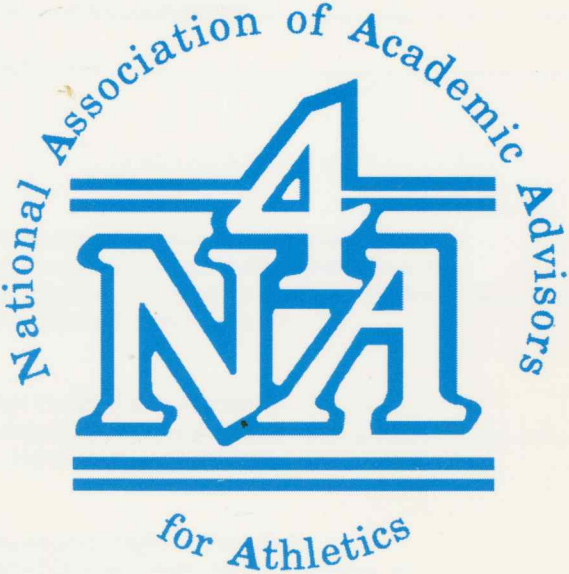
Academic Athletic Journal



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Submission Guidelines for the *Academic Athletic Journal*

AUDIENCE

The primary audience of the Academic Athletic Journal is the membership of the N4A, that is, professionals providing counseling, life skills and academic support services to student-athletes.

PURPOSE

The primary purpose of the journal is to assist its readers in providing the best possible counseling, advising, and life skills services to student-athletes. Toward that end, articles should add new knowledge, challenge existing opinions and/or explain the implications of research. The arguments should be well-grounded in theory or research and clearly related to practice. Articles should be original and stimulating, written in a clear an concise style. Where applicable, authors should strive for methodological and statistical soundness, while avoiding unnecessary technical excursions.

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EDITOR'S STATEMENT

Carol A. Gruber, Ph.D.
Vice President for Student Affairs
Carlow University

Success begins with knowing what we want, and then taking the necessary actions to get there. Along the way, we of course encounter numerous obstacles, temptations for taking shortcuts, and people who are there to teach us…by positive and sometimes negative example. And we know that, *if* we don't face those obstacles head-on, *if* we choose to take shortcuts, or *if* we ignore those teachers along the way, the journey often becomes rocky and appears to be insurmountable. If we challenge ourselves to step into the unknown, to raise the level of what is possible, and follow that with honest effort, action, and persistence, success will be manifest.

So it is not only in our lives, but in the lives of every student-athlete we encounter in our daily work. The tools we provide which empower our student-athletes to be successful academically, athletically, and in life, are crucial to not just their futures, but to the futures of those they will, in turn encounter. This volume of the *Academic Athletic Journal* (Volume 19, Number 1, Fall, 2006), provides informed research and commentary regarding some of these obstacles and tools. We invite you to read these articles, and to take what is useful to you and your student-athletes as you continue on your journey together.

The first article by Tebbe and Petrie examines the effectiveness of a learning strategies course in supporting at-risk first year student-athletes to improve their academic performance. Not only did these student-athletes perform as well as their regularly admitted counterparts, these researchers found a predictive relationship with the extent to which students took responsibility for their learning and their final course grades. The second article by Kane and Dale examines various concepts of theories of motivation for their predictability of student-athlete academic achievement. The authors found that of all variables studied, the concept of goal difficulty made the strongest unique contribution to student-athlete achievement. The authors also offer strategies for athletic academic counselors who wish to use academic goal setting as a tool for success. The third article by Comeaux and Harrison takes us in a different direction, as they explore gender and the effect this has

upon student-athletes' faculty contact and meaningful relationships, as well as how this mitigates academic success. The authors discuss the implications of their findings as they relate to how faculty and advisors can establish meaningful relationships with student-athletes. The fourth article by Lubker takes a look at the isolation that student-athletes often experience on our campuses, and how the physical campus environment and design can exacerbate this isolation for our students. Lubker provides food for thought regarding the unhealthy "protection" that this isolation provides, when student-athletes refuse to use other campus services, instead relying solely on the athletic department to provide the support they need. Our guest editorial, by Ken Baron, asks us to consider how we might more incorporate a study abroad experience for our student-athletes. He also provides helpful strategies for our use as we help our students to navigate these waters, which may seem impossible to them, but are in reality very probable growth producing experiences for our students.

The authors, editors and I hope you enjoy and benefit from this, the Nineteenth Volume of the *Academic Athletic Journal.* Best wishes for continued inspiration and professional growth.

The Effectiveness of a Learning Strategies Course on College Student-Athletes' Adjustment, Use of Learning Strategies, and Academic Performance

Carmen M. Tebbe, M.S.
Trent A. Petrie, Ph.D.
University of North Texas

Author Note: Carmen M. Tebbe and Trent A. Petrie, Department of Psychology, University of North Texas.

This study was presented at the 2005 Annual Meeting of the Association for the Advancement of Applied Sport Psychology, Vancouver, British Columbia, Canada, and was the master's project of the first author.

ABSTRACT

We examined the effectiveness of a learning strategies course in assisting at-risk male and female freshmen student athletes in improving their academic performances. The at-risk student athletes reported improvements across a wide range of study skills, such as comprehension, concentration and use of test-taking strategies, during their first semester of college when they were enrolled in the course. In comparison to regularly admitted student-athletes who did not take the course, the at-risk student athletes earned comparable grades during their first two semesters. Although neither academic nor noncognitive variables predicted the male student athletes first and second semester GPA's, female athletes' ability to manage their time as well as their willingness to take responsibility for their learning was positively related to their academic performances. Regarding their adjustment to college, the at-risk student athletes showed improvement in the personal/emotional area, but slight decreases with respect to academics and social relationships. Overall, these findings support learning strategies courses as an effectiveness mechanism for improving the academic performance of at-risk student athletes.

The Effectiveness of a Learning Strategies Course on College Student-Athletes' Adjustment, Use of Learning Strategies, and Academic Performance

During late adolescence and early adulthood, many developmental tasks must be confronted, such as establishing and developing relationships, becoming autonomous, achieving competence, and broadening one's horizons (Chickering, 1969). This time period traditionally coincides with the beginning of college, and new college students must adapt not only to these developmental challenges, but also to the need to develop self-regulatory skills to better handle the higher level of academic demands (Zimmerman, 1998). Unfortunately, many incoming undergraduates are not prepared for the social, personal, and academic changes they will face in college (Chartrand & Lent, 1987), making the first year a critical period in which to offer students assistance with their adjustment to and ultimately, retention in, college (Chickering, 1969; Noel, Levitz, & Saluri, 1985; Upcraft & Gardner, 1989).

Levitz and Noel (1989) advocated that freshmen interventions should focus on helping students adapt academically, socially, and personally. Specifically, interventions should help students feel a part of their new environment, work toward academic goals (e.g., choose a major, make progress toward a degree), be successful in meeting the increased challenges of college (e.g., live independently, manage time wisely), and be successful in the classroom (Levitz & Noel, 1989). Some commonly used freshmen interventions include freshman orientation programs, brief counseling, study skills training, freshman academic advising, mentoring programs, health and wellness programs, and freshman seminars/student success courses (Upcraft & Gardner, 1989).

Student success courses, which represent one successful intervention (Davis-Underwood & Lee, 1994; Howard & Jones, 2000; Maisto & Tammi, 1991; Petrie & Helmcamp, 1998; Robbins & Smith, 1993; Schwitzer, McGovern, & Robbins, 1991), generally are structured to provide students with information about campus services, promote involvement in campus activities, teach essential life and study skills, and facilitate meaningful faculty-student interactions and the development of peer social relationships (Upcraft & Gardner, 1989). In addition to being effective, student success courses provide institutions with an economical, systematic, and practical way to provide information to a large number of students (Petrie & Helmcamp, 1998). Although the exact content of these courses may vary across institutions (Gordon & Grites, 1984),

they generally cover academic/learning strategies (e.g., note-taking and reading skills), career development, self-regulatory strategies (e.g., goal-setting and self-monitoring), communication, health and wellness (e.g., nutrition and alcohol use/abuse), stress and coping, personality development, diversity, and campus involvement.

College student-athletes face all the challenges of a typical undergraduate, yet they also must cope with stressors that are specific to their experiences, such as balancing academic and athletic interests and paying special attention to physical health and performance (Parham, 1993). At higher competitive levels, such as collegiate sport, male athletes and athletes from revenue sports often focus more energy on and are more motivated toward their athletic, rather than their academic, pursuits (Gaston-Gayles, 2005). Such a narrowing of focus can increase the chances of athletic success, but interfere with classroom performance (Pearson & Petitpas, 1990).

Howard (1993) argued that a student athlete should remain a student first, and an athlete second, yet he recognized that there were a number of reasons this does not occur. First, not only must athletes live up to the expectations of their coaches and professors, the National Collegiate Athlete Association (NCAA) requires them to meet specific academic/eligibility requirements concerning minimum grade point averages, selection of an academic major, and completion of a certain percentage of classes (http://www.ncaa.org/library/membership/division_i_manual/2004-05/2004-05_d1_manual.pdf). Second, although there are NCAA rules regulating the amount of time that student-athletes are allowed to be involved in their sport, there are many hours of "voluntary" practices and workouts, such as weights and conditioning, film watching, and meetings, in which athletes are expected to participate to ensure playing time and avoid repercussions from a coaching staff that believes extra practice is necessary. These extra sport demands can limit the amount of time an athlete has to devote to academics. Third, competitions, and even practices, may be viewed by coaches (and athletes) as more important than academics. Student-athletes often miss class because of sport commitments, yet would rarely miss a competition or practice because of an academic responsibility. Thus, they may feel obligated to fulfill their role as a scholarship athlete, including attending all practices and competitions, yet in doing so be perceived as neglecting their academic responsibilities. Because of these multiple competing demands and role conflicts, athletes may be at risk for poor academic performance. In addition, college student-athletes are forced to confront these challenges in the presence of immense public scrutiny, limited time, and often a lack of necessary and available resources (Gabbard & Halischak, 1993). Although university student-athletes typically have access to general campus services, such as orientation programs, counseling, and tutoring, they may underutilize these services when compared to nonathlete students (Pinkerton, Hinz, & Barrow, 1989; Watson, 2005). Ferrante and Etzel (1996) argued that the high visibility of many student-athletes, limits on their time, and belief that they can handle their own problems contribute to this underutilization. In addition, student-athletes may perceive their athletic department as insular and able to address all of their needs. This belief may lead them to inadvertently ignore important services, such as counseling, that exist outside of the athletic department (Ferrante & Etzel, 1996). The reality, however, is that athletic academic counselors spend most of their time on academic advising related issues, leaving little time for the social, personal, and developmental concerns of student-athletes (Ferrante & Etzel, 1996).

Historically, interventions with student-athletes have focused on performance enhancement, rather than overall well-being and adjustment (Gould, Tammen, Murphy, & May, 1989). However, in the last 15 years, researchers have developed interventions that broadly address student athletes' academic, personal, social, and athletic needs (Denson, 1992). For example, the NCAA allocated funds to support broad-based services, such as the CHAMPS/Life Skills Programs (http://www1.ncaa.org/eprise/main/membership/ed_outreach/champs-life_skills/program.html.) at universities and colleges. Researchers have developed other programs, such as the Life Development Intervention (LDI; Danish & D'Augelli, 1983, Danish, Petitpas, & Hale, 1993) and the Student Services for Athletes (Jordan & Denson, 1990), to help student-athletes be successful in school and life. Young and Sowa (1992) found that services whose purpose was to ease the transition to college are effective during the first semester, particularly for African-American student-athletes.

Although student-athlete interventions, such as student success courses, have been described, there has been little research on their effectiveness (Denson, 1992). In one study that did examine this type of program, Albitz (2002) compared first-year student-athletes who were and were not enrolled in a student success class on retention and intent to remain in college after the first semester. The course was a 1-credit pass/fail seminar that included topics such as time management, goal-setting, library resources, nutrition, study skills, stress management, university history, resume writing, note-taking, test-taking, and career development. Albitz found no differences between the groups in terms of retention

rates; however, the student-athletes who participated in the course reported that the course positively influenced their goal to remain in and graduate from college.

Although the Albitz (2002) study did evaluate the effectiveness of a student-athlete success course, it was limited in several important ways. First, the course itself was only one credit hour and, although the instructor encouraged out of class contact, students were only in the class one hour per week, which falls short of the more ideal three contact hours per week. Second, although Albitz introduced many important topics, the depth and breadth of this coverage was limited by the time available. In any student success course, topics such as self-regulation, learning styles, personality, communication, and health/wellness also should be introduced and covered in sufficient depth to promote not only a conceptual understanding but also a practical applicability. Third, Albitz did examine retention, an important academic outcome, but did not consider the students' actual academic performance (i.e., GPA), their adjustment to college, and the extent to which they learned and adopted the skills and strategies being taught. Fourth, Albitz did not consider the potential influence of gender on academic performance. Past research has demonstrated that male and female athletes do respond differently to academic situations and gender should be considered in future studies (Gaston-Gayles, 2005; Petrie, Andersen, & Williams, 1996)

In the current study, we addressed these limitations by examining the effectiveness of a 3-credit hour comprehensive learning strategies course that is required of freshmen students who do not meet the university's published academic requirements for college entrance exam scores and high school percentile rank and enter through an individual review process conducted by the university's office of admissions. This review process considers factors beyond the traditional academic measures, including external recommendations, written statement by the applicant, and extracurricular activities in which the student engaged while in high school.

The first goal of the study was to determine whether this course helped freshmen student athletes adjust to college during their first semester and earn higher GPA's. The second goal was to determine how student-athletes' use of self-reported study strategies changed during the semester they were in the class. Third, we wanted to determine the extent to which academic adjustment and self-reported learning strategies predicted the student-athletes' GPA's during their first and second semesters in college. In each instance, we considered the potential influence gender would have on the outcome.

