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Noncognitive Predictors of Student Athletes' Academic Performance

This study of 200 Division I athletes examined the role of four noncognitive variables in predicting academic performance. Using a paper and pencil Likert scale instrument the noncognitive variables, athletic-academic commitment, feelings of being exploited, academic self-worth, self-handicapping excuses as well as several background and academic preparation variables were studied as predictors of academic performance. All four noncognitive variables were found to be significant and independent predictors of academic performance. Student athletes' relative athletic-academic identification and achievement motivation play important roles in student athletes' academic performance.

The academic performance of student athletes has been of great concern because of low graduation rates at many American colleges and universities, particularly among African Americans (Ethier, 1997; Naughton, 1996; Peoples, 1996). These concerns, exaggerated by highly publicized cases of athletes who left college nearly illiterate, have led to increased athletic eligibility standards mandated by the NCAA through Propositions 48 and 16. These standards set minimum SAT/ACT scores and high school grade point averages in a number of core courses. The rationale for these eligibility standards is the belief that standardized tests and high school grade point averages are reliable predictors of academic success. While these cognitive variables have been shown to be significant predictors of college grades, the SAT has also been criticized as racially and culturally

biased. A federal judge in Philadelphia has recently ruled that the NCAA's initial eligibility standards for college athletes have created an unfair and discriminatory effect on African-American students and therefore violates federal law (Haworth, 1999; Williams, 1999). With such controversy surrounding standardized tests, greater emphasis may need to be placed on noncognitive variables predictive of academic performance.

Several noncognitive variables have been shown to be predictors of academic performance. They include academic self-concept (Sedlacek & Adams-Gaston, 1992; White & Sedlacek, 1986), educational goals (White & Sedlacek, 1986), mental health (Petrie & Russell, 1995; Sellers, Kupermine & Wadell, 1991) and academic motivation (Lang, Dunham & Alpert, 1988; Simons, Van Rheenen & Covington, 1999). In addition, social factors such as social status, social support, parents' and peer educational encouragement, as well as community involvement, have also been shown to be significant predictors of university grades (Hanks, 1979; Harris, 1994; Petrie, 1993; Sedlacek & Adams-Gaston, 1992, Spady, 1970; Spreitzer & Pugh, 1973). Two noncognitive variables in need of further exploration are the athletic-academic relationship and achievement motivation.

The athletic–academic relationship in the university setting has historically been problematic. This is the case because the assumption that sports is anti-intellectual pervades academic culture. Because the "dumb jock" stereotype remains prevalent, student athletes are often not seen as serious students (Beezley,1985, Edwards, 1984). Consequently faculty may have lowered academic expectations of them. This stereotype, combined with the intrinsic and extrinsic gratification they receive for their athletic participation, makes it easier for many student athletes to prioritize athletics above academics. In their ethnographic study of a Division I basketball team, Adler and Adler (1991) employ role theory to describe these recruited student athletes' relative commitment to athletics and academics. Over the course of their collegiate experience, many student athletes tend to immerse themselves almost entirely in their athletic role (role engulfment) while simultaneously detaching themselves (role abandonment) from their academic commitments.

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When individuals are expected to fill multiple roles, they can experience role strain in which commitment to one role detracts from the commitment to another (Goode, 1960). Student athletes experience role strain because of the competing time and energy demands of the athletic and academic roles. This formulation assumes that there is a finite amount of time and energy. Marks (1977), on the other hand, argues that time and energy are subjectively experienced and are elastic. They can be expanded or contracted depending upon the degree of commitment to a given role. Individuals can therefore make time and energy for multiple roles if they are committed to each of them. Thus, athletic and academic roles need not be in conflict.

Snyder (1985) agrees that the athletic and academic roles may be compatible. In his theoretical analysis of the academic and athletic role identities of the student athlete, Snyder suggests four ideal types of students based on the relative degree of commitment to each role: the scholar athlete, the pure scholar, the pure athlete, and the nonscholar/nonathlete. The scholar athlete demonstrates a high degree of commitment to both the athletic and academic role. In this case, the two domains are not in conflict. Rather than experiencing role strain, the student athlete experiences an expansion of energy to meet the demands of both roles.

