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# STUDENT ATHLETE ACADEMIC SUCCESS: DOES TRAVEL MATTER?

by

Lawrence Surtees

A dissertation

submitted in partial fulfillment

of the requirements for the degree of

Doctor of Education in the Department of School Psychology and Educational Leadership

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To the Graduate Faculty:

The members of the committee appointed to examine the thesis of LAWRENCE SURTEES find it satisfactory and recommend it be accepted.

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RE: regarding study number IRB-FY2020-7: Student Athlete Academic Performance: Does Travel Matter

Dear Mr. Surtees:

I agree that this study qualifies as exempt from review under the following guideline: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

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

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.S. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq. This letter is your approval, please, keep this document in a safe place.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days. You are granted permission to conduct your study effective immediately. The study is not subject to renewal. Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Tom Bailey (208-282-2179; fax 208-282-4723; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

## Dedication

I would like to dedicate this to my wife, Lisa, and my beautiful girls, Brynlee, Ginny, and Torie. They provided me with much needed love and support as I spent time in class and completing my dissertation. I would not have been able to complete my dissertation without support, love, and patience.

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I would like to express my thanks and appreciation to my dissertation chair, Dr. Richard Wagoner. Dr. Wagoner provided the needed support and encouragement to complete my project, even when it felt like it was never going to come to an end. He was tough, but it was honest and fair, and helped push me in the direction I needed to go.

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Dissertation Abstract—Idaho State University (2022)

Student athletes are constantly facing scrutiny over whether they should be characterized as athlete students or student athletes. As a result, student athlete academic support has evolved, driven by the NCAA metrics for student athletes, and finding new ways to support student athletes is more important than ever. This study examined the effect of travel time for student athletes on academic success. Specifically, an analysis on the number of class days missed per academic term compared to grade-point average (GPA) was conducted. Archival data from fall 2013 to spring 2018 were included for the participants, all student athletes that participated in an NCAA sanctioned sport that was sponsored by Idaho State University (ISU) during this time period. Linear regression analyses were conducted to determine the effect of class days missed on GPA, along with other independent variables such as sport or class standing. Also, a linear regression analysis was conducted to determine the effect of class days missed on ISU General Education Objective 1 and Objective 3 course GPA. Results of the linear regression analyses indicated that class days missed was a significant predictor of GPA. This highlights the need for athletic departments to continue to find ways to support student athletes in their academics to maintain eligibility to compete in NCAA events.

Key Words: Student Athlete, NCAA, GPA, academic success

# CHAPTER I

Colleges and universities exist to provide their students the opportunity to learn and grow in their chosen academic fields. They also provide students with opportunities to participate in a variety of non-academic activities, from fine arts to student run clubs to athletics. Students have the opportunity to participate in these activities and institutions provide the students with the support to not only participate in the activity, but also have the academic success needed to maintain their standing. Athletics are part of these sponsored activities that students have the chance to participate in, but they might be some of the most demanding activities students can face (Ferris et al., 2004; Gayles & Baker, 2015; Harrison, 2012; Hodes et al., 2015; Lawrence, 2009; Morgan, 2012; Oseguera et al., 2018; Parsons, 2013). The current study examines the number of Class Days Missed by all student athletes at Idaho State University (ISU) to determine if any relationship exists with GPA. Student athletes in all Men's and Women's sports that were sponsored at ISU from fall 2013 to spring 2019 were included in the study.

Since there are so many activities and programs that students can participate in, the cost to operate an institution is continually growing. Not only are the costs rising, but higher education is also facing an increased need for transparency when it comes to both the success and the access for students (Bardo, 2009; Carey, 2007; Johnson & Stage, 2018; Jones, 2016). With the increased scrutiny that higher education is facing, academic success practitioners need to be aware of the funding constraints, as "distributions of funding and resources across functional categories indicate a university's priorities and can have significant impact on

student outcomes" (Millea et al., 2018, p. 310). Being able to create programming with limited funds is critical to achieving those goals for each department or area within student success. Although it is important to understand the funding for academic success, it is even more important to understand how programming for student populations can help them achieve this success. Factors such as these are just a few of the many that institutions are trying to navigate to find new ways to provide the support programs that students need to achieve academic success.

Academic success in higher education is a daunting idea, consisting of challenges for both the student and the institution (York et al., 2015). So, what exactly is academic success? Kinzie and Kuh (2017) broadly define academic success as a combination of institutional and student actions to achieve desired outcomes, ultimately receiving the benefit of higher education. However, academic success is not something that should be so broadly defined, but instead should include "standard persistence and graduation rates, … and also emphasizes what students know and can do as evidenced by desired learning… outcomes in line with equity-minded goals, policies, and practices at the institutional, state, and federal levels" (Kinzie & Kuh, 2017, p. 20)

Students are continuously being challenged with various factors that affect the pursuit of their degrees (Kinzie & Kuh, 2017; Millea et al., 2018). All students are affected by these factors in one way or another, but each student is an individual and comes with their own unique circumstances. As a result, institutions must be aware of the factors that students need to achieve academic success and "provide a range of programs to help … [them] face their

challenges and weaknesses" (Petty, 2014, p. 262). Additionally, institutions need to understand that students do not share equal experiences or challenges academically and need to be aware of these and not look at them as barriers, but as opportunities to create "equity-minded policies and practices that ameliorate postsecondary achievement gaps" (Kinzie & Kuh, 2017, p. 19). Policies and practices can range from single events to multi-year initiatives and can be specific to certain student populations or all students as a whole.

Millea et al. (2018) outline some of the specific programs that can create higher rates of student success, such as initiatives for students sharing a university experience, students of color, and nontraditional students, among others. Students will traditionally belong to more than one group that is dependent on factors like background, major, and where they grew up, amongst others (Millea et al., 2018). Since students belong to many different groups, there are many areas that are interested in their success, such as faculty advisors, program advisors, and athletic advisors, and when these groups work together it can have a greater impact on the academic experiences for students, especially the student athletes (Rubin & Lewis, 2020). Student athletes traditionally fall into multiple groups of students that are also sharing the common experience of intercollegiate athletics and therefore should have their own unique group (Navarro et al., 2020).

One aspect that makes student athletes unique is the academic success policies that the National Collegiate Athletic Association (NCAA) implements to create a balance between student and athlete. Some have said that the emphasis is no longer on student in the term student athlete and the "focus has strayed from education to an over-professionalization of college

sports" (Dohrn & Reinhardt, 2013, p. 48). The NCAA has been one of the reasons that student athletes have faced so much scrutiny, since the idea that intercollegiate athletics are focusing less on academics and more on the sports has risen from the more business nature of the NCAA. When this started to occur, the NCAA needed to find a way to reverse these ideas and return the focus back to academics.

The NCAA needed to reexamine their brand and find a way to advance their history, all while still maintaining the emphasis on support for students before athletes (Southall, 2014). One of the policies implemented by the NCAA is the Academic Progress Rate (APR), which is a way to improve academic performance of student athletes and increase graduation rates (Vogel et al., 2019; Dohrn & Reinhardt, 2013).

Along with the new policies came new punishments from the NCAA for programs that do not meet academic criteria, making it important for athletic departments to continue to evaluate programming and create effective ways to help student athletes succeed in the classroom (Otto et al., 2019). Therefore, with an increased scrutiny on student athletes, athletic departments and institutions need to find a way to balance "the often uneasy marriage between athletics and academics" (Rankin et al., 2016, p. 705).

Another aspect for student athletes is that they share a unique experience as they participate in their sports, juggle practice, games, and travel (Carodine et al., 2001; Gayles & Baker, 2015; Hwang & Choi, 2016). All of these aspects come on top of the already demanding lifestyle of students in higher education. Time management is difficult for any college student, but it is especially difficult for student athletes due to the extra demands they have on their

time, however simple the extra demands might be (Satterfield et al., 2010). Therefore, administrators, both in athletics and overall, should be aware of the variables that can have an effect on the academic success of student athletes (Johnson et al., 2010). Knowing the variables will allow administrators to better help student athletes and not let the "pressures to succeed athletically compromise their relative academic standing" (Rishe, 2003, p. 425).

When trying to balance all the variables that students face, they may seem even more daunting to student athletes as they are "maxed out with the additional stress of travel and competition during the playing season" (Satterfield et al., 2010, para. 16). An often-overlooked variable for student athletes is the amount of time they spend travelling to and from competitions, but it can have many unintended consequences for student athletes, including their academic success.

The purpose of this study was to explore student athlete GPA and travel time for away athletic contests, to better understand the relationship between travel time and academic success for student athletes. Since this area in particular is one that is lacking data and research, compared to the many studies that explore student athlete academic success in other areas, such as in-season versus out-of-season academic performance, I felt it important to address this issue that student athletes face. Even though there are similarities between these types of studies and potential studies examining how travel time impacts academics, they differ in many ways. Traditionally, in-season versus out-of-season studies examine how well student athletes do academically due to the highly structured nature of the competition season (Scott et al., 2008). However, these studies examine the student athlete academic success from one

semester in which they are participating in their sport to the next, in which they are not, and do not look specifically at the academic performance of the student athlete in relation to travel commitments.

Furthermore, the idea of in-season versus out-of-season is becoming more difficult to determine as sports are beginning to have exhibition seasons, out-of-season training, summer programs, and international travel opportunities that do not happen during the traditional season. As student athletes travel during their athletic season, they miss valuable class time, which at times they are unable to make up, and they miss the in-person ability to ask questions during a lecture or take their own notes, instead having to rely on classmates, course materials, or course videos to make-up for lost class time.

The time demands that student athletes' face for athletic related activities includes the expectation "to practice 20 hours per week and compete during competition season, which often involves hours of travel time for away games" (Gayles & Baker, 2015, p. 47). Depending on the sport in which student athletes participate, they can miss multiple class sessions, group study events, faculty review sessions, and tests as they travel. This can be difficult enough during one academic term, but some sports have athletic seasons that includes participation in both fall and spring academic terms.

Student athletes have "unique aspects… that create substantial challenges for their academic success, including athletic culture [and] extreme time demands" (Rankin et al., 2016, p. 705). However, creating programming for student athletes and having academic support staff work with student athletes to overcome the unique challenges can prove invaluable. Athletic

department staff should pursue the development of year-round programs that will assist student athletes to overcome the unique challenges they face, which will help to promote student athlete academic success (Rankin et al., 2016). Furthermore, those involved in the student athletes' academic success should "heed the factors that cultivated the academic success of the participants and strive to implement these factors in the lives of their students" (Irvine, 2019, p. 214).

Not only is academic success difficult to define, but it is also difficult to evaluate. Brecht and Burnett (2019) examined the idea around evaluating academic success, ultimately determining that high school GPA was a high predictor of academic success, but "a combination of cognitive and noncognitive [*sic*] factors best predict academic performance for student athletes" (p. 55). However, without evaluation and data-driven practices, "it becomes almost impossible to offer feedback or to identify performance gaps that should be addressed in order to increase the academic productivity of student-athletes" (Comeaux, 2012, p. 283). Athletic departments should continually evaluate programming for student athletes to be able to utilize the data and focus on programming that continues to allow student athletes to meet NCAA standards for participation (Otto et al., 2019). Utilizing the data to create appropriate programs then allows athletic departments to "focus on important factors in determining the academic success … of student-athletes" (Brecht & Burnett, 2019, p. 55).

## Analytical Framework

Scott et al. (2008), *In-Season vs. Out-of-Season Academic Performance of College Student-Athletes*, guide the analytical framework for this study. Scott et al. (2008) posited "are

student-athletes in certain sports or with certain academic backgrounds (e.g. low academic preparation) more prone to seasonal academic effects" (p. 203)? The current study focused on this question, in particular, as travel time can be viewed as a seasonal academic effect. Certain sports have more competitions and naturally miss more class days, while other sports might recruit or have more student athletes on the team that have lower academic preparation. However, although the study from Scott et al. (2008) is important and offers a look at the challenges for student athletes while in-season versus out-of-season, they only serve as the framework for this study.

Scott et al. (2008) assert "as new data are becoming available it is incumbent upon researchers in this field to challenge traditional assumptions that often go untested within college athletics" (p. 224). This study followed the assertion from Scott et al. (2008), challenging assumptions within college athletics about in-season academic performance and putting student athletes in courses that might be more difficult while in competition season. Furthermore, this study will continue to lead to better opportunities for student athletes to find academic success and meet the guidelines for NCAA participation.

## Statement of the Problem

Research on student athlete academic success primarily focuses on being either in-season, out-of-season or an entire academic year. This data is invaluable for the practitioners in student athlete academic services, but it does not provide data specifically on how athletic travel can affect academic success. When trying to build effective programming to support students and student athletes, it is important to understand which areas provide a significant

barrier to success. Missing class time is a barrier to success, and certain student athletes can miss more than 20 days in one academic term. Not only are they missing class time, but student athletes are also travelling longer depending on mode of transportation, such as buses, or the conference they are affiliated with may have institutions that are more spread out. This can lead to student athletes being more tired as they arrive home from competitions late at night or early in the morning. Parsons (2013) found that student athletes indicate at least once they have had difficulty from missing classes due to participating in their sport. Further, student athletes face criticism from others on campus, including faculty, "due to athletic-related conflicts" (Parsons, 2013, p. 413), leading to lower likelihood of achieving academic goals. Institutions and athletic departments, in particular, may have limited budgets, so how funds are spent should be carefully analyzed. The institutions and athletic departments should focus on developing programming that gives "students opportunities to learn the necessary skills to improve classroom performance" (Brecht & Burnett, 2019, p. 56).

## Purpose of the Study

The purpose of this study was to explore student athlete GPAs to examine the relationship between the amounts of time spent travelling for athletic contests and overall academic success.

## Research Questions

This study was guided by the following research questions:

1. Does travel time for athletic competition affect student athlete grade-point average?

2. What is the relationship between sport, travel time, and grade-point average for student athletes?
3. Is there a relationship between class standing (i.e. freshman, senior, etc.) and grade-point average based on travel time?
4. Does travel time affect student athletes in Objective 1 and Objective 3 General Education Requirements, specifically?

## Definitions

For the purpose of this study, the following key terms are defined as follows:

**Academic Success**: Academic success is the achievement of a grade point average that will allow a student to complete their degree as outlined by the institution. Academic success is similar to student success and, therefore, interchangeable.

**Academic Term**: Academic term is the unit of time for an institution for which a course is completed. A term may be a trimester, semester, or quarter. At Idaho State University, and for this study, academic term is specific to a semester and defined as such.

**Athletic contest**: Athletic contest is any NCAA and institution sponsored event for the purpose of intercollegiate athletics. Events may include pre-season, non-conference, conference, and post-season contests in which the team participates.

**Athletic Eligibility**: Athletic eligibility is a standard set forth by the NCAA and the institution that outlines requirements that need met in terms of GPA and progress toward a chosen degree for student athletes.

**Big Sky Conference**: The Big Sky Conference is an NCAA sanctioned conference that oversees athletic contests in a variety of sports for both men's and women's athletics. Membership is comprised of 13 institutions, which includes Idaho State University, from Arizona, California, Colorado, Connecticut, Idaho, Montana, New York, Oregon, Utah, and Washington. (Big Sky Conference, n.d.).

**Division I**: Division I is the highest level of NCAA competition and, for football only, is comprised of two subdivisions, Football Bowl Subdivision (FBS) and Football Championship Subdivision (FCS).

**Football Bowl Subdivision (FBS)**: Football Bowl Subdivision is a subset within Division I of the NCAA where participating schools compete in bowl games for post-season participation. The top four teams compete in semifinal and final games to determine the national champion.

**Football Championship Subdivision (FCS)**: Football Championship Subdivision is a subset within Division I of NCAA where the participating football schools participate in a playoff system. This subset is only for football, as the other sports participate in Division I.

