

The Relationship Between Academic Clustering and Athletic Academic Support Department Reporting Lines in NCAA FBS Programs

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This article investigated whether an association existed between the academic clustering of National Collegiate Athletic Association (NCAA) Division I Football Bowl Subdivision (FBS) college athletes and the reporting lines of athletic academic support departments at their institutions during the 2017-18 academic year. Critics have argued that college athletes cluster into a major at a higher rate when athletic academic support departments report to athletic department officials instead of university administrators not employed by their athletic department. The authors contacted athletic academic support directors at NCAA Division I FBS institutions to find out whether their departments reported to an administrator employed by or outside of the athletic department. Then, the authors used annual football media guides provided by athletic departments to determine the number of college athletes who were enrolled in each academic major. Finally, the authors used an ANOVA to calculate whether an association existed between an athletic academic support department's reporting lines and the rate that college football athletes clustered into one or more majors. The results indicated that the association between the rate that college football athletes clustered into one or more majors and the reporting lines used by athletic academic support departments at their institutions was insignificant.

Keywords: college sport, academic clustering, academic integrity

Introduction

Former National Collegiate Athletic Association (NCAA) Division I college athletes have indicated that athletic academic advisers contributed to their academic success (Hatteberg, 2020; Hazzaa et al., 2018; Menke, 2016; Paule & Gilson, 2010; Ridpath, 2010). Critics of college athletics, however, have argued that athletic academic support staff members should report to university officials instead of athletic department administrators. The Coalition on Intercollegiate Athletics (COIA) sug-



gested that “The academic advising facility for student-athletes should be integrated into and report through the existing academic advising structure and not through the athletics department” (“Framing the Future,” 2007, p. 10). The Drake Group argued that “academic support services for college athletes shall be under the direct supervision and budgetary control of the institution’s academic authority, administered externally to the athletic department . . . no academic counseling should occur by athletic department employees” (“Guidelines for Academic,” 2014, p. 2). University faculty members have also portrayed allowing athletic academic support department employees to report to athletics department administrators as harmful to the academic experience of college athletes (Lybarger et al., 2018).

One potentially negative outcome of allowing athletic academic advisors to report to athletics department administrators is academic clustering (Gurney et al., 2017; Huml et al., 2019; Smith & Willingham, 2015). A survey of NCAA Division I athletic academic advisors indicated that coaches and athletic academic advisors can persuade a college athlete to select an academically clustered major, although college athletes sometimes decide to do so on their own (Case et al., 2017). Previous research has portrayed academic clustering as potentially harmful to college athletes. One study found that NCAA Division I college athletes whose coaches discouraged them from pursuing certain majors had lower grade point averages (GPAs) (Beron & Piquero, 2016). In athletic department media guide biographies, some athletes are listed as being enrolled in a major that does not match up with the career that they plan to pursue, which could be partially due to academic clustering (Paule-Koba, 2019). College athletes in an academically clustered major may earn lower salaries, especially in the short-run (Sanders & Hildenbrand, 2010). Although the academic clustering of college athletes can be problematic, that is not always the case. For example, if college athletes are clustered in a “sport management” major, their experience in sport, not any illicit actions, could be the cause of the cluster (Dent et al., 2014). If college athletes cannot pursue their desired major because of their participation in athletics, then academic clustering becomes dubious.

While previous studies have examined academic clustering (Case et al., 1987; Fountain & Finley, 2009; Otto, 2012; Paule-Koba, 2015 & Sanders & Hildenbrand, 2010), the authors are aware of no previous research that has examined whether academic clustering occurs at a higher rate based on the reporting lines utilized by athletic academic support departments. Therefore, the purpose of this study is to assess whether college athletes cluster into one or more academic majors at a higher rate at institutions where the athletic academic support staff members report to an athletic department administrator instead of an administrator employed outside of athletics.

The present study investigated the following research questions:

RQ1: During the 2017-18 academic year, what percentage of NCAA Division I FBS athletic academic support departments reported to an athletics department official, utilized dual reporting lines, or reported to a university official outside of the athletics department?

RQ2: Was there an association between the reporting lines of NCAA Division I FBS athletic academic support departments and the rate at which their football athletes clustered into one or more academic major(s) during the 2017-18 academic year?