METHOD

Participants

Participants included 129 freshman student-athletes (Female = 72 and Male = 57) from a large southern university, representing the following sports: women's volleyball (n = 5), tennis (n = 5), swimming and diving (n = 16), track and field (n = 16), golf (n = 4), soccer (n = 8), softball (n = 13), and basketball (n = 5), and men's football (n = 39), golf (n = 3), track and field (n = 14), and basketball (n = 1). Eighty-six participants were enrolled in the student-athlete PSYC 1000 class, either in Fall 2003 or Fall 2004; forty-three were student-athletes who entered the university during the same time but were not required to enroll in the course because their test scores and high school grades met or exceeded the university's academic requirements for open admission. At this university, approximately 67% of incoming freshmen student athletes and 25% of incoming freshmen nonathletes are required to take the course each year. All student-athletes who enrolled in the course were mandated as a condition of their admission. *Race/ethnicity was*: 56% Caucasian, 33% African-American, 6% Hispanic, 1% Asian, and 3% other. Institutional Review Board approval was obtained and all student-athletes signed an informed consent form before voluntarily participating in the study.

Measures

Demographic information. A demographic questionnaire (DQ) was developed to obtain information regarding age, gender, racial/ethnic group, and sport.

Academic performance. Student-athletes' previous academic performance (SAT scores) and college grade point averages (GPA's) for fall and spring semesters were used as measures of academic performance. Although semester GPA is not a perfect indicator of academic performance, it was used because it represents the best proxy of cognitive development and academic achievement available within the college environment (Nettles, Thoeny, & Gosman, 1986). In addition, all student athletes were advised by the same academic counselor and had to follow NCAA rules regarding progress toward an academic degree. Based on these factors, we were confident that GPA would be a valid indicator for this group of student athletes.

Learning and Study Strategies Inventory. The 77-item Learning and Study Strategies Inventory (LASSI, Weinstein, 1987) assesses students' uses of 10 different learning and study strategies and methods,

including: attitude (8 items; general attitude and motivation about being successful in school and in implementing the necessary behaviors/ strategies to be successful), motivation (8 items; motivation and acceptance of responsibility for performing the specific tasks associated with academic success), time management (8 items; ability to balance the many competing demands of college), anxiety (8 items; how tense/ anxious students are when approaching their academic tasks), concentration (8 items; ability to concentrate and direct attention to school and studying), information processing (8 items; students use of deep level processing skills to facilitate understanding, storage and recall), selecting main ideas (5 items; ability to identify important material that needs additional study/attention), study aids (8 items; ability to develop and use study aids that support learning, retention, and recall), self-testing (8 items; use of self-monitoring and self-testing of material), and test strategies (8 items; knowledge and use of effective test preparation and test-taking strategies.

Participants respond to each item on a 5-point Likert scale according to how well the statement describes them, ranging from 1, *not at all typical*, to 5, *very much typical*. Total scores for each subscale are obtained by reverse scoring the appropriate items and then summing across the items. Scores are then transformed into percentile ranks so the student can determine how well he or she did compared to the norm groups. Higher scores indicate better study strategies in that particular area, and a high score on the anxiety subscale indicates better anxiety management.

Internal consistency reliabilities have ranged from .68 to .86 and test-retest coefficients (3-4 week interval) range from .72 to .85 (Weinstein, 1987). The LASSI is widely used in universities in the United States and has been shown to be effective in predicting academic performance (Yip & Chung, 2002). In addition, LASSI profiles from academically "at-risk" students are significantly lower than profiles of their normal-achieving counterparts, suggesting the LASSI can be effective in identifying study skills deficits (Proctor, Prevatt, Adams, Hurst, & Petscher, 2006).

Student Adaptation to College Questionnaire. The 67-item Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1989) measures individuals' perceived academic adjustment (24 items; how well students manage educational demands of college), social adjustment (20 items; how well students deal with interpersonal experiences at the university), personal-emotional adjustment (15 items; to what extent the student is experiencing psychological distress), and institutional attachment (15 items; degree to which students feel affiliation toward their college). Participants rate each item on a 9-point scale, which ranges from 1, *applies very closely to me*, to 9, *does not apply to me at all*. Total scores are obtained for each subscale by summing across the appropriate items, with higher scores indicating better adjustment.

High internal consistency reliabilities were found for all scales (ranging from .77 to .91) and all have been shown to be useful in predicting attrition and evaluating course effectiveness (Baker & Siryk, 1989). Because the measured variables are expected to change as a function of the student's experience, internal consistency estimates are more useful than test-retest coefficients (Baker & Siryk, 1989). In particular, the institutional attachment subscale and academic adjustment have been found to be related to retention and academic performance, respectively. A detailed summary of the SACQ research suggests that this instrument is a valid and reliable measure of college student development (Baker & Siryk, 1989).

Learning Strategies Course

The learning strategies course (PSYC 1000) is based on psychological and educational theories and models associated with learning, self-regulation, personal and career development, communication, stress and coping, and health. The overall goals of the course are to (1) assist students in developing effective strategies to be proficient learners, (2) increase their understanding of how people change and develop, and (3) apply this knowledge across academic programs and in all areas of their lives to make positive, self-enhancing changes. Specifically, students are introduced to study strategies (e.g., note taking, effective reading) and self-regulatory approaches (e.g., time management, goal-setting), and given the opportunity to learn more about themselves in relationships, in careers/majors, with respect to health-related behaviors, and in stress and coping. Assessments on personality (i.e., Myers-Briggs Type Indicator; Myers, 1998), career interests (i.e., Self-Directed Search; Holland, Fritzsche, & Powell, 1994), multiple intelligences, learning strategies (i.e., Learning and Study Strategies Inventory), and learning styles are used to help students determine their strengths and weaknesses and then individualize their learning and adoption of the strategies taught.

The course is based on the same syllabus and lesson plans that are used in other PSYC 1000 sections for students who are not athletes, however, the lesson plans are tailored to encompass the specific demands of the student-athlete experience. For example, the lesson on time man-

agement included strategies on how to plan study times when traveling to sport competitions, and the section on healthy lifestyle choices included information on how to make better nutritional choices to fuel their bodies for athletic performance. These changes were made to refine the course material to make it more personally meaningful for the student-athletes, which ideally would improve their comprehension and adoption of new strategies learned.

Procedure

Participants included all freshman student-athletes who entered the university in Fall 2003 or Fall 2004. Both years were used to provide a larger sample to examine the effectiveness of the course (because the university's admission requirements and the course itself were consistent across these 2 years, combining the two cohorts was an acceptable approach). The participants in the class completed consent forms and took the LASSI in the 2nd or 3rd week of the semester, the SACQ during the 4th week of the semester, and the LASSI and SACQ again during the 12th week of classes. The student-athletes who were not enrolled in the course did not complete the LASSI or SACQ due to the fact that these student athletes were spread across all teams, were not required to attend study hall, and were not together in another course or location that would allow the questionnaires to be administered in a controlled, supervised manner. Previous academic performance (SAT scores) and GPA's (Fall 2003 and Spring 2004 for the Fall 2003 cohort, and Fall 2004 and Spring 2005 for the Fall 2004 cohort) were collected from the university. Within each cohort, the fall semester grades represented the student athletes' first semester performance and the spring semester grades their second semester performance. In keeping with the athletic department's guidelines for release of academic data, we obtained data from the academic advisors. Confidentiality was maintained by assigning each student-athlete a code, which was then matched to academic data.

Data Analyses

To determine the effect of the course and gender on student athletes' GPAs during their first and second semester of college, a 2 (gender – male vs. female) X 2 (class status – having taken class vs. not having taken class) ANCOVA was used. Previous academic performance (i.e., SAT scores) was used as the covariate to control for prior academic preparedness and experiences. Because the sample sizes were unequal, the general linear models procedure for analysis of variance was used. To

examine the extent to which student athletes who had taken the course changed in regard to their reported use of learning strategies and adjustment over the course of their first semester in college, 2 (gender) X 2 (time – pretest vs. posttest) repeated measures ANOVAS were used. Because our primary interest were the changes that might have occurred over the course of the semester from being in the Psychology 1000 class, only the interaction and repeated measures effects are reported. Finally, regression analyses were used to predict GPA after the first and second semesters of college. For each regression equation, previous academic performance (i.e., SAT scores) and academic adjustment scores at Week 12 were entered first and second, respectively. Next Week 12 LASSI subscales were allowed to enter in a stepwise approach. To determine the extent to which gender influenced the relationships of these variables to GPA, each analysis was run separately for male and female athletes. Prior to beginning all analyses, appropriate statistical checks (i.e., Box's M test for homogeneity of slopes for the covariate, Levine's test for homogeneity of variance, and Central Limit Theorem for sample size) were conducted and assumptions for all analyses were met. Alpha was set at .05 for all analyses. Because of missing data, which was due to some data being unavailable (e.g., not all students submit SAT scores) and to some student athletes not completing either the first or second administrations of the LASSI and SACQ, the number of participants for each analysis varies slightly.

RESULTS

First, we compared the two groups of student-athletes, those who were enrolled in PSYC 1000 (n = 83) and those who were NOT enrolled in PSYC 1000 (n = 29) on several demographic and academic variables. Regarding prior academic performance, the PSYC 1000 students had significantly lower SAT scores (M = 898.8, SD = 117.7) than the nonenrolled student-athletes (M = 1021.2, SD = 165.1), F (1, 111) = 18.75, $p < .001$, partial $h^2 = .14$. This finding was expected because SAT scores are used in admission decisions to determine whether student-athletes must enroll in the PSYC 1000 course. There were, however, no significant differences between the groups on age, F (1, 72) = 1.84, p = .18, or ethnicity/race, c^2 (5, N = 129) = 8.35, p = .14.

Previous academic performance (i.e., SAT scores) was a significant covariate for first semester GPA, F (1, 108) = 10.55, $p < .005$, partial $h^2 = .09$, and second semester GPA, F (1, 107) = 11.89, $p < .001$, partial $h^2 = .10$. With SAT as the covariate, there were no significant gen-

der by class interactions for first semester, F (1, 108) = .10, p > .70, partial h^2 = .001, or second semester, F (1, 107) = .00, p > .99, partial h^2 = .000, GPAs. In addition, there were no class effects for first, F (1, 108) = 3.86, p > .05, partial h^2 = .04, and second semester, F (1, 107) = 1.60, p > .20, partial h^2 = .02, grades. Students in the PSYC 1000 course (Fall GPA - M = 2.54, SE = .07; Spring GPA - M = 2.45, SE = .08) earned grades that were comparable to the student athletes who did not take the class (Fall GPA - M = 2.84, SE = .13; Spring GPA - M = 2.67, SE = .15). These findings suggest that, after controlling for previous academic performance, the at-risk student-athletes who were enrolled in PSYC 1000 performed as well as the student-athletes who did not have the class. Regarding gender, a main effect was found for first semester, F (1, 108) = 17.58, p < .001, partial h^2 = .14, and second semester, F (1, 107) = 20.13, p < .001, partial h^2 = .16, GPAs. Female student athletes (Fall GPA - M = 2.99, SE = .10; Spring GPA - M = 2.92, SE = .11) earned higher grades than their male counterparts (Fall GPA - M = 2.39, SE = .11; Spring GPA - M = 2.20, SE = .12). This finding suggests that, even after controlling for academic achievement differences, the female student athletes still performed better academically than the men.

For the LASSI, there were no significant gender by time interactions on any subscale, except Self-Testing, Wilks' Lambda = .92, F (1, 68) = 5.92, p < .05, partial h^2 = .08. For this subscale, male athletes reported significant improvements over the course of the semester in their use of self-monitoring and self-testing strategies (Week 4 - M = 30.26, SD = 22.28; Week 12 - M = 46.89, SD = 28.93), whereas the female athletes had no significant changes in their self-reported use of this important study strategy (Week 4 - M = 54.30, SD = 23.42; Week 12 - M = 52.14, SD = 28.97). Also, there were no significant Time effects for the following subscales: Attitude, Wilks' Lambda = .98, F (1, 68) = 1.27, p > .26, partial h^2 = .02; Motivation, Wilks' Lambda = .95, F (1, 68) = 3.43, p > .07, partial h^2 = .05; Selecting Main Ideas, Wilks' Lambda = .96, F (1,68) = 3.21, p > .08, partial h^2 = .05; and Study Aids, Wilks' Lambda = .96, F (1, 68) = 2.77, p > .10, partial h^2 = .04. These results suggest that, over the course of the semester when they were in the class, the athletes did not change in their general attitude toward and motivation about being successful in school, their accepting responsibility for performing the specific tasks associated with academic success, their ability to identify important material, and their development and use of study aids to support their learning.

There were, however, significant Time effects for Anxiety, Wilks' Lambda = .83, F (1, 68) = 14.08, p < .0001, partial h^2 = .17, Concentration, Wilks' Lambda = .85, F (1, 68) = 11.73, p < .01, partial h^2 = .15, Information Processing, Wilks' Lambda = .71, F (1, 68) = 27.80, p < .001, partial h^2 = .29; Time Management, Wilks' Lambda = .88, F (1,68) = 9.12, p < .01, partial h^2 = .12; and Test Taking Strategies, Wilks' Lambda = .88, F (1,68) = 8.93, p < .01, partial h^2 = .12. These findings suggest that, from Week 4 to Week 12, the student-athletes did not feel less anxious about school and their academic work, were better able to focus/concentrate when studying, had improved comprehension in their academic work, had improved their test-taking strategies, and could better cope with competing time demands of being a college student and an athlete. See Table 1 for means and standard deviations across time.

For the SACQ, there were no significant gender by time interactions on any subscale (p > .05), and there was no main effect for time on Institutional Attachment, Wilks' Lambda = .98, F (1, 79) = 1.18, p > .28, partial h^2 = .02. There were, however, time main effects for Social Adjustment, Wilks' Lambda = .93, F (1, 80) = 6.45, p < .05, partial h^2 = .08, Academic Adjustment, Wilks' Lambda = .90, F (1, 80) = 9.14, p < .005, partial h^2 = .10, and Personal Adjustment, Wilks' Lambda = .88, F (1, 80) = 10.98, p < .001, partial h^2 = .12. These findings suggest that, from Week 4 to Week 12, the student-athletes indicated significant improvements in their adjustment to the personal/emotional demands that accompany the transition to college, but reported greater problems adjusting to the more rigorous academic demands of college and the challenge of integrating themselves into a new social network. The student-athletes did not report significant changes in their attachment to or affiliation with the university.