In Snyder's view, the pure athlete is almost wholly committed to the athletic role with almost no commitment to academics. Here there may be role strain, where the commitment to athletics leaves little or no energy for academics. These pure athletes, often participants in the high-profile, revenue-producing sports, run the risk of failing academically or merely staying academically eligible to play their sport. Many of these student athletes, with a disproportionately high representation of minority and lower-income students, produce annual revenues for their college teams well in excess of their athletic grant-in-aid (Marshall, 1994). When these same student athletes do not graduate, universities and their athletic departments are then accused of social and economic exploitation (Byers, 1994; Edwards, 1985).

The pure scholar represents the converse of the pure athlete, where the commitment to the academic role leaves no time or energy for athletics. Finally, the nonscholar/nonathlete is committed to neither role. This type of student may be committed to other extracurricular

activities such as music, computers, etc. As Snyder points out, in reality these types form a continuum of commitment rather than discrete categories. In this study, the relative commitment to the athletic and academic roles will be treated as a continuum.

The second noncognitive variable requiring further study is achievement motivation. Student athletes present an apparent motivational contradiction. They are highly motivated to succeed in the athletic domain, and yet many seem to lack such motivation in the classroom. This apparent lack of academic motivation is reflected in a general disidentification with school and reduced academic performance. In order to be a successful athlete, an individual must be willing to work hard, exhibit perseverance and determination, and remain focused. It would seem that these behaviors, if transferred to the academic domain, would ensure academic success. However, many student athletes appear either unable or unwilling to make this transfer and are much less successful as students than as athletes. Differences in intrinsic motivation, external rewards, and social influences favoring athletics provide some of the explanation for this seeming paradox. The self-worth theory of achievement motivation (Covington & Beery, 1976; Covington, 1992) provides a motivational explanation, which can contribute to our understanding of this discrepancy between academic and athletic motivation.

According to Covington (1992: 74), self-worth theory "assumes that the search for self acceptance is the highest human priority, and that in schools self acceptance comes to depend on one's ability to achieve competitively." Self-worth is determined by an individual's own, as well as others', perception of one's ability, a perception which is mainly tied to successful achievement. Success demonstrates competence or ability, thus enhancing self-worth. In competitive situations, where success is limited to a select few individuals, the first priority for those who fear they may not be successful is the avoidance of failure and its implication that one lacks ability or competence. Trying hard and failing leads to a questioning of one's ability, which in turn diminishes self-worth. On the other hand, failure following a lack of effort does not reflect negatively on one's ability and self-worth. This lack of effort leaves open the potential for future success and provides an excuse for failure that leaves the perception of ability and self-worth intact. A lack of effort can be disguised and rationalized by self-handicapping excuses such as procrastination, test anxiety, and last-minute or inadequate study. Heavily recruited and academically under-prepared student athletes may be prone to reduce academic effort and employ these self-handicapping excuses while putting all of their effort into athletics, where they can be successful and enhance their own self-worth (Simons, Van Rheenen & Covington, 1999).

The purpose of the present study is to further explore these noncognitive variables, achievement motivation and the athletic-academic relationship, in explaining student athletes' academic performance.

Method

Subjects

Subjects of this study were 200 Division I intercollegiate student athletes participating in 26 sports enrolled at the University of California at Berkeley, during the 1993-1994 academic year. Almost two-thirds of those surveyed were male (63.3%), while more than one third (36.7%) were female. While 20.8% of the student athletes participated in revenue sports, men's basketball and football, 79.2% participated in all other nonrevenue sports. At the time of the study, 30.5% of the subjects were freshmen, 26.4% sophomores, 26.3% juniors, and 16.8% were seniors. The ethnic distribution of the student athletes in the survey was European-American (68.2%), African-American (14.3%), Asian-American (8.67%), Mexican-American/Latino (3.87%), Native-American/Alaskan Native/Pacific Islander (3.37%), and Other (1.87%). The subjects' SAT Verbal scores had a mean of 489.28 with a standard deviation of 95.89. The subjects' SAT Math scores had a mean of 586.53 with a standard deviation of 103.15.

Procedures

A paper and pencil survey was administered to each team during a scheduled team meeting. The full survey took about 40 minutes. The survey consisted of Likert scale items that measured background and noncognitive variables. Subjects were asked to rate the scaled items on a five-item Likert scale in which 1 indicated "not very true of me" and 5 corresponded to "very true of me."

Athletic-Academic Relationship Variables

Athletic-Academic Commitment. The relative degree of commitment to athletics and academics was measured by a four-item Likert scale. The items included were:

(a) I study only hard enough to stay eligible to play my sport.
(b) I care more about sports than school.
(c) I put more energy into sports now because I know I've got the rest of my life to get a college degree.
(d) It is more important for me to succeed in sports than to do well in school.