**General Education Requirements**: General Education Requirements are the academic core courses required for all students to complete to obtain a bachelor's degree. All General Education Requirements contain a math and written English course for completion. For the purpose of this study, the Idaho State University requirements are used. In particular, the study will focus on Objective 1, Written Communication and Objective 3, Mathematical Ways of Knowing.

**Grade Point Average (GPA)**: Grade Point Average is an average of a student's grades from all of their coursework. GPA can be cumulative, including all semesters of course work, or can be from one particular term.

**Institution:** An institution is any post-secondary college, university, or school that offers degrees at the associates, bachelors, masters, or doctoral level and sponsors teams that have participants in intercollegiate athletics.

**National Collegiate Athletic Association (NCAA)**: The NCAA is the governing body that oversees intercollegiate athletics among three divisions. The NCAA sets the guidelines for participating members, which are mandatory to follow if participating, to create equity among the members of each division.

**Post-secondary:** Post-secondary is any course or program that is taken after graduation from high school or completion of a GED. Post-secondary also refers to courses or programs that an institution of higher education offers, typically on their respective campus.

**Scholarship student athlete**: A scholarship student athlete is a student athlete that is receiving either a partial or a full scholarship from the institution to participate in their respective sport.

**Standardized testing**: Standardized testing is the national testing that prospective students take in order to gain admission to an institution. The primary standardized tests are the SAT and the ACT.

**Student**: A student is anyone who has enrolled at an institution to pursue a post-secondary degree. In addition, a student may be at the associates, bachelors, masters, or

doctoral degree level. For the purpose of this study, a student refers to only those at the bachelor's level.

**Student Athlete:** A student athlete is a student that participates in an NCAA sanctioned sport on behalf of the institution they are attending.

**Student Athlete Academic Services:** Student athlete academic services is the department within athletics that creates programming to work with student athletes on achieving and maintaining academic success and athletic eligibility.

**Student Athlete Academic Success:** Student athlete academic success is maintaining academic eligibility to participate in an athlete's sport from semester to semester, based on institutional and NCAA requirements, as well as achieving any post-secondary goals.

**Student Success**: Student success is similar to academic success and is the ability for a student to achieve their post-secondary goals, with the use of institutional policies and initiatives. Student Success and academic success are terms that may be used interchangeably in this study.

**Travel time:** Travel time is the amount of time that a student athlete is away from campus for the purposes of sanctioned athletic contests. This includes both pre- and post-athletic contest travel. For the purpose of this study, travel time is referred to in days. Teams may leave in the afternoon or return early in the morning, but a student athlete may still have to prepare to leave or may need extra time to recover both mentally and physically, so regardless of time spent that day travelling, it will count as a full day.

## Assumptions, Limitations, Delimitations

The assumptions, limitations, and delimitations of the study are outlined below:

**Assumptions.** The following assumptions provided a basis for this study:

1. It was assumed that all student athletes missed at least one day during the academic term to participate in athletic contests.
2. It was assumed that all student athletes travelled to participate in competition.
3. It was assumed that all student athletes participated in the athletic contest while travelling.
4. It was assumed that student athletes did not take any online courses during any term in which they were travelling for competition.

**Limitations**.

1. Overall term GPA was evaluated, not course performance or specific performance on tests or assignments, which may limit the validity and make it difficult to generalize the findings to student athlete travel time.
2. Researcher bias could limit the validity of the study as they are currently attending ISU. The researcher has also worked in the athletic department at ISU, assisting with seminars in student athlete academic success strategies.
3. Nuisance variables were not included and could impact the study. Potential nuisance variables that the researcher has considered are: major, class days missed that were not due to athletic travel, injury, repeat courses. Other nuisance variables that the researcher has not considered could also be present.

4. Other factors, ones that may not be quantifiable such as personal factors, could also play a role in how well a student athlete does academically. The researcher acknowledges that they may be present and could affect the overall generalizability of the study.
5. All student athletes were included in the study, even if they did not participate on the travel squad for their sport. Not all student athletes will travel, and each institution and sport has different ways in which they set their travel roster.
6. The number of class days missed provided to the researcher from the athletic department was provided as a reference for the team, and not each athlete may have had a class on that particular day that resulted in a day missed.
7. The number of class days missed was taken from forms that are submitted by coaches at the beginning of a season or academic term. It is unknown if the amount of days for travel was updated if any circumstances arose that would have changed the number of days missed from what was originally given by the coaching staff.

### Delimitations.

1. The study contains student athletes from only one NCAA institution, Idaho State University (ISU). This makes the data from a convenience sample, but due to the high number of cases and the fact that all cases were included, I felt it would still be an appropriate sample and one that could be more generalizable to the whole population of NCAA student athletes.

2. The researcher chose to only include student athlete GPA's from fall and spring semesters beginning in Fall 2013 and ending in Spring 2019. Summer semesters were not included, as most student athletes are not participating in their sport.
3. The researcher chose to leave outliers in the study, as they felt that they should be included in the study. The outliers were GPA scores that could be found in any population of student or student athlete. Since the overall population for the study ($N = 1{,}770$) was high, the researcher felt that the outliers would not affect the outcome of the analyses.
4. Considering the significant amount of research that is present for student athlete academic success related to demographic variables (Rubin & Rosser, 2014), the researcher wanted to focus the current study on the number of class days missed related to academic success. The researcher acknowledges that the other factors are important, but given the original question that was posed from the athletic department to the researcher the current study focused on the number of days missed.
5. The researcher acknowledges that GPA, even though a metric used by both institutions and the NCAA, may not serve as the best measure for academic success. Each institution may have different measures for success relating to GPA, each major or program, etc. Even though there are other measures, such as Progress Toward Degree (PTD) and the obtainment of credits, the researcher chose to use GPA since it is widely used as a measure of success by institutions (York et al., 2015; Ortega,

2021). GPA is also very important in maintaining athletic eligibility, and dropping below certain thresholds may make a student athlete ineligible for competition and potentially lose scholarships or their position on a team.

## Significance of the Study

Student athletes face challenges and pressures not only from student affairs practitioners, but also from other spheres including family and coaches (Navarro & Malvaso, 2016). This study will help the institution, the athletic department, the coaching staffs, and the student athletes understand the impact that travel time has on academic success. Since institutions "need to know which aspects of these internal investments and institutional management strategies impact student success" (Millea et al., 2018, p. 310), this study will provide athletic departments the opportunity to examine their strategies and determine how they can create better programming for student athletes related to travelling for competitions.

Additional research will provide student athletes with access to increased student success services that will help them achieve personal academic success, leading to less stress and higher athletic performance. Athletic department administrators will benefit from this study as new, effective, and focused programming for student athlete academic success will lead to higher academic achievement. Since student athletes face pressure to perform, both in and out of the classroom, this will allow them to overcome the difficulty in the travel time and perform academically at the highest levels possible to maintain the standards set forth by the NCAA. The new programming will allow for an increase in academic success, which will lead to a reduction in stress and an increase in athletic performance.

The following chapters review the literature related to the purpose of the study (Chapter II), the study's methodology including design, population and participants, instrumentation, procedures, and analysis (Chapter III), the study's results (Chapter IV), and overall analysis and discussion of the results, including conclusions, implications, and future recommendations (Chapter V).

# CHAPTER II

## Literature Review

The purpose of this study was to explore student athlete GPAs to examine the relationship between the amounts of time spent travelling for athletic contests and overall academic success. This chapter reviews the literature related to the following areas: (a) Overview of student success for students at the post-secondary level; (b) NCAA reform and the metrics for student athlete academic success; and (c) role of student athlete services in academic success. The literature presented will review and describe the factors on student athlete GPA and academic success.

### Student Success

Student success can be very difficult to define, especially in the context of higher education. A very broad definition of student success is when a student obtains what they set out to achieve in higher education (Kinzie & Kuh, 2017). However, a more complete definition of student success is defined as:

> Increasing the numbers of students from different backgrounds proportionate to their age cohort consistent with national goals for post-secondary attainment who participate in high-quality educational programs and practices culminating in high-quality credentials (e.g., certifications, certificates, degrees) and proficiencies that enable them to be economically self-sufficient and civically responsible post college. (Kinzie & Kuh, 2017, p. 20)

Furthermore, Kinzie and Kuh (2017) expound on this definition of student success as including "standard persistence and graduation rates …and also [emphasizing] what students know and can do as evidenced by desired learning and personal development outcomes" (p. 20). Understanding the definition of student success is important when trying to determine what determines student success for students at institutions of higher learning.

Another definition of academic success takes a look at "*academic performance*, which refers to how well students do in academic pursuits while in college" (Berry & Sackett, 2009, p. 822). Furthermore, it is important to note that when trying to measure academic success, that "college GPA has been the typical operationalization of academic performance used by researchers" and that "GPA certainly reflects academic performance to some degree" (Berry & Sackett, 2009, p. 822). Based on these definitions, student success initiatives should mostly center on GPA and student performance in the classroom.

In addition to the previous definitions, it is increasingly more important to understand the factors that influence student success to create better programming since student success relies on retention and graduation rates (Millea et al., 2018). Even though there are many different factors that affect retention and graduation rates, they can be broken down to three general areas, such as institutional factors, student attributes, and financial situations (Millea et al., 2018). It is important for administrators and higher education professionals to study these three general areas to have a better understanding of how to create new programming that will affect student success at all levels.

Institutional factors, the first general area, includes various items that come directly from the institutions. “Universities that reported early success … were demonstrating a commitment to maximizing the success of all their students and, in particular, realizing the significance of the first year of study” (Thomas & Hanson, 2014, p. 59). During the first year, students are learning about not only who they are, but who the institution is as well and how they fit within that respective dynamic. Part of this interaction is social integration with other students and institutional staff and administrators, which “can be successful in developing students’ resilience” (Thomas & Hanson, 2014, p. 68). The first year will lay the foundation for students to have academic success throughout their time in higher education.

The environment in which students are a part of also plays a factor in academic success. Institutions can offer various forms of support for students to succeed, including a supportive faculty, which can increase student connection to the campus community (Baker, 2013). Having multiple areas for students to receive support can increase the students “sense of connection to the college environment, which increases academic success” (Baker, 2013, p. 646). Baker (2013) also found that students benefited from institutionally organized study or tutor sessions, especially if the tutors were older students or students tutoring a subject outside of their major such as a biology major tutoring a math course.

The physical setting, such as the classroom, learning centers, libraries, dormitories, can play a large role in student success. The physical setting can “exhibit statistically significant relationships with learning gains in freshman students” (Herzog, 2007, p. 103). Not only does the classroom and the physical setting play a role, but the time of day when classes occur can

also play a role in how students succeed (Herzog, 2007). Institutions can improve the learning environments for special populations on campus as they work to understand how the environment may affect academic performance whether it is the physical environment or the time classes are taken.

Student attributes, the second general idea, are another important factor that influences the success of students. Before students arrive on-campus, they are evaluated by their high school GPA and standardized test scores. Although a student's high school GPA and standardized test scores, whether ACT or SAT, have traditionally been the predictors for academic success, the focus should be on non-cognitive factors (Sparkman et al., 2012). When trying to predict the academic success for students using non-cognitive factors, such as emotional intelligence, it allows administrators to see how well students are doing at the institution, not relying on how they did before they arrived. The use of emotional intelligence, which is defined as "the set of skills that a person needs to function effectively in the world and what might be referred to as 'common sense'" (Sparkman et al., 2012, p. 644), is a better predictor for academic success while in higher education than traditional factors since it focuses on their most recent achievements that are most relevant to what they are doing.

Stress, although not viewed as a positive student attribute, plays a large role in how students develop and whether or not they are able to achieve the academic success they are seeking (Aydin, 2017). However, when "stress is balanced and kept at a tolerable level, it might bring success" (Aydin, 2017, p. 103). Stress is not always negative, however, and appropriate

levels of stress can actually benefit and might be necessary for a higher level of academic success as it teaches students to better understand time management (Aydin, 2017).

Students face a number of challenges and unique aspects to their academic success, including how they perceive they are doing. A student's own perception of how they are doing, when it is related to specific performance criteria, can be one of the best predictors for academic success (Kappe & van der Flier, 2012). For students, it is important they realize that they have the ability to influence how well they perform academically since it is perceived that "conscientious individuals perform better because they persevere longer and are more organized than their counterparts" (Kappe & van der Flier, 2012, p. 615). Programming within student success initiatives that rewards students for their achievements can help build conscientiousness, in turn building better students that understand how they perform academically.

Adding to the idea of conscientiousness, self-enhancement theory adds that students that have higher GPA's tend to believe that they had a more positive academic experience (Woo & Frank, 2000). Thus, self-enhancement theory, which states that "the positivity of the feedback is considered to be the critical determinant of the subsequent reactions" (Woo & Frank, 2000, p. 218), stands to be a better indicator of success since "students with higher academic self-esteem viewed grades as more valid indicators of their academic ability than did those with lower academic self-esteem" (p. 224).

One particular area of relevance for academic success is during the first year. There are many different motivational and behavioral factors that can affect not only academic success,

but also academic persistence (van Rooij et al., 2018). One particular predictor for student success, academic adjustment, which is defined as "the ability to have successful interactions with the new academic environment and to cope with its academic demands" (van Rooij et al., 2018, p. 750), is especially important for first year students. When trying to determine the success of students in higher education, practitioners should examine the success of students while they are attending their institution and not focus on achievements students had while in high school, as academic adjustment is more important in relation to the credits earned and GPA of first-year students than their success in high school (van Rooij et al., 2018)

Continuing to evaluate students in their first year, students that participate in first year experience (FYE) courses, especially at-risk students, can provide extra support and resources for those students that may need it most (Connolly et al., 2017). Although each institution has their own method of determining what students are considered at-risk, it is clear that "those who are identified as at-risk for failing out in their first semester are even more challenged" (Connolly et al., 2017, p. 2). Since persistence is a challenge for institutions, designing campus resources to support at-risk and first year students is critical for all students, helping them transition to life in higher education (Connolly et al., 2017).

As students are transitioning from high school to higher education, it is important for higher education professionals to remember that they may know how to navigate the complex role of higher education, but that students do not have the same knowledge. As a result, higher education professionals must do all they can to help students explore their surroundings and navigate the complexity of the institution and the first year (Gardner, 2015). Higher education

professionals need to have “new and creative thinking to ensure the brilliance of the next generation is not dimmed by acceptance of the status quo” (Gardner, 2015, p. 118). As higher education professionals work to create new academic programming, students can benefit as they receive more personalized attention that supports their individual needs.

The final area that has an effect on academic success is financial situations. Not only do the financial situations of the students play a factor in the success of students, but also the financial situation of the institution. Understanding that the financial burden is felt by both student and institution, “institutions … might be better served … by allocating resources to assist … those university students who are struggling academically or are at an academic disadvantage” (Hepworth et al., 2018, p. 57). Understanding which students may struggle the most financially can help the institution develop programming that is designed to help students find success, whether through free or reduced cost initiatives, grants for students, scholarships, or other types of aid. Providing a way to help reduce the burden of financing education will relieve pressure from the student, allowing them to perform better academically.

These three areas, institutional factors, student attributes, and financial situations, are important as they help in understanding student success, as it affects both the student and the institution. Institutions, particularly those that serve under-represented populations, must provide their students with the effective programming so those that are not prepared for their coursework can achieve academic success. It is also important to find a plan to help these students since “developmental courses are a significant drain on the resources of both institutions and students, and the outcomes, in general, are not positive” (Harrington et al., p.

103). This planning helps create student success programming that is beneficial to all students, especially when they combine an aspect of the three areas for academic success, and as institutions focus on the individual needs of student populations.

When designing new student success programming, it is important to have a clear plan for their evaluation. Creating programming without a plan to monitor their effectiveness can lead to the program falling apart as it is not able to adapt to unfavorable outcomes (Waiwaiole et al., 2016). Programs that are poorly planned may have unintended consequences on academic success, therefore practitioners concerned with student success should recognize that they are trying to design a program "with the potential for long-lasting results across the entire student population" (Waiwaiole et al., 2016, p. 54).