Regression analyses were run separately for the male and female student-athletes. For the male's first semester GPA, SAT scores and Week 12 academic adjustment explained a nonsignificant 11% of the variance, F (2, 24) = 1.3, p > .29; none of the LASSI subscales entered the model. For second semester GPA, SAT scores and Week 12 academic adjustment again were nonsignificant predictors, accounting for only 6% of the variance, F (2, 24) = .71, p > .5.

For the female's first semester GPA, SAT scores accounted for 20% of the variance, F (1, 36) = 8.94, p < .01, whereas Week 12 academic adjustment added only an additional 2%, F (1, 35) = .86, p > .36. When the LASSI subscales were considered, Week 12 Time Management entered the model and accounted for an additional 10% of the variance, F (1, 34) = 5.35, p < .05. Overall, the model was significant, F (3, 34) = 5.44, p < .005, with higher SAT scores and greater ability to balance the competing demands of college being related to better grades.

For female's second semester GPA, SAT scores and Week 12 academic adjustment accounted for a nonsignificant 7% of the variance, F (2, 34) = 1.18, $p > .31$, whereas the LASSI Motivation subscale explained an additional 24% of variance, F (1, 33) = 11.72, $p < .005$. Overall, the model was significant, F (3, 33) = 4.95, $p < .01$, with higher levels of academic motivation at the end of the fall semester being related to better classroom academic performance during the subsequent spring.

DISCUSSION

This study examined the effectiveness of a learning strategies course in helping at-risk male and female college student-athletes learn essential study strategies, adjust to college, and earn higher GPA's over the course of the semester. Both male and female student athletes who took the course reported significant improvements in their abilities to manage anxiety, concentrate and focus their attention, comprehend information when learning new material, successfully apply strategies when taking exams, and manage their time. Male student athletes improved in their abilities to monitor and test themselves to evaluate their learning, whereas female student athletes already were high on this dimension and did not change over the course of the semester. Given the course curriculum, which focused on developing foundational learning strategies, such as note taking, effective reading and time management, and on learning to regulate one's behaviors, motivation, thoughts and feelings, these improvements were expected. These findings also are consistent with Petrie and Helmcamp (1998), who found that nonathlete college students enrolled in a similar type of learning strategies course reported significant improvements over the semester in organizing new information in meaningful ways, using techniques to increase retention, and experiencing less anxiety when studying or taking exams. Taken together, these findings argue for the effectiveness of learning strategies courses in helping students develop the cognitive and academic strategies that are necessary for being successful in college.

Both the male and female student-athletes who took the course reported poorer academic and social adjustment over the course of the semester, better personal/emotional adjustment, and no change in attachment to the institution. Although we had expected improvements in all areas of adjustment, the declines in the academic and social areas might best be understood by considering Stern's (as cited in Baker, McNeil, & Siryk, 1985) idea of the "freshman myth." That is, during the beginning of their first semester, freshman often overestimate their abilities to cope

with the academic demands and social realities that accompany the transition to college, which is likely due to the fact that they have not been at school long enough to face the very real challenges that are a part of a system of higher education. Thus, the measures of adjustment taken during the 4th week of the semester may be an inflated, and inaccurate, indicator of how well the students are doing academically and socially. In fact, it may not be until the end of the semester that more realistic appraisals of their adjustment in these areas are possible, with the scores obtained during the 12th week of the study reflecting the student athletes' true level of adjustment. If so, then the decline in scores may not indicate that the course was completely ineffective in helping the student athletes adjust to college. In fact, if the student athletes had not been not in the course, their adjustment (and thus scores on the SACQ) may have been even lower. Additional research is needed in which measures of adjustment are taken at multiple points across the semester to determine if a natural decline in scores would be attenuated through a student athlete's involvement in a learning strategies course.

Despite the fact that the student-athletes who took the course were considered academically at-risk (i.e., had lower SAT scores) at time of admission, they performed as well as the student-athletes who entered the university under normal admission criteria on first and second semester GPAs. In addition, overall, the female student athletes earned higher grades than their male counterparts. These findings are consistent with previous research (Howard & Jones, 2000; Kiger & Lorentzen, 1988), and suggest two things. First, learning strategies courses are particularly effective in helping academically at-risk students overcome their academic deficiencies and succeed in college. Specifically, these courses teach fundamental cognitive and academic strategies that the student athletes may have been lacking, but are necessary for achieving success in college. By attending a course and being introduced to these concepts and strategies, student athletes have the opportunity to put them into practice in all areas of their lives, particularly their other classes, and thus reap personal and academic benefits. Second, female student-athletes, perhaps by virtue of their stronger academic motivation and males' stronger athletic motivation (Gaston-Gayles, 2005), earn higher grades in college classes than male athletes. This finding suggests that developing higher levels of academic motivation may be particularly relevant to male athletes' college success and a focus for athletes' academic counselors.

For the male student athletes, neither previous academic performance (i.e., SAT scores), academic adjustment, nor any LASSI sub-

scale predicted first or second semester grades. Although it is possible that the lack of significance was due to the low power associated with this regression analysis, this finding is consistent with past research that has found no relationship between SAT scores (or other achievement tests) and college GPAs, particularly for minority and male athletes (Sedlacek & Adams-Gaston, 1992; Sellers, 1992; Walter, Smith, Hoey, Wilhelm, & Miller, 1987). For female student athletes, SAT scores predicted first, but not second, semester GPAs, though the strength of the relationship was small. Regarding the noncognitive variables (those not measuring achievement or aptitude), academic adjustment was not related significantly to first or second semester grades, though the female student athletes' time management abilities and level of motivation during the 12th week of the semester were. The better they could manage the competing demands of athletics and academics and, during the spring semester, the more they accepted the responsibility for performing the specific tasks associated with academic success, the better grades they earned. Specifically, this finding suggests that female student athletes who take responsibility for their learning and for applying effective learning strategies, in particular the ability to manage their time effectively, generally will be successful academically. Thus, student success courses should not only introduce specific cognitive and academic strategies, but should foster higher levels of personal motivation toward school and a self-responsibility attitude toward learning. Generally, this finding supports the position that noncognitive variables are important predictors of college academic performance (Ting & Robinson, 1998). Because noncognitive variables often account for a significant portion of college GPA variance, researchers interested in understanding and predicting college student athletes' performances should include them in future studies.

Although there were many important findings, this study was limited in several ways. First, there was no direct comparison control group of at-risk student athletes who did not take the course but completed all questionnaires. At the university where the study was conducted, all at-risk student athletes are mandated to take the course, and thus, a true comparison group could not be comprised. We did, though, compare the freshmen student athletes who enrolled in PSYC 1000 to the freshmen student athletes who entered the university at the same time, but were not mandated to take the course, to examine how effective the course was on helping student-athletes earn higher GPA's. Second, only self-reports were used to measure adjustment and use of study strategies. The measures we used, however, were psychometrically sound and have

been used consistently in this type of academic outcome research. In future research, other behaviorally based measures might be used, such as instructor reports on observed study strategies. Finally, the measures of adjustment and study strategies were taken only during the first semester, and then only during weeks 3-4 and 12, so longer-term changes as well as more specific variations within the first semester could not be determined.

To address these limitations, future research may want to include more comparison groups, such as nonathletes who are mandated to take the strategic learning course. Such a comparison can determine the relative utility of such a course for student athletes versus students in general. In addition, administering the LASSI and SACQ at multiple times (more than pre and post) throughout the semester will allow for a determination of the pattern of changes over time and provide illumination about critical times during a semester in which student athletes may be experiencing difficulties in adjustment. In such instances, comparing adjustment and learning scores to students who are not in the strategic learning course will be important to ascertain what effects the course may be having on adjustment over time. Finally, examining the relationship of these variables to academic performance and the effectiveness of the course over a longer period of time, for example the first two years of school, would be important for determining the length and strength of the intervention's effects.

Overall, results from the current study suggest that a learning strategies course tailored to meet the challenges of first-year student-athletes has a positive effect on academic performance and the development of essential study strategies. Although other factors also may play a role, a learning strategies course seems to be a helpful intervention for universities to employ in an attempt to ease the transition to college. In particular, athletic departments may want to incorporate this type of class in their CHAMPS/Life Skills program or other programs that are aimed at the overall well being of student-athletes. Such a course would be an efficient and effective way to help student-athletes learn necessary study strategies, adjust to college, and perform successfully in their classes.

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Footnotes

1 The course syllabus is available from the first author.

AUTHOR BIOGRAPHIES

Carmen Tebbe is a doctoral student in the University of North Texas Department of Psychology, and is currently doing an internship at the University of Oklahoma Counseling & Testing Center and Athletic Department. While at the University of North Texas, she served as a graduate coordinator for the university's Psychology 1000 program, the learning strategies course for at-risk students. In addition, she was a sport psychology consultant within the university's Center for Sport Psychology and Performance Excellence.

Trent A. Petrie is a professor in the Department of Psychology, Director of the Center for Sport Psychology and Performance Excellence, and Director of the Psychology 1000 Program at the University of North Texas. He received his Ph.D. from The Ohio State University in 1991 and has worked at the University of North Texas since that time. His current research interests include eating disorders, sport psychology, academic adjustment and performance, and athletic injury. He is a licensed psychologist in Texas and certified sport consultant, through the Association for the Advancement of Applied Sport Psychology.

Table 1. Mean Scores (and Standard Deviations) of Student Athletes' Reported Use of Study Strategies and Adjustment to College

Variables	Week 4	Week 12	*F*
LASSI Subscales (n = 68)			
Anxiety	47.02 (27.54)	57.06 (27.23)	14.08***
Attitude	29.65 (25.42)	32.79 (27.38)	1.27
Concentration	38.00 (24.79)	48.87 (25.32)	11.73**
Selecting Main Ideas	45.41 (25.07	52.28 (24.47)	3.21
Motivation	42.15 (29.27)	48.53 (28.72)	3.43
Information Processing	39.37 (23.87)	54.53 (26.20)	27.80***
Test-Taking	39.87 (26.53)	51.19 (27.60)	8.93**
Time Management	37.68 (26.08)	48.04 (25.29)	9.12**
Study Aids	46.17 (25.66)	52.49 (24.61)	2.77
Self-Testing	45.53 (25.47)	51 (28.69)	1.88
SACQ Subscales (n = 79)			
Institutional	43.47 (8.41)	42.53 (7.55)	1.18
Academic	48.89 (9.64)	45.35 (9.43)	9.14*
Personal/ Emotional	38.52 (10.46)	42.55 (10.20)	10.98**
Social	48.39 (8.35)	45.56 (9.43)	6.45*

* p < .05, ** p < .01, *** p < .001

Table 2. Regression Analyses for Variables Predicting Student Athletes' Semester GPAs (n = 61)

	Females			Males		
Variable	B	SE B	b	B	SE B	b
First Semester GPA						
Step 1						
Prev Aca Perf	.002	.001	.446**	.002	.001	.299
Step 2						
Prev Aca Perf	.002	.001	.448**	.002	.002	.322
Week 12 Aca Adj	.009	.009	.139	-.012	.019	-.129
Step 3						
Prev Aca Perf	.002	.001	.455**			
Week 12 Aca Adj	.002	.009	.036			
Week 12 Time Mgmt	.009	.004	.342*			
Second Semester						
Step 1						
Prev Aca Perf	.001	.001	.200	.002	.002	.226
Step 2						
Prev Aca Per	.001	.001	.204	.002	.002	.209
Week 12 Aca Adj	.011	.011	.158	.011	.024	.098
Step 3						
Prev Aca Perf	.001	.001	.155			
Week 12 Aca Adj	-.001	.011	-.009			
Week 12 Mot	.015	.004	524**			

Note. Females: First Semester GPA: R2 = .20** for Step 1; DR2 = .02 for Step 2; DR2 = .11* for Step 3. Second Semester GPA: R2 = .04 for Step 1; DR2 = .03 for Step 2; DR2 = .24** for Step 3. Males: First Semester GPA: R2 = .09 for Step 1; DR2 = .02 for Step 2; DR2 = .00 for Step 3. Second Semester GPA: R2 = .05 for Step 1; DR2 = .01 for Step 2; DR2 = .00 for Step 3

* p < .05; ** p < .01

Motivational Factors that Facilitate Student-Athlete Academic Achievement

Thomas D. Kane and Logan R. Dale
Missouri State University

ABSTRACT

Contemporary theories of academic and work motivation offer alternative techniques for effectively advising student-athletes. Understanding which motivating factors most strongly relate to academic achievement provides athletic/academic advisors with meaningful information for constructively assisting the performance of their advisees. This study tested the degree to which the content of academic goals, self-efficacy, and goal-orientation predicted the academic achievement of 220 student-athletes. Results indicated that motivation variables predicted student semester academic achievement above and beyond what was predicted by student ACT score and high school class rank. Also, the motivation variables as a group were as strongly related to academic achievement as ACT and class rank. Among all variables studied, the difficulty of the student's semester goal most strongly contribution to student achievement. Results encourage optimism among academic advisors who wish to integrate goal-setting techniques into advisement protocols. Discussion focused on strategies to help student-athletes set quality academic goals.

Historically, academic support units have been housed in higher learning institutions to provide academic assistance to student-athletes. Such units have offered an array of useful academic programs for both high and low achieving student-athletes. These programs often aim to improve the academic performance of poorly performing or "at risk" student-athletes. Student-athletes may be considered "at risk" for a variety of reasons including: being a first-generation college student, having parents of low socioeconomic level, being of minority status, having career-goal indecision, possessing low motivation, demonstrating inadequate study skills, or attaining poor prior academic success (Grimes, 1995).

Collegiate institutions widely use the student-athlete's prior academic performance and achievement on standardized tests such as the SAT or ACT as selection criteria. Such tests generally do not tap into the student-athlete's motivation; but instead, assess a one-time performance

episode that reflects the student's potential to achieve. Aptitude measures such as these, in conjunction with high school academic achievement, are generally used to select students to colleges and universities. Athletic-academic support units may also use these measures to classify student-athletes as at risk.

