

Examining Academic and Athletic Motivation Among Student Athletes at a Division I University

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Academic motivation as a predictor of academic performance for college athletes has been debated in the literature. This study examined the utility of academic and athletic motivation as a key variable in predicting academic performance among 211 college athletes at a Division I institution in the Midwest. After controlling for background characteristics, results revealed that ACT score, ethnicity, and academic motivation were significant in the regression model.

Academic performance of college athletes, particularly those who compete at Division I institutions, continues to receive a great deal of attention in the literature and media. The most recent graduation rate report published by the National Collegiate Athletic Association (NCAA) indicates that athletes reached an all-time high graduation rate of 60%, compared to 58% for the nonathlete population (NCAA, 2002b). Despite the academic support services that are strongly encouraged and available for student athletes, not all groups of athletes are graduating at the national rate. For example, White basketball players graduated at a rate of 53%, but Black basketball players graduated at a rate of 35%. White football players' graduation rate was 62% and Black football players experienced a 45% graduation rate.

Poor graduation rates and academic performance associated with various groups of student athletes warrant investigation that

goes beyond merely examining the influence of traditional variables (e.g., high school grade point average [GPA] and standardized test scores) on college GPA and graduation rates. Specifically, research on the academic performance of college athletes should focus on factors related to academic success while students are in college, such as social integration and motivation to succeed in college. Therefore, this study examined the influence of academic and athletic motivation on academic performance after controlling for precollege characteristics.

Much has been written on predictors of academic achievement for student athletes (Carodine, Murphey, Orbach, Rulka, Frehlich, & Barba, 1999; Sedlacek & Adams-Gaston, 1992; Sowa, Thomson, & Bennett, 1989; Young & Sowa, 1992). The most common predictors of academic performance have traditionally been high school GPA and rank, standardized test scores, and parental education (Ervin, Saunders, Gillis, & Hoglebe, 1985; Purdy, Eitzen, & Hufnagel, 1985). Studies support that the use and influence of background variables vary for different racial/ethnic groups. For example, Sellers (1992) found that high school GPA and mother's occupation were the only significant predictors of college GPA for Black athletes who participated in revenue sports (i.e., football and men's basketball) at NCAA institutions. For White athletes, high school GPA, socioeconomic status, and

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Scholastic Aptitude Test (SAT) scores were significant in predicting college GPA. Other studies support that high school GPA is one of the best predictors of academic performance for Black athletes (Young & Sowa, 1992).

There is also growing evidence supporting the use of noncognitive factors in addition to traditional precollege measures to predict academic performance at the collegiate level for all college students, but particularly for minority students. Tracey and Sedlacek (1985) supported the use of noncognitive variables by studying the relationship between seven noncognitive variables and academic performance for minority students. The seven noncognitive variables assessed through the Non-Cognitive Questionnaire (NCQ) and reported to be related to academic success are: (a) positive self-concept, (b) realistic self-appraisal, (c) understanding and dealing with racism, (d) setting long-term goals, (e) strong support system, (f) leadership experiences, and (g) community service experience. Further, when SAT scores were combined with noncognitive variables, predictions of success were more accurate. Non-cognitive variables accurately predict academic performance across 4 years, whereas standardized test scores are only predictive of the first year of college performance.

The use of noncognitive variables has also been expanded to include student athletes (Sedlacek & Adams-Gaston, 1992; Snyder, 1996; Young & Sowa, 1992). In a study of freshmen athletes, Sedlacek and Adams-Gaston found noncognitive variables, particularly self-concept, self-appraisal, support systems, and community service, to be better predictors of academic performance in the first year of college than SAT scores. The findings suggest that SAT scores

not be used solely to predict initial academic performance. The influence of noncognitive variables has also been studied for female and minority athletes. Petrie and Stoever (1997) studied the effects of stress, social support, competitive anxiety, and SAT scores on academic performance for a sample of female athletes. The results suggest that SAT scores were more influential in predicting academic performance for freshmen than upperclassmen. Additionally, social support was significant in the model for freshmen female athletes. In an earlier study of Black athletes, Young and Sowa found high school GPA to be predictive of academic performance for Black athletes, along with several noncognitive variables such as goal setting, understanding racism, and community service.