The higher the score on this variable, the stronger the commitment to the athletic role. Chronbach's Alpha for this scale was .79, indicating strong internal consistency.

Exploitation. A seven-item Likert scale measured the degree to which student athletes believe they are exploited by the university for their athletic participation. The scale included items such as:

(a) Sometimes I feel that I am being taken advantage of as an athlete.
(b) I feel that the University cares more about me as an athlete than as a student.
(c) Sometimes I feel that I am the property of the University.
(d) I feel that I give more to the University than it gives back to me.
(e) The University makes too much money out of its athletes; who see very little of it.
(f) I feel that I have been given a lot of false promises about my athletic career here at _____.
(g) It seems that younger recruits/players receive more attention and support than do older players.

Chronbach's Alpha for this scale was .75, indicating strong internal consistency.

Achievement Motivation Variables

Academic Self-Worth. A six-item Likert scale measuring academic self-worth was composed of three items from the Rosenberg Self Esteem measure (Rosenberg, 1965) and three items specific to academic achievement at Berkeley. The three items from the Rosenberg scale were selected based on their theoretical consistency and past empirical validity. They were:

(a) All in all, I am inclined to feel that I am a failure in school.
(b) I feel that I do not have much to be proud of as a student.
(c) On the whole, I am satisfied with myself as a student.

The three items developed for this study were:

(d) Do you think you have the ability to succeed academically here at UC Berkeley?
(e) Compared to the average UC Berkeley student, how would you rate your overall academic ability?
(f) Do you think you deserved to get into UC Berkeley?

Chronbach's Alpha for this scale was .90, indicating very strong internal consistency.

Self-Handicapping Excuses. A six-item Likert scale measured the tendency to report excuses for lowered levels of academic effort and performance. The six items were:

(a) If I worked harder I would get better grades.
(b) I don't have enough time to study because my sport takes up so much time.
(c) I'm so disorganized that I don't get all my work done.
(d) My social life interferes with my studying.
(e) If my courses were more interesting, I would get better grades.
(f) I would do much better on tests if I didn't get so nervous.

Chronbach's Alpha for this scale was .60 indicating a relatively low internal consistency.

Students were surveyed on several other variables which may be expected to be related to the academic performance of student athletes: background social factors, the type of sport played, and prior academic achievement.

The background variables were gender, social status, as measured by mother's educational level, and ethnicity. Because African-Americans made up the largest nonwhite group (14.3%), ethnicity was dichotomized into African-American and non-African-American categories.

In addition, on the basis of their sport, subjects were assigned to a dichotomous revenue/nonrevenue category. Men's football and basketball are the revenue sports. All others were considered nonrevenue sports.

The subjects' academic preparation before entering the university was measured by three variables: Math and Verbal Scholastic Aptitude Test (SAT) scores and high school grade point average. High school grade point averages (HSGPA) were self-reported. The SAT scores came from official university records.

All of these noncognitive, background, sport, and prior achievement measures were examined for their effect on cumulative university grade point average (UCGPA). The UCGPA was obtained from official academic records at the end of the semester following the administration of the survey. The sample had a mean university grade point average of 2.86 and a standard deviation of .50. Scores ranged from 1.5 to 4.0 on a 4.00 scale.

The strength of relationship of the variables under study to university grade point average was measured primarily by regression analysis. Regression analysis was chosen because it allows the examination of more than one variable at a time rather than testing the relationship one variable at a time. T-tests were employed when comparing two groups. The sample size for the statistical analyses varied from 171 to 198 subjects. The missing data were due to the inability to obtain university grade point averages and academic preparation data for all sub-

jects. There were few consistent developmental trends in the data. Year in school was therefore not employed in the analysis.

Results

Table 1 presents the correlations of all variables with university grade point average. All variables had significant correlations with university grade point average. The highest correlations (over .40) were found for the three academic preparation variables, two athletic-academic relationship variables and one of the achievement motivation variables.