Literature Review

Definitions of Advanced Terms

The authors will use the terms “athletic academic support department”, “athletic academic support staff”, and “campus advisers” throughout the study. An athletic academic support department and support staff provide college athletes with services such as the improvement of study skills (Rubin, 2017). The term “campus advisers” refers to university employees who provide advising to college athletes and other students, which can include faculty whose main priorities are teaching and/or conducting research, professional academic advisers whose primary role is to advise students, and staff who specialize in advising students for a particular academic department or major (Self, 2011).

The authors also describe campus reporting lines as either “dual” or “dotted” in some instances. Athletic academic support departments with dual reporting lines report to an administrator within the athletic department and one outside of the athletic department, and neither acts as the primary supervisor. Athletic academic support departments with “dotted” lines also report to two administrators. One serves as the primary supervisor while the athletic academic support department reports secondarily to the administrator with a “dotted” line.

Other terms refer to various levels of NCAA competition. The NCAA split their member institutions into three divisions during 1973 (NCAA, n.d.). Division I institutions typically maintain a larger athletic department budget and student body relative to the institutions in other divisions (NCAA, n.d.). Within NCAA Division I football, membership is subdivided between the Football Bowl Subdivision (FBS) and Football Championship Subdivision (FCS). During 2014, the leaders of NCAA Division I institutions voted to allow the five wealthiest athletic conferences in Division I to implement their own regulations (Bennett, 2014). These include the Atlantic Coast, Big Ten, Big 12, Pacific 12 and Southeastern Conferences and are known as the “Power Five” (Gurney et al., 2017). “Power Five” institutions compete at the FBS level. “Group of Five” football programs consist of five athletic conferences which also compete at the FBS level (Dellenger, 2020). These include the American Athletic Conference, Conference USA, the Mid-American Conference, the Mountain West Conference, and the Sun Belt Conference.

The authors refer to some football athletes who are represented in the data set as “non-redshirted freshmen”. A “non-redshirted freshmen” describes an athlete who belongs to a varsity team and competes in athletic competitions against other institutions during their first year as a full-time student (NCAA, 2019a, p. 82). A red-shirt freshman belongs to a varsity team but does not compete in athletic competitions against other institutions during their first year.

Another advanced term, “academic clustering”, was defined in the first study of the topic as 25% or more of the college athletes on a team as selecting the same academic major (Case et al., 1987). Some scholars have continued to utilize this benchmark (Fountain & Finley, 2009; Otto, 2012; Paule-Koba, 2020). Other research has used various statistical significance tests to measure whether academic clustering has occurred in college athletics (Houston & Baber, 2017; Love et al., 2017; Watkins & Slater, 2021). The use of a 25% benchmark to determine if academic clustering has occurred, without any comparison to the general student body, could be misleading since a higher percentage of students enroll in certain academic majors at some institutions compared to others (Otto, 2012). Therefore, the authors chose to measure whether clustering occurred among NCAA Division I FBS programs based on a z-test of proportions instead of using the 25% benchmark.

Academic Clustering

Studies have found evidence of academic clustering among NCAA Division I football programs, especially at the “Power Five” level (Fountain & Finley, 2009; Houston & Baber, 2017; Otto, 2012; Watkins & Slater, 2021), although it occurs to a lesser extent at the FCS level (Paule-Koba, 2020). In addition to football, some men’s and women’s NCAA Division I basketball and baseball programs also academically cluster (Case et al., 1987; Goodson, 2015; Miller, 2021; Paule-Koba, 2015).

Other studies have examined the relationship between certain variables and academic clustering. Multiple studies have determined that black, male, and “high profile” sport college athletes were more likely to be in a clustered major (Case et al., 1987; Fountain & Finley, 2009; Sanders & Hildenbrand, 2010; Houston & Baber, 2017), although another found that minority college athletes did not academically cluster more frequently at the FCS level (Paule-Koba, 2020). Research shows that while academic clustering takes place among men’s NCAA Division I basketball teams (Case et al., 1987), it is less common among NCAA Division I women’s teams and historically black college and university (HBCU) basketball programs (Goodson, 2015; Paule-Koba, 2015). The academic clustering of “Power Five” football programs also appears more prevalent among institutions with higher admissions standards (Love et al., 2017). In some cases, highly recruited colleges athletes, as well as those who are drafted by the National Football League (NFL), are more likely to select an academically clustered major (Fountain & Finley, 2011; Watkins & Slater, 2021). Also, college athletes with a stronger athletic identity are more likely to declare less rigorous majors and may academically cluster as a result (Foster & Huml, 2017).

