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## The Relationship between Noncognitive Dimensions and the Academic Performance of Student-Athletes

Bradley R. McAllister

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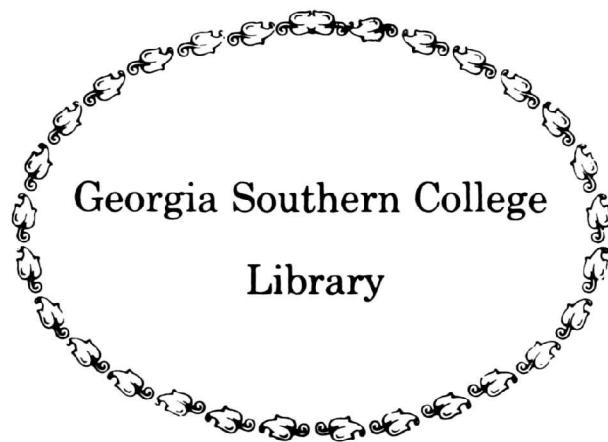
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THE RELATIONSHIP BETWEEN NONCOGNITIVE DIMENSIONS  
AND THE ACADEMIC PERFORMANCE OF STUDENT-ATHLETES

Bradley R. McAllister



Georgia Southern College  
Library

**The Relationship Between Noncognitive Dimensions and the  
Academic Performance of Student-Athletes**

**by**

**Bradley R. McAllister**

**A Thesis Submitted to the Faculty  
of the College of Graduate Studies  
at Georgia Southern University  
in Partial Fulfillment of the  
Requirements for the Degree of  
Master of Education  
in the Department of Leadership,  
Technology, and Human Development**

**Statesboro, Georgia**

**May 2000**



**The Relationship Between Noncognitive Dimensions and the  
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**Dr. Dale Grant, Chairperson**



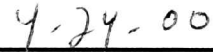
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Associate Vice President for Academic Affairs  
and the Dean of Graduate Studies**



**Date**

## **Dedication**

This thesis is dedicated to those whose assistance made it possible:

Dr. Dale Grant, Dr. Namok Choi, Dr. Mary Jackson, Dr. Melanie McClellar

and the Staff of the Office of Student-Athlete Services.

Most importantly, I dedicate it to my family.

## Table of Contents

APPROVAL PAGE.....	ii
DEDICATION.....	iii
TABLE OF CONTENTS.....	iv
INTRODUCTION.....	1
REVIEW OF LITERATURE.....	1
STATEMENT OF PROBLEM.....	12
METHODS.....	14
PARTICIPANTS.....	14
INSTRUMENT.....	15
RELIABILITY.....	15
CONSTRUCT VALIDITY.....	16
DATA COLLECTION.....	16
DATA ANALYSIS.....	17
RESULTS.....	18
TABLE 1.....	19
TABLE 2.....	20
TABLE 3.....	21
TABLE 4.....	22
DISCUSSION.....	23

LIMITATIONS. ....	.24
IMPLICATIONS FOR FURTHER RESEARCH. ....	.24
IMPLICATIONS FOR PRACTICE. ....	.25
REFERENCES. ....	.27
APPENDIX A. ....	.32
APPENDIX B. ....	.34
APPENDIX C. ....	.36
APPENDIX D. ....	.37



## **Introduction**

Intercollegiate athletics play an important role in institutions of higher education. For the institution, a successful program brings a sense of pride to the school. A winning team can have a positive influence on enrollment and boosters' donations. For many student-athletes, intercollegiate athletics makes attending college a financial possibility. Athletic scholarships may include tuition, fees, room and board, and textbooks (NCAA, 1999).

A symbiotic relationship exists between the student-athlete and the institution. Student-athletes must remain academically eligible for competition. If student-athletes do not remain eligible, then the institution cannot field teams. Student-athletes look to the institution for support both on and off the field. An institution has a stake in the academic performance of its student-athletes. Therefore, an institution should find useful any information related to the academic success of student-athletes. The purpose of this study is to address factors related to the academic success of student-athletes that goes beyond the typical cognitive measures in predicting those students who will be academically successful.

## **Review of Literature**

Concern for academic performance starts with the admissions process. Admission criteria vary between institutions. Generally, a formula that takes into consideration high school grade point average (GPA) and the score on a national test—

such as the Scholastic Assessment Test (SAT)—is used to determine who is admitted. In addition to admission standards, student-athletes must meet National Collegiate Athletic Association (NCAA) requirements for initial athletic eligibility. In determining initial athletics eligibility, NCAA takes into account high school GPA and scores on a national standardized test, such as the SAT. The current eligibility standards for NCAA Division I programs were adopted in 1992 when the NCAA adopted Proposition 16. Although dependent on the high school GPA, an athlete must obtain a total score of at least 820 on the SAT in order to be eligible for competition as a freshman (NCAA, 1999).