Table 1
Correlations of Variables with University Grade Point Average

Variables	*r*
Athletic-Academic Commitment	-.50**
Exploitation	-.42**
Academic Self-Worth	.48**
Self-Handicapping Excuses	-.36**
Gender	.25**
Social Status	.23**
Ethnicity	-.19**
Revenue	-.26**
SAT Math	.48**
SAT Verbal	.62**
High School grade point average	.46**

**$p \leq .01$

Table 2
Regression Analysis: University Grade Point Average on Achievement Motivation Variables

Multiple R = .536 R^2 = .288 N = 198

Variables	Std. Error	St. Coeff.	T	*p*
Constant	0.262	0.000	9.101	**
Academic Self-Worth	0.006	0.407	6.394	**
Self-Handicapping Excuses	0.008	- 0.244	- 3.829	**

** $p \leq .01$

Females had higher grades than males. Nonrevenue athletes had lower grades than revenue-sport athletes. African-American student athletes had lower grades than non-African-American athletes.

Achievement Motivation

Table 2 presents the regression analysis of university grade point average on the motivation variables. Both achievement motivation variables, academic self-worth and self-handicapping excuses, were statistically significant predictors of university grade point average, accounting for 28.8% of the variance in university grade point average.

The higher the student athletes' academic self-worth, the higher their university grade point average. Conversely, the more motivated students were to avoid failure and use self-handicapping excuses, the lower their university grade point averages.

When the background and academic preparation variables were added to the regression, as shown in Table 3, academic self-worth and self-handicapping excuses remained statistically significant predictors, thus making independent contributions to predicting university grade point average. Differences in background and academic preparation do not fully explain the relationship of academic self-worth and self-handicapping excuses to university grade point average.

Table 3
Regression: University Grade Point Average on Achievement Motivation and Other Variables

Multiple R = .721 R^2 = .519 N = 177

Variables	Std. Error	St. Coeff.	T	*p*
Constant	0.330	0.000	2.595	*
Academic Self-Worth	0.006	0.242	3.879	**
Self-Handicapping Excuses	0.008	-0.127	-2.090	*
SAT Verbal	0.039	0.321	4.375	**
SAT Math	0.037	0.154	2.116	*
High School grade point average	0.015	0.059	0.851	ns
Gender	0.062	0.147	2.323	*
Social status	0.030	0.052	0.880	ns
Ethnicity	0.150	0.025	0.457	ns
Revenue	0.091	-0.056	-0.901	ns

ns = nonsignificant

Athletic–Academic Relationships

As Table 4 shows, both athletic-academic relationship variables, athletic-academic commitment and exploitation, were statistically significant negative predictors of university grade point average, accounting for 30.3% of the variance. Student athletes with a stronger commitment to athletics than to academics had lower university grade point averages than student athletes with a stronger commitment to academics than athletics. The more student athletes believed they are exploited by the university, the lower their university grade point averages. Revenue athletes were more committed to athletics [$t(231) = 3.00$, $p \leq .01$] and had stronger beliefs that they were being exploited [$t(228) = 7.42$, $p \leq .01$] than nonrevenue athletes.

Table 4
Regression: University Grade Point Average on Athletic Academic Relationships

Multiple R = .550 R^2 = .303 N = 193

Variables	Std. Error	St. Coeff.	T	*p*
Constant	.009	0.000	37.749	**
Athletic-Academic Commitment	.009	-0.392	-5.859	**
Exploitation	.006	-0.255	-3.815	**

** $p \leq .01$

When the background and academic preparation variables were added to the regression as shown in Table 5, athletic-academic commitment and exploitation remained statistically significant predictors, thus making independent contributions to predicting university grade point average. Differences in background and academic preparation variables did not account for the statistically significant relationship of athletic-academic commitment and exploitation to university grade point average.

Athletic-academic commitment was negatively correlated with a number of other variables, such as SAT Verbal (r = -.38), SAT Math (r = -30), high school grade point average (r = -.37), and academic self-worth (r = -.37). This variable was positively correlated with self-handicapping excuses (r = .43) and feelings of exploitation (r = .40).