While aptitude measures were not designed to predict student effort or motivation for college academic achievement, tools that measure academic motivation have been extensively applied to study student achievement that is attributable to effort. The result of subsequent research has led to the emergence of self-regulation theories that have effectively predicted classroom achievement. From these theories effective practices for motivating student-athletes in their pursuit of academic goals can be extracted, and understanding the motivational processes that underlie the academic effort can help athletic advisors devise motivational strategies for enhancing the performance of student-advisees. Unfortunately, research has rarely examined motivational factors drawn from alternative theories to explore the relative predictive power of those different factors. Such research has also not been conducted, specifically, to examine the performance of student-athletes in the classroom.

This research examined the predictive power of measures drawn from current motivational models, specifically, for the academic achievement of student-athletes. The selected variables are relevant to a process called self-regulation; a current perspective used to guide contemporary motivation research. Self-regulation refers to self-generated thoughts, actions, and feelings that are planned and adapted as needed to affect one's learning, motivation, and personal goal attainment (Bandura, 1997; Zimmerman & Kitsantas, 1996; Zimmerman, 2000).

Addressed by this current study was the extent to which factors associated with quality self-regulation predicted the academic achievement of student-athletes. Study results should help athletic/academic support units better consider the use and content of motivational strategies for enhancing the academic achievement of student-athletes.

FACTORS ASSOCIATED WITH QUALITY SELF-REGULATION

Goal theory, self-efficacy theory, and goal orientation theories have identified factors associated with quality self-regulation and academic achievement. Based on volumes of research generated from tests of these three theories, personal goals, self-efficacy, and possessing a

learning orientation provide potential leverage points that advisors can use to improve the self-regulation of student-athletes in the classroom.

Personal goals. Goals are guiding principles that individuals intentionally set to effectively direct their behavior (Austin & Vancouver, 1996). Goals are vital for self-regulation because they provide standards that help performers gauge appropriate effort needed to succeed, how to focus attention to what is most important for success, and what performance strategies might be needed to succeed. Specific and challenging goals work best to support success (Locke & Latham, 1990; Wright, 1990). According to Locke and Latham, the attainment of challenging goals provides meaning and purpose to achievement and, thus, drives effective self-regulation. In contrast to vague or easy goals, challenging goals raise effort levels, stimulate strategic thought, and sustain efforts over long periods of time.

Self-efficacy. Self-efficacy is one's perceived self-capability to achieve in a specific task setting (Bandura, 1997). Possessing strong self-efficacy beliefs helps performers achieve success for a variety of reasons. Across settings, those with strong self-efficacy beliefs set more challenging personal goals (Early & Lituchy, 1991; Kane, Marks, Zaccaro, & Blair, 1996; Wood, Bandura, & Bailey, 1990), they maintain their challenging goals when it is difficult to do so (Kane, Zaccaro, Tremble, & Masuda, 2002). Those with strong self-efficacy beliefs try harder, persist longer (Bandura & Schunk, 1981), more strategically-oriented (Bandura & Wood, 1989; Kane et al., 2002), unwilling to quit, and achieve more than those who doubt their self-capability. Also, strong self-efficacy promotes intrinsic interest for academics (Pintrich & Degroot, 1990).

Learning orientation. Students can approach performance situations by adopting either learning goals or performance goals (Dweck, 1986). Being learning oriented, or adopting learning goals, is deemed most conducive to academic achievement. Learning goals focus performers on mastery, self-improvement, and learning for learning's sake. Learning goals enhance achievement by focusing a student's attention on processes and strategies to acquire competencies (Ames, 1992) and on the development of positive motivational beliefs (Wolters, Yu, & Pintrich, 1996), rather than on personal limitations or factors outside of their control.

Alternatively, performance goals stimulate students to use external standards, or the performance of others, to evaluate their own competence (Elliot & Thrash, 2001). Performance oriented students try to outperform others to enhance their own status at the expense of their peers (Covington, 2000). Performance orientation can take two forms, charac-

terized by approach performance orientation and avoid performance orientation. Performance-approach students can approach success, invest considerable effort in complex study strategies (Wolters et al., 1996), and strive to do better than others (Elliot & Thrash, 2001). In contrast, performance-avoid students try to avoid failure, tend to reduce effort and task persistence (Bouffard, Boisvert, Vezeau, & Larouche, 1995) and strive to not do worse than others (Elliot & Thrash, 2001). Both types of students are driven by the fear of being viewed as incompetent (Covington, 2000).

HYPOTHESES

This study examined motivational factors associated with the academic success of freshmen and upperclassmen student-athletes. For freshmen, goal-difficulty, self-efficacy, and goal orientation were hypothesized to predict first semester academic achievement after controlling for prior high-school academic performance and scores on an academic aptitude test used for admissions criteria. For upperclassmen, goal-difficulty, self-efficacy, and goal orientation were hypothesized to predict academic achievement after controlling for prior college GPA.

METHOD

Participants

Participants were 220 undergraduate student-athletes who responded to an online questionnaire at the beginning of a fall academic semester. As an incentive to complete the questionnaire, participants were told that 100 movie tickets would be randomly allocated to those who completed their questionnaires.

MEASURES

Demographics

Participants reported gender, race, age, high school GPA, high school class rank, and ACT scores.

Goal difficulty

Goal difficulty was assessed by using free-set goal methodology to collect and code qualitative goal statements (Kane, Baltes, & Moss, 2001; Kane, Nelson, Shoptaugh, & Reichard, 2005). As such, students

responded to three questions asking them to list goals they have set for themselves to accomplish by the end of three goal attainment time frames: 1) by the end of the semester, 2) by college graduation, and 3) for career achievement. Students were asked to only list goals they had set prior to completing the survey and to check a box if they possessed no goals for any of the goal-attainment time frames. Students reported a total of 588 goals, of which 211 were semester goals, 184 were college goals, and 193 were career goals. Reporting that they possessed no semester, college, or career goals were, respectively, 9, 36, and 27 students. Three students reported possessing no goals for any goal attainment time frame.

Two university instructors and one graduate student with knowledge of goal theory and with advisement responsibilities rated the difficulty of student goals on a 7-point scale. Raters anchored their goal-difficulty judgments according to how hard the goal would be for the "average" college student to attain. This approach also has been successfully applied to assess goal difficulty in other settings (Kane et al., 2001).

To code goal statements, raters were asked to consider goal difficulty with respect to both effort and ability. Students who reported having no goals received a (0) rating for goal difficulty because no established goal implies a minimal amount of required effort or ability. A goal rating of (1) reflected a goal attained by a student of low ability with little effort, and a goal was rated (7) if attained by a high ability student with a great deal of effort. Raters first applied the rating system to a sample of goals, discussed goal ratings that varied most, and then proceeded to code all goal statements. Raters assessed all students' semester goals, followed by college goals, and coded long-term/professional goals last. This procedure was used to ensure that assessing goals for one goal attainment time frame did not bias assessments made for other goal attainment time frames. Only goal-difficulty for semester goals were used for this study because the purpose of the study was to predict semester achievement. Rater reliability for semester goals was very strong ($\alpha = .95$).

Academic self-efficacy. Two self-efficacy measures were combined to form the self-efficacy scale. One scale focused on students' confidence to attain progressively more challenging grade point averages, while the other scale assessed confidence to employ strategies associated with successful academic achievement. The GPA-based assessment was modeled after Locke and Latham's (1990) guidelines. For this measure, students assessed their confidence to achieve semester GPA outcomes ranging from 2.0 to 4.0 with each option increasing by a half-point increment

(i.e., 5 items) on a 7-point scale ranging from 1 = not confident to 7 = 100% confident. The academic self-efficacy measure, developed by Wood and Locke (1987), assessed students' confidence to perform various academic activities on a 7-point scale with response options ranging from 1 (very much below average) to 7 (very much above average). A sample scale item was, "How well do you concentrate and stay fully focused on the materials being presented?" The reliability for the self-efficacy measure was $\alpha = .86$.

Academic performance. Student GPA at the end of the semester, accessed from the university database, served as the study criteria for student academic achievement. All students provided consent for acquiring academic achievement information from the university database.

PROCEDURE

Procedures were approved through the university internal review board for the protection of human participants. A 130-item questionnaire was electronically mailed to all student-athletes (N = 388) at a Midwestern university. The survey was sent at the beginning of the semester, and instructions informed students that 100 movie tickets would be randomly allocated to those who completed the questionnaire. One hundred forty-nine students completed the survey within three weeks. After a follow-up reminder was issued in the beginning of the third week, 21 more students responded. A final reminder was e-mailed approximately six weeks into the semester, which yielded 50 more respondents. The total response rate was 57% (N = 220). Among respondents, 43% were men and 57% were women, and respondents by class year were 79 freshmen, 52 sophomore, 49 junior, and 40 senior respondents.

RESULTS

Analyses for this study were calculated using SPSS 11.0. Descriptive statistics among study variables are presented in Table 1. Correlations among the study variables appear in Table 2. As seen in Table 2, ACT score and class rank correlated significantly with student GPA. In addition, all motivational variables except performance orientation correlated positively and significantly with GPA. It should be noted that performance orientation was not expected to contribute positively to student GPA.

To examine the impact of study variables on student GPA, regression analyses were run. In regression analyses, the multiple-

correlation provides an index of the joint relationship that several variables have in predicting student GPA. Two multiple correlation coefficients were computed and appear in Table 3. The first computed the joint effects of ACT together with high school class rank on student GPA. The second computed the effects of all motivation variables in predicting student GPA. As shown in Table 3, when compared to the student aptitude measures, motivational variables correlated slightly stronger with GPA for the entire sample and for the upperclassmen sample. The reverse was true for freshmen.

Table 4 reports the results of regression analyses in which gender, student-aptitude variables and motivation variables were entered to predict student GPA. As shown, being a female athlete, ACT score, class rank, and the difficulty of the student's goal uniquely and positively contributed to student GPA. As shown in Table 4, the difficulty of the student's goal was the strongest predictor of student GPA.

DISCUSSION

Summary of findings

Results of this study support the importance of motivational factors, drawn from theories of self-regulation, for predicting the academic achievement of student-athletes. Motivational variables predicted student-athlete success in the classroom above and beyond traditional admissions criteria such as high school class rank and ACT score. Among motivational variables, the difficulty of the student's semester goals, as rated by academic advisors, turned out to most strongly influence semester GPA. Taken together, these results should induce optimism among academic advisors for developing programs that boost academic achievement through the use of motivational techniques.

The lack of direct effects for learning orientation, performance orientation, and self-efficacy on GPA should not be assumed to mean that these factors are unimportant for academic achievement. Note also that self-efficacy correlated more strongly with goal-difficulty than either ACT or high school class rank. Particularly, a moderate correlation with academic achievement suggests that the effects of self-efficacy worked through the setting of challenging goals. That means that students with stronger self-efficacy tend to set more challenging goals. The indirect effects of self-efficacy on achievement are consistent with current theoretical descriptions (Bandura, 1997; Locke & Latham, 1990).

Although learning orientation was not effectively linked to GPA, in other research learning orientation has been shown to support other desirable student outcomes including heightened effort and persistence, involvement, retention of materials, seeking feedback, and satisfaction (Covington, 2000; VandeWalle & Cummings, 1997). Applied to the student-athlete's classroom activity, for instance, learning orientation might influence hours dedicated to study, visits with professors, seeking academic assistance, academic integrity, satisfaction with classes, and decisions to remain in college. Additional research might test these propositions with student-athlete populations.

Significance and implications of findings

The most important finding in this research was that the joint effects of motivational variables influenced student-achievement as strongly as high school class rank and ACT score. This is particularly important because motivational techniques can be used by advisors to improve students' academic relevant efforts. In contrast, advisors can do nothing to amend prior academic credentials such as past high school performance or scores on academic aptitude tests.

Semester goal difficulty emerged as a particularly strong predictor of student GPA. This was encouraging because the difficulty of the student's goals was evaluated by academic advisors. This means that academic advisors, with a knowledge of goal-setting principles, should be able to make reasonable judgments about the challenge inherent to the student-athlete's academic goals. Those evaluating the challenge of academic goals set by student-athletes should keep in mind that advisors trained in our study used minimal goal attainment criteria when assessing goal difficulty. For instance, vague goals such as "to pass my classes" were judged by the minimal outcome necessary to pass classes (i.e., earning D's). Goals such as, "I want to get by," "stay eligible," or "keep my scholarship" may be warning signs that students are not optimally framing what they want to achieve at the beginning of the semester.

Our findings suggest that academic advisors should benefit from using motivational strategies with all students in advisement sessions. Ideally, such sessions should be held at the beginning of academic semesters. Sessions held earlier as opposed to later in a semester provide advisors an opportunity to work with student-athletes early in their motivational cycle. Self-efficacy and personal goals, particularly, are part of a recurring motivational cycle that changes as student-athletes gain feedback. As time progresses in a semester, students tend to match their performance perceptions and goals to actual prior performance and poor

performance can be debilitating to efficacy beliefs, chosen goals, and commitment to such goals (Bandura, 1997; Locke & Latham, 1990). Hence, motivational strategies used to help student-athletes start their semester well should, theoretically, perpetuate an upward performance spiral. Sessions held later in semesters can be used to help student-athletes discuss goal progress and feedback, boost optimism and self-efficacy, and guide athletes to appropriate resources should their performance level fall below their targeted goals.

Goal-setting techniques that have been widely and effectively used across settings to enhance motivation and performance (see Locke & Latham, 2002, for review). Goals tend to work best if they are specific, challenging, and realistic (Locke & Latham, 1990). Time taken to discuss personal academic goals might prove to be a technique for helping student-athletes set more specific personal goals. For instance, student-athletes who set the goal "to do well" might be encouraged to more fully describe what "doing well" actually means and even describe to their advisor what support they will seek out if they are not on track to attain their goal by midterm or earlier. Specific goals work better than vague goals because progress made to attain specific goals is easier to track. When students receive feedback that they are falling short of a specific goal, then they know that attaining their goal will require more effort or improved strategies (Kane, et al., 2001).