According to Visser and van Zyl (2013), workforce demands are increasing and the need to increase access to higher education for all students is even more evident. These factors make it "not [be] a question of whether… students can be expected to succeed, but rather of how HEIs [higher education institutions] can empower them to manage the demands of higher education in order to persist and eventually succeed" (Visser & van Zyl, 2013, p. 331). Institutions must take in to account the specific demands on students and create effective programming that will allow all students to succeed.

Even though there are a number of factors from various areas that can affect academic success, GPA and other traditional measures should still continue to be used, as the information is invaluable to what practitioners are trying to measure (Porter & Polikoff, 2012). With the different methods of measuring academic success, practitioners should continue to

include “academic information [as it] is more suitable for inclusion in a standardized assessment” (Porter & Polikoff, 2012, p. 397). This is also an important factor when looking at student athletes as there are many initiatives from the National Collegiate Athletic Association that rely heavily on GPA and standardized assessments.

### NCAA Reform and Metrics for Student Athletes

The National Collegiate Athletic Association (NCAA) is governing body that oversees intercollegiate athletics for a large number of institutions throughout the United States. The NCAA is the governing body that sets the policies for all the member institutions that choose to participate in intercollegiate athletics. It is difficult to define the NCAA as only a governing body, they consist of the association, memberships, and the national office, but also as a brand, highlighting student athlete academic success (Southall, 2014). Expanding the idea of the NCAA brand a little further, “re-branding is the dislocation and reformulation of a brand … moving the institution from one mindset or logic(s) to another” (Southall, 2014, p. 122). Even though it is one of the highlighted areas for the organization and a point of emphasis over the last few years, the NCAA receives criticism for their approach to student athlete academic success.

Institutions that field athletic teams are not automatically members of the NCAA, they have to uphold the bylaws of the organization. To be a part of the NCAA, in particular a member of Division I, means that institutions “provide unmatched academic and athletic opportunities and support. This support includes full scholarships, cost-of-attendance stipends, degree completion programs and academic revenue distribution from the NCAA for schools that meet certain criteria” (Our Division I Story, n.d.). Institutions are tasked with

monitoring "the APR and GSR of their athletic teams, and other minimum NCAA academic regulations, as a condition of participation in NCAA events" (Laforge & Hodge, 2011, p. 217). These are just a few of the areas that student athletes have on top of the areas that any typical student would have to face in order to achieve academic success.

The NCAA has a long history, constantly evolving to meet the needs of the member institutions and to uphold the ideals that it holds. The NCAA's history can be broken down into four major eras, with the first era being the least concerned about academic reform (Petr & McArdle, 2012). With the newest reforms that the NCAA updated in 2012, which started to get away from the federal graduation rates (FGR), the goals were to "get closer to a true *student-centered* graduation metric, as opposed to the institution-centered FGR" (Petr & McArdle, 2012, p. 39). Institutions should look to create programming for student athletes that focuses on their time in college, as they, along with the NCAA, look at how they can "create policies, incentives, and best practices that inspire (and/or require) all NCAA constituent groups to place a primary focus on the academic success of student-athletes during their collegiate careers" (Petr & McArdle, 2012, p. 40).

Even though each sport must abide by the NCAA rules, there are specific student athletes that the NCAA is committed to better serving. These efforts from the NCAA are aimed at student athletes in high-profile sports such as men's basketball and football (Harrison, 2012). When reviewing the reforms and seeing how they might impact student athletes, some might think that the reforms are negative and hurt particular student athletes. However, the most recent attempt at reform was to "create a system that will produce improved graduation

performance, particularly in specific high-profile sports, without having disparate impact on ethnic minorities" (Harrison, 2012, p. 66). Some of the reform programs the NCAA has created have led to higher graduation rates as they try to consider the differences in the member institutions (Harrison, 2012). As the programs from the NCAA are starting to promote higher graduation rates and better academic performance, as they specifically are designed to accommodate each institutions' unique characteristics, institutions need to continue to create their own programming to help the student athletes meet the requirements set for by the NCAA and continue the trend of higher graduation rates (Harrison, 2012).

The most recent NCAA reforms affect both the institution and the student athletes, with both positive and negative impacts. Although there were many positives and negatives examined from the new NCAA reform metrics, Morgan (2012) stated:

> The [Committee on Academic Performance's] guiding aims to improve the academic performance of these intercollegiate athletes by rewarding them for their academic successes rather than merely penalizing them and their home athletic departments for their failures, and to do so without having a disparate impact on the ethnic minorities that make up a large percentage of men's football and basketball, are entirely laudable goals. (p. 90)

The academic performance metrics that the NCAA created provide a baseline for student athletes and athletic departments, allowing the creation of programming that will allow student athletes to receive more positive support and not be heavily penalized.

When examining the NCAA reform measures, it is also important to understand how the APR calculations work to see the effect it has on student athletes. To better understand APR, administrators need to understand the formula and how "each student-athlete earns a maximum of two points, one for maintaining academic eligibility and another for staying in school. The team members' scores are tallied and divided by the total number of possible points, and then multiplied by 1,000, yielding a maximum score of 1,000" (Comeaux, 2012, p. 282). Even though the APR focuses eligibility of the student athletes, the standards created "place the onus on member colleges and universities to police themselves and to ensure that all student-athletes are progressing toward degrees" (Comeaux, 2012, p. 282).

Federal mandates have also shaped the NCAA reform for student athletes and the reporting of graduation rates (Ferris et al., 2004). One issue that institutions face, however, is that NCAA reform has created "eligibility requirements [that] are more restrictive than the admission requirements of approximately 25% of Division I-A universities" (Ferris et al., 2004, p. 568). This type of reform can be harmful to student athletes initially, but it can also create student athlete services that "promote homogenous academic performance for athletes across all institutions, particularly among the less academically prepared and lowest performing athletes" (Ferris et al., 2004, p. 569).

The Academic Progress Rate (APR) and Graduation Success Rate (GSR) are unique to student athletes and the federal government does not have a comparable measure for APR and the GSR has a different approach than the Federal Graduation Rate (FGR) (Laforge & Hodge, 2011). However, since student athletes are students first, it is important to remember that when

measuring student athlete academic success, "GSR, APR, and FGR be used in combination… because campus accountability requires us to understand how student athletes fare in relation to the overall student body" (LaForge & Hodge, 2011, p. 234).

When considering the reform that the NCAA implements, the role of faculty should also be considered. Faculty, who play a vital role in the academic success of students at an institution, should be able to help drive reform for intercollegiate athletics, but there are many challenges to do so since academics vary from institution to institution (Lawrence, 2009). Although faculty may be suited to help reform academics, it is also important to "know what problems faculty associate with intercollegiate athletics on their campuses, what governance groups faculty think are designated responsibility for resolving each of these issues, and what priority they would assign to each problem" (Lawrence, 2009, p. 111).

Another important consideration for NCAA reform should focus on the perceptions that student athletes feel drives their success and to not rely solely on the cognitive variables that the NCAA measures and uses to define academic success. The NCAA puts a lot of weight on cognitive variables, but student athletes "presented noncognitive variables as definitions for measures of academic success" (Carter-Francique et al., 2013, p. 238). However, since the NCAA puts a high level of emphasis on cognitive variables, creating a working definition and programming for academic success should include "minimum grade-point average, term-by-term and annual credit hour requirements, and percentage-of-degree requirements" (Division I Progress-Toward-Degree Requirements, n.d.).

Since student athletes are a unique group of students on campus, they may have similarities to other student groups. One such group, non-traditional students, are a unique group of students that are not held to the same metric of using standardized testing to determine their academic success, and therefore present a similar group that administrators can follow when determining success for student athletes (Sedlacek & Adams-Gaston, 1992). Non-cognitive factors are used more heavily as predictors for success, instead of standardized testing, and are better "because noncognitive (sic) variables have been shown to predict success for nontraditional students" (Sedlacek & Adams-Gaston, 1992, p. 724). Viewing student athletes as non-traditional students can be very beneficial, helping administrators create programming that improves non-cognitive factors for student athletes.

The campus climate toward student athletes, although improving, has previously been negative and has centered on the idea of athlete coming before student. To try to overcome the negative image around the campus climate of student athletes, the NCAA instituted policies and procedures to "respond to these negative perceptions of 'athlete' first and 'student' second" (Oseguera et al., 2018, p. 119). The policies enacted by the NCAA create positive academic experiences for student athletes by aiming to improve academics and the overall attitude of student athletes toward their academic success (Oseguera et al., 2018).

### Role of Student Athlete Services in Academic Success

Student athletes are a unique group of students on campus; therefore, there are many specific variables in trying to determine how student athletes can be successful. Student athlete academic services plays a vital role in creating the programming for student athletes to help

them achieve the academic success needed, both as students in general, but also for the NCAA metrics. However, even as student athletes have their specific challenges in trying to determine academic performance, “coaches and administrators should continue to use traditional variables to make informed decisions about potential GPA, especially the variables of … standardized test scores, and high school GPA” (Johnson et al., 2010, p. 249). Using the traditional variables, standardized test scores and high school GPA, athletic departments can make decisions to create programming that will best serve the student athletes in their unique roles.

As student athletes make the transition from high school to college, they have to learn how to balance an ever-changing environment that was easy for them to navigate (Hodes et al., 2015). Student athletes participating in intercollegiate athletics now have to spend their spare time in activities “related to one’s athlete status, such as tutoring, team meetings, practices, appearances and other mandatory events” (Hodes et al., 2015, p. 49). Even though it may seem difficult for student athletes, they will “benefit from navigating the complexity of higher education with support (Hodes et al., 2015, p. 57). Administrators need to create programming specific to the needs of student athletes to provide the appropriate support, even when travelling, so that they can achieve academic success.

Since student athletes are a unique group of students sharing similar experiences as they participate in their respective sports, they form an athletic identity. Athletic identity, along with multiple other factors, influences academic success and student athletes experience a more meaningful impact academically (Beron & Piquero, 2016). Although this is very important when determining how well a student athlete may perform academically, it is also important to

note that athletic identity alone is not a predictive nor a causal model for academic success (Beron & Piquero, 2016). However, as administrators understand the importance of athletic identity, it becomes easier to create programming that is specific to the needs of each student athlete.

Each student faces many areas that create pressure on their academics and this is no different for student athletes. For student athletes, the three main areas that are demanding time are academics, athletics, and social time (Gayles & Baker, 2015). Individually any of these three areas can create a lot of pressure for any student. However, with the need to maintain eligibility as set forth by the NCAA and the institutions student athletes attend, they "are also expected to practice 20 hours per week and compete during competition season, which often involves hours of travel time for away games" (Gayles & Baker, 2015, p. 47). Time spent travelling for away games does not just include possible class time missed, but also time away from their own living areas, from tutoring and other institutional resources, and from any other social groups they may be a part of.

Even with NCAA reforms, which limited the amount of time that student athletes could spend participating in their respective sport, student athletes face additional time commitments before and after competition. No matter how prepared a student athlete is for their competition, they will still face "the toll of mental and physical exhaustion and rehabilitation from injury" (Carodine et al., 2001, p. 20). These types of expectations and extra time commitments, along with the normal day to day expectations of being a student, create a time commitment that expects a high level of performance as a student and an athlete, which can

lead to a disconnect from campus and a negative student experience (Carodine et al., 2001). As such, student athlete academic center administrators need to focus on ways to help maximize the demands on student athletes to maximize the already "limited amount of time to devote to academic pursuits" (Carodine et al., 2001, p. 20).

The academic success for student athletes is negatively affected by their limited amount of time and the need to balance their many roles. If student athletes are not meeting the academic standards set forth by the NCAA, the relationship between academic success and perceived stress for student athletes becomes more evident (Hwang & Choi, 2016). It is difficult to determine exactly where the stress comes from, either the academics of the institution of the NCAA policies, but administrators should understand that the "negative relationship between GPA and perceived stress may be due to NCAA regulations regarding academics" (Hwang & Choi, 2016, p. 799). Since student athletes have such high demands for their time, it is important for student athlete academic services to create programming that improves the relationship between academic success and the stress of being a student athlete.

Another area that is important to student athlete academic success is campus climate. Campus climate is "the current attitudes, behaviors, and standards and practices of employees and students of an institution" (Rankin & Reason, 2008, p. 264). Campus climate is important to all students and staff members, but can be especially important to student athletes, having "a substantial impact on student-athletes' academic and athletic outcomes" (Rankin et al., 2016, p. 723). Creating a campus climate that allows student athletes to develop their academic skills by fostering relationships with faculty and staff and promoting a climate that accepts their role

as student and athlete will have profound impacts. To help create a more positive campus climate as it relates to athletic academic success, programming should be created with input from faculty and staff.

Another area within campus climate that should be examined is faculty perception of student athletes and how they believe student athletes are as individual students. Student athletes "are asked to navigate the dual role of student and athlete successfully despite time-constraints and competing external pressures from both athletic and academic entities" (Parsons, 2013, p. 401), which can lead to unfair categorization. This unfair can lead to student athletes feeling upset by the fact that they are being stereotyped, especially when those that are generalizing may not see the whole individual and all of their characteristics (Parsons, 2013).

The relationship between faculty and student athletes is one that faculty should be concerned about, as student athletes are asked to face their unique roles. Having a better understanding of and concern for student athletes allows "faculty to more effectively reach a significant group…, as well as develop approaches to promoting student success outside of the traditional teaching box" (Jolly, 2008, p. 145). Creating a partnership between the administrators in student athlete academic services and faculty should be a concern as well, so that student athletes do not have to face the negative stereotypes and pressure early in a semester.

Student athlete academic services should also play a critical role in the development of student athletes as individuals. Development programs should begin in the first year, should focus on student athletes as students first, and should continue until student athletes have

reached graduation, all of which allow for better post-graduation success (Satterfield et al., 2010). To have successful development programs for student athletes "it is crucial that departments throughout the university and athletic department commit the resources and support to assist student athletes to be successful" (Satterfield et al., 2010, p. 5).

Student services, as they relate to student athletes, can have an impact on how well the student athletes perform academically. Any student service can benefit academic success, as a stronger relationship between academic performance and how well student athletes' study as opposed to academic performance and their standardized test scores, no matter how simple the service might seem (Chen et al., 2013). Even if the programs are simple, "the key to academic success is to teach student athletes how to manage their time wisely and engage them in year round (sic) tutorial programs and study groups" (Chen et al., 2013, p. 40).

Student athlete services should also work toward creating programming that begins early in student athlete careers, since a lot of the emphasis is placed on high school GPA and standardized test scores. The transition from high school to college can be difficult for some student athletes and student athlete services can help student athletes achieve success in each of the areas that they will have to participate in from academics to athletics and the other demands for their time. Student athletes may also "aggressively [pursue] athletic aspirations during their early university careers, often compromising their educational success" (Miller & Kerr, 2002, p. 362), which can create difficult situations later in their university careers, unless a strong foundation has been created for the student athlete.

Not only should academic success and graduation be emphasized, the future for the student athlete should also be an important factor. Student athlete services can play a role in assisting student athletes with their career decision making, especially those student athletes that generally feel they would be unsuccessful (Burns et al., 2013). It is also important to note that student athletes that found academic support services more satisfying "was greater for student athletes with a more external locus of control and lower levels of general self-efficacy" (Burns et al. 2013, p. 165). While student athletes are exploring career choices, student athlete services should keep in mind that they are not the only ones who are assisting the student athletes, but they also have spheres of influence including coaches and social groups that play a part in the decisions (Navarro & Malvaso, 2016).