Although previous studies have established that academic clustering occurs in NCAA Division I FBS programs, and academic clustering appears to be more common among football athletes that are minorities, football athletes at highly selective institutions and/or more talented football athletes, these studies have not examined the relationship between an athletic department’s reporting lines and academic clustering.

The Shared Responsibility of Academically Advising College Athletes

Campus advisers and athletic academic advisers both provide academic advising to college athletes (Rubin & Lewis, 2020), however, the job duties and work environment of athletic academic advisers may cause them to play a more significant role than campus advisers (Hatteberg, 2020; Robbins & Bentley-Edwards, 2020; Rubin & Lewis, 2020; Stokowski et al., 2020). Athletic academic advisors may meet with college athletes more often than campus advisers do (Stokowski et al., 2020). In some cases, athletic academic advisers also advise less students than campus advisers (Rubin & Lewis, 2020).

Another reason athletic academic advisers may have a more significant impact on athletes than campus advisers is that former college athletes have indicated that they did not establish a significant relationship with faculty members while in college (Kidd et al., 2018). Moreover, some college athletes have claimed they received less social support from faculty members than athletic academic advisers and other athletic department staff members (Hatteberg, 2020). Some campus advisers also hold negative perceptions towards college athletes, such as that they are less qualified to complete academic work and that they expect athletic academic advisers to complete tasks for them, like determining their course schedule (Stokowski et al., 2016). There is also a noticeable disparity between the workload of athletic academic advisers, since some report working forty hours per week, while others work over sixty hours per week, and some only supervise 10 to 20 college athletes while others advise a few hundred (Rubin & Moreno-Pardo, 2018). Since athletic academic advisors play a significant role in advising college athletes, the relationship between the different reporting lines that they utilize and academic clustering is worthy of study.

College athletes and campus administrators have perceived athletic academic advisors as facing a conflict of interest between the well-being of college athletes and the athletic success of their institution. University academic advisers have complained that they encourage students to make their own academic decisions, but some athletic academic advisers assume responsibilities such as selecting which courses their college athletes take (Hardin & Pate, 2013; Hatteberg, 2020; Rubin & Lewis, 2020; Stokowski et al., 2020). Moreover, campus advisers sometimes perceive athletic academic advisors as “focusing on eligibility” compared to the other academic goals of college athletes (Hatteberg, 2020; Stokowski et al., 2020). College athletes have indicated that their campus advisers placed more emphasis on their academic goals than their athletic academic advisers (Huml et al, 2014).

These issues can be compounded by allowing athletic academic advisers to report to administrators within the athletics department instead of other campus officials (Friedman, 2008). Athletic academic advisors have described themselves as pressured to keep college athletes eligible, especially by coaches (Case et al., 2017; Stokowski et al., 2020). Moreover, athletic academic advisors can have their office in the same building as athletic department administrators, where some athletic academic advisors who report outside of athletics have an office in another campus building (Rubin & Lewis, 2020). Therefore, expecting athletic department advisers

to report to administrators outside of athletics could reduce the pressure that athletic department staff and coaches may place on athletic academic advisors to help college athletes remain eligible, which could cause academic clustering to occur at a higher rate (Case et al., 2017).

Overall, several studies have established that academic clustering occurs among NCAA football programs (Fountain & Finley, 2009; Paule-Koba, 2015; Paule-Koba, 2020), and examined the relationship between academic clustering and other factors, but not the reporting lines used by athletic academic advisors (Fountain & Finley, 2009; Love et al., 2017; Sanders & Hildenbrand, 2010; Watkins & Slater, 2021). Athletic academic advisors play a significant role in advising college athletes (Rubin & Lewis, 2020; Stokowski et al., 2020), and those who report to athletic department administrators may be under increased pressure to help college athletes to remain eligible, which may cause an increase in academic clustering (Case et al., 2017).

Method

Data Collection

The present study investigated football programs which competed at the NCAA Division I FBS level during the 2017-18 academic year. The authors selected this time frame since it was the most recent academic year with degree completion data available for male undergraduate students at U.S. institutions. The researchers narrowed the focus of the study to football athletes because football programs maintain the largest average roster size compared to any other NCAA Division I sport. During the 2017-18 academic year, an average of 121 athletes competed on each NCAA Division I FBS team (Irick, 2018). In comparison, an average of 48 athletes competed on each NCAA Division I lacrosse team, although it maintained the second highest average roster size (Irick, 2018). Therefore, football teams provide the largest potential sample size which can improve the confidence interval for statistical testing (Schumacker, 2014).