Once admitted, students face a new set of academic standards. Institutions have requirements for degree completion and satisfactory academic standing. Similarly, student-athletes must maintain satisfactory progress to remain eligible for competition. As defined by the NCAA, three areas determine satisfactory progress (Abell, 1999, pp. 153-156). The first area is “annual academic progress (Abell, 1999, p. 153).” In order to maintain eligibility, a student-athlete must pass at least 24 semester hours per year; all of which must apply to his/her specific degree requirements if the student has a declared major) (Georgia Southern University, 1998). The next area is “percentage of degree credit (Abell, 1999, p. 153).” A student-athlete must complete a certain percentage of degree requirements by the end of each academic year. A student-athlete must pass at least 25% of his/her degree requirements by the end of the second year, 50% by the end of the third year, and 75% by the end of the fourth year (Georgia Southern University, 1998). The third area is “grade point average (GPA) (Abell, 1999, p. 153).” By the beginning of the third year, the student-athlete must have a GPA equal to at least 90% of the GPA required for graduation. By the beginning of the fourth year, the student-athlete

must have a GPA equal to at least 95% of the GPA required for graduation (Georgia Southern University, 1998). If student-athletes do not remain eligible, then the institution cannot field teams. Therefore, an institution that fields intercollegiate athletic teams has a stake in the academic performance of its student-athletes. Yet, both institutions and athletic departments have difficulty determining who will be academically successful. According to the latest Division I graduation-rate report, 58% of student-athletes that entered a Division I institution in 1992 graduated within six years. The collective student body graduated at a 56% rate (NCAA, 1999).

Student-athletes not only have academic responsibilities, they have responsibilities to their sport. Much of their time is committed to practice, team meetings, and competition. Also, like other college students, they are making that transition from adolescence to adulthood.

The NCAA and its member institutions recognize the importance of student development. The CHAMPS/Life Skills Program was created to support the student development initiatives of NCAA member institutions (NCAA, 1999). The CHAMPS/Life Skills Program has a five-point commitment statement. It is committed to providing opportunity and advancement for student-athletes in the areas of academic excellence, athletic excellence, personal development, career development, and service opportunity.

The goals of the Champs/Life Skills Program are similar to the basic principles of Chickering's theory of student development. Chickering's revised theory presents seven vectors of development (Chickering & Reiser, 1993). According to Chickering and Reiser (1993), the first vector is labeled "Developing Competence." As students move

through college, they gain increased competence. Competence is divided into three components: intellectual, physical, and interpersonal skills (Chickering & Reiser, 1993, p. 53). There are three areas of intellectual development (Chickering & Reiser, 1993, p. 55). The first area is the acquisition of subject matter knowledge. These skills are linked directly to gaining knowledge in a specific academic program (Chickering & Reiser, 1993, p. 55). As a consequence of eligibility concerns, institutions have an interest in the gains that student-athletes make in this area. The second area is the gain in cultural sophistication (Chickering & Reiser, 1993, p. 55). Studies have shown that as students progress through college, their appreciation for cultural events increase (Chickering & Reiser, 1993, p. 56). The third area is the development of general cognitive skills (Chickering & Reiser, 1993, p. 56). A student-athlete's ability to learn complex plays and then adapt them to specific game situations is an example of the development of cognitive skills. The opportunities for student-athletes to develop physical competencies are apparent. Continued success of the individual and the team depends on the student-athlete achieving, and then maintaining, a certain level of physical prowess. The third component, interpersonal skills, is also developed through participation in athletics. For example, listening to the coach is a demonstration of interpersonal competence. Playing on a team demonstrates the ability to work within a group.

Traditionally, the SAT and high school GPA have been used to predict collegiate academic success. However, there has been much controversy on the use of tests like the SAT for admission purposes. Just as institutions have been criticized for relying heavily on the SAT as an admission criterion, the NCAA has been criticized for using the SAT to determine athletics eligibility. In the case of Cureton v. NCAA, four African American



student-athletes filed a complaint. They alleged that the minimum SAT component of Proposition 16 had an unjustified disparate impact on African American student-athletes in violation of Title VI of the Civil Rights Act of 1964 (Cureton v. NCAA 1999).

Many critics argue that academic criteria do not yield a complete picture of a student's academic potential. Sedlacek and Brooks (1976) expressed concerns about the fairness to minority students of using the SAT as admission criteria. Sedlacek (1989) proposed that eight noncognitive dimensions-- positive self-concept, understanding and dealing with racism, realistic self-appraisal, preferring long-range goals to short-term or immediate needs, availability of a strong support person, successful leadership experience, demonstrated community service, and knowledge acquired in a field--were better predictors of academic success, especially for minority students. Some of his noncognitive dimensions are similar to the issues presented by Chickering. Other dimensions are related to issues faced by minority students. The Noncognitive Questionnaire (NCQ) was designed by Sedlacek and Tracey (1984) to measure these dimensions.