Another factor in campus climate is the perception that athletic departments are an endless source of revenue and that they have unlimited money to provide for programming. Not all institutions that offer intercollegiate athletics are willing to fund academic programming, and not all athletic departments "who state that student-athlete development is central to their mission are not always willing or able to commit the resources necessary to provide a quality program" (Andrassy et al., 2014, p. 219). Athletic departments need to understand their missions, the mission of the institution, and how critical it is to create the right programming for student athletes to be able to maintain the standards set forth by the NCAA. When institutions are not focusing on the academic issues and creating appropriate programming, they start to fall behind in NCAA metrics due to the fact that they "are only concerned with athletic performance and not academic performance" (Hendricks & Johnson, 2016, p. 17).

Once programming has been created, there should also be an effective way to monitor the success of the program in place. Having effective program analysis in place will provide two main functions. First, understanding how student athletes perceive the programming can help administrators "better address the NCAA's mission of holistic student athlete development" (Vermillion, 2014, p. 206). Second, analyzing how effective a program is "allows for a streamlining of resource allocations in order to maximize increasingly difficult fiscal environments within intercollegiate athletics" (Vermillion, 2014, p. 206).

When evaluating academic success programs, it is not enough to ensure that programs are fair and equal, it is even more important to examine the outcomes of programs (Stokowski et al., 2017). Creating programs that are based more on fairness or equality are not bad goals to have and they should be considered when creating programming. However, if athletic departments are "not willing to examine … outcomes …, then institutions will continue to make decisions based [solely] on fairness and equality and forgo services that might actually benefit their student-athletes based on outcome" (Stokowski et al., 2017, p. 183).

When student athletes do not meet the demands of the NCAA metrics, the role that coaches, athletic department staff, and faculty play in helping the student athlete regain eligibility need to be clearly outlined. Since there are such demands on student athletes and achieving academic success, it is important to understand that "athletics and academics in current United States higher education form a difficult bond, one that must be continually evaluated and effectively managed" (Hazelbaker, 2015, p. 28). The process of evaluating and managing the programming for student athletes should be done annually, with special

consideration being given to the programs that are designed to help student athletes regain eligibility that may have been lost.

For student athletes to be successful, it is important for all those who interact with student athletes to value the role of academics so that the student athletes can achieve academic success. Creating an environment for coaches, athletic department staff, program staff, and faculty to interact in ways to help manage and improve academic success for student athletes should be a priority (Sharp & Sheilley, 2008) All of the staff and faculty members that interact with student athletes "have an important role in nurturing and assisting the student athlete to achieve a meaningful education, which ultimately translates into these students' success" (Sharp & Sheilley, 2008, p. 113).

There are many different areas that factor into a student athletes' academic success, giving administrators plenty of opportunities to create programming that will benefit the unique population of student athletes. However, the programming needs to involve student athlete academic services, faculty, and staff of other departments that support overall student academic success. Having these groups working together allows institutions to understand the complex role of a student athlete, which is a must for the institution since "if we are going to support our student athletes, we must know more about their experiences, and that means having an understanding of their roles and responsibilities as scholarship athletes" (Harmon, 2010, p. 29). Athletic department personnel should also remember that "students are not one-dimensional; therefore, the use of multiple factors can provide a useful profile and evidence for deciding appropriate advising strategies" (Brecht & Burnett, 2019, p. 56). It is also important to

utilize other departments around campus that can benefit student athletes, since student athlete services are "likely to utilize and/or pursue a variety of interogranizational (sic) relationships to increase their effectiveness" (Evans et al., 2017, p. 36).

There are also challenges that can arise from having academic success centers that are specific to student athletes. Sometimes these centers can have a negative impact, as they are seen as creating points of isolation of student athletes from other students, or possibly other faculty and staff viewing them as harmful to the campus environment when their own department does not receive the same funding to build a facility or staff the department (Rubin & Moses, 2017). However, since student athletes are typically more unique students and sometimes come from academic backgrounds that are not as strong, the centers provide a space that allows student athletes to be "immediately introduced to an academic support team … [that] play an integral service for student athletes" (Rubin & Moses, 2017, p. 317).

Another challenge that has arisen centers around the idea that student athletes do not perform as well in semesters that they are not in their actual season of competition. University staff members, including those within athletics, believe that student athletes will do better during their season of competition since they have a more structured schedule, from class to practice to travel for competition (Scott et al., 2008). Where it may be true that the semester of competition is highly structured, when travelling for away contests there is a lot of time spent away from the resources that student athletes typically have at their disposal for academic success. Since student athletes do spend a lot of time travelling during the season, it is

important for student athlete services practitioners to understand this to create new or effective programming to help student athletes academically while on the road.

Programs that are created for student athletes need to consider when they are offering their services. Since student athletes have a lot of commitment to practice and competitions, programming should be available when the student athlete is available. Student athletes also are able to participate in and use services that other students are able to use. These services are harder for student athletes to attend as there are many that "are conducted during times when student-athletes are involved in practice or conditioning and therefore have difficulty using these services" (Jordan & Denson, 1990, p. 95).

## Summary

Student athletes are a unique population of students that are facing increased challenges to perform, especially academically. As a unique student population "it is crucial to be mindful of the differences among students … and as Rendon (2006) wisely cautioned, resist the urge to create a single 'meta-model' for student success" (Kinzie & Kuh, 2017, p. 25). As athletic department administrators, there is a need to create effective programming by examining the most critical need for student athletes and developing a program that will help resolve those critical needs. Athletic Departments should also rely on the institution and receive assistance when needed since they have access to the faculty and staff from other departments that may be subject matter experts or have strong programs of their own.

Using the traditional methods for evaluating student's GPA, as well as the traditional methods used by the NCAA, studies should be conducted to find additional data to support the

academic success for student athletes. The literature reviewed gives additional meaning to, and strengthens, the purpose of this study on the effect of travel time for student athletes and academic success.

## State of the Literature

This chapter reviewed literature related to the following areas of student athlete academic success: An overview of student success for students at the post-secondary level, NCAA reform and the metrics for student athlete academic success, and the role of student athlete services in academic success. The research has clearly shown that using the traditional methods of evaluation are the best ways to predict academic success (Berry & Sackett, 2009; Cimetta et al., 2010; Johnson, Wessel, & Pierce, 2010; Kobrin & Patterson, 2011).

The literature also shows that student athletes do not perform better in-season versus out-of-season (Scott et al., 2008), but does not focus specifically on how travel affects academic performance. As a result, student athletes may not be receiving the best academic success services possible while they are travelling for their respective competition. Although travel for student athletes happens during the season, the literature does not specifically address how travel time may impact academic success, instead focusing on how a student athlete performs during the semester they are considered in-season for their respective sport.

This study addresses the effect of travel on student athletes' academic success. Given the unique nature of student athletes, the current study attempted to explore student athlete GPAs, to evaluate the relationship between the amount of time spent travelling (Class Days Missed) for athletic contests and student athlete academic success (GPA). The Scott et al. (2008)

study, *In-Season vs. Out-of-Season Academic Performance of College Student-Athletes,* served as the theoretical framework for this study.

# CHAPTER III

## Methodology

The purpose of this study was to examine student athlete GPAs and the relationship between the amount of time spent travelling for athletic contests and overall academic success. Research questions to guide the study are presented. The research methodology addresses the design, population and sampling procedure, and procedures for data collection and analysis. The following research questions guided this study:

1. Does travel time for athletic competition affect student athlete grade-point average?
2. What is the relationship between sport, travel time, and grade-point average for student athletes?
3. Is there a relationship between class standing (i.e. freshman, senior, etc.) and grade-point average based on travel time?
4. Does travel time affect student athletes in Objective 1 and Objective 3 General Education Requirements, specifically?

### Design

This study utilized an archival research design. Data was collected from organizational records at Idaho State University (ISU), giving an emphasis on secondary data analysis. Archival data can be described as data that already exists and can provide the researcher with readily available records that coincide with their study (Vogt et al., 2012). A non-experimental, correlational research design was used for this study. A correlational research design was chosen because the researcher was looking for a causal relationship, but could not “manipulate

the independent variable because it is impossible, impractical, or unethical" (Price, 2017, para. 2). The researcher used a convenience, non-probability sampling method. The student athletes are all from Idaho State University, where the researcher is a graduate student and former employee, and were most easily accessible. Although convenience sampling can make generalizability to the whole population more difficult, all undergraduate student athletes that participated in their respective sports from Fall 2013 to Spring 2019 were included in the study. Since all student athletes were included and the number of participants is larger than it would be with random sampling within the convenience group, the researcher feels that the generalizability will be greater.

## Population and Participants

The target population for this study are all student athletes, regardless of race, age, gender, sport, or grade classification, participating at the NCAA Division-I level. The participants are undergraduate student athletes from Idaho State University that took courses from fall 2013 to spring 2019. Academic terms in which a student athlete was participating in their main season of competition were included in the study and the academic terms which are typically considered to not be the main season were not included. For example, only the fall season for Women's Soccer and Men's Football was included or only the spring season for Women's Softball were counted for their respective sport. All student athletes from Idaho State University that participated in an NCAA sport during at least one academic term from fall 2013 to spring 2019 were included in the study.

## Procedures

Prior to conducting the study, permission to gather data from archival sources was granted from the Human Subjects Committee at Idaho State University. I requested the archival data from the Office of Institutional Research at ISU to obtain the GPA for student athletes from fall 2013 to spring 2019. The archival data was requested to be sent without any identifying information such as names, student identification numbers, social security numbers, or any other means of identifiable records, but to have a randomly created, unique identifier that was known only to the Office of Institutional Research. The unique identifier assisted in coding the data and ensuring that student athletes were not counted more than once for a particular term or sport. It further allowed the Objective 1 and Objective 3 courses to be coded properly to the appropriate sport and term to ensure only the terms in which a student athlete was participating in their main season were included.

When studies are able to not have any identifying information that is associated to the data, greater confidentiality is afforded to the study participants (Ravitch & Carl, 2016). Because the data was collected by the office of Institutional Research and no identifying information was disclosed to me, the study gained an exempt status from the Human Subjects Committee at Idaho State University. The exempt status was granted based on the conditions that the data are existing and unable to identify the original human source. Furthermore, the exempt status was not subject to renewal, unless the design or participants of the study changed, in which a new exemption would have to be granted.

Institutional Research collected organizational records from the Idaho State University system, Banner. All data were provided to me from Institutional Research via Box, an online file sharing company that is used at Idaho State University and is free for all students, faculty, and staff. I then moved the data to a unique USB storage drive that only contained the data for this study. Once the study was completed, the data were deleted from the USB drive and I notified Institutional Research, who removed access to the files containing the data on Box.

For General Education requirement courses for Objective 1, Written Communication, and Objective 3, Mathematical Ways of Knowing data, (Research Question 4), only a student athletes' first attempt at a course was used for the GPA. Only the original attempt GPA was included to help control for any nuisance variables with repeat courses, as a second grade in the course would alter overall results. Since objective courses are required for graduation, repeating the course due to poor performance would be mandatory for graduation (Credit and Grading Policies < Idaho State University, n.d.). Students that repeat these courses have already been exposed to the course and the course content, which improves the students' grade in the repeat course (Armstrong & Biktimirov, 2013).

I received data for each student athlete that participated in at least one academic term between fall 2013 and spring 2019. GPA, Sport, Objective 1 and Objective 3 Course GPA, academic term, Class Standing, and other variables that further described the data was then gleaned to eliminate information that was unnecessary to the study. For the study, GPA from only the academic term that a student athlete participated in their respective sport was included. Only including the GPA from terms that student athletes participated in their season

of competition was done to help control for any nuisance variables, as including the terms that a student athlete was not in-season would have provided an uncontrollable factor in the design. Although there are many sports that only have one academic term that is considered the main season of competition, there are other sports such as track and field and basketball that have competition seasons that carry over between multiple terms. For these sports, each semester was included as they had a different number of days missed from one term to the next.

The dependent variable in this study was GPA and was coded as either overall GPA or Objective GPA. Overall GPA was the total GPA for all the courses that a student athlete took during the term in which they travelled for athletic competition. It may have included the course that was taken for Objective GPA. Objective GPA was the GPA that was awarded to the student athlete for that course in that particular term. It would not have included any cumulative GPA or other courses in the outcome. For the dependent variable GPA, it was left in its original form and is based on a 4.0 scale, with scores ranging anywhere from .00 to 4.00. I felt that the GPA values were ones that would be found in any sample or population for this type of study and did not feel that I could manipulate the dependent variable.

The NCAA sport classification was used to code sports. Men's and women's track and field, in the ISU database and according to the athletic department classification, are coded as Men's Cross Country (MCC), Men's Track Indoor (MTI), Men's Track Outdoor (MTO), and Women's Cross Country (WCC), Women's Track Indoor (WTI), and Women's Track Outdoor (WTO). According to the NCAA, all student athletes participating in Cross Country, and Indoor and Outdoor Track have the designation of Track, either Men's or Women's (MTR or WTR). I

coded all ISU student athletes with either an MCC, MTI, or MTO sport participation designation as MTR and similarly with Women's Cross Country and Track, all student athletes with a WCC, WTI, or WTO sport participation designation as WTR. Since ISU only sponsors 11 Division I Men's and Women's sports out of 24 administered by the NCAA (*Championships*, n.d.), sport was designated as a random variable.

Class Standing was coded as Freshman, Sophomore, Junior, and Senior based on the number of credits attained. The credit range to code Freshman was 0-25 credits, Sophomores was 26-57 credits, Juniors was 58-89 credits, and Seniors was 90 or more credits. For the number of class days missed, the number of days missed were coded as whole days, even if only a half day was missed. The number of days missed was always rounded up to the nearest whole number, for example 15 days missed from 14.5 days missed.

Academic term was coded as either spring or fall based on the ISU Academic Period descriptions. ISU Academic Period descriptions follow the format of YYYYTT where YYYY is the year in which the academic period ends, such as 2019, and TT is the term. For term at ISU, 10 refers to fall and 20 to spring. The Academic Period for a basketball season would be 201410-201420 for the 2013-2014 academic year. 201410 is the description for fall 2013 and 201420 is the description for spring 2014.

For Objective 1 and Objective 3 courses, the data were coded as either an Objective 1 course or an Objective 3 course. Objective 1 is Written Communication and is the English requirement for the General Education portion of a degree from ISU. Only ENGL 1102 was included until fall 2016 when ENGL 1101 was added as a second required course for Objective

1. For Objective 3, GPA for MATH 1123, MATH 1127, MATH 1130, MATH 1153, MATH 1160, MATH 1170, MATH 2256, MATH 2257, and MGT 2216 were included as completing one of the courses would satisfy the objective requirement.

The Independent variable Class Days Missed was coded into five groups: 0-5 Days Missed, 6-10 Days Missed, 11-15 Days Missed, 16-20 Days Missed, and 21 or more Days Missed. The groups were created to find a more balanced group size for completion of the regression analyses.

While waiting to receive the data for the study from the ISU Office of Institutional Research, I worked with the athletic department to obtain travel records submitted by coaching staffs that reflected the season's travel for competition. Athletic department staff shared the travel records using the file sharing website, Box. I only viewed the records while online and logged in using my secure ISU credentials to Box. The travel records contained no identifiable information for any student athlete. I reviewed the travel records for each sport and academic term. Coaches had the option to count half-days missed, so all half-days were counted as full days missed. Not all documents contained information on post-season play, so any time for postseason competition was not included in the days missed count. If a team did participate in post-season play, any missed days from class were not counted, as they were not required to be submitted with the initial travel forms to the athletic department.

While reviewing the travel records, I found that the ISU athletic department classified sports primary season of competition as either spring or fall, even if they participated in some form of competition in both terms. For example, for both Men's and Women's tennis, the spring

season was termed the primary season of competition. I only used the academic term classified as the primary season, as the other academic term may have only had practice sessions or the team may not have travelled.