Other unique aspects of NCAA Division I college football also make it worthy of study. According to the College Sport Research Institute's (CSRI) Adjusted Graduation Gap (AGG), football athletes at the "Power Five" and "Group of Five" level graduate at a lower rate than other full-time students (Southall et al., 2021), and according to a 2020 NCAA report, football athletes recorded a lower Graduation Success Rate (GSR) than any other NCAA Division I men's or women's sports ("Trends in Graduation," 2020). NCAA Division I football athletes reported spending more hours per week on their sport in season than any other sport except for baseball ("Five Themes from," 2019). These factors may make football athletes at an increased risk to lose their athletic eligibility compared to other sports, and as a result, more susceptible to academic clustering (Hatteberg, 2020; Stokowski et al., 2020).

To determine which reporting lines each athletic academic support department utilized, the researchers obtained the contact information available on official athletics department staff directories to contact the director of each institution's athletic academic support department. Then, the researchers asked the directors of each ath-

letic academic support department whether their department reported to an administrator in the athletics department, an administrator outside of the athletic department (e.g., provost, dean of undergraduate studies), or used dual lines where there is equal oversight from athletics and an on-campus administrator. To determine the academic majors selected by football athletes, the researchers collected the declared major of football athletes from the 2017 edition of football media guides acquired from official athletics department websites.

The researchers excluded football athletes who the media guide listed as having no declared undergraduate major. Any football athletes who were listed as majoring in a pre-professional program, such as “Pre-Law”, were counted as undeclared if their institution did not award an undergraduate degree with that academic major. True freshmen were excluded from the study as well because media guides can be released before the beginning of fall classes. Therefore, any true freshmen who declared a major may have done so before taking a single college class. Moreover, other clustering studies have excluded true freshmen athletes (Fountain & Finley, 2009; Love et al., 2017; Otto, 2012). Red-shirted freshmen were included in the results since they have taken courses at the college level. In addition, the researchers also excluded graduate students to avoid equating them with undergraduate students. According to one researcher, labeling a graduate college athlete as a “fifth year senior” implies that “they are academically behind because they need more than the traditional four years to earn a bachelor’s degree” (Haslerig, 2017, p. 116). If a football athlete was listed as a “double major”, which signified that they pursued a degree in two majors, the researchers counted them as two athletes. If the media guide indicated that an athlete had already received a baccalaureate degree and was pursuing a second baccalaureate degree, he was counted as one athlete within the latter degree program.

The researchers obtained data regarding the major distribution of male undergraduate students during the 2017-18 academic year among the institutions included in the data set by collecting Classification of Instructional Program (CIP) codes data from the Integrated Postsecondary Education Data System, which the U.S. Department of Education’s National Center for Education Statistics (NCES) provided. These data indicate how many undergraduate degrees every institution awarded in each academic major during the 2017-18 academic year. The CIP is a taxonomic system developed by the U.S. Department of Education’s NCES to accurately track fields of study across higher education institutions in the United States which may choose to title majors differently (IPEDS, 2010). The CIP uses a two-digit number to denote a field of study. A four-digit decimal differentiates between academic majors within the same field of study. For example, the CIP number 14 represents engineering, while 14.0801 represents “civil engineering” and 14.0901 represents “computer engineering.” The investigators recorded the majors based on the six-digit CIP code provided by each institution to examine the specific major of each football athlete. The researchers used CIP data so that clustered majors could be compared between institutions. Also, using CIP code data confirmed that the major listed in each media guide was offered by the institution (Love et al., 2017; Otto, 2012).

Data Analysis

Out of the 129 institutions that compete at the NCAA Division I FBS level, 116 directors of athletic academic support departments responded to the authors' request regarding the reporting lines utilized by their department. Therefore, the response rate for RQ1 was 89.92%. Based on their responses, the researchers conducted a frequency analysis to answer RQ1 (see Table 1). The sample ($N=116$) included institutions in the "Power Five" ($N = 59$), "Group of Five" ($N = 54$) and conference independents ($N = 3$), all of whom competed at the FBS level during 2017. Fourteen were private and 102 were public. To compare the distribution of reporting lines between "Power Five" and "Group of Five" institutions the researchers used SPSS statistical software to perform a cross-tabulation with the chi-square test for independence (IBM Corp, 2019). The chi-square test for independence is appropriate because the statistical analysis determines if nominal variables within a single sample are independent or associated with each other (Franke et al., 2012). Institutions that shared their reporting lines ($N=116$) but did not have media guides which listed the academic majors of football athletes were excluded from RQ2. Out of the 116 institutions which shared their reporting lines, 64 published annual football media guides which indicated the academic majors of athletes. The sample included universities which belonged to either a "Power Five" ($N = 39$) or "Group of Five" ($N = 25$) athletic conference. Also, the sample included both private ($N = 9$) and public ($N = 55$) institutions.