The first dimension is "positive self-concept." Self-concept refers to students' judgments of their skills relative to the skills of other students (Pascarella & Terenzini, 1991). In research synthesized by Pascarella and Terenzini (1991), self-concept has been shown to become more positive as students progress through college. A student with a strong self-concept is confident of persisting through to graduation. Such a student expects to do well in academic and nonacademic areas (White & Sedlacek, 1986). Students with a weak self-concept are unsure of their abilities. Such students may avoid new challenges (White & Sedlacek, 1986). A four-year longitudinal study at a large

United States university examined the relationship between academic self-concept and persistence. The study of 2,544 students found that the self-concept of overall academic abilities was a significant predictor of persistence through college (House, 1993).

The second dimension is “understands and deals with racism.” The ability to understand and deal with racism means that the student is a realist, and wants to improve the current system. Research has shown that minority students who understand and deal with racism perform better academically at a predominantly white school (Sedlacek, 1989). Students with a low score on this scale blame others for their problems. In addition, such a student cannot differentiate between large and small racial issues (White & Sedlacek, 1986). Another important aspect of college student development that is related to this dimension is the development of mature interpersonal relationships (Chickering & Reiser, 1993, p. 145). According to Chickering, as identity is established, students gain a better ability to interact with others. An indicator of mature interpersonal relationships is the acceptance of diversity (Pascarella & Terenzini, 1991).

The third dimension is “realistic self-appraisal.” Students that possess a realistic self-appraisal may demonstrate it in many ways. They recognize academic deficiencies and work at self-development. They may work to broaden their individuality (Sedlacek, 1989). A student who cannot make a realistic self-appraisal overreacts to recent reinforcement. Such a student is not aware of his class performance before grades are out (White & Sedlacek, 1986).

Studies have been conducted concerning the self-esteem of student-athletes. One such study of 651 full-time students at a NCAA Division II university was conducted to determine if participating in intercollegiate athletics enhanced self-esteem. The study

included 230 student-athletes. Using the Rosenberg Self-Esteem Scale (RSE), senior student-athletes were significantly higher in self-esteem than freshmen student-athletes (Taylor, 1995).

The fourth dimension is “prefers long-range goals to short-term or immediate needs.” Sedlacek (1989) found that the minority students who scored high on this scale were able to accept deferred gratification. In addition, many minorities have trouble understanding the relationship between their current school work and their future profession (Sedlacek, 1989). This dimension is related to Chickering’s “developing purpose” vector. Being able to formulate long-range goals is a way that students demonstrate that they are developing purpose. Developing purpose is an important part of student development. Students demonstrate such development through the ability to make plans that integrate priorities in vocational plans and aspirations (Chickering & Reiser, 1993, p. 212).

Developing long-range goals can be a challenge for student-athletes. Making career plans, a sign of career maturity, is one such challenge. According to Super’s career theory, college students are typically in the exploration stage of career development (Zunker, 1998, p. 32). This stage involves moving from tentative vocational preferences to specific vocational preferences. However, student-athletes may face difficulty in moving through this stage. A study of male athletes at a southeastern university, with NCAA Division I status, found that student-athletes are less career mature than nonathletes (Smallman & Sowa, 1996). The same study also found that European American male student-athletes had significantly greater knowledge of preferred occupations than minority student athletes did.

The fifth dimension is “availability of a strong support person.” The academically successful minority student has a strong individual to whom they can turn in a time of crisis (Sedlacek, 1989). A student who has a strong support person admits the need for assistance when appropriate (White & Sedlacek, 1986). Conversely, students that do not demonstrate the availability of a strong support person do ask for needed assistance. Also, these students are not aware of the importance of such a person (White & Sedlacek, 1986).

The sixth dimension is “successful leadership experience.” The ability to demonstrate nontraditional leadership is related to academic success. Nontraditional leadership opportunities include working through church or school. Students who score high on this scale have shown an ability to organize others within their cultural context (Sedlacek, 1989). Conversely, students that score low on this scale are nonassertive and avoid controversy (White & Sedlacek, 1986). Having leadership experience may have a positive impact on academic expectations. A study of 73 freshmen athletes at a mid-Atlantic university found that increased leadership scores on the NCQ positively correlated with increased academic expectations (Eiche, Sedlacek, Adams-Gaston, 1999).

The seventh dimension is “demonstrated community service.” Students that score high on this scale have specific relationships in a community. They accomplish goals in a community setting (White & Sedlacek, 1986). Institutions often encourage their student-athletes to participate in community service activities (Georgia Southern University, 1998). Past research has shown the benefits of engaging in community service. One such study, by Astin and Sax (1998), examined the impact of service participation for 3,450 students at 42 institutions. The results indicate that participating



in community service projects substantially enhances the students' undergraduate academic development and life skill development (Astin & Sax, 1998). Conversely, students who do not demonstrate community service engage more in solitary activities rather than group activities (White & Sedlacek, 1986).