Advisors might also use tested strategies for helping student-athletes set more challenging academic goals. For instance, using Bandura's (1997) suggestions for building self-efficacy can help students set more challenging goals. One efficacy-building strategy is to help students focus on prior academic successes. Prior success is the most powerful source of self-efficacy. Reminding students of prior successes achieved in particular courses might help to elevate self-efficacy beliefs among student advisees. Similarly, paying attention to individual successes in the classroom on exams or writing assignments might help advisors raise student expectations for future successes in similar classes. Students who underachieve might be directed to reflect on factors under their control that led them to do well on other assignments, papers, or exams. Such a strategy might balance the intuitive tendency to problem solve with student- athletes based on what's going wrong in their academic semester. Follow-up discussions between advisor and students might also focus on specific skills that led to successes in the classroom. Such discussion might help students focus better on self-capability than discussions focused on "what went wrong."

Another strategy proposed by Bandura (1997) to build self-efficacy is modeling. Applied to student-athletes, advisors might raise the student's awareness of similar athletes who performed well with hard work and support. Successful models can boost the efficacy beliefs of student-athletes as long as they view themselves as similar to those models. A third technique for building self-efficacy is persuasion (Bandura, 1997). Academic advisors who convey high academic expectations, sell student-athletes on an optimistic future of goal attainment, and communicate faith in the student-athlete's ability to do well will likely have a positive effect on student self-efficacy.

Those who coordinate academic programs for student-athletes might benefit from employing motivational techniques early in the student's academic career. Early successes tend to create positive performance cycles as the performance benefits of setting challenging academic goals tends to cycle back to boost self-efficacy and perpetuate the student's tendency to challenge themselves in the future (Bandura, 1997).

Another leverage point for promoting the setting of challenging goals is working with students on career objectives. Challenging and specific longer-term goals are associated with challenging and specific shorter-term goals (Kane, et al., 2001). Once specific career objectives are set, academic advisors can boost the student-athlete's commitment to short term goals by touting the importance or meaning of their education for professional development that is relevant to their career goals. For those who are solidly undecided, it might benefit advisors to convince students that high levels of academic achievement will produce greater flexibility in career paths when students do eventually choose what they want to do. Academic advisors might also challenge such students to use campus resources to find a career track that they find personally engaging. The point is that an important advisement strategy is to help student-athletes understand more fully the relevance of academic achievement to their own career and long-term goals. Commitment to challenging goals tends to escalate when student's see the relevance or meaning linked to goal attainment (Locke & Latham, 2002).

A side benefit of integrating goal-based advisement protocols into the advisement of student-athletes is a closer relationship between academic advisors with all student-athletes—the high achieving and at-risk students alike. Motivation is relevant to students who are academically gifted as well as those who are not, and goal-setting is also important for those who achieve high grades and those who do not. Challenging the A+ student to study and prepare for graduate school entrance exams is important just like successfully challenging a C- student to take

the right steps to get a B in a semester course. Goal-based advisement and understanding the goals that students aspire to achieve can help academic advisors know their students better, support the efforts of a broader range of students, and target customized advisement to all. As athletic-academic advisors become more familiar with the career and short term aspirations of their student-athletes, they will, in the process, know student-athletes and relate to their student-athletes better.

Table 1. Study Descriptives

Variable	Range	Mean	St.Dev.	Reliabilities
Class Rank	5-99	72.06	20.07	n/a
ACT Score	13-34	22.86	3.60	n/a
Performance Orientation	1-7	4.84	.80	.85
Learning Orientation	1-7	5.24	.767	.91
Self-Efficacy	2.58-6.83	5.16	.703	.86
Goal Difficulty	1-6	4.39	1.19	.96
Fall 03 GPA	.00-4.0	2.93	.866	n/a

Table 2. Correlations Among Study Variables

	1	2	3	4	5	6	7
Gender	-						
Class Rank	.24**	-					
ACT Score	.19**	.39**	-				
Performance Orientation	.14*	.00	.18**	-			
Learning Orientation	.10	.04	.17*	.36**	-		
Self-Efficacy	.08	.33**	.38**	.10	.42**	-	
Goal Difficulty	.20**	.22**	.36**	.08	.31**	.52**	-
Semester GPA	.31**	.43**	.45**	.01	.17*	.39**	.50**

Note: High school GPA was self-report and the mean 7.15 represents the category choice of 3.01 to 3.50.

Note: Mean replacement was used for missing data for HS class rank and ACT score

@ Data not applicable to freshmen sample

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

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AUTHOR BIOGRAPHY

Thomas D. Kane received his Ph.D. from George Mason University and is an Associate Professor of Psychology at Missouri State University. He worked for two years as an Assistant Academi Coordinator at George Mason University's Academic Support Services in the Department of Intercollegiate Athletics. He has published articles on the topics of leadership, group processes and sport motivation. Correspondence regarding this article can be directed to: tomkane@missouristate.edu.

Logan Dale received his Masters of Science in Industrial/Organizational Psychology at Missouri State University. He worked two years at Missouri State University's Achievement Center for Intercollegiate Athletics. The data collected for this article were part of Logan Dale's Masters thesis. He now works at Centex Corporation as a Manager of Assessment Services.

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Gender, Sport and Higher Education: The Impact of Student -Faculty Interactions on Academic Achievement

Eddie Comeaux, Ph.D.
University of California, Los Angeles

C. Keith Harrison, Ed.D.
Arizona State University

ABSTRACT

This article ascertains the relationship between student athletes' gender and the impact of specific forms of student athlete-faculty interaction on academic achievement. Data are drawn from the Cooperative Institutional Research Program's 2000 Freshman Survey and 2004 Follow-Up Survey. The sample includes 2,952 student athletes attending four-year, predominantly white institutions. Females comprised 57 percent (N=1,688) of the sample and males 43 percent (N=1,264). Regression results reveal that both male and female student athletes' academic success is to some extent contingent upon the specific nature of their interaction with faculty. The findings also indicate that male and female student-athletes have minimal differences in their various forms of contact with faculty. The implications of these findings are discussed among student-athletes, faculty, and advisors in order to improve their roles in establishing meaningful relationships with female and male student athletes inside and outside the classroom.

For a number of decades researchers have examined the impact of traditional students' college environment on academic achievement. The college environment encompasses all that happens to students during the course of their educational programs which may affect and influence the intellectual desired outcome—to matriculate and graduate (Astin, 1993a). Much of this discussion has focused on traditional students' involvement in college, namely their interactions with peers and faculty, which are considered important factors for student success (Astin, 1993a, 1993b; Tinto, 1987). In addition, related studies have examined the effect of involvement on achievement for certain student groups. For example, Allen (1988) reported in a sample of black traditional students that their

relationship with faculty was an important predictor of academic success. Despite the research on traditional students, there is little extant research concerned with the environmental influence on nontraditional students' such as male and female student athletes (Comeaux & Harrison, 2001; Edwards, 1989; Sellers, 1992).

While evidence concerning the positive impact of male student athlete-faculty interaction is unequivocal (Comeaux, 2005), we are not certain whether the benefits accruing from particular types of interaction vary by gender. To further understand the conditional effects of student athlete-faculty interaction by gender, this study examines the relationship between student athletes' gender as well as the impact of specific forms of student athlete-faculty interaction on academic achievement. Specifically, this study examines whether selected faculty interaction measures of academic achievement differ among male and female student athletes. The authors felt it necessary to recognize and explore a group within the college community such as faculty who frequently interact with and influence student athletes' personal and academic development.

THEORETICAL FRAMEWORKS

The work of Carol Gilligan (1989) has tremendous implications for the future of student development theory and practice. Gilligan was the first to challenge the assumption that departures from the male model reflect deficiencies or deviations. The exclusion of women in the development of theory has produced a political and cultural bias that limits and distorts our understanding of the human experience. As such, Gilligan conducted a longitudinal study of thirty-four women over a twelve-year period. The findings suggest that the aspects of the relational experience are important to identify formation in women. Moreover, Josselson (1987) found that women construct identity around issues of "communion, connection, relational embeddedness, spirituality, and affiliation," resulting in an identity that is uniquely female in form (p. 1). Based on the work of Gilligan and Josselson who suggest that women are more likely than men are to define themselves through relationships, we hypothesize that female student athletes interaction with faculty will have a greater impact than males on their academic success.

Gilligan and Josselson's analytical frameworks are critical in shaping a new research agenda that will steer the student affairs profession beyond outdated and limited notions of human development theory and student development practice into a new paradigm of understanding. Such a new understanding will provide a specific developmental framework for addressing the needs of women, and it will guide how we view our work, our relationships, and our campuses. Moore (1990) states:

> The emergence of gender as a variable of difference has raised the question, what else is missing? With the stimulus provided by Gilligan and her feminist colleagues, the reliance on a singular, linear theory of development to explain all human experience is waning. A redesign of theory is underway that will include the multiple dimensions of gender, race, culture, and sexual orientation, reflecting a more realistic expression of the human experience and a more solid and enduring framework to use in shaping student development practice. (p. 34)

Astin's (1985) Student Involvement Theory also helps to frame our study on faculty-student athlete interactions. Student involvement on college campuses may be one of the most important factors influencing their academic success (Astin 1985, 1993a, 1993b; Tinto 1987; Pascarella & Terenzini, 1991). According to Student Involvement Theory, "the individual plays a central role in determining the extent and nature of growth according to the quality of effort or involvement with the resources provided by the institution" (Pascarella & Terenzini, 1991, p. 51). Student Involvement Theory is based on the notion that individuals invest psychological energy in aspects outside of themselves, such as friends, family, schooling, jobs and other similar variables. Astin (1984) defines "involvement" as "the amount of energy that the student devotes to the academic experience" (p. 27). Indeed, studies indicate that the more time and energy students devote to learning and the more intensely they engage in their own education (e.g., student athlete-faculty interaction), the greater their potential outcomes for achievement, satisfaction with educational experience, and persistence in college (Pascarella & Terenzini, 1991; Tinto, 1987). Because student-faculty interaction is an important predictor of academic success, we conceptualize student involvement in terms of various forms of interaction with faculty (Astin, 1993a, 1993b). Other types of involvement, such as participation in student government, volunteer work, and studying with other students are also an important part to academic success but are not the focus of this study.

METHODOLOGY

Data Source & Sample

The data in this study are drawn from the Cooperative Institutional Research Program (CIRP) 2000 Student Information Form (SIF) and 2004 College Student Survey (CSS) that are sponsored by the Higher Education Research Institute (HERI). Although the reliability of the instrument has not been formally measured during the past 30 years the CIRP has generated an array of normative, substantive, and methodological research about a wide range of issues in American higher education (Sax, Astin, Korn, & Mahoney, 1996). These data include information from over 38,000 first time, full-time college freshmen in 2000 who were followed up four years after college entry, and incorporated information acquired directly from their institution.

The specific sample used for this study included male and female student athletes attending four-year colleges and universities. Given the longitudinal nature of this study only students who completed all items of interest on both surveys were included. The final sample included 2,952 revenue and nonrevenue student athletes (1,688 females; 1,264 males) attending predominantly White institutions.

RESEARCH METHODS

This study employs the "Input-Environment-Outcome" (I-E-O) model for studying the impact of college variables on students (Astin, 1993b). "Inputs" refer to the students' entering characteristics, "environment" is that which the student is exposed to during college, (i.e., faculty, peers, diverse views, etc.) and "outcomes" are the students' characteristics after interacting with the environment (Astin, 1993b). The power of Astin's I-E-O model is its ability to allow researchers to measure student change during college by comparing outcome characteristics with input characteristics. In short, this framework examines the influence of the college environment on student outcomes, by controlling for inputs or precollege characteristics and experiences.

Blocked stepwise regression analyses were conducted separately for male and female students on the dependent measure. Each block of independent variables is included in the temporal sequence in which it may have an effect on student outcome. Within each block, variables (significant at $p < .001$) enter the regression equation in a stepwise fashion. The value of using a stepwise procedures design is that they allow for an examination of how regression coefficients change as each variable enters the equation (Astin, 1993b). This technique is especially useful for the present study, as analyses focus on how regression coefficients associated with student-athletes' gender change as other independent variables are added to the equation.

Outcome Variable

The outcome variable in this study is students' self reported college grade point average, a quantitative measure of academic achievement. College grades were obtained from students' self-reported grade-point average (GPA) on the follow-up questionnaire. GPA is scored on a six-point scale, from "A" to "C – or less." The pretest for this outcome is students' high school GPA (scored on an eight-point scale, from "A or A+" to "D"). The authors recognize that academic achievement encompasses much more than grade point average, however given the variables within the dataset, college GPA was the most appropriate measure of academic achievement, coupled with the fact that college GPA is the most common outcome when investigating student achievement in higher education (Astin, 1993a; 1993b).

Independent variables are blocked in the following temporal sequence: (1) students' high school achievement and high school interactions with teachers (inputs); and (2) college environmental characteristics (environment). Because the primary focus of this study is the impact of specific forms of student athlete-faculty interaction on academic achievement, independent variables are not limited to those expected to predict a given outcome; rather, many variables are included because they may shed light on the dynamics of racial composition. Independent variables can be classified into the following two categories (some variables may qualify for more than one category):

1. Those that previous research has identified as predictive of any of the outcome measures used in this study.
2. Those that are included on an exploratory basis because they may mediate the effects of the student athlete-faculty interaction by gender.

Independent Variables

Student background characteristics (Block 1) include measures of past achievement and high school environmental characteristics. The coding scheme for these variables is listed in Appendix A. Past achieve-

ment measure consist of students self-reported high school grade point average. The importance of high school GPA as a control variable when examining college GPA is well documented (Astin, 1993a, 1993b; Seller, 1992).

High school environmental characteristics consist of student athlete and teacher relation measures (See Appendix A). The significance of incorporating these measures was to eliminate self-selecting students thereby decreasing the chance of a Type I error (finding a relationship between the environment and the outcome measure when a relationship does not exist). It was impossible to eliminate all possible biasing input variables, however, the goal was to minimize the probability of a Type I error.

Measures of the college environment consist of various forms of interaction with faculty (Block 2). The importance of student-faculty relationship is well documented as a valuable aspect of the college student experience (Astin, 1993b; Milem & Berger 1997; Pascarella et al., 1983). Given the lack of research in this content area, the present study is a necessary beginning to advance our knowledge on the environmental factors that influence the academic success of male and female student athletes.