The researchers examined each team's reported academic majors of their football athletes to determine whether academic clustering occurred among these 64 teams. Then, the researchers used the data provided by NCES to perform a one-tailed z-test of proportions to compare the proportion of football athletes in a degree program to the undergraduate degrees awarded to male students in the same academic major during the 2017-18 academic year. The researchers utilized a z-test since it compares a sample percentage to a known population percentage (Schumacker, 2014). In this case, the sample percentage was the number of football athletes within a specific degree program and the known population percentage was the number of undergraduate degrees awarded during the same year at the respective institution. The researchers compared the proportion of football athletes to male undergraduate students instead of the entire student body to account for previous research which indicates that males select certain academic majors at a different rate than females (Morgan et al., 2013).

Next, the researchers used the following null hypothesis test: $H_0 = P_1 - P_2 = 0$ to determine whether football athletes clustered into one or more academic majors. The null hypothesis stated that there was no significant difference between the proportion of football athletes in an undergraduate degree program and the number of male undergraduate students who received an undergraduate degree in that major. The alternate hypothesis was $H_1 = P_1 - P_2 > 0$, which stated that the proportion of football athletes in a major was higher than the proportion of male students who received an undergraduate degree in that major. The null hypothesis was tested on each academic major declared by a football athlete. If the null hypothesis was rejected, that major

was deemed a cluster as the proportion of football players in the academic major was higher than the expected proportion of the undergraduate population. The number of undergraduate students that was in any academic cluster based on z-score was then totaled and divided by the number of football athletes with a listed major to determine the percentage of football athletes in an academic cluster at each institution. Based on the null hypothesis tests for each university, communications (CIP 09.0101) was the most common proportionally significant cluster ($N = 13$) within the sample. In addition, other communications related majors, including sports communication (09.0906), public relations (09.0999), and communication (09.0102) were also statistically significant clusters at other institutions. The most common clustered majors by CIP code can be found in Table 2.

Finally, the researchers used SPSS to compare the rate of college athletes in a clustered major to reporting lines utilized by their athletic academic support departments. A one-way analysis of variance (ANOVA) was performed to examine the effect of reporting lines on the academic clustering of football athletes. The researchers used the following null hypothesis test: $H_0 = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$, which stated that there was no significant difference between the average number of clustered college athletes at institutions based on the reporting lines utilized by their athletic academic support department during the 2017-18 academic year. The alternate hypothesis was $H_1 = \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$ which stated that there was at least one significant difference in the average number of clustered football athletes based on the reporting lines utilized by their athletic academic support departments. An ANOVA was an appropriate statistical test for this research because the statistical analysis determines whether there are statistically significant differences between the means of independent groups (IBM Corp, 2020).

Results

RQ1 examined the distribution of reporting lines utilized by athletic academic support departments at NCAA Division I FBS institutions during the 2017-18 academic year. Based on the responses from the directors of athletic academic support departments, the researchers found that 39 athletic academic support centers reported to a supervisor within the athletic department, 37 reported to a supervisor outside of the athletic department and 40 athletic academic support centers utilized either dotted or dual reporting lines. The full results of the frequency analysis are listed in Table 1. According to a cross-tabulation with a chi-square test for independence, the reporting lines of athletic academic support departments did not significantly differ between “Power Five” or “Group of Five” institutions $\chi^2(8, N = 116) = 14.295, p = .074$.