## Validity and Reliability

The purpose of this study was to examine student athlete GPAs and the relationship between the amount of time spent travelling for athletic contests and overall academic success. Although the study does use a convenience sample, the data for this study are from one institution, Idaho State University, and the best and most complete data available. I included each case in the analysis and did not disqualify any case for any reason. Since "validity is concerned with whether our research is… true and whether it is evaluating what it is supposed or purports to evaluate" (Zohrabi, 2013, p. 258), the design was created to measure student athlete GPA from the archival data. When a study that uses archival data has a sound research design, these factors will "maximize internal and external validity and our ability to demonstrate real patterns, replicate them, or refute them" (Bercovitch, 2004, p. 425). I am confident that the design is reliable and that if the study were to be conducted again using the same data or new data from other institutions, the design would produce similar results.

## Analyses

Before performing the analyses, the number of class days missed was added to the archival data that was provided using Microsoft Excel. The data were then saved to the unique USB flash drive that was specifically for holding the data. The variables Class Days Missed, GPA,

Objective GPA, Sport, Objective Course, and Class Standing were then analyzed using regression analyses in IBM SPSS Statistics 27.

Analyses of the research questions were as follows: Research Question 1: (Does travel time for athletic competition affect student athlete grade-point average?) was analyzed using simple regression. The dependent variable Overall Grade Point Average (GPA) ranged from 0.0 to 4.0, the GPA scale used at ISU, and was not altered or recoded in any way. The variable Class Days Missed was broken into five groups, 0-5 Days Missed (N = 330), 6-10 Days Missed (N = 855), 11-15 Days Missed (N = 370), 16-20 Days Missed (N = 167), and 21 or more Days Missed (N = 48). For this research question, 0-5 Days Missed was used as the reference group since it was the least amount of class days missed and the ISU Athletic Department had approached me about conducting a study on knowing whether or not travel time would affect student athletes academically the more class days they missed due to competition.

Research Question 2: (What is the relationship between sport, travel time, and grade-point average for student athletes?) was analyzed using multiple regression. Overall GPA, ranging from 0.0 to 4.0 and left un-altered, was the dependent variable. The independent variables were Sport and Class Days Missed. To analyze Sport, a categorical variable, dummy variables were used to code sport participation. The Sports included: Men's Basketball (N = 146), Men's Football (N = 414), Men's Tennis (N = 36), Men's Track and Field/Cross Country (N = 263), Women's Basketball (N = 159), Women's Golf (N = 45), Women's Softball (N = 91), Women's Soccer (N = 139), Women's Tennis (N = 46), Women's Track and Field/Cross Country (N = 366), and Women's Volleyball (N = 65). Class days missed was broken into five groups, 0-

5 Days Missed (N = 330), 6-10 Days Missed (N = 855), 11-15 Days Missed (N = 370), 16-20 Days Missed (N = 167), and 21 or more Days Missed (N = 48). For this question, Men's Football since it had the largest number of cases, and 0-5 Class Days Missed, since it was the least amount of class days missed, were used as the control groups in the analysis.

Research Question 3: (Is there a relationship between class standing (i.e. freshman, senior, etc.) and grade-point average based on travel time?) was analyzed using multiple regression. Overall GPA was the dependent variable, with scores ranging from 0.0 to 4.0, and was not altered or coded in any way. The independent variables were Class Standing and Class Days Missed. Dummy variables were created to represent the different groups for Class Standing and for Class Days Missed, being coded with either a 0 or a 1. Class standing was divided into Freshman (N = 197), Sophomore (N = 393), Junior (N = 437), and Senior (N = 743). Class Days Missed was divided into five groups, 0-5 Days Missed (N = 330), 6-10 Days Missed (N = 855), 11-15 Days Missed (N = 370), 16-20 Days Missed (N = 167), and 21 or more Days Missed (N = 48). The control groups for this research question were Senior, the largest group in Class Standing and 0-5 Class Days Missed, the least amount of class days missed.

Research Question 4: (Does travel time affect student athletes in Objective 1 and Objective 3 General Education Requirements, specifically) was analyzed using multiple regression. The dependent variable was Objective GPA and ranged from 0.0 to 4.0 on a 4.0 scale. The independent variables were Class Days Missed and Objectives Course. The overall population for this research question was 478. The independent variable Class Days Missed was broken into five groups, 0-5 Days Missed (N = 78), 6-10 Days Missed (N = 246), 11-15 Days

Missed (N = 96), 16-20 Days Missed (N = 43), and 21 or more Days Missed (N = 15). The independent variable Objectives Course was broken down into whether the course was an English or Math course. The English courses are ENGL 1101 (N = 60), ENGL 1101P (N = 18), and ENGL 1102 (N = 151). The Math courses are MATH 1123 (N = 19), MATH 1127 (N = 1), MATH 1130 (N = 3), MATH 1153 (N = 108), MATH 1160 (N = 33), MATH 1170 (N = 12), MATH 2256 (N = 4), MATH 2257 (N = 6), and MGT 2216 (N = 63). The reference groups for this research question were ENGL 1102, MATH 1123, and 0-5 Class Days Missed. ENGL 1102 was the reference for English courses since it was used as an Objective 1 course for all years in the study, MATH 1123 was the reference for Math courses since it was the first course option for students to take, and 0-5 Class Days Missed was used since it had the least amount of class days missed.

## Summary

This chapter describes and explains the methodology for this research study, including the design, population and participants, procedures, validity and reliability, and analysis. Participants for this study included student athletes from Idaho State University that participated in an NCAA sanctioned sport from Fall 2013 to Spring 2019. Archival data was used to explore the relationship between student athlete GPAs and the amount of time spent travelling for athletic contests. The study's four research questions were analyzed using various statistical procedures, including simple and multiple regression. Chapter IV contains the results of the research study.

# Chapter IV

## Results

This chapter presents the quantitative results to address the following research questions:

1. Does travel time for athletic competition affect student athlete grade-point average?
2. What is the relationship between sport, travel time, and grade-point average for student athletes?
3. Is there a relationship between class standing (i.e. freshman, senior, etc.) and grade-point average based on travel time?
4. Does travel time affect student athletes in Objective 1 and Objective 3 General Education Requirements, specifically?

## Preliminary Analysis

This section presents the results of descriptive analyses: (a) percentages, frequencies, and descriptive statistics for the independent variables Class Days Missed, Class Standing, and Sport for Overall GPA and (b) percentages, frequencies, and descriptive statistics for the independent variables Class Days Missed, and Objective Course for Objective GPA.

The population of this study was all student athletes at Idaho State University that participated in an NCAA sanctioned sport from Fall 2013 to Spring 2019. Table A1 shows participation by Sport for unique student athletes in the study. Overall, there were 638 unique student athletes, with 320 participating in a Women's sport (50.16%) and 318 participating in a Men's sport (49.84%). Nearly one third of all student athletes participated in Men's Football

(29.62%). Women's track (15.36%) and Women's Soccer (10.82%) had the highest number of participants for women's sports.

For this study there were a total of 1,770 cases for Overall GPA. The number of overall cases was higher than unique student athletes since some student athletes had multiple cases of GPA due to multiple years of athletic eligibility. For example, a student athlete that participated in Women's Soccer in their first year and played continuously through their senior year would have four total cases for Overall GPA, one from each fall semester of participation. Also, student athletes that participated in sports that had competition events in both the fall and spring terms could have up to eight total cases. Table A2 shows the descriptive statistics, percentages, and frequencies for the independent variables Class Standing, Class Days Missed, and Sport.

For Objective GPA, there were 478 cases. Some student athletes may not have taken an Objective 1, Written Communication, or Objective 3, Mathematical Ways of Knowing, course during their respective athletic season. Also, some student athletes may have transferred with these courses completed or received credit by other means such as CLEP, Advanced Placement (AP), or other advanced testing. For this study, Objective 1 data only includes ENGL 1101 and ENGL 1101P from Fall 2016 to Spring 2019, as they were added as a requirement to complete Objective 1 for the 2016-2017 academic year at ISU. ENGL 1102 is included from each term, as it was always a required course to complete Objective 1. For Objective 3, students only need one course to satisfy the objective. A summary of the descriptive statistics, percentages, and

frequencies for the independent variables Objective Course and Class Days Missed for Objective GPA are shown in Table A3.

## Research Question 1

Research question 1 asked, *Does travel time for athletic competition affect student athlete grade-point average?* A simple linear regression analysis was conducted to understand the effect of Class Days Missed on Overall GPA for student athletes. For this model, Overall GPA is an interval variable and Class Days Missed was broken into five groups, creating a categorical variable. The categorical variable was then coded as a dichotomous variable using 0 and 1 so that the variables were best suited for the simple linear regression analysis.

Linearity was assessed using a scatterplot with a superimposed regression line. A visual inspection of the plots indicated a linear relationship between the variables. There was homoscedasticity and normality of the residuals. There were 26 outliers, being more than $\pm 3$ standard deviations away from the mean, and each outlier (see Table A4) represents an actual Overall GPA from a student athlete in the study. However, they were left in the study as I did not feel they could be removed or manipulated. The outliers were actual GPA scores from student athletes that had been earned values that could be found in any student athlete population and all were below a C grade average. Cook's Distance and Centered Leverage Value were also examined to determine the effect the outliers had on the model and found that there were no values greater than 1 or 0.2, respectively.

The model was significant, successfully predicting Overall GPA ($F(4, 1765) = 9.693$, $p < .001$) (see Table A5) and explained 2.1% of the variance in Overall GPA with an adjusted $R^2 =$

1.9%. Results indicated 6-10 Class Days Missed ($\beta = 0.14$, $p < 0.001$), 11-15 Class Days Missed ($\beta = 0.16$, $p < 0.001$), 16-20 Class Days Missed ($\beta = 0.10$, $p < 0.001$), and 21 or more Class Days Missed ($\beta = 0.11$, $p < 0.001$) significantly predicted GPA ($\alpha = .05$) (see Table A6). 0-5 Class Days Missed was used as the reference group, as it was the group with the lowest number of Class Days Missed. Since the ISU Athletic Department first approached me about the topic and was interested in finding out the effect of missing class days due to travel, I felt it was best to use the group with the lowest days missed as the reference group.

Results indicated that 6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, and 21 or more Class Days Missed all had a positive relationship with Overall GPA. This would indicate that as student athletes miss more than the reference group, 0-5 Class Days Missed, their GPA scores are higher, and therefore missing more class days would not be a negative influence on academic success.

## Research Question 2

Research question 2 asked, *What is the relationship between sport, travel time, and grade-point average for student athletes?* A multiple regression analysis was conducted to analyze whether overall GPA could be significantly predicted from Class Days Missed and Sport. To test for linearity, partial regression plots and a plot of studentized residuals against the predicted values were examined. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.18. A visual inspection of a plot of studentized residuals versus unstandardized predicted values determined there was homoscedasticity. There was no evidence of multicollinearity, as assessed by tolerance values of greater than 0.1. There were 23

outliers (see Table A7), but they were left in the model since there were no leverage values greater than 0.2 or any values for Cook's distance above 1 and I did not feel that it was appropriate to manipulate the data. The assumption of normality was met, as assessed by a Q-Q Plot.

The model significantly predicted GPA ($F(14, 1755) = 13.01$, $p < .001$) (see Table A8) and explained 9.4% of the variance in GPA, with an Adjusted $R^2 = 8.7\%$. Results indicated that Men's Tennis ($\beta = 0.12$, $p < 0.001$), Men's Track and Field/Cross Country ($\beta = 0.17$, $p < 0.001$), Women's Basketball ($\beta = 0.16$, $p < 0.001$), Women's Golf ($\beta = 0.08$, $p < 0.001$), Women's Softball ($\beta = 0.06$, $p = 0.04$), Women's Soccer ($\beta = 0.17$, $p < 0.001$), Women's Tennis ($\beta = 0.16$, $p < 0.001$), Women's Track and Field/Cross Country ($\beta = 0.28$, $p < 0.001$), and Women's Volleyball ($\beta = 0.13$, $p < 0.001$) significantly predicted GPA ($\alpha = .05$). However, Men's Basketball ($\beta = 0.04$, $p = 0.11$), 6-10 Class Days Missed ($\beta = 0.03$, $p = 0.33$), 11-15 Class Days Missed ($\beta = 0.03$, $p = 0.35$), 16-20 Class Days Missed ($\beta = 0.01$, $p = 0.71$), and 21 or more Class Days Missed ($\beta = 0.05$, $p = 0.10$) were not significant predictors of GPA (see Table A9). The reference groups were 0-5 Class Days Missed, the group with the least amount of class days missed, and Men's Football, the Sport with the highest number of cases.

The results indicated that all variables had a positive influence on overall GPA, including all sports, compared to the reference groups. Since all variables had a positive influence on Overall GPA, this indicates that student athletes would not do worse academically the more class days missed, but would do better. Compared to the reference group, Men's Football, each

sport except Men's Basketball significantly predicted GPA and had a positive relationship on Overall GPA, indicating that these sports perform significantly better academically.

## Research Question 3

Research question 3 asked, *Is there a relationship between class standing (i.e. freshman, senior, etc.) and grade-point average based on travel time?* A multiple regression analysis was performed on the independent variables Class Standing and Class Days Missed and the dependent variable, GPA. Linearity was assessed using a scatterplot that was plotted with a superimposed regression line. A visual inspection of the plots indicated a linear relationship between the variables. There was homoscedasticity and normality of the residuals. There were 24 outliers (see Table A10), which were left in the study as I did not feel I could remove the outliers or manipulate the dependent variable, GPA. The outliers were GPA values that would be found in any student athlete population and all were below a C grade average. Cook's Distance and Centered Leverage Value were also examined to determine the effect the outliers had on the model and found that there were no values greater than 1 or 0.2, respectively.

Table A11 shows the results of the ANOVA for the regression analysis, which indicates a significant model for predicting GPA ($F(7, 1762) = 12.584$, $p < .001$). The model explained 4.8% of the variance in GPA, with an adjusted $R^2 = 4.4\%$. The model indicated that Freshman ($\beta = -0.14$, $p < 0.001$), Sophomores ($\beta = -0.14$, $p < 0.001$), Juniors ($\beta = -0.07$, $p = 0.005$), 6-10 Class Days Missed ($\beta = 0.14$, $p < 0.001$), 11-15 Class Days Missed ($\beta = 0.14$, $p < 0.001$), 16-20 Class Days Missed ($\beta = 0.08$, $p = 0.002$), and 21 or More Days Missed ($\beta = 0.10$, $p < 0.001$) significantly predicted GPA ($\alpha = .05$) (see Table A12). Seniors, the group with the highest

number of cases, and 0-5 Class Days Missed, the group with the lowest number of class days missed, were the reference groups.

Each Class Standing had a negative association with Overall GPA, indicating that as student athletes were less experienced their Overall GPA went down compared to the reference group, Seniors. The results also indicate that each year a student athletes' Overall GPA improves slightly from the year before, even though the relationship is negative. Practitioners could use this data to better understand trends in academic performance for student athletes in relation to travel as they start off as a freshman and provide interventions or programming earlier to help with the transition to academics and college athletics. Results further indicated that each group of Class Days Missed had a positive association with Overall GPA, which would indicate that the more class days were missed the higher the Overall GPA would be from the reference group.

## Research Question 4

Research Question 4 asked, *Does travel time affect student athletes in Objective 1 and Objective 3 General Education Requirements, specifically?* Regression analyses were conducted on the relationship between independent variables Class Days Missed and Objectives Courses and the dependent variable, Objective GPA.