RESULTS

Frequency of Faculty Interaction by Gender

The analysis of female student athlete-faculty interaction is uncharted therefore we explored environmental measures descriptively, using male student athletes as the comparison group. Table 1 displays the average hours per week that student athletes communicate with faculty members outside of class. Female student athletes reported spending about

Table 1. Number of Hours Per Week Talking with Faculty Outside of Class

	Male		Female	
Response	Percent (N)		Percent (N)	
Not At All	6.9	(87)	5.2	(88)
Occasionally	53.4	(675)	48.0	(810)
Frequently	39.7	(502)	46.8	(790)
Total	100.0	(1264)	100.0	(1688)

the same amount of time with faculty outside of class as their male counterparts; the highest representation of both female and male student athletes spent less than one hour per week with faculty on campus.

Table 2 provides the breakdown of female student athletes along with comparable proportions of male student athletes in the sample who were asked how much opportunity faculty provided to discuss coursework with them outside of class. Forty-eight percent of female student athletes reported that faculty occasionally provided an opportunity to meet outside of class to discuss coursework as compared to approximately fifty-three for male student athletes.

Table 2. Faculty Provided Opportunity to Discuss Coursework Outside of Class

	Male		Female	
Response	Percent (N)		Percent (N)	
Not At All	6.9	(87)	5.2	(88)
Occasionally	53.4	(675)	48.0	(810)
Frequently	39.7	(502)	46.8	(790)
Total	100.0	(1264)	100.0	(1688)

Descriptive data on student athletes by gender also revealed that female student athletes reported slightly more frequent assistance with study skills from faculty members than male student athletes (female, 16.1%; male, 13.5%); female student athletes also reported that faculty provided more frequent encouragement for graduate school than male student athletes (female, 33.9%; male, 26.4%) whereas male student athletes reported that faculty provided negative feedback about their academic work at a slightly higher percentage than female student athletes (female, 4.9%; male, 7.7%). In short, it appeared that minimal differences exist between male and female student athletes regarding the frequency of specific forms of interaction; female student athletes reported having slightly more interaction or contact with faculty than their male counterparts in most student athlete-faculty interaction forms.

Which Variables Account for the "Effects" of Achievement by Gender?

Because this study is concerned primarily with selected faculty interaction measures of academic achievement and whether they differ among male and female student athletes, the presentation of results focuses on the relationship between that environmental measure and the outcome. The effects of precollege variables on the outcome are presented and discussed only when they appear to vary by gender.

In order to assess the "effect" of selected precollege variables and environmental measures on academic achievement, the standardized regression coefficient (Beta-In) was examined at each step in the regression. The Beta-In (as reported in SPSS-X regression results) is the Beta coefficient a variable would receive if it entered the regression equation at the next step; all variables have a Beta-In irrespective of whether they enter a regression.

Table 3 and 4 provide summary tables of simple correlations for the outcome, as well as Beta-In at each step: (1) after controlling for precollege (input) characteristics; and (2) after controlling for measures of the environment. The purpose of this section is to examine the relationship between that environmental measure and the outcome by determining how this relationship changes throughout the regression, without addressing specifically why such changes occur (that discussion is saved until the next section)

Table 3. Variable Affecting Academic Achievement (College GPA) of Male Student Athletes (N-1,264)

			Beta* Presented After Each Step											
Step	Variable	R	1	2	3	4	5	6	7	8	9	10	11	12
	Inputs													
	High School Grade Point Average	.49	.50	.49	.49	.49	.48	.47	.45	.45	.44	.44	.44	.43
	A Guest in a High School Teachers Home	.49	.04	.04	.04	.04	.02**	.02**	.02	.02	.02	.02	.02	.02
	High School Teacher Advised Me	.49	-.02	-.03**	-.03**	-.03**	-.04	-.05	-.04	-.04	-.04	-.04	-.04	-.04
	Asked High School Teacher for Advice	.49	.03*	.02	.03**	.03**	.01	.01	.01	.01	.01	.01	.01	.01
	Environment													
	Faculty Provided Letter of Recommendation	.55	.23	.23	.23	.23	.23	.17	.20	.20	.19	.18	.19	.19
	Faculty Encouraged Graduate School	.56	.20	.19	.20	.20	.12	.12	.14	.13	.12	.11	.12	.12
	Faculty Assisted With Study Skills	.57	.01	.01	.02	.01	-.08	-.11	-.11	-.11	-.12	-.13	-.12	-.11
	Faculty Provided Respect	.57	.13	.13	.13	.13	.07	.05	.06	.06	.05	.04	.05	.04
	Faculty Provided Intellectual Challenge	.57	.12	.12	.12	.12	.06	.04	.06	.05	.05	.04	.04	.05
	Faculty Provided Help in Achieving my Professional Goals	.57	.16	.16	.16	.16	.07	.03*	.06	.05	.04*	.04*	.05*	.05*
	Faculty Provided Emotional Support	.57	.20	.19	.20	.20	.12	-.04	-.01	-.02	-.03**	-.03**	-.03**	-.03**
	Faculty Provided Negative Feedback about Academic Work	.58	-.05	-.05	-.05	-.05	-.08	-.09	-.07	-.07	-.07	-.07	-.07	-.07

Note: bolded values are not significant

Data Source: 2000 Freshman Survey (CIRP) & 2004 College Student Survey (CSS), Higher Education Research Institute, UCLA

Variables Not Entering Equation:
Number of Hours Per Week Talking with High School Teachers Outside of Class
Number of Hours Per Week Talking with Faculty Outside of Class
Faculty Provided Opportunity to Discuss Coursework Outside of Class
Faculty Provided Opportunity to Work in Research Project
Faculty Provided Advice About Educational Programs
Faculty Did Not Take My Comments Seriously

*The coefficient for any variable not yet in the equation shows the beta that variable would receive if it were entered into the equation at the *next* step

Table 4. Variable Affecting Academic Achievement (College GPA) of Female Student athletes (N=1,688)

			Beta[5] Presented After Each Step									
Step	Variable	R	1	2	3	4	5	6	7	8	9	10
	Inputs											
	High School Grade Point Average	.49	.49	.49	.49	.47	.46	.44	.44	.43	.43	.42
	Hours Per Week Talking with High School Teachers Outside of Class	.49	-.04	-.04	-.05	-.06	-.06	-.06	-06	-.06	-.06	-.06
	Asked High School Teacher for Advice	.49	**.01**	.03**	.03**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**
	Environment											
	Faculty Provided Letter of Recommendation	.53	.19	.20	.19	.19	.14	.17	.15	.14	.14	.15
	Faculty Encouraged Graduate School	.54	.18	.18	.18	.12	.12	.14	.11	.10	.10	.10
	Faculty Assisted With Study Skills	.55	-.05	-.04	-.04	-.11	-.13	-.13	-.15	-.16	-.16	-.15
	Faculty Provided Help in Achieving my Professional Goals	.56	.16	.16	.16	.09	.05	.10	.10	.08	.07	.07
	Faculty Provided Intellectual Challenge	.56	.13	.13	.13	.08	.06	.08	.06	.06	.06	.07
	Faculty Provided Respect	.56	.12	.13	.12	.08	.05	.07	.06	.05	.05	.03*
	Faculty Provided Negative Feedback about Academic Work	.57	-.09	-.09	-.09	-.11	-.11	-.09	-.09	-.10	-.09	-.09

Note: Bolded values are not significant
Data Source: 2000 Freshman Survey (CIRP) & 2004 College Student Survey (CSS), Higher Education Research Institute, UCLA

Variables Not Entering Equation:
High School Teacher Advised Me
A Guest in a High School Teacher's Home
Number of Hours Per Week Talking with Faculty Outside of Class
Faculty Provided Emotional Support and Encouragement
Faculty Provided Opportunity to Discuss Coursework Outside of Class
Faculty Provided Opportunity to Work in Research Project
Faculty Provided Advice About Educational Programs
Faculty Did Not Take My Comments Seriously

[5] The coefficient for any variable not yet in the equation show the beta that variable would receive if it were entered into the equation at the *next* step

Relationships Explained by Input Effects

When precollege (input) characteristics are controlled (Block 1), female student athletes' high school grade point average has the strongest effect on their college GPA (Beta=.42, p<.001, see Table 4); a similar relationship was also found for male student athletes (Beta=.43, see Table 3). The only other high school characteristic significant for females was hours per week talking with high school teachers outside of class. This variable had a negative effect on females' college GPA (Beta= -.06); that is females student athletes who talked frequently with their high school teachers outside of class more often received lower grades in college. For male student athletes the input characteristic "a guest in a high school teachers home" had a positive effect on college GPA (Beta=.02), suggesting that male student athletes who were frequent guest in a high school teachers home were more likely to receive higher grades in college.

Relationships Explained by Environmental Effects

As described earlier, while the entry of high school grades (input) had a strong effect on academic achievement for both male and female student athletes, the entry of the college environment led to generally smaller effects in the relationship between faculty measures and the outcome. Of course, the relatively smaller "mediating" power of the environmental block was due in part to the natural correlation between inputs and environments; much of the potential "impact" of the environment had already been accounted for by students' high school grades.

With respect to female student athletes, the data revealed that the environmental measures, faculty provided a letter of recommendation and faculty provided encouragement for graduate school, had fairly strong positive relationships with college GPA (Beta = .15; Beta = .10,

respectively; see Table 4). Likewise, male student athletes who received a letter of recommendation (Beta=.19, p<.001) and encouragement for graduate school by faculty (Beta=.12) had the strongest positive influence on college GPA. Although these two variables had a slightly stronger effect on college grades for male as compared to their female counterparts, the differences were relatively minimal.

For female student athletes the following college environment variables had a moderate but significant positive effect on their college GPA: faculty provided help in achieving professional goals (Beta=.07), faculty provided intellectual challenge and stimulation (Beta=.07) and faculty provided respect (Beta=.03). For male student athletes the same relationship was found although to an even lesser extent. The following variables had a moderate to weak but positive effect on college GPA for males: faculty provided help in achievement professional goals (Beta=.05), faculty provided intellectual challenge and stimulation (Beta=.05) and faculty provided respect (Beta=.04).

College environment variables that affect grades negatively for female student athletes included faculty provided assistance with study skills (Beta= -.15) and faculty provided negative feed back about academic work (Beta= -.09). In other words, female student athletes who received more assistance from faculty with study skills and more negative feedback regarding their coursework received lower college GPAs. For male student athletes the following variables influenced college GPA negatively: faculty provided assistance with study skills (Beta= -.11), faculty provided negative feedback about work (Beta= -.07), and faculty provided emotional support and encouragement (Beta=-.03). The latter findings for female and male student athletes are not surprising since students typically tend to seek assistance with their study skills and receive negative feedback when they are not performing well academically.

DISCUSSION OF FINDINGS

Although the focus of the study was on environmental predictors of academic achievement, precollege and college environmental characteristics provides some evidence that male and female student athletes' are affected slightly different. For example, high school GPA continues to be a strong predicator of academic achievement in college for both male and female student athletes. Female student athletes' high school GPA, however, was a slightly stronger predictor of college GPA as compared to their male counterparts, indicating that perhaps female student athletes

matriculate from high schools and environments more prepared for college entry (Coakley, 2001; Harrison & Lawrence, 2002).

Regression results also showed that college environmental measures were fairly strong predictors of academic success for male and female student athletes in this study, lending support to Student Involvement Theory. As discussed earlier, much of the effect of the environment is already accounted for by the input characteristics (high school GPA) in the previous block, since student input characteristics are naturally correlated with college environments. Nevertheless, it is clear that both male and female student athletes' academic success is to some extent contingent upon the specific nature of their interaction with faculty; student-athletes also showed minimal differences in their various forms of contact with faculty in this study. For example, faculty who provided a letter of recommendation, encouragement for graduate school and help in achieving professional goals makes a fairly strong contribution to both male and female student athlete's academic success. Further, as the regression analyses indicate, faculty were more likely to provide help to both male and female student athletes with study skills. Again, such a finding is not surprising since students generally tend to seek guidance with their studies when they are performing well. Clearly, there seems to be a gender balance relative to the various forms of student athlete-faculty interaction and the subsequent influence on their educational outcome. Controlling for such factors is critical if we are to understand how student athletes are affected by their particular subenvironments.

CONCLUSION

Limitations & Implications for Future Research

While the present study produced useful findings and has implications for institutional practices pertaining to student athletes, as outlined in previous section, it is not without limitations. The data sampled is not random, and thus generalizations from this study should be made with caution and consideration of these factors.

The lack of causal direction among the environmental measures and the dependent variable was another limitation of this study. That is, do student athletes who interact with faculty, depending on the form of interaction, receive higher grades or is it because those with higher grades are more likely to pursue interaction or contact with faculty? Future qualitative studies that explore student athletes' experiences with faculty

inside and outside the classroom might be successful in answering such uncertainties. Additionally, the voices of student athletes themselves are critical to addressing this issue at both the theoretical and practical level (Benson, 2001). Future investigation should also examine other environmental variables both in high school and college (e.g. peer interaction, student support services, etc) that may influence and further explain college GPA. This information will be most useful to faculty and administrators who are voluntarily or involuntarily exposed to the sport model and its constraints, as they attempt to improve the college experience of male and female student athletes in American higher education.

Implications for practice

The results of this study combined with findings from previous studies on student-faculty interaction (Comeaux, 2005; Pascarella, et al., 1983; Terenzini, et al., 1984) have important implications for program design and developmental strategies to assist college and universities in improving both male and female student athletes' academic success and overall college experience. Beyond that, this study argues for institutions encouraging a wide range of forms of faculty communication and mentoring that are responsive to the needs of male and female student athletes of different abilities, needs, and/or interests.

Since the quality and nature of student athletes-faculty interaction is essential to both academic achievement and the overall college experience, mandatory academic and social activities (e.g. research projects, faculty attendance at sporting events and team lunches, etc.) between student athletes and faculty members should be encouraged (Comeaux, 2005; Milem and Berger 1997; Pascarella et al., 1983). In doing so, faculty members will become more exposed to the culture of this special population of students and began to cultivate meaningful relationships. As such, meaningful interaction goes far beyond mere contact/interaction and includes learning about differences in experience and perspectives as well as getting to know each other in an intimate enough way to discern common goals and personal qualities. And lastly, higher education perhaps needs to reconsider the reward structure and think creatively about new incentives in order to: (1) succeed in its efforts to improve student-faculty interaction; (2) be responsive to the needs of certain student groups; and (3) improve faculty morale of dealing with the impact of intercollegiate athletics.