Table 1
Frequency of Reporting Lines

Reporting line	Power Five		Group of Five		Independents		Total	
	n	%	n	%	n	%	n	%
Athletics	20	33.9	18	33.3	1	33.3	39	33.6
Athletics dotted campus	12	20.3	1	1.9	0	0	13	11.2
Campus	15	25.4	21	38.9	1	33.3	37	31.9
Campus dotted athletics	3	5.1	5	9.3	1	33.3	9	7.8
Dual	9	15.3	9	16.7	0	0	18	15.5

The second research question examined whether a statistically significant difference existed between the clustering of football athletes based on the reporting lines used by the athletic academic support departments at their institutions during the 2017-18 academic year. Out of the 129 institutions that compete in NCAA Division I FBS, 64 provided both the reporting lines utilized by their athletic academic support departments and the academic majors of their football athletes. The frequency of these institutions' reporting lines was distributed between athletics ($N = 19$), athletics dotted campus ($N = 8$), campus ($N = 19$), campus dotted athletics ($N = 5$) and dual lines ($N = 13$). An ANOVA was conducted to determine the association between the reporting lines of athletic academic support departments and the rate at which football athletes clustered into an academic major. The effect was found to be insignificant, $F(4, 59) = 1.624, p = .180, \omega^2 = .04$.

Discussion

Critics have suggested that allowing athletic academic support departments to report to an administrator in athletics could lead to increased academic clustering among college athletes ("Guidelines for Academic," 2014; Gurney et al., 2017; Smith & Willingham, 2015). The results of this study, however, indicated no significant difference between the reporting lines utilized by athletic academic support departments and academic clustering among their football athletes. Academic clustering can negatively impact college athletes if it causes them to choose an academic major that is unrelated to their preferred career field, or reduces their potential income (Paule-Koba, 2019; Sanders & Hildenbrand, 2010; Solomon, 2014). There-

Table 2
Most Common Major Cluster at Institutions

Major	CIP Code	Power Five	Group of Five	Total
Communications	09.0101	7	6	13
Sport Management	31.0504	5	5	10
Sociology	45.1101	3	1	4
Business	52.0201	2	2	4
Recreation sport and tourism	31.0101	3	0	3
Economics	45.0601	2	1	3
Liberal Arts	24.0101	1	2	3
General Studies	24.0102	1	2	3
Health, Kinesiology and Leisure Studies	31.0501	2	0	2
African and African American Studies	05.0201	1	1	2
Interdisciplinary Studies	30.9999	0	2	2
Sports Communications	09.0906	1	0	1
Human Sciences	19.0101	1	0	1
Property Management	19.0201	1	0	1
Child and Family Studies	19.0701	1	0	1
Communication	23.1304	1	0	1
Science, Tech & Society	30.1501	1	0	1
Kinesiology	31.0505	1	0	1
Social Science	45.0101	1	0	1
General Studies	30.0000	1	0	1
Life Science Communication	01.0802	1	0	1
Community and Leadership	01.0899	1	0	1
Ethnic Studies	05.0299	1	0	1
Communications	09.0102	0	1	1
Public Relations	09.0999	0	1	1
Family Resources	19.0707	0	1	1

fore, future research should investigate the extent to which factors besides the reporting lines of athletic academic support departments cause academic clustering. These factors include but are not limited to the significant time demands faced by college athletes, conflicts between the university class schedules and practice and competition schedules of college athletes, the tendency of upperclassmen college athletes to recommend an academic major to freshmen college athletes, and the NCAA's progress toward degree requirements (Heuser et al., 2008; Huml et al., 2019; Love et al., 2017; Smith, 2011).

Despite the findings of the present study, it may still be advisable for athletic academic support departments to report to an administrator outside of the athletic department since academic clustering is only one potentially negative outcome that academic reform groups have associated with allowing athletic academic support departments to report to an administrator in athletics. Previous research has argued that utilizing these reporting lines increases the likelihood that academic fraud will occur (Southall et al., 2003). Also, the Drake Group (2014) has gone beyond criticizing the reporting lines utilized by athletic departments by claiming that providing academic support services which are exclusively available to college athletes socially isolates them from the rest of the student body. As a result, they recommended that "Academic support study and computer centers, housing, dining, game room and other non-athletics locker room facilities should be prohibited because they isolate the college athlete from normal student experiences" (p. 2).

A noteworthy result in the data is that there was no significant difference in academic clustering between "Power Five" and "Group of Five" football programs, although previous research indicates that less football programs cluster at the FCS level compared to FBS (Fountain & Finley, 2009; Otto, 2012; Paule-Koba, 2020; Watkins & Slater, 2021). The operational and tutoring budgets of NCAA Division I FBS institutions are significantly larger than those at non-FBS institutions (Judge et al., 2018), which provides evidence of a gap in resources between the athletic academic support departments at NCAA Division I institutions. Hypothetically, having a higher amount of resources available, such as a tutor for an exceptionally difficult course, could impact how an athlete performs academically, and as a result influence which major they eventually select. The lack of significant difference in academic clustering between "Power Five" and "Group of Five" institutions indicates that other factors besides an institution's amount of resources may play a more significant role in causing academic clustering.