First, a multiple linear regression analysis was performed on the Objective 1 courses, ENGL 1101, ENGL 1101P, and ENGL 1102. The model for Objective 1 courses was not significant ($F(6, 471) = 1.958$, $p = .070$) (see Table A13), accounting for 2.4% of the variance in Objective GPA, with an Adjusted $R^2 = 1.2\%$. The model did indicate that ENGL 1101 ($\beta = .12$, $p$

= .008) was a significant predictor of Objective GPA. However, 6-10 Class Days Missed (β = .11, $p$ = .088), 11-15 Class Days Missed (β = .08, $p$ = .221), 16-20 Class Days Missed (β = .07, $p$ = .172), 21 or more Class Days Missed (β = .03, $p$ = .524), and ENGL 1101P (β = .001, $p$ = .985) were not significant predictors of Objective GPA (see Table A14). All of the independent variables were found to have a positive association on Objective 1 GPA, compared to the reference groups. ENGL 1102 was the reference group for Objective 1 course since it was the only course that was a requirement for Objective 1in all years included in the study. The reference group for Class Days Missed was 0-5 Class Days Missed, the group that had the least amount of class days missed.

A second multiple linear regression analysis was performed on the Objective 3 courses, MATH 1123, MATH 1127, MATH 1130, MATH 1153, MATH 1160, MATH 1170, MATH 2256, MATH 2257, and MGT 2216. The model for Objective 3 courses was significant ($F$(12, 465) = 3.22, $p$ < .001) (see Table A15). Overall, the model accounted for 7.7% of the variance in Objective GPA, with an Adjusted $R^2$ = 5.3%. The model indicated that MATH 1153 (β = -0.16, $p$ = .001), MATH 2257 (β = -0.10, $p$ = .036), and MGT 2216 (β = -0.21, $p$ < .001) were significant predictors of Objective GPA. 6-10 Class Days Missed (β = .12, $p$ = .069), 11-15 Class Days Missed (β = .06, $p$ = .318), 16-20 Class Days Missed (β = .04, $p$ = .415), 21 or more Class Days Missed (β = .03, $p$ = .549), MATH 1127 (β = -.02, $p$ = .655), MATH 1130 (β = .07, $p$ = .123), MATH 1160 (β = .003, $p$ = .944), MATH 1170 (β = -.05, $p$ = .275), and MATH 2256 (β = -.05, $p$ = .282) were not significant predictors for Objective GPA (see Table A16). Each of the groups for Class Days Missed, as well as MATH 1130, and MATH 1160 had a

positive relationship on Objective 3 GPA. MATH 1127, MATH 1153, MATH 1170, MATH 2256, MATH 2257, and MGT 2216 had a negative association with Objective 3 GPA. MATH 1123 was the reference group for Objective 3 course, the first course that is listed in the ISU Undergraduate Catalog to satisfy the requirement to meet Objective 3, and 0-5 Class Days Missed was the reference group for Class Days Missed, as it had the least amount of days missed.

Finally, an overall linear regression analysis with Objective 1 and Objective 3 courses was performed. The model was significant ($F(14, 463) = 2.93$, $p < .001$) and accounted for 8.1% of the variance, with an Adjusted $R^2 = 5.4\%$ (see Table A17). The model indicated that MATH 1153 (β = -0.15, $p = .001$), MATH 2257 (β = -0.09, $p = .001$), and MGT 2216 (β = -0.20, $p = .001$) were significant predictors of Objective GPA. The model further indicated that 6-10 Class Days Missed (β = .11, $p = .094$), 11-15 Class Days Missed (β = .06, $p = .357$), 16-20 Class Days Missed (β = .04, $p = .451$), 21 or more Class Days Missed (β = .03, $p = .617$), ENGL 1101 (β = .05, $p = .297$), ENGL 1101P (β = -.04, $p = .361$), MATH 1127 (β = -.02, $p = .675$), MATH 1130 (β = .07, $p = .116$), MATH 1160 (β = .01, $p = .856$), MATH 1170 (β = -.05, $p = .309$), and MATH 2256 (β = -.05, $p = .311$) were not significant predictors of Objective GPA (see Table A18). The reference groups were ENGL 1102, as it was the only English course that was required during the entire period the study took place, MATH 1123, since it was listed first for Objective 3 options in the ISU Undergraduate Catalog, and 0-5 Class Days Missed, the group with the least amount of class days missed.

6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, 21 or More Class Days Missed, ENGL 1101, MATH 1130, and MATH 1160 had a positive association with Objective GPA. ENGL 1101P, MATH 1127, MATH 1153, MATH 1170, MATH 2256, MATH 2257, and MGT 2216 had a negative association with Objective GPA. Based on the results, one unique find is that ENGL 1101P, an English course that has an associated extra support lab with it and is a four-credit course as opposed to a three-credit course, had a negative relationship on Objective GPA. Since the course is designed to provide extra support and academic assistance to those who take it, having a negative association to Objective GPA should be a concern to practitioners. It is also important to note that the ENGL 1101P course is traditionally taken by students that do not quite have the required test scores or academic background to take the regular sections of ENGL 1101. Also, the findings indicate that the majority of Objective 3 courses, except MATH 1130 and MATH 1160, had a negative association with Objective GPA. This would indicate that student athletes have a more difficult time in their math objective courses, in particular, as opposed to having difficulty in English objective courses. Practitioners can use these findings to prepare for extra math tutors as needed during the terms in which student athletes will be taking math during their season.

## Summary

Results of regression analyses indicated that 6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, and 21 or More Class Days Missed were significant predictors of overall student athlete GPA when compared to 0-5 Class Days Missed. Further analyses indicated that when sport was introduced as an independent variable, Men's Tennis,

Men's Track/Cross Country, Women's Basketball, Women's golf, Women's Softball, Women's Soccer, Women's Tennis, Women's Track/Cross Country and Women's Volleyball were significant predictors of GPA when compared to Men's Football, but the number of Class Days Missed were not significant predictors of overall GPA.

When examining Class Standing and the number of Class Days Missed, regression analyses indicated that Freshman, Sophomores, Juniors, 6-10 Class Days Missed, 10-15 Class Days Missed, 16-20 Class Days Missed, and 21 or more Class Days Missed were significant predictors of student athlete GPA. For Objective GPA, a regression analysis that included all Objective 1 and Objective 3 courses indicated that MATH 1153, MATH 2257, and MGT 2216 were significant predictors of Objective GPA. However, the results did not indicate that any group of Class Days Missed was a significant predictor for Objective GPA.

The present study examined how well student athletes perform academically during their respective season, given the amount of class days missed. Previous research has focused on how well student athletes do in-season for their sport versus out-of-season. Research has shown that student athletes did not always perform better academically out-of-season versus in-season (Scott et al., 2008), which might indicate that student athletes are getting the academic support they need to succeed. No other identified studies have examined the relationship between class days missed for travel to competitions and how well student athletes perform academically. Further research is needed to support the findings in this study.

# Chapter 5

# FINDINGS, CONCLUSIONS, AND IMPLICATIONS

This study examined student athlete GPAs to see the relationship between the amounts of time spent travelling for athletic contests and student athlete academic success. This chapter provides an overview of the study, a review of the findings, conclusions based on the findings, implications regarding the issues raised in the research, and suggestions for future research.

## Summary of the Study

Higher education is facing an increased need for transparency from both taxpayers and legislators (Bardo, 2009; Carey, 2007; Johnson & Stage, 2018; Jones, 2016), which leaves administrators trying to find new ways to assist students in achieving academic success. Intercollegiate athletics, especially at the Division-I level, are especially facing the calls for transparency and a greater emphasis on the term student before athlete. The NCAA is leading the way on reforms and shifting the focus toward athletes as students first (Laforge & Hodge, 2011; Morgan, 2012; Petr & McArdle, 2012; Southall, 2014), which leaves institutions having to find creative ways to increase the academic performance of their student athletes. While there has been extensive research on the academic performance of student athletes in-season versus out-of-season, no identified studies have focused specifically on travel and the effect it has on GPA.

The present study was an effort to identify the relationship between time spent travelling for athletic contests, Class Days Missed, and academic performance, GPA. Data was archival and gathered by the Idaho State University (ISU) office of Institutional Research and

given for analysis. Permission was obtained to view travel schedules from ISU athletic department staff and I was given digital access to these records. Athletic coaching staff members submit their travel schedules to the athletic department before the season begins. The travel schedules were then reviewed to get the number of Class Days Missed by each ISU sponsored athletic team. Multiple linear regression analyses were conducted between student athlete GPA, Class Days Missed, and other variables in order to determine if, and what the nature was, of any relationships that were found.

## Findings

The current study conducted multiple regression analyses to determine if any relationship between the dependent variable, GPA, and independent variables Class Days Missed, Sport, Class Standing, or Objective Course existed and to what extent. Results of the regression analysis of the independent variable Class Days Missed indicated that 6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, and 21 or more Class Days Missed were significant predictors of GPA.

Adding the independent variable sport to the regression analysis indicated that Men's Tennis, Men's Track/Cross Country, Women's Basketball, Women's Golf, Women's Softball, Women's Soccer, Women's Tennis, Women's Track/Cross Country, and Women's Volleyball were significant predictors of GPA. However, no number of Class Days Missed was a significant predictor of GPA.

Results of the linear regression analysis between Class Standing and Class Days Missed indicated that Freshman, Sophomores, Juniors, 6-10 Class Days Missed, 10-15 Class Days

Missed, 15-20 Class Days Missed, and 21 or more Class Days Missed were significant predictors of GPA. The number of Class Days Missed all had a positive relationship on GPA, while each level of Class Standing had a negative relationship on GPA.

Finally, the current study analyzed the GPA for student athletes in Objective 1 and Objective 3, English and Math respectively, requirements for the general education program at Idaho State University. The independent variables were Class Days Missed, English course, and Math course. Results of the regression analysis between Objective 1 and Objective 3 Course and Class Days Missed indicated that only Math courses, MATH 1153, MATH 2257, and MGT 2216 in particular, were significant predictors of Objective GPA.

## Conclusions

This study found that there was a difference in GPA between the independent variable Class Days Missed. However, the results do not indicate, nor support the idea, that the more days a student athlete misses, the worse academically they will do. In fact, this study found the opposite to be true, that the least amount of days missed hurt overall GPA more than missing more days. Since this was the case, the researcher added Sport as an independent variable to the regression analysis to determine how much Sport and Class Days Missed together impacted GPA.

When Sport was added as a variable, Men's Tennis, Men's Track/Cross Country, Women's Basketball, Women's Golf, Women's Softball, Women's Soccer, Women's Tennis, Women's Track/Cross Country, and Women's Volleyball all were significant predictors of GPA.

However, the results for this linear regression analysis did not indicate that any amount of Class Days Missed were significant predictors of GPA.

The third linear regression analysis examined the relationship between Class standing and Days Missed on GPA. Seniors and 0-5 Class Days Missed were the reference groups for this analysis. As indicated from the results, Freshman, Sophomores, and Juniors all were significant predictors of GPA and all had a negative relationship. 6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, and 21 or More Days Missed also were significant predictors of GPA, all with positive relationships. These results show that student athletes that are only beginning their academic careers have a negative impact on GPA. Also, even though there was a negative impact on GPA for each class standing, the resulting impact was largest for Freshman compared to Juniors. Each year the negative impact was lower than the year before.

For the final linear regression analysis, GPA specific to Objective 1 and Objective 3 for the ISU General Education Program was examined. The results indicated that only Women's Softball was a significant predictor of Objective GPA. For this linear regression analysis, the overall number of student athletes that took a course that qualified was much lower than the overall number of student athletes in the study. As discussed in Chapter 1, the analytical framework for this study is based on the Petr et al. (2012) study in which the effect of in-season versus out-of-season academic performance is evaluated. That study, however, does not examine travel time in terms of the number of days missed, and as such can only provide a very basic comparison. The current study examines academic performance in-season and does not consider the academic performance from out-of-season academic terms. No Identified

studies have examined the relationship between class days missed and academic performance as is done in the present study, therefore, any conclusions should be considered with caution.

First, since there was a significant predictor for GPA when analyzing only the number of Days Missed, it is easy to conclude that the more days missed, the lower a student athletes GPA will be. These conclusions come since student athletes are not able to attend every class and are missing class time, notes, interactions with the instructor, and other valuable strategies for academic success. However, the results do not indicate that this is the case, and in fact the opposite may be true where the more a student athlete misses, the better they do academically. These results should then be looked into further and more questions asked to try to determine why this may be happening. Are the student athletes that miss more days better prepared overall? Do the student athletes that miss more days only participate in certain sports? These are some important questions that are drawn from the results, but since they could be due to a number of different variables, it is hard to draw conclusions from this analysis alone.

Since there may not be enough information to analyze how student athletes perform academically based on Class Days Missed alone, adding Sport to the linear regression model provided additional information to further analyze the relationships. When examining the number of Days Missed, there are certain Sports that do not miss as many days as others, such as Men's and Women's Tennis. This could lead to predictions that the sports that have fewer days missed will have a negative impact on GPA. The linear regression analysis does not support this, however, and indicates that only certain Sports are significant predictors for GPA and no amount of days missed are significant predictors. Practitioners may then have a harder

time in deciding which sports would need to have a greater support for student athletes while travelling, since the significance of sport and days missed does not hold that a sport that misses fewer days, such as tennis, needs to have more support due to the same category of days missed also being a significant predictor.

Another area that was analyzed was the impact on the amount of Class Days Missed and Class Standing. Since freshman student athletes are new to not only the college, but also playing their sport while in college, it is presumed that their GPA would be lower overall than student athletes that had been at the institution longer. The results of the linear regression analysis indicate that this is the case, and that all of the Class Standing groups are a significant predictor of GPA. Each Class Standing had a slightly higher relationship than the previous, which does lead to the belief that as student athletes continue in their careers they are more likely to do well overall academically. Each level of Class Standing did have a negative impact on GPA, but that impact was lower as the Class Standing rose.

Finally, since all students need to complete general education requirements for graduation, the interaction between the Objectives Courses and Class Days Missed on Objectives GPA was analyzed. The overall number of cases for this analysis (N = 478) was lower than the analyses that examined overall GPA (N = 1,770). One reason for this could be that advisors for student athletes do not advise student athletes to take these math and English courses during a term in which they are competing, as they may feel student athletes would not do as well. That particular position on how student athletes do during the course of a season goes back to previous studies that presume student athletes do better academically out-of-

season than they do in-season. Since previous studies do not indicate that student athletes in-season perform worse than they do out-of-season, but indicate perhaps the opposite (Petr et al., 2012), administrators and athletic academic advisors should not shy away from putting student athletes in these math and English Objective Courses during any academic term.

Since the present study examined the amount of Class Days Missed and GPA, it could offer some valuable insight for practitioners as the results indicate that only a few math objective courses were a significant predictor of Objective GPA. Since there were no groups within Class Days Missed that were significant predictors of Objective GPA, it might indicate that student athletes do not do worse in objectives courses, even if they are taking them while in season. Even though there were a few math courses that significantly predicted Objective GPA, there could be a number of reasons why this was the result. The number of student athletes that participated in an objective course may have been less than other courses, which would affect the Objective GPA for that course.

Overall, this study found that Class Days Missed was a significant predictor of GPA. This result alone could lead to an increase in resources for student athletes while they are travelling for competition and missing class time, but future research should be done to better understand the impact of travel on student athlete GPA. Analyzing the amount of Class Days Missed, along with other variables, however, is necessary to determine how to increase the resources for student athletes while they travel. This will allow departments to maximize resources for student athletes and create programming that will help the student athlete be successful in their academic pursuits.

## Implications

After review of the findings, several implications arise from this study. First, this study found that Class Days Missed was a significant predictor of GPA, indicating that student athlete academic performance is impacted by how many days student athletes miss. This finding is relevant to those athletic departments that are looking at the possibility of having academic advisors or tutors travel with sports that miss a higher number of days. However, student athletes did not do worse academically the more Class Days Missed, but the opposite was observed and they performed better the more class days that were missed. As a result, caution should be taken when making any decisions based on the number of Class Days Missed for student athletes.