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Footnotes

1Comeaux's research (interdisciplinary in nature) examines the ways in which the interaction patterns between students' race, ethnicity, and gender and characteristics of the social environment (or events) influence subsequent educational experiences and outcomes.

2 Harrison studies race relations, sport and higher education and the effects of media images on African American male student-athlete career aspirations and desires.

3 Bets reported in the final step

AUTHOR BIOGRAPHIES

Eddie Comeaux is a Postdoctoral Fellow in the Ralph J. Bunche Center at the University of California, Los Angeles. His research (interdisciplinary in nature) examines the ways in which the interaction patterns between students' race, ethnicity, an gender and characteristics of the social environment (or events) influence subsequent educational experiences and outcomes.

C. Keith Harrison is an Assistant Professor at Arizona State University

in the department of Educational Leadership and Policy Studies. Harrison studies race relations, sport and higher education and the effects of media images on African American male student-athlete career aspirations and desires. Harrison is founder and director of the Paul Robeson Research Center for Academic and Athletic Prowess.

APPENDIX A. Student Background & Involvement Characteristics		
Block	Variables	Measures
Block 1 (input)	*Background measures* *Average high school grades (self-report)*[a]	
	Interaction with Faculty (high school)	Asked a teacher for advice after class Talking with teacher outside of class[b] Was a guest in a teacher's home[b] Number of hours per week talking with high school teachers outside of class[c] Number of hours per week talking with faculty outside of class[c]
Block 2 (environment)	*Interaction with Faculty* (college)	
		Faculty provided encouragement for graduate school[d] Faculty provided emotional support & encouragement Faculty provided assistance w/ study skills Faculty provided advice about education programs Faculty provided opportunities to discuss coursework Faculty provided letter of recommendation Faculty provided respect Faculty provided intellectual challenge Faculty provided help in achieving professional goals Faculty provided negative feedback about academic work Faculty provided opportunities to work on research project Faculty did not take my comments seriously

[a] Eight –point scale: 1 = "D" to 8 = "A or A+".
[b] Three point scale: 1 = "not at all" to 3 = "frequently."
[c] Response choices include; None, Less than 1, 1 to 2, 3 to 5, 6 and over
[d] Three point scale: 1 = "not at all" to 3 = "frequently."

Athletes' Feelings of Isolation and Separateness as Determined by Campus Design: A Theoretical Perspective

John R. Lubker
West Texas A&M University

ABSTRACT

Many college student-athletes feel isolated from social activities on campus and their social experiences at the university are predominately with other athletes (Pinkerton, Hinz, and Barrow, 1989). Also, student-athletes often rely on their athletic department to solve their problems and provide support, which may lead them to ignore other available services on campus (Ferrante & Etzel, 1991). When hypothesizing about student-athlete isolation it is equally important to examine the impact of environmental determinates on this behavior. The topography of the land and campus design influenced the expansion of most college campuses. Therefore, physical isolation allows the athletic department to operate somewhat free of other departments. It can keep athletes in-house, not having to rely on other campus service providers, which may impact athletes' use of counseling and support services if not offered in or near athletic departments. Presented is a new theoretical perspective on how campus design may affect student-athletes' feelings of isolation and impact service use, and will propose interventions and research specific to this theory.

Athletes' Feeling of Isolation

The college student-athlete is a unique person on a college campus. As a result of the individual attention and privileged status that student-athletes receive, some researchers have labeled them the over-privileged minority (Remer, Tongate & Watson, 1978). Others have shown that in addition to the developmental tasks that all college students must complete, the college student-athlete has even more demands placed upon them because of their athletic status (Ferrante, 1989). The demands of their athletic schedule (e.g. practices, study halls, travel, etc.) separate student-athletes from the non-athlete population (Adler & Adler, 1987).

These demands can leave athletes feeling estranged, out of touch, and isolated from their non-athletic peers on campus. In turn, there is the possibility that negative stereotypes about athletes can be formed by the non-athletic student population because they lack the opportunity to interact with them (Parham, 1993). Pinkerton, Hinz, and Barrow (1989) found that athletes feel a certain amount of isolation from social activities on campus and athlete's social experiences at the university are predominately with other athletes. Socially, friendship that was found in high school can be lost in the collegiate environment due to isolation stemming from athletic status (Adler & Adler, 1987).

An institution's athletic department and coaching staff may further promote this feeling of isolation through their attempts to help the student-athlete succeed. On some campuses, athletic departments operate almost independently of the rest of the university (Sperber, 2000). In most cases, the athletic department has different goals and its own decision making body in place to operate somewhat free of the academic departments on campus. Athletes may internalize this "independent operation" which may non-verbally influence them to ignore other available services on campus (e.g., counseling and disability services) and instead rely on the athletic department to solve their problems and provide support (Ferrante & Etzel, 1991). Some coaches and assistants take control of athletes' class and major selection, often putting them in courses and majors that are congruent with the practice schedule but not with a particular athlete's life and career goals. When athletes are not in control of their choices, this intrusion can lead to a disconnection to the rest of the university's resources and its members. As a result of the social isolation experienced by college student-athletes, they often have few academic role models and receive little support for academic accomplishment (Adler & Adler, 1987).

There is a form of student-athlete isolation that has yet to be proposed in the counseling or student development literature that may impact athletes and further promote feelings of isolation and separateness. This form of isolation is inherent in the design, planning, and architectural make-up of the college campus. In turn, this separation allows an athletic department to operate independently as well as physically isolating athletes from their non-athletic peers. To discover the impact that the physical structures and layout of a campus can have on athletes, the theories and postulations of environmental psychology, campus planning, and campus architecture need to be addressed.

The History of Campus Architecture

A short history of campus design and architectural periods can be used to show how early campus planning influenced the physical layout of the modern university. American colonial colleges used an open design that had three individual college halls forming an academic U-shape, leaving the fourth side free to the outside community. This signified both a connection to the community as well as a connection to nature (Turner, 1984). The term campus is Latin for "field," which was used to describe this early American college tradition (Braunschweiger & Thompson, 1997). The several decades following the Revolutionary War, were a period of college expansion in which the location of new colleges was an issue (Turner, 1984). During this time period there was a strong push to make sure that the campus plan would respect the topography of the land with drives and walks following its contour, rather than impose a quadrangle on it (Schuyler, 1996). After the conclusion of the Civil War, it was thought that if a college or university was to promote the importance of community and responsibility the buildings had to be appropriately scaled to resemble a community (Schuyler, 1996).

Following the Reconstruction of the southern states, the American university was born when previous German design merged with the classic style of architecture and as a result, universities were able to accommodate a large number of students with diffuse goals (Turner, 1984). In turn, the universities expanded to provide more services and more physical structures. During this period, the beaux-arts style of architecture had a strong influence over the design of college campuses (Braunschweiger & Thompson, 1997; Turner, 1984). The beaux-arts style uses the physical campus to represent the ideals and mission of the university and as a public display dictating admiration. It relied much on a master plan to provide a sense of unity throughout the campus. The college campus contained many different types of buildings such as classrooms, recreation centers, and dorms and its unity in design could be achieved by lawns, malls, quads, and avenues to create a sense of community between the physical structures and the individuals in the environment (Braunschweiger & Thompson, 1997).

During the modern architecture period of 1936 through 1990, Congress passed the Servicemen's Readjustment Act of 1944, which greatly increased the demand for higher education. As a result, the university system could not keep up with the influx of students and most colleges and universities were unable to stick to a unifying architectural plan. The design focus of the period was to build whatever was necessary, wherever necessary (Turner, 1984). The concept of master planning was all

but abandoned during this period. Modern, unadorned, form-follows-function architecture easily invaded American campuses. Large, squat, air-conditioned research and classroom structures succeeded the traditional, single corridor, cross-ventilated college buildings. In the process, they all but abandoned the ambiance, the intimate spaces, the careful landscaping inherent in the old campus core (Turner, 1984). Building fast and cheap, many of the open spaces and design "flow" of the campus was lost in this period. Uninspiring buildings and expansive parking lots replaced it. The rise of college sports, namely football, coincided with this period of expansion (Rader, 2004) and the appearance of stadiums and arenas towering over a college campus became commonplace (Gumprecht, 2003). Due to the size of these stadiums, they were most often built on the outskirts of campus or the edge of town where space was plenty and land was cheap. Because stadiums were built on such a grand scale, small towns like Auburn, Alabama had to accommodate crowds estimated to be three times as large as the town itself (Beard, 1989 as cited in Gumprecht, 2003). As a result, student-athletes must travel from the campus core (i.e., class, dorm) to practice and games, often in the opposite direction from their non-athlete peers.

Influences of Physical Environments

The ecological perspective states that there is an influence of environments on people, and people on their environments (Banning & Kaiser, 1974). It is important when hypothesizing about feelings of isolation and separateness by college student-athletes to look at the environmental determinates of human behavior. Moos (1986) postulates that the arrangement of environments can be the most powerful technique for influencing human behavior. Dewey (1933) stated some time ago that we never educate directly, but indirectly by use of the environment. Whether it is chance environments that do this, or whether they are designed for this purpose, makes all the difference. People often become insensitive to or unaware of the pieces of our environment, but the actions of the persons contained in the environment will reveal its effects (Strange & Banning, 2001).

Environments, such as an athletic department, maintain a level of organization in order to meet certain implicit or explicit goals. Porteus (1977) described three distinct positions about how physical environments affect behavior. First, architectural determinism states that behavior is determined in a direct causal way by the environment (Ellen, 1982). People act in predicable ways because that is the only way the environment lets them behave. If there are no counseling services directed toward or for athletes, when this specific population needs help they will most likely turn to coaches or someone else in the athletic department. Second, architectural possibilism (Ellen, 1982) states the physical environment has a set of possible opportunities contained in it that may set limits on, but not restrict behavior. If a campus has two student support centers, one for athletes housed in an athletic facility and one across campus for regular students, the athletes will most likely stay in-house in the athletic department and not have the possibility to interact with the rest of the student body or seek out opportunities or experiences outside of athletics. Third, architectural probablism states that layout, location, and arrangement of space and facilities make some behaviors more probable. If there is a centrally located student support center that markets itself to all sub-populations including athletes, there is an expectation of a highly developed culture of interaction and support.

Physical environments communicate nonverbally in many ways. They offer many possibilities for human response, some more probable than others. This influence is both functional and symbolic (Strange & Banning, 2001). The link between the functional and symbolic aspects of the campus physical environment leads to an understanding of how the campus' physical environments impact behavior (Strange & Banning, 2001). If a college's counseling center is located on the far side of campus from the athletic department, its location can send the message that athletes should not seek help outside of the athletic department.

The environment communicates to those in it, through simple and complex cues, the most appropriate emotions, interpretations, and behaviors by setting up the appropriate situations and contexts. Environments can achieve more than just inhibit or promote; they not only remind, they can predict (Rappaport, 1982). Often, these non-verbal messages are more truthful than verbal or written messages (Mehrabian, 1981). As an example, after practice, if a coach's door is open to talk or the athlete has to walk across campus to talk about homesickness and depression it seems that the athlete would be more likely to talk to the coach who might not be trained or effective in such an arena. When double messages, both verbal and non-verbal are received, the non-verbal messages are often more believable and effective (Eckman, 1985).

Environments are transmitted through people, and the dominant features of a particular environment are partially a function of the collective characteristics of the individuals who inhabit it (Holland, 1973). The human (i.e., social aspect of the setting) and the non-human (i.e., physical aspects of the setting) make the college campus a classic behavioral set-

ting (Strange & Banning, 2001). The mutually influential relationship between the human and physical elements contained in the behavioral setting shapes behavior. The sometimes supportive, sometimes unsupportive relationship between the human and physical aspects of the campus environment can greatly affect behavior (Strange & Banning, 2001). The physical features of the collegiate environment can set broad limits on behaviors, making some more likely to occur than others. If there are two dinning halls on campus, one being located near a major walkway on campus and the other located in a varsity practice facility, the physical environment dictates that the remote dinning hall will have less non-athlete students using it. This is called intersystems congruence (Michelson, 1970). When the physical structures and design of the setting allow participants to do what they desire, while participants take full advantage of the possibilities of the setting, is termed a synomorphic relationship. In turn, the behavioral setting of a campus, buildings and spaces do not just create functional space, mood, or atmosphere, they can facilitate certain behaviors (Wicker, 1984).

Intertwined in this synomorphic relationship are the ideas of proxemics and the social implications of the use of physical space and how they affect behavior. Spatial zones and social interaction between people are an important part of this study (Hall, 1996). These social and psychological aspects of physical space communicate messages to the people in the campus physical environment. If all the student-athlete services are located in the athletic department, then the message is sent to the athlete that they do not have to go outside of the department to receive help. By not needing to interact with the rest of campus, isolation ensues.

Campus physical artifacts have intended purposes that impact the environment. They send strong non-verbal messages about campus culture and the individuals functioning within it. There are two types of campus artifacts that specifically influence student-athlete isolation: 1) signs and symbols and 2) specific physical structures such as stadiums, libraries, and bridges (Banning & Bartels, 1993). Signs such as "athletes only" in the dining hall, symbols such as statues of athletic heroes surrounding the athletic department and large, newly built stadiums send non-verbal cues about important campus values and expectations of an athletic culture. Zeisel (1981) describes how physical environment can be used to convey messages about individual and group ownership and terms this concept the "display of self." An example of this is the prominent display of Greek letters on a fraternity house or "team" shirts for athletes.

Consider the viewpoint of a male student-athlete walking around campus. He encounters non-verbal cues embedded in the buildings, pathways, signs, and symbols (Banning, 1993). Through these non-verbals, he learns the important cultural messages contained in the campus atmosphere. What is communicated to this athlete might be much different if he encounters numerous statues of the university's sports heroes versus signs marking the route to university-sponsored tutoring sessions. The convenience of this athlete's walk or ride to his athletic facilities is part of the overall campus design and it depends on the directness, continuity, and availability (Untermann, 1984). However, while the walk or ride may be convenient, it more than likely does little to promote an interaction between him and the general students. In the early afternoon when the student-athlete reports to the locker-room for practice, he often passes his non-athletic peers going the opposite direction to classes or dorms. They both may be going in direct, available, and convenient paths, but in this experience, the athlete gains a sense that he is different than, and separate from, his peers.