The results of the study have multiple limitations. One is that a higher percentage of football athletes reported having declared a major at some institutions. Within the data set, the smallest number of football athletes with a major listed was 30, while the largest was 86. One potential reason that the number of football athletes with declared majors varied by institution is that the athletic academic staff at some universities may advise their freshmen and sophomore college athletes to declare an academic major as early as possible, while others may not. Differences in how the athletic academic support staff advise their football athletes could have impacted the results of the study. For example, other studies have shown that clustering is more

common among upperclassmen (Fountain & Finley, 2011; Sanders & Hildenbrand, 2010).

Another limitation is that the researchers were unable to evaluate the quality of the academic majors which football athletes clustered into. As previously mentioned, the existence of a cluster does not mean it is an inappropriate academic major for college athletes. Within the sample, 40 of the 64 institutions had a cluster in a sport-related discipline (e.g., sport management, exercise science, or kinesiology), although some of these institutions also had a cluster in non-sport related academic majors. The experiences of college athletes of participating in sport could be a stronger influence than advising from athletic academic support staff members. One concern with academic clustering is that college athletes are “advised towards eligibility” by athletic academic support staff (“Guidelines for Academic,” 2014, p. 2), however, evaluating the rigor or quality of the academic majors that football college athletes clustered into was beyond the intent of the study.

An additional limitation involves where the offices of athletic academic advisors are located. Some athletic academic advisors who report to a supervisor outside of athletics still have an office in an athletic department building (Rubin & Lewis, 2020). College athletes could cluster at a higher rate at institutions where their athletic academic advisors are located in the same facility as athletics administrators, and this may increase the pressure that athletics department staff and coaches may place on athletic academic advisors (Case et al., 2017; Rubin & Lewis, 2020).

Finally, the study’s results may be skewed since only 64 FBS programs provided enough data in their annual media guides to determine whether academic clustering occurred. Scholars have argued that athletic departments have used the Family Educational Rights and Privacy Act (FERPA) to “Shield negative information about athletics from the media and public scrutiny” during academic scandals (Huml & Moorman, 2017, p. 138). Since academic clustering has been publicly criticized (Smith & Willingham, 2015; Solomon, 2014), academic clustering may be more common at universities who do not list the academic majors of their athletes. The researchers found no evidence of trends based on reporting lines between institutions that included academic majors of athletes within their media guides and institutions that did not. However, within the sample there were some differences related to conference affiliation. Twenty-eight “Group of Five” institutions included academic majors on their media guides while 26 institutions excluded academic majors. However, 41 “Power Five” institutions included academic majors in their media guides, while only 18 “Power Five” institutions excluded academic majors in their media guides. This could also indicate that there are more resources available to “Power Five” institutions which result in more detailed media guides compared to “Group of Five” institutions rather than an increased importance on academics of college athletes within the “Power Five”. After completing the study, the researchers followed up with a sport information director at a “Group of Five” institution, who shared that for reasons that may vary by the institution, some athletic departments choose to publish the majors of their athletes, while others do not (C. Garner, personal communication, August 11, 2021).

Several other potential research topics related to clustering could be researched in the future. First, the majority of clustering studies have examined whether it occurs in either NCAA Division I football or basketball. Whether clustering occurs in other sports, or outside of NCAA Division I, could be examined by researchers. Moreover, the extent to which clustering varies by athletic academic support department reporting lines in other sports or NCAA divisions could be researched. Also, the educational outcomes of college athletes who completed an undergraduate degree in a clustered major could be researched. For example, researchers could investigate whether there is any significant difference between the graduation rates or career earnings of college athletes in a clustered major, compared to other college athletes. In addition, researchers could also interview college athletes who enrolled in a clustered major to learn about how they perceived their academic experience. Researchers could also interview or survey athletic academic support staff to gain insight on whether they prefer to report to an athletic department administrator or a university official outside of athletics.

Other potential reforms to address clustering, besides requiring athletic academic support department staff members to report outside of the athletic department, should also be examined. Although the perception exists that allowing athletic academic support departments to report to administrators in athletics increases academic clustering (Lybarger et al., 2018; “Knight Commission On,” 2001), there are other potential causes.

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