Few studies have explored academic and athletic motivation as noncognitive variables and their usefulness in predicting academic performance for student athletes. In a study on the expressed motivation of Black and White student athletes, Snyder (1996) found that Black student athletes desired to play on the professional level more than White athletes. Parmer (1994) calls this desire "the athletic dream" and defined it as "a multi-dimensional set of behaviors and fantasies propelled by the desire to pursue superstardom through sport participation" (p. 333). Demands and career aspirations associated with college sports have also been linked to the failure of some athletes to balance academic and athletic tasks (Adler & Adler, 1991; Simons, Van Rhee, & Covington, 1999).

Other research suggests that student athletes who aspire to play at the professional level also have high aspirations to earn a college degree (Center for the Study of Athletics, 1988). For example, 95% of

basketball and football players indicated that earning a college degree was important to them (Center for the Study of Athletics, 1988). In a study conducted a year later, 82% of African American basketball players indicated that earning a college degree was important to them. Unfortunately, one third of these same student athletes earned a GPA of less than 2.0, which severely limits the chances of earning a college degree (Center for the Study of Athletics, 1989).

A more recent study examined achievement motivation of Division I athletes using self-worth theory (Simons et al., 1999). According to Simons and associates, "self-worth is determined by an individual's own, and others', perceptions of one's ability, perceptions that are mainly tied to successful achievement" (p. 152). Commitment to athletics was negatively correlated with GPA, meaning individuals with a high commitment to athletics had low college GPAs. Further, student athletes who were classified as *failure acceptors* (i.e., not motivated to approach success or avoid failure) were more committed to playing their sport than *success-oriented* student athletes (i.e., those motivated to approach success, but not avoid failure). Simons et al. suggested that the primary reason for attending college for failure acceptors was to be an athlete. In this study, failure acceptors were primarily participating in revenue sports (e.g., football and men's basketball). In other research, Sellers (1992) found academic motivation to be an insignificant predictor of academic performance, as measured by the number of hours spent studying and aspirations to obtain a college degree. Further research on motivation and its relationship to academic performance needs to be conducted to confirm these results.

The current study will add to the limited

body of knowledge concerning academic and athletic motivation of athletes by examining motivation as a noncognitive variable and its influence in predicting academic performance among college athletes at a Division I university. Previous researchers have not examined the influence of motivation on academic performance. Simons et al. (1999) studied differences between motivational types on various measures of academic performance, but did not study the relationship or the ability of motivation to predict academic performance. Likewise, Sellers (1992) defined motivation simply as the number of hours spent studying and the stated importance of earning a college degree. To address this void in the literature, this study examines the extent to which academic and athletic motivation predicted GPA for college athletes using a scale called the Student Athletes Motivation toward Sports and Academics Questionnaire (SAMSQAQ). For the purpose of this study, academic motivation refers to a student's desire to excel in academic-related tasks. Athletic motivation refers to a student's desire to excel in athletic related tasks.

METHOD

Participants

Participants were selected from eight varsity team sports at a Division I university in the Midwest. The sample was stratified across gender and profile of sport. Profile of sport was defined as a sport's level of association with a professional team or league in the United States and categorized as high or low. For example, men's basketball and football represent high-profile male sports. Women's basketball and softball represent high-profile female sports. The Women's National Basketball League (WNBA) was approved

in 1996 and began league play in 1997, providing professional opportunities for women to compete. Women's softball gained national exposure through its inaugural Olympic appearance in 1996. The Women's College World Series, which is televised on ESPN annually, also attracts national media attention. The professional league for women's softball, National Pro Fastpitch (NPF), reorganized in 2001 and will consist of 8 teams in the United States scheduled to begin play again in 2004 with the support of Major League Baseball (MLB). Men's volleyball and lacrosse represent low-profile male sports. Women's lacrosse and field hockey represent low-profile female sports.

