	6477	2498	3979	326	188	140	2214	16	3359	142	85	7	204
Mercer County Community College	10751	5065	5686	19	833	2175	2059	17	4088	287	841	432	850
Meridian College	348	13	335	0	4	102	58	1	161	17	5	0	5
Mid Michigan College	4963	2047	2916	54	31	217	216	4	3981	147	121	192	35
Mid-State Technical College	3530	1464	2066	34	105	56	54	5	2980	218	78	0	110
Mississippi Gulf Coast Community College	12236	4855	7381	59	311	2946	698	18	7443	573	188	0	329
Mitchell Technical Institute	1449	912	537	41	13	16	33	1	1295	33	17	0	14
Mohave Community College	5539	1876	3663	92	113	66	1361	31	3584	188	71	33	144
Monroe County Community College	3778	1560	2218	16	32	147	142	3	3157	42	236	3	35

Montcalm Community College	2113	812	1301	11	7	13	5	2	1810	61	200	4	9
Montgomery Community College	1025	405	620	3	21	163	191	1	614	25	0	7	22
Motlow State Community College	8577	3321	5256	19	222	970	707	10	6358	244	26	21	232
Mount Wachusett Community College	5152	1801	3351	17	133	493	840	2	3390	93	159	25	135
Murray State College	2780	879	1901	132	18	55	208	2	1511	574	35	245	20
Nash Community College	4734	2246	2488	97	55	1348	289	16	2716	92	78	43	71
Nebraska College of Technical Agriculture	428	181	247	4	2	0	7	0	346	18	51	0	2
Nebraska Indian Community College	338	109	229	303	0	3	6	0	25	1	0	0	0
New Castle School of Trades	843	780	63	0	1	90	14	0	737	0	1	0	1
New Mexico State University-	3025	1129	1896	99	49	142	1471	10	1057	74	65	58	59

Alamogordo													
New Mexico State University-Carlsbad	3144	1156	1988	36	30	85	1756	1	994	40	127	75	31
New Mexico State University-Dona Ana	10521	4511	6010	158	84	226	7466	9	1883	134	202	359	93
Niagara County Community College	4679	2027	2652	73	77	590	203	4	3419	175	119	19	81
Nicolet Area Technical College	1835	745	1090	93	24	16	37	4	1599	60	0	2	28
North Central Kansas Technical College	1219	721	498	27	16	24	23	1	1127	1	0	0	17
North Central Michigan College	3391	1357	2034	117	19	36	90	5	2898	135	86	5	24
North Georgia Technical College	3668	1391	2277	17	40	219	214	3	3044	72	50	9	43
Northeast Alabama Community College	4007	1554	2453	124	17	76	433	4	3290	60	0	3	21

Northeast Iowa Community College	5972	2350	3622	25	51	175	161	15	5305	102	136	2	66
Northeast State Community College	7465	3506	3959	26	58	215	222	9	6642	190	91	12	67
Northeast Texas Community College	4575	1736	2839	31	69	509	1261	5	2445	111	15	129	74
Northeastern Technical College	1972	653	1319	49	14	815	46	0	974	51	23	0	14
Northland Pioneer College	5841	2218	3623	1700	63	80	781	16	2768	106	326	1	79
Northshore Technical Community College	5946	2537	3409	25	23	1714	202	92	2294	117	1468	11	115
Northwest Iowa Community College	2796	1077	1719	22	46	97	252	7	2248	31	93	0	53
Northwest Louisiana Technical College	1605	863	742	22	2	650	57	30	718	56	66	4	32
Northwest School of Wooden Boat Building	46	45	1	1	0	0	1	1	42	1	0	0	1