The second implication from this study is that Sport and the amount of Class Days Missed will significantly impact GPA. Since each sport does not miss the same amount of class days, it is implied that a sport that misses the least amount of days will have a negative impact on GPA. Also, it is implied that the idea "of the 'dumb jock' exists primarily because the most visible college sports of football and men's basketball consistently yield lower… rates than any other sports teams" (Rishe, 2003, p. 426). However, the present study did not support this idea, perhaps implying that Sport and Class Days Missed together did not have a significant impact on GPA.

Another implication is that student athletes will continue to improve academically as they become more experienced in their sport and in their coursework. As student athletes continue their academic careers, they are able to find the balance they need to compete as an

athlete and succeed as a student. As practitioners better understand the findings and the demands that student athletes face, programs for academic success will more closely match the needs of the student athletes. Based on the research, one such program could be a mentor/peer support program that pairs a senior, or older athlete, with the younger athletes. Having these peer student athletes help the younger team members who "may not initially have autonomy, but are shown a pathway to earn it-is how the 'unsuccessful' become successful" (Haslerig, 2018, pp. 100-101). It may also benefit the student athletes to have a cross-over between sports, so they are not always interacting with those in their current sport, or those that miss more days interact with those that miss less. Having a Men's Football student athlete that is paired with a Women's Volleyball student athlete can provide new insight and help, benefitting the student athletes in both sports.

Additionally, when student success initiatives are aimed at the goal of helping students develop their own successful paths as they become more independent, the students will have an even greater benefit (Steele, 2018). Student athlete academic success staff need to provide a framework for their student athletes, but ultimately "student success must occur through students' development and engagement with their own goals and plans" (Steele, 2018, p. 68). Having student athletes connect with their peers in an organized and planned way, such as peer tutoring or support, "can be beneficial for their academic performance, particularly when they are connected with more advanced students" (Baker, 2013, p. 647).

Fourth, implications about providing academic support to student athletes that are participating in particular Objective courses to satisfy graduation requirements during their

season. Since a lot of studies have been done to compare how well student athletes do academically during their season and Objective 1 and Objective 3 courses overall are viewed as more difficult courses, practitioners use this information to determine that student athletes should not take these courses during their seasons. However, the present study did not find results that would provide any additional data for this argument, so having student athletes take these courses during their seasons should not be something that is discounted.

## Future Research

This study provides a framework on the effect of travel time and academic success for student athletes. Although there have been many studies that have examined academic success for student athletes, no known studies have specifically examined the effect of travel time. This study provides the framework for future research in this particular area that can be expanded upon for practitioners in student athlete academic services.

First, future research should include student athletes from a variety of NCAA institutions. Since this study focused on just one NCAA institution, the group sizes in some particular groups was not very large. Expanding the study would allow for a larger number of participants to be included in the data, allowing for larger and more similar group sizes. It would also expand the number of sports that would be included in the study and the number of days missed. Idaho State University does not participate in every sanctioned NCAA sport, so expanding the included institutions would give a larger number of data points within each variable.

Second, the type of variables included in the design could be changed to allow for the control of possible nuisance variables. For example, adding Major as a variable would provide another detail and greater insight into which groups of student athletes might be most at risk while travelling. Another variable would be to see which student athletes are already receiving tutoring or additional academic support while they are not travelling for athletic related events. This particular variable could enter the design as a simple, dichotomous yes or no question, or could be more elaborate, depending on the need of the institution. Yet another variable that could be analyzed in future research is repeated courses. Not all courses in which a student athlete did not achieve the desired GPA need to be repeated, but there might be a course that is required to be taken again for graduation, such as an Objective 1 or Objective 3 course. How would student athletes do academically in a course that they had already completed? Would knowing they would be travelling for their sport while taking a repeated course have an effect on the outcome the second or subsequent times?

Since the present study focused on archival data and records retrieved from institutional databases, future research could collect real-time data during the academic term. Some real time information, which would require participant approval, human subjects' board approval, and other steps, could include actively surveying student athletes during the semester for a report on grades, how well they did on a test the same week they missed classes for competition, and overall how well they feel they are doing. This might also include the need for faculty approval and collaboration with faculty to have the most recent scores for the student athlete in their course.

In addition, student athletes could be asked to discuss how they felt that they did on a particular test or large assignment after it was completed. A questionnaire could ask if they felt adequately prepared for the exam or if they felt that they were not prepared based on participation in their sport. These surveys could be sent after each exam, at the end of each week, or once at mid-terms and once during finals to gather data. Providing an insight into how student athletes felt they were doing would add qualitative measures, but might allow practitioners to understand the needs of the student athlete more adequately.

Alternatively, with surveying student athletes and getting how they are doing throughout the academic term, future research could also include comparison to the students that are non-athletes in the course. Doing so would come with a new set of challenges, but could provide valuable insight into how student athletes are doing compared to their peers. The issue of how to compare the students would need to be addressed, as not everyone in a course may be at the same level academically and which courses do these comparisons happen in? Focusing on courses that are considered universal, required for everyone to graduate, such as Objective 1 and Objective 3 courses, could address this issue in future research.

For this study, it was assumed that all student athletes travelled to all away competitions and missed the same amount of class days. Future studies could obtain travel rosters from coaching staffs to determine which student athletes were a part of the travel squad for that particular week, if they were a member the whole season, etc. Even if a student athlete is on a travel roster one week or for one competition, it does not mean that they are every week, so

having a more accurate number of the days missed is important for any future research. This would narrow the participants, but would make the study more generalizable overall.

This study used a quantitative design, and future studies could incorporate a mixed-methods design with qualitative questionnaires for student athletes. Questionnaires could focus on a number of items, such as student athlete attitude toward travel and the impact that they feel it has on their academic success. It is important to understand how the student athlete feels and if they feel that the travel impacts their academic success or if they do not consider it as a barrier to success. Do they feel that it has a role in how well they do, or do they feel that they have enough support to succeed while they are travelling for competition and missing class time?

Another area for future research could investigate how much of an impact the mode of transportation has on academic performance. Not all teams or institutions have the ability to charter flights to every away contest, so some teams travel by bus, van, or other method of transportation. Incorporating the mode of transportation as a quantitative question and also incorporating qualitative questions to see how the student athletes feel travel mode affected their academic performance could also prove valuable. Also, not every institution belongs to a conference where the members are all in relatively close proximity to one another. Some conferences have members that are spread across the United States, making travel more difficult and adding extra time demands to student athletes.

The impact of mode of travel and time away could also be solved in other ways, other than programs that are designed to specifically address academics. For instance, being able to

arrive at a destination quicker or arrive home at a more convenient time would provide the student athlete with academic support in other ways as they are able to benefit from on-campus services. Exploring this question in future research would be a qualitative approach, addressing concerns with student athletes and how they feel that how they travel impacts their academics.

Third, do student athletes feel that participating more in their competition and focusing on playing has an effect on how well they do academically? It is assumed that student athletes have very little time for academics when they are on the road, as the primary focus is on getting ready for their competition. Student athletes have "visibility [that] has certain cultural narratives attached… which in part are derived from media messages and peer-group interactions, [and] can range from perceptions of intellectual inferiority to gifted athleticism and everything in between" (Lawrence et al., 2016, p. 341). This may not be the case for each student athlete, so asking student athletes to share how they feel about preparation while on the road would also benefit future research.

As with any study, it would be important that any future research direction or changes to the study maintain reliability and validity. Practitioners may have particular feelings about what is important or what impacts academic performance the most, so the researcher would want to avoid any leading questions. The instrument should be designed in such a way to not steer student athletes toward any particular outcome or result for the study. Since the focus of the study is to determine the effect of travel time on student athletes, the questions should keep that clear and leave out any that might be a result of bias from the researcher.

Further, another fear with future research is that the design and the study would become too noisy and the initial question would become lost. Future research should focus on the initial question, as the question was posed to the researcher by Idaho State University athletic department staff, to determine what effect travel time has on academic performance. Although the question was posed by ISU athletic department staff members, the researcher feels that this topic is one that is relevant to all NCAA institutions and student athletes.

## Summary

This study conducted an analysis of any possible relationship between student athlete academic performance, GPA, and the amount of Class Days Missed. This was an exploratory study using archival data from Idaho State University from Fall 2013 to Spring 2019. Results indicated that Class Days Missed was a significant predictor of GPA for student athletes. Sport was also a significant predictor of GPA when added to the model, but Class Days Missed was not. Another model indicated that Class Standing was a significant predictor of GPA when analyzed with Class Days Missed. Finally, results of a linear regression for Objective 1 and 3 GPA with Class Days Missed and Objective Course indicated that only a few math courses were significant predictors of Objective GPA.

This study contributes to the existing body of research for student athlete academic success and proposes new avenues for support programs that need to be examined further. Student athletes that have the appropriate academic support they need are more likely to achieve the academic success the NCAA outlines and that the student athlete is pushing for in their personal life (Baker, 2013). The increased academic success for student athletes will also

provide more transparency for the constituents of the institution, as they are able to see exactly how the athletic departments are supporting student athletes with specific initiatives designed to have the biggest impact where it is needed.

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# Appendix A: Statistical Data Tables

## Table A1

*Unique Student Athlete Participation by Sport*

| Sport | *n* | % |
|---|---|---|
| Men's Basketball (MBB) | 40 | 6.27 |
| Men's Football (MFB) | 189 | 29.62 |
| Men's Tennis (MTE) | 18 | 2.82 |
| Men's Track/Cross Country (MTR) | 71 | 11.13 |
| Women's Basketball (WBB) | 41 | 6.43 |
| Women's Golf (WGO) | 20 | 3.13 |
| Women's Softball (WSB) | 44 | 6.90 |
| Women's Soccer (WSO) | 69 | 10.82 |
| Women's Tennis (WTE) | 20 | 3.13 |
| Women's Track/Cross Country (WTR) | 98 | 15.36 |
| Women's Volleyball (WVB) | 28 | 4.39 |

Table A2

*Descriptive Statistics, Frequency, and Percentages for Overall GPA*

| Variable | Descriptive Statistics | | | |
|---|---|---|---|---|
| | Mean | SD | *n* | % |
| *Class Standing* | | | | |
| Freshman | .1113 | .31459 | 197 | 11.1 |
| Sophomores | .2220 | .41573 | 393 | 22.2 |
| Juniors | .2469 | .43133 | 437 | 24.7 |
| Seniors | .4198 | .49366 | 743 | 42.0 |
| *Class Days Missed* | | | | |
| 0 – 5 | .1864 | .38957 | 330 | 18.6 |
| 6 – 10 | .4831 | .49985 | 855 | 48.3 |
| 11 – 15 | .2090 | .40674 | 370 | 20.9 |
| 16 – 20 | .0944 | .29240 | 167 | 9.4 |
| 21 or more | .0271 | .16248 | 48 | 2.7 |
| *Sport* | | | | |
| Men's Basketball | .0825 | .27518 | 146 | 8.2 |
| Men's Football | .2339 | .42343 | 414 | 23.4 |
| Men's Tennis | .0203 | .14120 | 36 | 2.0 |
| Men's Track/Cross Country | .1486 | .35578 | 263 | 14.9 |
| Women's Basketball | .0898 | .28602 | 159 | 9.0 |
| Women's Golf | .0254 | .15745 | 45 | 2.5 |
| Women's Softball | .0514 | .22090 | 91 | 5.1 |
| Women's Soccer | .0785 | .26908 | 139 | 7.9 |
| Women's Tennis | .0260 | .15915 | 46 | 2.6 |
| Women's Track/Cross Country | .2068 | .40511 | 366 | 20.7 |
| Women's Volleyball | .0367 | .18813 | 65 | 3.7 |

*Note.* $N = 1{,}770$

**Table A3**

*Descriptive Statistics, Frequency, and Percentages for Objective GPA*

| Variable | Descriptive Statistics | | | |
|---|---|---|---|---|
| | Mean | SD | *n* | % |
| *Objective 1 Course* | .479 | .500 | 229 | 47.9 |
| ENGL1101 | .126 | .332 | 60 | 12.6 |
| ENGL1101P | .038 | .191 | 18 | 3.8 |
| ENGL1102 | .316 | .465 | 151 | 31.6 |
| *Objective 3 Course* | .390 | .488 | 249 | 52.1 |
| MATH1123 | .040 | .196 | 19 | 4.0 |
| MATH1127 | .002 | .046 | 1 | 0.2 |
| MATH1130 | .006 | .079 | 3 | 0.6 |
| MATH1153 | .226 | .419 | 108 | 22.6 |
| MATH1160 | .070 | .254 | 33 | 6.9 |
| MATH1170 | .025 | .157 | 12 | 2.5 |
| MATH2256 | .008 | .091 | 4 | 0.8 |
| MATH2257 | .013 | .111 | 6 | 1.3 |
| MGT2216 | .132 | .339 | 63 | 13.2 |
| *Class Days Missed* | | | | |
| 0 – 5 | .163 | .370 | 78 | 16.3 |
| 6 – 10 | .515 | .500 | 246 | 51.5 |
| 11 – 15 | .201 | .401 | 96 | 20.1 |
| 16 – 20 | .090 | .286 | 43 | 9.0 |
| 21 or more | .031 | .175 | 15 | 3.1 |

*Note.* $N = 478$

**Table A4**

*Research Question 1Outliers*

| Outlier | Std. Residual | GPA | Predicted Value | Residual |
|---|---|---|---|---|
| 1 | -3.47 | 0.77 | 3.03 | -2.26 |
| 25 | -4.27 | 0.25 | 3.03 | -2.78 |
| 26 | -3.79 | 0.56 | 3.03 | -2.47 |
| 167 | -4.15 | 0.33 | 3.03 | -2.70 |
| 168 | -3.32 | 0.87 | 3.03 | -2.16 |
| 381 | -3.16 | 1.16 | 3.22 | -2.06 |
| 406 | -3.42 | 0.99 | 3.22 | -2.23 |
| 407 | -3.12 | 1.19 | 3.22 | -2.03 |
| 408 | -3.05 | 1.23 | 3.22 | -1.99 |
| 627 | -3.79 | 0.75 | 3.22 | -2.47 |
| 638 | -4.173 | 0.50 | 3.22 | -2.72 |
| 797 | -4.94 | 0.00 | 3.22 | -3.22 |
| 1001 | -3.13 | 1.18 | 3.22 | -2.04 |
| 1125 | -4.94 | 0.00 | 3.22 | -3.22 |
| 1126 | -4.53 | 0.27 | 3.22 | -2.95 |
| 1274 | -5.04 | 0.00 | 3.29 | -3.29 |
| 1314 | -3.37 | 1.03 | 3.26 | -2.20 |
| 1400 | -3.543 | 0.98 | 3.29 | -2.31 |
| 1424 | -5.05 | 0.00 | 3.29 | -3.29 |
| 1425 | -4.11 | 0.61 | 3.29 | -2.68 |
| 1426 | -3.62 | 0.93 | 3.29 | -2.36 |
| 1470 | -3.71 | 0.84 | 3.26 | -2.42 |
| 1537 | -5.05 | 0.00 | 3.29 | -3.29 |
| 1627 | -5.05 | 0.00 | 3.29 | -3.29 |
| 1679 | -5.00 | 0.00 | 3.26 | -3.26 |

| Outlier | Std. Residual | GPA | Predicted Value | Residual |
|---|---|---|---|---|
| 1680 | -3.00 | 1.30 | 3.26 | -1.96 |

**Table A5**

*Regression ANOVA Summary for Class Days Missed*

| Source | *SS* | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 16.49 | 4 | 4.123 | 9.693 | < .001[a] |
| Residual | 750.73 | 1765 | .43 | | |
| Total | 767.22 | 1769 | | | |

*Note.* Dependent Variable: Overall GPA

[a]Predictors: (Constant), 21 or More Class Days Missed, 16-20 Class Days Missed, 11-15 Class Days Missed, 6-10 Class Days Missed