Data were collected from 236 student athletes from the eight varsity sports listed above. One third of the participants in this sample were female (33%) and two thirds (67%) were male. Seventy percent of the participants were White and 30% were minority students. Approximately 39% of the participants indicated that they received a full athletic scholarship; 31% received a partial athletic scholarship; and 29% received no athletic scholarship. The participants ranged across years of eligibility remaining. Sixteen percent of the participants reported zero years remaining; 18% reported 1 year remaining; 25% reported 2 years remaining; 32% reported 3 years remaining; and 9% reported 4 years remaining.

The sample for this study was fairly representative of the population of student athletes, in terms of gender and ethnicity, at the institution and within Division I NCAA athletic programs. Athletic squad rosters at the university indicated that females represent about 42% of the student athlete population, and the remaining 58% were male. Related to ethnicity, the majority (81%) of participants was White, and the

remaining 19% were Black, Asian/Pacific Islander, Hispanic, or other minorities. A large number of ethnic minorities were represented in this sample due to the large numbers of Black student athletes who participated in football and basketball. According to the latest gender equity report, 61% of all Division I athletes were male and 39% were female (NCAA, 2002a). Within Division I athletic programs, 63% of female participants and 72% of male participants were White (NCAA, 2003).

Measures

Academic and Athletic Motivation. A survey titled the Student Athletes' Motivation Toward Sports and Academics Questionnaire (SAMSAQ) was developed by the author to assess academic and athletic motivation (Gaston, 2002). The SAMSAQ consists of 30 items measured on a 6-point Likert-type scale. The scale ranges from 6 (*very strongly agree*) to 1 (*very strongly disagree*). The SAMSAQ has three subscales, academic motivation (AM), student athletic motivation (SAM), and career athletic motivation (CAM). The AM subscale measures the extent to which students are motivated toward academic related tasks. An example of an item on the AM subscale is, "I am confident that I can achieve a high GPA this year (3.0 or above)." The SAM subscale measures the extent to which student athletes are motivated to excel at athletic-related tasks. An example of an item on the SAM subscale is, "Achieving a high level of performance in my sport is an important goal for me this year." The CAM subscale measures the extent to which student athletes are motivated toward a professional career in athletics. An example of an item on the CAM subscale is, "My goal is to make it to the professional level or Olympics in my

sport.” The Cronbach’s alpha coefficient for each subscale ranged from .79 to .86. The AM subscale consisted of 16 items and yielded a Cronbach’s alpha value of .79. The SAM subscale consisted of eight items and an alpha value of .86. The CAM subscale consisted of five items and had an alpha value of .84.

Variables. The independent variables in this study were divided into two categories, background characteristics and variables of interest. Background characteristics, including gender, race, profile of sport, years of eligibility remaining, and highest level of education completed by mother and father, were self-report items on the SAMSAQ. ACT scores were also treated as a background variable and were obtained from the university registrar. For some participants, only combined SAT scores were reported. In these instances, combined SAT scores were converted to combined ACT scores using a conversion chart to standardize this measure. University records did not include high school GPA or class rank for more than half of the participants. Therefore, only test scores were used due to availability and consistency of the data in the system.

The three motivation scores, SAM, CAM, and AM, served as the variables of interest. GPAs were used as a measure of academic performance, the dependent variable in the study. Grades were obtained from the university registrar’s system and a GPA was computed for each participant. Because the focus of this study was on the influence of motivation scores on GPA, gender, race, profile of sport, parent’s educational level, and ACT scores were used as control variables in this study. These variables have been reported to be influential in predicting academic performance for

college athletes in previous research (Petrie & Stoever, 1997).

RESULTS

Data were collected during separate academic team meetings for each sport in Fall 2001. Permission was obtained from head coaches and the university athletic director prior to collecting data from participants. At each team meeting, athletes were invited to participate in the study by signing a consent form, completing the SAMSAQ, and returning it immediately upon completion. Each survey and consent form was coded to increase confidentiality. Participation was solicited from the entire squad list for each team and was voluntary. The total number of participants who completed the survey

TABLE 1.
Means and Standard Deviations of the
Predictor and Criterion Variables
(*n* = 211)

Variables	<i>M</i>	<i>SD</i>
College GPA	2.73	0.72
ACT score	21.96	3.70
MEDU	3.47	1.08
FEDU	3.74	1.07
CAM	3.85	1.17
AM	4.61	0.60
SAM	4.69	0.68

Notes. MEDU = highest level of mother’s education (range from *some high school* to *professional degree*); FEDU = highest level of father’s education (range from *some high school* to *professional degree*); CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]); SAM = student athlete motivation score (range from 1 [*low*] to 6 [*high*]).