Northwest State Community College	6047	4371	1676	22	23	165	325	1	3725	43	1724	19	24
Oconee Fall Line Technical College	2208	866	1342	4	5	908	60	1	1162	45	21	2	6
Orangeburg Calhoun Technical College	3385	1162	2223	22	29	1744	62	4	1438	40	46	0	33
Oregon Coast Community College	759	239	520	24	9	5	137	2	513	51	18	0	11
Owensboro Community and Technical College	5426	2680	2746	12	51	164	150	3	4811	153	80	2	54
Ozarka College	1554	451	1103	10	6	20	21	2	1495	0	0	0	8
Palo Verde College	6422	5498	924	55	328	722	2425	42	2474	177	195	4	370
Pamlico Community College	715	334	381	7	9	240	44	1	379	6	29	0	10
Patrick Henry Community College	2932	1129	1803	2	33	608	219	2	1914	111	16	27	35
Pearl River Community College	6405	2416	3989	45	53	1799	137	0	4158	0	204	9	53
Pennsylvania Institute	147	7	140	0	0	10	0	0	134	2	1	0	0

of Health and Technology													
Phillips Community College of the University of Arkansas	1941	771	1170	5	8	921	36	1	934	2	34	0	9
Piedmont Community College	1681	644	1037	22	6	474	86	2	1000	39	42	10	8
Pratt Community College	1751	726	1025	19	17	125	178	2	1142	36	200	32	19
Ranger College	3537	1595	1942	20	31	166	847	6	2273	102	25	67	37
Rappahann ock Community College	4041	1398	2643	41	50	738	182	4	2741	188	84	13	54
Raritan Valley Community College	11138	5605	5533	19	840	1236	2224	39	5472	267	804	237	879
Red Lake Nation College	181	67	114	167	0	1	4	0	3	5	1	0	0
Reid State Technical College	604	222	382	3	1	337	6	1	248	4	4	0	2
Rend Lake College	4370	2164	2206	18	30	196	63	4	3989	41	25	4	34
Richard Bland College	2746	1126	1620	12	407	628	150	0	1369	67	67	46	407

River Parishes Community College	4410	2177	2233	14	24	1350	170	64	1944	91	740	13	88
River Valley Community College	1827	638	1189	6	9	16	43	18	1509	59	167	0	27
Roanoke- Chowan Community College	956	308	648	11	9	549	16	0	323	6	39	3	9
Rockingha m Community College	2205	820	1385	5	11	337	175	2	1484	62	111	18	13
Rogue Community College	8756	3664	5092	118	97	77	1477	53	5923	417	306	288	150
Rosedale Bible College	52	25	27	0	1	0	0	0	51	0	0	0	1
Sandhills Community College	5164	1940	3224	150	60	849	598	9	3001	223	261	13	69
Sauk Valley Community College	2785	1137	1648	6	36	71	435	1	2119	63	54	0	37
Scottsdale Community College	13022	5853	7169	613	444	526	2640	40	7585	503	569	102	484
Shawnee Community College	3344	1169	2175	27	16	400	109	2	2688	1	101	0	18
Sisseton Wahpeton College	267	102	165	202	0	19	2	0	44	0	0	0	0

South Georgia Technical College	3070	1421	1649	9	37	1633	94	5	1251	13	16	12	42
South Piedmont Community College	3942	1376	2566	13	94	663	478	1	2236	113	323	21	95
Southeast Technical Institute	2995	1334	1661	9	70	98	107	3	2141	19	548	0	73
Southeastern Community College	1933	642	1291	116	6	385	107	2	1178	63	70	6	8
Southeastern Illinois College	3778	1669	2109	6	19	90	52	1	3298	81	218	13	20
Southern Arkansas University Tech	1968	1129	839	4	8	575	78	0	1185	109	2	7	8
Southern Union State Community College	7060	3124	3936	15	132	1489	177	3	5043	115	63	23	135
Southside Virginia Community College	4475	1604	2871	17	34	1532	146	8	2535	151	42	10	42
Southwest Virginia Community College	3056	1095	1961	6	13	72	31	0	2858	52	22	2	13
Southwest Wisconsin	3757	1673	2084	18	29	91	120	0	3390	70	39	0	29

Technical College													
Southwest ern Michigan College	2583	1027	1556	37	37	266	115	6	1820	90	210	2	43
Spoon River College	2158	786	1372	13	14	217	69	0	1798	15	32	0	14
State Technical College of Missouri	1659	1303	356	6	8	28	30	0	1542	33	12	0	8
Sullivan County Community College	1969	878	1091	6	40	333	459	2	923	70	98	38	42
SUNY Corning Community College	4940	2140	2800	13	57	187	124	4	3136	127	1284	8	61
Surry Community College	4221	1585	2636	11	31	137	642	4	3227	62	100	7	35
Taylor College	253	49	204	0	2	70	26	0	147	8	0	0	2
Terra State Community College	3051	1623	1428	17	21	167	174	1	2242	38	391	0	22
Texas County Technical College	82	4	78	0	0	1	3	0	76	2	0	0	0
The Landing School	64	59	5	0	2	1	2	1	51	3	0	4	3