Table 5
Regression: University Grade Point Average on Athletic Academic Relationships and other Variables

Multiple R = .718 R^2 = .516 N = 171

Variables	Std. Error	St. Coeff.	T	*p*
Constant	0.287	0.000	5.892	**
Athletic-Academic Commitment	0.009	-0.186	-2.736	**
Exploitation	0.006	-0.188	-2.870	**
SAT Verbal	0.039	0.261	3.444	**
SAT Math	0.037	0.193	2.581	**
High School grade point average	0.015	0.115	1.692	ns
Gender	0.063	0.094	1.455	ns
Social status	0.031	0.078	1.277	ns
Ethnicity	0.151	0.030	0.528	ns
Revenue	0.098	0.026	0.388	ns

* $p \leq .05$
** $p \leq .01$
ns = nonsignificant

Discussion

Upon entering the university, student athletes at Division I schools face a quantum leap in the athletic demands placed upon them. As one female basketball player put it, "In high school my sport was fun; now it's work." The academic expectations are likewise much more challenging, requiring a concerted effort just to maintain the minimum academic eligibility. The time and energy obligations of their sport require student athletes to learn to manage their time more effectively and to study more efficiently. Thus, university student athletes, even those with strong academic skills and a developed academic identity, must respond to these increased demands by making a stronger commitment to academics. They must meet the challenge of potential role strain by expanding the time and mental energy devoted to academics.

The strong, independent predictive value of athletic-academic commitment and achievement motivation, so strongly related to academic performance, underscores perhaps the central problem facing student athletes at an academically elite university. The problem is to strike the proper balance between academic and athletic demands that are often in conflict. Since most student athletes come to the university

with a strong athletic identity, the primary task facing most student athletes is figuring out how best to develop or strengthen an academic identity while simultaneously maintaining a strong athletic commitment. This balancing act, requiring conscious and persistent effort, is no easy trick.

Academically successful student athletes appear to be able to respond to the increased demands and transfer the qualities of hard work, discipline, and perseverance, traits necessary for successful athletic performance, to their academic lives. For these students, academics and athletics complement and reinforce one another. In fact, some student athletes actually do better academically when their sport is in season and report that the time and energy demands of athletics provide the necessary incentive to become more focused and efficient. Our research suggests that a well-developed academic identity, which is reflected in strong academic self-worth, plays a critical role in academic success. A stable belief in the ability to compete academically at the university and a strong academic identity fuel the driving motivation needed to attain academic excellence. Success breeds success just as failure breeds failure.

Academically marginal student athletes respond less successfully to the increased demands of college. These student athletes fail to make the connection between the behaviors necessary for athletic success and those necessary for academic success. They have weak academic identities and strong athletic identities due, in part, to a history of excessive emphasis on athletics at the expense of academic effort. This often results in poor academic preparation, less academic self-worth and less academic motivation. These student athletes appear unwilling to make the necessary extra commitment to academics. Rather than working harder to meet increased demands and to compensate for their academic deficiencies, they respond to this role strain by passively allowing the athletic role to engulf them. This athletic engulfment reduces their motivation to achieve success within the academic sphere. The primary academic goal becomes merely staying eligible to compete athletically. Earning the minimum number of units and the requisite 2.0 grade point average becomes a short-term panacea for next season's competition.

When a combination of poor academic preparation and a greater commitment to athletics leads to poor academic performance, the student athlete may then blame the mandated athletic demands for his or her poor performance, rather than his or her own lack of academic effort. The lack of academic effort is disguised by adopting self-handicapping excuses for poor performance, (Simons, Van Rheenen & Covington, 1999). This lack of commitment to academics eventually results in the student athlete's failure to develop a strong academic identity and acquire the knowledge, skills, and intellectual interest to be anything more than a marginal student.

The prevalent belief among certain student athletes that they are being exploited by the university for their athletic ability provides yet another rationalization for poor performance, particularly because there is some justification for these feelings of resentment. These feelings of resentment are particularly salient for revenue athletes who are often keenly aware of the potential income generated as a result of their athletic labor. As these intercollegiate athletes come to realize that their prospects of turning professional are slim, some student athletes believe that the university is using their athletic ability without providing the support necessary for them to become successful students. Unfortunately, the realization that they must pursue a career other than professional sports often arrives too late for many of these individuals to refocus their energies. In response, many of these student athletes expend the minimal effort academically merely to remain athletically eligible. The subsequent lack of confidence in their ability to compete academically at Berkeley becomes a self-fulfilling prophecy and robs these individuals of an enriching college experience.

The finding that achievement motivation and the relative strength of the athletic and academic identities account for a substantial portion of the variance in university grade point average strongly suggests that noncognitive factors play a critical role in these students' academic performance. It is not academic preparation and background factors alone that determine students' academic successes and failures. Thus, attempts to improve the academic performance of student athletes should not focus on academic skills alone. Rather, we need to find ways to encourage these young men and women to feel an integral part of the academic community and thus identify more fully with academic pursuits.

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