TABLE 2.
Correlation Matrix of Variables in Regression Model

	1	2	3	4	5	6	7	8	9	10
1. ACT	1.000									
2. MEDU	0.244**	1.000								
3. FEDU	0.284**	0.510**	1.000							
4. Ethnicity	-0.474**	-0.133	-0.306**	1.000						
5. Profile	-0.389**	-0.244**	-0.249**	0.302**	1.000					
6. Gender	0.003	0.030	0.009	0.156*	0.191**	1.000				
7. GPA	0.421**	0.170*	0.279**	-0.342**	-0.117	-0.090	1.000			
8. CAM	-0.435**	-0.087	-0.183**	0.390**	0.329**	0.250**	-0.215**	1.000		
9. AM	0.116	0.115	0.122	0.013	0.060	-0.142*	0.353**	-0.127	1.000	
10. SAM	-0.018	0.096	0.043	0.030	-0.025	0.250**	-0.118	0.455**	-0.130	1.000

Notes. MEDU = highest level of mother's education (range from *some high school* to *professional degree*); FEDU = highest level of father's education (range from *some high school* to *professional degree*); CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]); SAM = student athlete motivation score (range from 1 [*low*] to 6 [*high*]).

* $p < .05$. ** $p < .01$.

was 236, a response rate of 76%. Due to missing data, the usable sample size eventually decreased to 211.

Table 1 shows the means and standard deviations for the predictor and criterion variables in the study. The correlation matrix for the variables is presented in Table 2. In examining the relationships, ACT score ($r = .421$; $p < .01$), mother's ($r = .170$; $p < .05$) and father's ($r = .279$; $p < .01$) education, and race ($r = -.342$; $p < .01$) were significantly related to GPA. The race variable was dummy coded (0 = *White athletes* and 1 = *minority athletes*). White athletes had higher GPAs than minority athletes in this study.

A forward stepwise regression was conducted to determine if motivation was useful in predicting academic performance. To control for precollege characteristics,

gender, race, profile of sport, parent's education, and ACT scores, were entered in the first block. The motivation scores were entered in the second block. The results of the regression analysis are presented in Table 3. Precollege characteristics account for 24% of the variance in college GPA ($F = 10.70$; $p < .001$). However, only ACT scores, father's education, and ethnicity were significant in the model. After controlling for precollege characteristics, motivation scores accounted for an additional 9% of the variance in academic performance ($F = 9.18$; $p < .001$).

In the overall regression model, which explained 33% of the variance in college GPA, only ACT scores, ethnicity, and academic motivation were significant predictors of college GPA. From examining the beta weights, higher ACT and academic

motivation scores predicted higher college GPAs. Additionally, White student athletes had higher GPAs than minority athletes in this study.

DISCUSSION

There has been debate in the literature about what factors predict academic performance for college athletes, as well as the usefulness of academic motivation in predicting academic performance (Sellers, 1992; Sellers, Chauvous, & Brown, 2002). Specifically, Sellers et al. suggested that academic motivation does not predict academic performance among college athletes. The purpose of the current study was to examine the influence of academic and athletic motivation in predicting academic performance. The results from the current study indicate that ACT score, ethnicity, and academic motivation were influential in predicting academic performance.