**Table A6**

*Regression Results for Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 3.03 | 0.04 | | 84.48 | 0.000 | 2.97 | 3.10 |
| 6–10 Class Days Missed | .19 | .04 | .14 | 4.47 | < .001 | .11 | .27 |
| 11–15 Class Days Missed | .28 | .05 | .16 | 5.21 | < .001 | .16 | .35 |
| 16–20 Class Days Missed | .23 | .06 | .10 | 3.64 | < .001 | .10 | .35 |
| 21 or More Class Days Missed | .44 | .10 | .11 | 4.34 | < .001 | .24 | .64 |

*Note*. Dependent Variable = Overall GPA

**Table A7**

*Research Question 2 Outliers*

| Case Number | Std. Residual | GPA | Predicted Value | Residual |
|---|---|---|---|---|
| 1 | -3.53 | 0.77 | 2.99 | -2.22 |
| 25 | -4.20 | 0.25 | 2.89 | -2.64 |
| 26 | -3.71 | 0.56 | 2.89 | -2.33 |
| 167 | -4.07 | 0.33 | 2.89 | -2.56 |
| 168 | -3.22 | 0.87 | 2.89 | -2.02 |
| 406 | -3.09 | 0.99 | 2.94 | -1.95 |
| 627 | -4.32 | 0.75 | 3.47 | -2.72 |
| 638 | -4.37 | 0.50 | 3.25 | -2.75 |
| 797 | -5.25 | 0.00 | 3.30 | -3.30 |
| 1001 | -3.52 | 1.18 | 3.40 | -2.22 |
| 1125 | -5.40 | 0.00 | 3.40 | -3.40 |
| 1126 | -4.97 | 0.27 | 3.40 | -3.13 |
| 1274 | -5.18 | 0.00 | 3.26 | -3.26 |
| 1314 | -3.45 | 1.06 | 3.23 | -2.17 |
| 1400 | -3.68 | 0.98 | 3.30 | -2.32 |
| 1424 | -4.97 | 0.00 | 3.13 | -2.20 |
| 1425 | -4.00 | 0.61 | 3.13 | -2.52 |
| 1426 | -3.49 | 0.93 | 3.13 | -2.20 |
| 1470 | -3.59 | 0.84 | 3.10 | -2.26 |
| 1537 | -5.34 | 0.00 | 3.36 | -3.36 |
| 1627 | -5.42 | 0.00 | 3.41 | -3.41 |
| 1679 | -5.37 | 0.00 | 3.38 | -3.38 |
| 1680 | -3.31 | 1.30 | 3.38 | -2.08 |

**Table A8**

*Regression ANOVA Summary for Sport and Class Days Missed*

| Source | *SS*[a] | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 72.12 | 14 | 5.15 | 13.01 | < .001[a] |
| Residual | 695.10 | 1755 | 0.40 | | |
| Total | 767.22 | 1769 | | | |

*Note*. Dependent Variable = Overall GPA

[a]Predictors: (Constant), WVB, 11-15 Class Days Missed, WTE, MBB, MTE, WBB, WSO, WSB, WGO, 16-20 Class Days Missed, 21 or More Class Days Missed, 6-10 Class Days Missed

**Table A9**

*Multiple Regression Results for Sport and Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 2.89 | 0.04 | | 76.08 | 0.000 | 2.82 | 2.97 |
| 6–10 Class Days Missed | .04 | .04 | .03 | .97 | .33 | −.04 | .13 |
| 11–15 Class Days Missed | .05 | .06 | .03 | .94 | .35 | −.06 | .17 |
| 16–20 Class Days Missed | .03 | .07 | .01 | .37 | .71 | −.11 | .16 |
| 21 or More Class Days Missed | .21 | .13 | .05 | 1.64 | .10 | −.04 | .47 |
| Men's Basketball | .10 | .06 | .04 | 1.59 | .11 | −.02 | .22 |
| Men's Tennis | .53 | .11 | .12 | 4.88 | < .001 | .32 | .75 |
| Men's Track and Field/CC | .31 | .05 | .17 | 5.71 | < .001 | .20 | .42 |
| Women's Basketball | .37 | .06 | .16 | 5.93 | < .001 | .25 | .49 |
| Women's Golf | .35 | .11 | .08 | 3.34 | < .001 | .15 | .56 |
| Women's Softball | .18 | .09 | .06 | 2.08 | .04 | .01 | .35 |
| Women's Soccer | .41 | .07 | .17 | 6.22 | < .001 | .28 | .54 |
| Women's Tennis | .65 | .10 | .16 | 6.56 | < .001 | .46 | .84 |
| Women's Track and Field/CC | .46 | .05 | .28 | 9.28 | < .001 | .36 | .56 |
| Women's Volleyball | .45 | .11 | .13 | 3.96 | < .001 | .23 | .67 |

*Note.* Dependent Variable = Overall GPA

**Table A10**

*Research Question 3 Outliers*

| Case Number | Std. Residual | GPA | Predicted Value | Residual |
|---|---|---|---|---|
| 1 | -3.37 | 0.77 | 2.94 | -2.17 |
| 25 | -4.04 | 0.25 | 2.85 | -2.60 |
| 26 | -4.02 | 0.56 | 3.15 | -2.59 |
| 167 | -3.92 | 0.33 | 2.85 | -2.52 |
| 168 | -3.08 | 0.87 | 2.85 | -1.98 |
| 381 | -3.05 | 1.16 | 3.12 | -1.96 |
| 406 | -3.65 | 0.99 | 3.34 | -2.35 |
| 407 | -3.17 | 1.19 | 3.23 | -2.04 |
| 627 | -3.55 | 0.75 | 3.04 | -2.29 |
| 638 | -4.08 | 0.50 | 3.12 | -2.62 |
| 797 | -5.01 | 0.00 | 3.23 | -2.15 |
| 1001 | -3.35 | 1.18 | 3.34 | -2.16 |
| 1125 | -4.85 | 0.00 | 3.12 | -3.12 |
| 1126 | -4.30 | 0.27 | 3.04 | -2.77 |
| 1274 | -4.79 | 0.00 | 3.08 | -3.08 |
| 1314 | -3.07 | 1.06 | 3.04 | -1.98 |
| 1400 | -3.56 | 0.98 | 3.27 | -2.29 |
| 1424 | -5.25 | 0.00 | 3.38 | -3.38 |
| 1425 | -3.84 | 0.61 | 3.08 | -2.47 |
| 1426 | -3.34 | 0.93 | 3.08 | -2.15 |
| 1470 | -3.55 | 0.84 | 3.13 | -2.29 |
| 1537 | -5.08 | 0.00 | 3.27 | -3.27 |
| 1627 | -5.25 | 0.00 | 3.38 | -3.38 |
| 1679 | -5.19 | 0.00 | 3.34 | -3.34 |

Table A11

*Regression ANOVA Summary for Class Standing and Class Days Missed*

| Source | *SS*[a] | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 36.530 | 7 | 5.219 | 12.584 | < .001[a] |
| Residual | 730.693 | 1762 | .415 | | |
| Total | 767.223 | 1769 | | | |

*Note.* Dependent Variable = Overall GPA

[a]Predictors: (Constant), 6-10 Class Days Missed, 11-15 Class Days Missed, 16-20 Class Days Missed, 21 or more Class Days Missed, Freshman, Sophomores, Juniors

**Table A12**

*Multiple Regression Results for Class Standing and Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 3.15 | .04 | | 78.17 | .000 | 3.07 | 3.23 |
| 6–10 Class Days Missed | .19 | .04 | .14 | 4.46 | < .001 | .10 | .27 |
| 11–15 Class Days Missed | .23 | .05 | .14 | 4.73 | < .001 | .14 | .33 |
| 16–20 Class Days Missed | .19 | .06 | .08 | 3.06 | .002 | .07 | .31 |
| 21 or More Class Days Missed | .42 | .10 | .10 | 4.25 | < .001 | .23 | .62 |
| Freshman | −.30 | .05 | −.14 | −5.77 | < .001 | −.40 | −.20 |
| Sophomores | −.21 | .04 | −.14 | −5.31 | < .001 | −.29 | −.14 |
| Juniors | −.11 | .04 | −.07 | −2.80 | .005 | −.19 | −.03 |

*Note.* Dependent Variable = Overall GPA

Table A13

*Regression ANOVA Summary for Objective 1 Courses and Class Days Missed*

| Source | *SS*[a] | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 9.043 | 6 | 1.507 | 1.958 | .070[a] |
| Residual | 362.505 | 471 | .770 | | |
| Total | 371.548 | 477 | | | |

*Note.* Dependent Variable = Objective GPA

[a]Predictors: (Constant), ENGL 1101P, 21 or more Class Days Missed, ENGL 1101, 16-20 Class Days Missed, 11-15 Class Days Missed, 6-10 Class Days Missed

**Table A14**

*Multiple Regression Results for Objective 1 Courses and Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 2.67 | .10 | | 26.60 | < .001 | 2.47 | 2.86 |
| 6–10 Class Days Missed | .20 | .12 | .11 | 1.71 | .088 | −.03 | .42 |
| 11–15 Class Days Missed | .16 | .13 | .08 | 1.23 | .221 | −.10 | .43 |
| 16–20 Class Days Missed | .23 | .17 | .07 | 1.37 | .172 | −.10 | .56 |
| 21 or More Class Days Missed | .16 | .25 | .03 | 0.64 | .524 | −.33 | .65 |
| ENGL 1101 | .33 | .12 | .12 | 2.66 | .008 | .09 | .57 |
| ENGL 1101P | .004 | .21 | .001 | .02 | .985 | −.42 | .42 |

*Note*. Dependent Variable = Objective GPA

Table A15

*Regression ANOVA Summary for Objective 3 Courses and Class Days Missed*

| Source | *SS*[a] | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 28.524 | 12 | 2.377 | 3.222 | <.000[a] |
| Residual | 343.024 | 465 | .738 | | |
| Total | 371.548 | 477 | | | |

*Note.* Dependent Variable = Objective GPA

[a]Predictors: (Constant), MGT 2216, 6-10 Class Days Missed, MATH 1130, MATH 1127, MATH 2256, MATH 2257, MATH 1170, MATH 1160, 21 or more Class Days Missed, MATH 1153, 16-20 Class Days Missed, 11-15 Class Days Missed

**Table A16**

*Multiple Regression Results for Objective 3 Courses and Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 2.88 | .11 | | 26.56 | < .001 | 2.67 | 3.09 |
| 6–10 Class Days Missed | .21 | .11 | .12 | 1.82 | .069 | −.02 | .43 |
| 11–15 Class Days Missed | .13 | .13 | .06 | 1.00 | .318 | −.13 | .40 |
| 16–20 Class Days Missed | .14 | .17 | .04 | 0.82 | .415 | −.19 | .46 |
| 21 or More Class Days Missed | .15 | .25 | .03 | 0.60 | .549 | −.34 | .63 |
| MATH 1127 | −.39 | .86 | −.02 | −0.45 | .655 | −2.08 | 1.31 |
| MATH 1130 | .77 | .50 | .07 | 1.55 | .123 | −.21 | 1.76 |
| MATH 1153 | −.33 | .10 | −.16 | −3.30 | .001 | −.52 | −.13 |
| MATH 1160 | .01 | .16 | .003 | 0.07 | .944 | −.30 | .33 |
| MATH 1170 | −.28 | .26 | −.05 | −1.09 | .275 | −.78 | .22 |
| MATH 2256 | −.47 | .44 | −.05 | −1.08 | .282 | −1.33 | .39 |
| MATH 2257 | −.75 | .36 | −.10 | −2.10 | .036 | −1.46 | −.05 |
| MGT 2216 | −.55 | .12 | −.21 | −4.47 | < .001 | −.79 | −.31 |

*Note*. Dependent Variable = Objective GPA

**Table A17**

*Regression ANOVA Summary for Objective 1 & 3 Courses and Class Days Missed*

| Source | *SS*[a] | *df* | *MS* | F | Sig. |
|---|---|---|---|---|---|
| Regression | 30.260 | 14 | 2.161 | 2.932 | <.001[a] |
| Residual | 341.288 | 463 | .737 | | |
| Total | 371.548 | 477 | | | |

*Note.* Dependent Variable = Objective GPA

[a]Predictors: (Constant), MGT 2216, 6-10 Class Days Missed, MATH 1130, MATH 1127, MATH 2256, MATH 2257, MATH 1170, MATH 1160, 21 or more Class Days Missed, MATH 1153, 16-20 Class Days Missed, 11-15 Class Days Missed

**Table A18**

*Multiple Regression Results for Objective 1 & 3 Courses and Class Days Missed*

| | | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|
| Measure | B | Std. Err. | β | *t* | *p* | LB | UB |
| Constant | 2.87 | .11 | | 25.20 | < .001 | 2.65 | 3.10 |
| 6–10 Class Days Missed | .19 | .11 | .11 | 1.68 | .094 | –.03 | .42 |
| 11–15 Class Days Missed | .12 | .13 | .06 | 0.92 | .357 | –.14 | .39 |
| 16–20 Class Days Missed | .13 | .17 | .04 | 0.76 | .451 | –.20 | .45 |
| 21 or More Class Days Missed | .12 | .25 | .03 | 0.50 | .617 | –.36 | .61 |
| ENGL 1101 | .14 | .13 | .05 | 1.04 | .297 | –.12 | .40 |
| ENGL 1101P | –.20 | .22 | –.04 | –0.91 | .361 | –.62 | .23 |
| MATH 1127 | –.36 | .86 | –.02 | –0.42 | .675 | –2.06 | 1.33 |
| MATH 1130 | .79 | .50 | .07 | 1.58 | .116 | –.20 | 1.78 |
| MATH 1153 | –.31 | .11 | –.15 | –2.90 | .004 | –.52 | –.10 |
| MATH 1160 | .03 | .17 | .01 | .18 | .856 | –.29 | .35 |
| MATH 1170 | –.26 | .26 | –.05 | –1.02 | .309 | –.77 | .24 |
| MATH 2256 | –.45 | .44 | –.05 | –1.01 | .311 | –1.31 | .42 |
| MATH 2257 | –.73 | .36 | –.09 | –2.04 | .042 | –1.44 | –.03 |
| MGT 2216 | –.53 | .13 | –.20 | –4.13 | < .001 | –.79 | –.28 |

*Note*. Dependent Variable = Objective GPA

## Appendix B: Data Request Letter

Data Request
February 1, 2021

Larry Surtees
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208-705-3123

Chris,

I would like to request data from Institutional Research (IR) at Idaho State University (ISU) that will be analyzed for my dissertation in the Educational Leadership program. I am looking to study the effect of travel time on student athletes (SA) and academic performance. ISU athletic department staff suggested this study to me, as at the time they were seeking information on the relevance of such data.

For the study, I would like to have data from both a term and cumulative level for all student athletes starting with the fall 2013 term and ending with the spring 2020 term. I would like to focus on the GPA from Math and English general education courses that are required for graduation, plus any of the prerequisites for those courses that an SA may have taken that term (for instance, MATH 1108 spring 2016 and then MATH 1143 fall 2016, etc.). For each course and section that an SA is in, I would also like to have an overall course GPA for that term and section.

Term Data to include:

1. SA GPA for course (math or English)
2. Class standing or cumulative credits earned at end of term
3. Sport participated in
    a. Will be used to calculate average number of days SA's may have missed for that term

Cumulative Data to include:

1. Overall GPA for SA
2. Cumulative credits earned

Course Data to include:

1. Course name and
2. Section, with section information protected by providing data with a unique identifier unknown to the researcher
3. Overall course GPA for that term

My study has received Exempt status from the IRB based on the historical data and all personally identifiable information not being sent to the researcher. The data will not include any information that could lead to the discovery of who an SA might be.

Thank you for your assistance with this project. If you need anything or have any further questions, please let me know.

Best,

Larry Surtees