Tillamook Bay Community College	741	304	437	6	8	8	136	7	508	27	15	26	15
Tohono O'Odham Community College	706	277	429	602	1	17	32	0	44	5	5	0	1
Tri-County Community College	1397	548	849	21	18	21	48	0	1227	26	27	9	18
Triangle Tech Inc-Dubois	205	187	18	1	0	1	1	0	201	0	1	0	0
Triangle Tech Inc-Sunbury	141	132	9	1	0	4	9	0	122	5	0	0	0
Ulster County Community College	4485	2097	2388	9	125	293	675	5	2871	178	324	5	130
Umpqua Community College	3312	1354	1958	83	54	65	61	17	2653	165	206	8	71
University of Akron Wayne College	2369	1038	1331	6	31	98	63	0	2028	76	48	19	31
University of New Mexico-Gallup Campus	2912	1064	1848	1877	68	25	544	6	252	72	38	30	74
University of New Mexico-	1726	643	1083	90	18	19	933	0	553	36	65	12	18

Taos Campus													
University of New Mexico-Valencia County Campus	3609	1345	2264	268	37	35	2316	11	756	67	79	40	48
University of South Carolina-Salkehatchie	1120	409	711	3	5	396	40	1	576	37	38	24	6
Vernon College	4017	1419	2598	27	83	349	949	5	2381	134	76	13	88
Washington State Community College	2327	826	1501	14	11	33	33	2	2177	33	19	5	13
Waubesa Community College	16110	7156	8954	34	614	1085	5892	10	7721	382	294	78	624
West Georgia Technical College	10043	3481	6562	37	138	3190	687	13	5621	266	61	30	151
West Hills College-Lemoore	6574	2407	4167	50	384	345	4144	16	1330	200	100	5	400
West Shore Community College	1450	541	909	20	11	21	121	1	1175	58	33	10	12
Western Dakota Technical Institute	1581	677	904	139	16	29	81	5	1177	62	72	0	21

Westmorel and County Community College	7243	2678	4565	11	152	236	145	4	6356	249	5	85	156
White Earth Tribal and Community College	162	47	115	133	0	0	1	0	14	4	10	0	0
Wichita State University- Campus of Applied Sciences and Technology	8472	4423	4049	80	362	843	1418	18	4811	422	349	169	380
Wisconsin Indianhead Technical College	4298	1503	2795	143	43	56	36	8	3817	113	82	0	51
Wor-Wic Community College	4052	1450	2602	14	108	1034	225	4	2386	175	79	27	112
York County Community College	2206	792	1414	10	49	25	51	3	1647	58	354	9	52
	92246 7	392795	529672	18518	21621	107053	134631	1922	564091	27999	39487	7145	23543
Percentage s		42.58%	57.42%	2.01%	2.34%	11.61%	14.59%	0.21%	61.15%	3.04%	4.28%	0.77%	2.55%

APPENDIX D: IRB APPROVAL

April 29, 2021

Connie Little
College of Education
Department of ELPDS
Box 870302

Re: IRB # 21-02-4371: "Study of Community College Student Athletes and their Campus Engagement"

Dear Mr. Little,

The University of Alabama Institutional Review Board has granted approval for your proposed research. Your application has been given exempt approval according to 45 CFR part 46. Approval has been given under exempt review category 4 as outlined below:

(4) Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects.

The approval for your application will lapse on April 28, 2022. If your research will continue beyond this date, please submit the annual report to the IRB as required by University policy before the lapse. Please note, any modifications made in research design, methodology, or procedures must be submitted to and approved by the IRB before implementation. Please submit a final report form when the study is complete.

Sincerely,



Director & Research Compliance Officer

Jessup Building | Box 870127 | Tuscaloosa, AL 35407-0127 | 205 348-8461
Fax 205-348-7189 | Toll Free 1-877-820-3065 | researchcompliance@research.ua.edu