After controlling for the effects of precollege characteristics on college GPA, ACT score, ethnicity and academic motivation were found to explain an additional 9% of the variance in college GPAs. This finding suggests why White student athletes with higher ACT scores and academic motivation had higher GPAs than minority students with lower ACT scores and lower academic motivation. It is not surprising that ethnicity was significant in the model. Black basketball and football players have consistently fared worse than their peers in terms of graduation rates (NCAA, 2002b). Further, Black student athletes often come to college less academically prepared than their peers (Hrabowski, 2002). This finding is compounded by the fact that minority students continue to experience problems in the academic domain, more so than do non-minority students. Because minority students

typically enter college with less academic preparation, the added problems in the academic domain of the college environment exacerbates the negative impact on academic motivation for these students.

TABLE 3.
Summary of Regression Analysis for
Variables Predicting GPA ($n = 211$)

Variable	B	SE B	β
<i>Block 1: $R^2 = .239$; $\Delta R^2 = .239^{***}$</i>			
ACT	.068	.014	.351***
MEDU	.011	.049	.017
FEDU	.107	.050	.158*
Ethnicity	-.236	.115	-.149*
Profile	.183	.101	.126
Gender	-.141	.096	-.093
<i>Block 2: $R^2 = .331$; $\Delta R^2 = .092^{***}$</i>			
ACT	.062	.014	.316***
MEDU	-.001	.046	-.002
FEDU	.087	.048	.128
Ethnicity	-.327	.112	-.206**
Profile	.071	.099	.049
Gender	-.037	.096	-.025
CAM	.065	.049	.105
AM	.353	.072	.296***
SAM	-.121	.073	-.114

Notes. MEDU = highest level of mother's education (range from *some high school* to *professional degree*); FEDU = highest level of father's education (range from *some high school* to *professional degree*); CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]); SAM = student athlete motivation score (range from 1 [*low*] to 6 [*high*]). Standard error = .603; Adjusted $R^2 = .301$; Model: $F = 11.051$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Previous studies have shown standardized test scores to be predictive of academic performance (Ervin et al., 1985). In the current study it was not surprising to find that ACT scores were significant in the regression model. However, current research suggests that other variables can help explain a greater percentage of the variance in academic performance (Sedlacek & Adams-Gaston, 1992; Tracey & Sedlacek, 1985). As such, the most interesting result from this study was the significance of academic motivation in the model. Academic motivation, regardless of athletic motivation, is important in determining future academic success. Career athletic motivation and student athletic motivation were found to be nonsignificant in the model, whereas a students' level of academic motivation did make a difference. In sum, the findings from this study contradict the argument that academic motivation is not related to academic performance (Sellers et al., 1992). Further, the findings from this study do not concur with previous studies, which suggests that athletic motivation or the desire to pursue a professional athletic career detracts from academic success (Simons et al., 1999). These findings may have important implications for advisors and student affairs professionals who work with student athletes.

Implications

Before discussing the practical value of this study, its limitations should be noted. The sample was drawn from a single institution in the Midwest and consisted of only student athletes who participated in varsity team sports. Hence, the ability to generalize to other institutions and student athletes is limited. Additionally, the cross-sectional design of the study limits the interpretation of the results because the survey represents

a single point in time. In other words, student athletes' motivation may vary during the course of their college career. A longitudinal study that assesses students' motivation could provide a better understanding of its impact on academic performance over time.

Notwithstanding the limitations, the results of this study can be useful to athletic and student affairs administrators who desire to understand more about what factors are related to academic performance; especially if the goal is to help student athletes reach their potential academically. Programs and services should be designed to include ways to increase academic motivation, with the goal of improving academic performance. Programs can and should focus on building confidence in, spending more time on, and placing more effort on academic related tasks, as well as how to take responsibility for academic failures. Such programs are especially important for minority student athletes who often enter college with less academic preparation than their White peers. Several athletic programs nationally have begun to employ learning skills specialists to assist student athletes in developing appropriate study and academic skills with the expressed goal of increasing success in the classroom.

Institutions and athletic programs must accept that such interventions can and do help student athletes develop confident attitudes in the classroom in the same way they learn to feel confident about their skills in their sport. The ability to transfer skills from the athletic domain to the academic domain can make a significant difference in how student athletes approach academics.