Constructed Environment of the Student Athlete

All environments have a purpose, expressed or implied. Environments are best understood by the collective perceptions, or subjective views, of the individuals in them. The perceived campus culture is an example of this idea. Someone might think the university is a "jock school" while another person might think the same university is known for its academics. How individuals perceive, evaluate, or construct the environment will affect if they are attracted, satisfied, or stable in it (Strange & Banning, 2001).

The university system can contain many distinct and different subcultures, which can have their own purposes and can interfere with the primary goals of the institution (Strange & Banning, 2001). The athletic department is a good example of this idea. Not only can it be separated physically from the rest of campus; it can contain goals that might undermine the stated goals of the institution. These goals can take the form of bringing in athletes that are unprepared to achieve in college or it can require the student-athlete to prematurely commit to athletics and not to develop the role of student (Pearson & Petitpas, 1990). In turn, athletic departments can be wary of outsiders whose mission is not winning on the field but helping athletes succeed in life (Sperber, 2000).

This separateness can lead to perceptions of what is deemed important by the sub-culture contained in it, called "environmental press." It

suggests that if a majority of individuals have a certain perception, then this will be seen as important (Stern, 1970). An environmental press has the ability to influence the environment but it also has the ability to create stereotypes. If 80% of the campus population believes that academics are important, then this most likely will be seen as a goal of the university. In turn there is the possibility that stereotypes about student-athletes as well as the reasons for their admission to the university might be formed. Various environmental presses can be a function of sub-environments. Overall campus environment might have an environmental press towards academic quality, but a particular sub-environment, such as the athletic department's goal of winning at all costs, might exert another environmental press in a different direction determining an athlete's enrollment into an easy major (Strange & Banning, 2001).

Implications for Athlete Support Providers

There are a number of ways that an institution can encourage participation and involvement on campus. Each physical space on campus has a certain amount of influence on the individuals contained in and around it. This influence is the degree of attraction or repulsion for a particular setting. For student-athletes who have a strong athletic role and identity, the athletic department can be an attractive place to spend time while the physics lab or the student center might represent a degree of repulsion. Astin (1985) believes what an individual does, more than what is thought or felt, defines involvement. This makes particular sense when looking at the stereotypes formulated by the general student population with respect to college student-athletes. By not seeing athletes on campus, involved in dorm activities, or in certain majors, the non-athletic population could make assumptions that the athletes are just there to compete for the university in an attempt to make it to the professional leagues and not to receive an education. Campus environments that make available and encourage certain activities are considered "involving." Pascarella and Terenzini (1991) believe that a peer culture can help foster involvement where students develop close on-campus friendships, perceive the college is highly concerned about individual students, and witness institutional emphasis on support services. By not attempting to reach out and encourage student-athlete involvement and by promoting certain "easy" majors, the institution might be discouraging, not promoting, participation.

Athletes enjoy being around other athletes because of their shared goals and experiences (Adler & Adler, 1987). Therefore, they create an environment that is cyclical in nature; one that attracts new athletes and perpetuates its current sub-culture. This can have either a positive or a negative impact on the university culture. It can be negative if the culture of athletes is to blow off class and only concentrate on winning, conversely it can be positive if the culture is one of personal development and growth. Specialized offices and organizations like athletic departments or athletic student services can function as a supportive body that in turn encourages involvement. The institutions that are most successful at enculturating a tradition of involvement among students, such as promoting the "student" in student-athlete, are culturally distinctive in the sense that they create a powerful "feel" that new members can sense (Strange & Banning, 2001). There are many factors that can affect the physical dimensions of involvement.

Campus location and design can enhance involvement. If it is a rural campus, it can have plenty of space to grow without inhibiting its flow and maximizing its physical influence on its community. If it is an urban campus, there might not be the available space to grow, but by making sure that student-athletes can interact with other students a sense of community can be increased. Topography of the land can have an inhibiting effect on involvement as well. In the case of Harvard University, the Charles River bisects the campus (Harvard University, 2004). This can have a significant impact on involvement, especially when the athletic department is on the opposite side of the river from most of the student body. Effective ways to counter the river's impact on involvement could be mass transportation systems and major walkways to involve all students.

The layout of physical space, as mentioned previously, can impact involvement. Large, squat buildings or small appealing ones can both inhibit involvement. The way these campus buildings are laid out is just as important as their design. If the athletic departments and facilities are on a remote side of campus from buildings that non-athletic students use, this can decrease involvement. Included in the layout of the buildings, the layout of open spaces can affect the degree of involvement. Open spaces, when used in an effective manner on a college campus can increase the likelihood of interaction between all students. These open spaces must be accessible and inviting to be involving. In summary, open and inviting spaces promote involvement while the barriers dividing physical spaces, such as busy roads or even rivers, can disrupt the flow of campus and inhibit involvement. Therefore, campus service providers need to become aware of the impact physical barriers can have on student-athlete isolation. With this awareness, proactive steps can be taken to provide outreach and inclusion for this sub-population at the university.

Ideas for Future Research

How might we assess the ability of the design of a campus to encourage involvement or isolation and separateness? The college campus and the individuals contained in it share a dichotomous relationship, and it is the basis of this relationship that should be the beginning point for research in this area. To study this relationship, we must look specifically at each piece and how it contributes to the whole.

The physical campus environment should be studied through an analysis of NCAA Division IA campus maps. To achieve a sample of maps that represent schools that have a high level of success in all sports, using the top twenty-five schools from the 2004-05 Sports Academy Directors' Cup (formerly the Sears Cup) would provide a solid point of reference. When analyzing each individual map, there are a number of specific issues that need to be addressed. Where the campus is located, either in an urban or rural area, can play a role in how it expanded during the influx of college students during the mid-twentieth century. The question to be answered here is if the college expanded in a manner that promoted involvement or increased isolation of its student-athletes. By studying the institution's campus map, the traffic patterns of those who participate in the setting can be a key to how well the campus flows from building to building, in turn increasing total involvement (Strange & Banning, 2001). It is important to investigate the level of involvement of the student athletes with the rest of the university population when traveling from the campus core to practice facilities. Also, the way that participation on campus facilitated, recognized, and rewarded can also promote or discourage involvement. Combined in this is the physical layout of the campus and how it interacts with the topography of the land. Are there any major natural or man-made barriers that can inhibit the involvement of student-athletes with the rest of the institution? Finally, it is important to investigate where the counseling and support services for student athletes are located and if they increase or decrease involvement with the culture of the university. Specifically, are these services well advertised and accessible to the student athlete or are they located cross-campus from the normal routes of athletes? By assessing the top twenty-five schools in the 2004-05 Sports Academy Directors' Cup, a rubric can be established to place schools into different categories based on their physical environments and how well or poorly they promote the involvement of their student-athletes with the rest of the campus environment.

The other half of this relationship is the student-athlete population contained in the college campus environment. To get the best description of how a campus environment can impact a student-athlete is to ask them to describe it. By using student-athlete focus groups, researchers can discover what types of environments, more specifically, what types of barriers inhibit involvement. The perceived level of impact that the environment has on the student-athlete is his or her reality. Because there has yet to be any assessments or surveys constructed to measure this phenomenon of campus isolation, we should turn to established measures of social support as a guide. Like campus isolation, social support relies upon individual perception. By looking at these established social support measures, such as the Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983), the same type of scale can be developed with the ability to measure the phenomenon of campus isolation. This measure could be effective as a Likert-type, self-report scale, or one that involves a phenomenological interview the student-athlete.

After developing a campus isolation scale, it can be used to find differences in the isolation experiences of athletes. As an example, two athletes on the same team at an urban college might have very different perceptions of how the campus promotes involvement. If student-athlete "A" is from the city where the college is located, he might be used to riding a train to get to practice where student-athlete "B" who is from a small, Midwest town, might feel isolated having to ride a train or drive to practice. It is these types of personal experiences that need to be explored individually to get at the root of how campus design can influence a student-athlete's feelings of isolation.

After initial research has been conducted on this subject of campus isolation, there are a number of directions that this research can progress. A closer look at the difference between feelings of isolation at urban and rural campuses could be explored. It would also be beneficial to look at all three NCAA Divisions (I, II, and III) and determine if there is any difference between them in levels of involvement. Finally, with initial research to rely on, it would make sense to look for ways to improve involvement for student-athletes. Since the campus physical environment is essentially set in stone, ways to increase involvement through intervention by service providers need to be found and integrated into student-athlete service programs.

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GUEST EDITORIAL

N4A Appeal for Student Athletes to Study Abroad

Ken Baron, Ph.D.
Consultant, Baron Mentors
National Certified Counselor (NCC)
National Certified Career Counselor (NCCC)

Dear Members of the National Association of Academic Advisors for Athletes (N4A):

Because you are leaders and facilitators of genuine student development for collegiate student athletes in the United States, the following is an appeal to you for the promotion of study abroad as a worthwhile and feasible academic endeavor for your constituency. While it is well understood that significant challenges with schedules, scholarships, financial aid and a host of serious regulatory and compliance matters have curtailed study abroad as a viable option for many student athletes in the past, the concern for us all is about the future. The implications for student athletes considering the momentous and well documented forces of *globalization* not only in reshaping our institutions but within multiple facets of our economic, cultural, and spiritual lives is daunting.

To be sure, mission statements, curricular revision, quality assurance measures, research agendas and various institutional and corporate partnerships have all been influenced by the internationalization of our campuses. Campus projections, goals and objectives associated with targeted increases in study abroad participation are very much a reality throughout the nation. According to a 2004 report produced by the National Association of State Universities and Land Grant Colleges (NASULGC) – member institutions have been challenged to "triple" the number of students participating in study abroad by 2010.

Thus in light of this major change unfolding before us on our campuses, how should those of us involved in the role of academic planning with student athletes respond as advisers, educators, mentors and leaders? Perhaps this rhetorical question may seem familiar? In a similar manner, the "career maturity" debate of the 1970's, 80's and 90's - which compared the nature of the *academic* and *social* lives of student-athletes with those of non student-athletes - may have already provided us with some

ideas. To be sure, one significant conclusion from the career maturity deliberations was that student-athletes were often not able to benefit from the full-range of activities, facilities and opportunities that colleges and universities provided. And in this case, the academic and athletic communities recognized that systematic "insularity" was negatively impacting student athletes with respect to their overall career development.

As a result, significant reforms have taken place with respect to student housing, academic support, career development and mentoring programs designed to improve the overall quality and "equality" of student-athletes' collegiate experience. Learning from these lessons, it is possible that successful study abroad facilitation for student-athletes will require a similar concerted effort by those most directly involved in the construction of both the academic and social lives of student athletes. As members of the N4A, and as leaders on your campuses, you, perhaps better than anyone else on your campuses, understand and can hopefully navigate through the intricate financial, regulatory and logistical barriers in order to strategically assist those student athletes who want to pursue study abroad at some point during their tenure. This will not be an easy role to fulfill, yet the dialog and action planning needs to start somewhere. Given your skill set, your passion for fairness and your historical willingness to act as standard-bearers for the welfare of student athletes and the integrity of their educational experience, the following short-term and long-term suggestions are provided for you below:

Short -Term Strategies:

- *Schedule a meeting with an administrator from the international education or study abroad office on your campus to find out more about the kinds of study abroad programs your campus currently provides or is affiliated with.*
- *During the meeting attempt to secure specific details about key semesters, quarters and terms (especially summer opportunities) that could be utilized both practically and strategically (considering various sports and playing seasons).*
- *Explore study abroad course offerings that would easily meet general education requirements (lower and upper division) as well as*

standard courses within popular academic majors. Programs with articulation agreements in place would be ideal!
- *Attempt writing a preliminary "blue print" study abroad model that you believe could be undertaken by a select category of student-athletes. Perhaps considering (at least initially) a sport, coaching staff, and season most amenable to such an endeavor.*
- *Invite a cross-section of respected institutional colleagues from various departments to critically assess your preliminary plan. This group should include key individuals from academic departments, records and registration, financial aid, and international education as well as from athletics.*

After organizing, critiquing and revising your prospective study abroad plan you should have a more realistic sense of how such a plan could be implemented (again, perhaps with just a small, select group of student-athlete participants), as well as any significant measures that still need to be resolved in order to move forward. Like any *new* initiative (within any collegiate operation) expect some resistance and a certain number of "naysayers" who will undoubtedly attempt to slow down or stop any momentum you have worked hard to set in motion. Hence, garnering and fostering the good will and positive energy from campus supporters and advocates will be critical to your ultimate success. The good news is that other forward-thinking campus leaders at your colleges and universities will also be looking for partners to collaborate with as the focus (and in many cases – requirement) on *internationalization* becomes a priority consideration at all institutional levels. Thus looking to the future, the following are long-term measures for N4A member consideration in your efforts to internationalize their departments and establish study abroad opportunities for your student-athlete constituencies:

- *Become involved in any internationalization commissions or standing committee's that already exist (or that evolve), or become appointed to a committee on your respective campuses. Your participation will enable you to "spotlight" your intentions, have your obstacles officially "recorded for institutional purposes," and establish campus-wide partnerships.*
- *Inform your college or university president of your intention to assist student-athletes in pursuing study abroad opportunities. Their*

awareness of your actions and "values" as a progressive, academic athletic advisor will be welcomed and may also establish an important link through which both challenges and successes can be communicated.

In conclusion, the academic athletic advising community is applauded for your continued leadership and commitment towards student-athlete equality and equity. You serve an integral role advocating on behalf of student athletes as campus administrations begin to significantly raise the bar on study abroad participation. Without your attention and support, your student-athletes could easily be left out of the discussion and without a plan. The nature and scope of education provided at our campuses will be changing considerably during the next decades – including a growing expectation of study abroad becoming an actual requirement for graduation at our most reputable institutions. Thank you for this forum to launch this important discussion. Further dialog and collaboration with the N4A membership is welcomed.