Although previous research has suggested that academic motivation is not an important factor in predicting academic performance (Sellers, 1992), the results from

this study indicate that academic motivation is and can be a key variable in measuring academic performance (Simons, et al., 1999). Additional research should further expand the literature and inform administrators concerning the importance of academic motivation in predicting academic performance for college athletes.

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REFERENCES

- Adler, P. A., & Adler, P. (1991). *Backboards and blackboards: College athletes and role engulfment*. New York: Columbia University Press.
- Carodine, K., Murphey, M., Orbach, I., Rulka, E. T., Frehlich, S., & Barba, D. (1999). Predicting academic success for NCAA division I student-athletes. *Academic Athletic Journal*, 13, 20-26.
- Center for the Study of Athletics. (1988). *Report No. 1: Summary results from the 1987-88 national study of intercollegiate athletes*. Palo Alto, CA: American Institutes for Research.
- Center for the Study of Athletics (1989). *Report No. 3: The experiences of African American intercollegiate athletes at NCAA Division I institutions*. Palo Alto, CA: American Institutes for Research.
- Ervin, L., Saunders, S. A., Gillis, H. L., & Hogrebe, M. C. (1985). Academic performance of student athletes in revenue producing sports. *Journal of College Student Personnel*, 26, 119-125.
- Gaston, J. L. (2002). *A study of student athletes' motivation toward sports and academics*. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Hrabowski, F. A. (2002). Postsecondary minority student achievement: How to raise performance and close the achievement gap. *The College Board Review*, 195, 40-48.
- National Collegiate Athletic Association. (2002a). *1999-00 NCAA Gender-Equity Report*. Indianapolis, IN: Author.
- National Collegiate Athletic Association. (2002b, September 30). Division I athlete graduation rate reaches 60%. *NCAA News*. Retrieved February 15, 2003, from <http://www.ncaa.org>
- National Collegiate Athletic Association (2003). *1999-00-2001-02 Student-Athlete ethnicity report*. IN: Author.
- Parmer, T. (1994). The athletic dream and the Black male student: Primary prevention implications for counselors. *The School Counselor*, 41, 333-337.
- Petrie, T. A., & Stoeber, S. (1997). Academic and non-academic predictors of female student-athletes' academic performances. *Journal of College Student Development*, 38, 599-608.
- Purdy, D. A., Eitzen, D. S., & Hufnagel, R. (1985). Are athletes also students? The educational attainment of college athletes. In D. Chu, J. O. Segrave, & B. J. Becker (Eds.), *Sport and Higher Education* (pp. 221-234). Champaign, IL: Human Kinetics.
- Sedlacek, W. E., & Adams-Gaston, J. (1992). Predicting the academic success of student-athletes using SAT and noncognitive variables. *Journal of Counseling & Development*, 70, 724-727.
- Sellers, R. M. (1992). Racial differences in the predictors for academic achievement of student-athletes in Division I revenue producing sports. *Sociology of Sport Journal*, 9, 48-60.
- Sellers, R. M., Chavous, T. M., & Brown, T. N. (2002). Uneven playing field: The impact of structural barriers on the initial eligibility of African American student-athletes. In M. Gatz, M. A. Messner, & S. J. Ball-Rakeach (Eds.), *Paradoxes of youth and sport* (pp. 173-186). Albany: SUNY Press.
- Simons, H. D., Van Rhee, D., & Covington, M. V. (1999). Academic motivation and the student athlete. *Journal of College Student Development*, 40, 151-162.
- Snyder, P. L. (1996). Comparative levels of expressed academic motivation among Anglo and African American university student-athletes. *Journal of Black Studies*, 26, 651-667.
- Sowa, C. J., Thomson, M. M., & Bennett, C. T. (1989). Prediction and improvement of academic performance for high-risk Black college students. *Journal of Multicultural Counseling and Development*, 17, 14-22.
- Tracey, T. J., & Sedlacek, W. E. (1985). The relationship of noncognitive variables to academic success: A longitudinal comparison by race. *Journal of College Student Personnel*, 26, 405-410.
- Young, B. D., & Sowa, C. J. (1992). Predictors of academic success for Black student athletes. *Journal of College Student Development*, 33, 318-324.