The eighth dimension is "knowledge acquired in a field." Students that have acquired knowledge in a field have developed creative methods of learning. Additionally, they may have a culturally-based view of a profession. Conversely, students that score low on this scale are not aware of subjects not studied in school. They have a traditional approach to learning (White & Sedlacek, 1986). Student-athletes may experience increased competencies due to skills learned on the playing field. For example, learning plays could translate to learning science. In this way, this dimension is akin to Chickering's competency vector.

Much of the research using the Noncognitive Questionnaire (NCQ) has focused on the use of noncognitive dimensions in the admission process. In addition, much of the focus of this research has been on the relationship between noncognitive dimensions and academic performance of minorities and freshmen. The literature has established the value of using the NCQ as a predictor of academic success.

The relationship between noncognitive dimensions and academic success was studied in a longitudinal study at a large, eastern university (Tracey & Sedlacek, 1985). A sample of 1,995 freshmen were administered the NCQ in 1979-80. Using step-wise multiple regression, the NCQ and SAT were used as predictors of GPA at certain points over four years. The NCQ was a better predictor of GPA than the SAT. This was true for both European American and African American students (Tracey & Sedlacek, 1985).

The NCQ may also be useful in predicting the academic success of female students. There have been studies on the use of noncognitive dimensions in predicting female-student-academic performance. A ten-year study of 1,930 female freshmen at a mid-Atlantic university was conducted to measure the value of the NCQ in predicting academic performance. The results suggested that noncognitive dimensions are significantly related to female students' GPA (Ancis & Sedlacek, 1997). In order to develop a learning environment conducive to women's academic success, it is critical to identify dimensions related to women's academic performance (Ancis & Sedlacek, 1997). Furthermore, the use of such dimensions requires the consideration of women's experience in educational settings (Ancis & Sedlacek, 1997). Ancis and Sedlacek (1997) indicate that the use of noncognitive dimensions provides a more complete picture of women's educational development.

There have been several studies on the relationship between noncognitive variables and academic performance of minority students. One such study examined the relationship between self-appraisal and academic performance of African American freshmen. The study used a sample of 415 African American freshmen at a large northeastern university. Self-appraisal, regarding academic performance, was measured using the Educational Planning Survey (EPS). Using least-squares regression, the self-appraisal variable was found to be a statistically significant predictor of college academic performance during the freshman year (Trippi & Stewart, 1989).

Another study examined the relationship between the NCQ and academic performance of Hispanic students. A ten-year study of 156 Hispanic freshmen at a large northeastern university showed that the dimension "ability to identify and deal with

racism” significantly correlated with GPA for the first and third semesters (Fuertes & Sedlacek, 1995).

In a ten-year study at a large northeastern university, the SAT and NCQ were used to predict the academic performance of Asian American students (Fuertes, Sedlacek, & Liu, 1994). The sample of Asian American students in this study was 431 freshmen, 58% of which were male. Scores on the NCQ dimensions and SAT were used as predictors in stepwise multiple regression to predict grades. Several of the noncognitive dimensions significantly correlated with grades at various semesters. Self-concept, realistic self-appraisal, and community service were related to GPA in the first, third, and fifth semesters. Additionally, acquired knowledge in a nontraditional field was a consistent predictor of grades, too (Fuertes et al, 1994).

Not only does the NCQ have demonstrated validity in predicting academic performance of diverse students in general, but also it can be used to describe student-athletes. A study of 73 freshmen student-athletes at a large mid-Atlantic university was conducted. The study found that the student-athletes scored highest on the realistic self-appraisal and leadership dimensions. They scored lowest on the long-term goals and the ability to understand and deal with racism dimensions (Eiche, Sedlacek, & Adams-Gaston, 1997). Furthermore, research has examined the relationship between the NCQ and academic performance of student-athletes. In a study of 105 freshmen student-athletes, the NCQ and SAT were used to predict first-semester grades. Using step-wise multiple regression, the NCQ was found to correlate with first-semester grades; the SAT did not (Sedlacek & Adams-Gaston, 1992). Interestingly, according to Sedlacek and Adams-Gaston (1992), these findings contradicted the supposed strengths of these tests.

The NCQ is designed to predict upper-class academic performance and retention, whereas the SAT is designed to predict first-semester grades.

The strength of the NCQ lies in its ability to describe nontraditional students. Sedlacek (1996) proposed a method for determining nontraditional group status. A group can be classified as nontraditional if the group experiences prejudice and if it demonstrates skills differently than groups with traditional abilities. Prejudice may be defined as a negative result of being a part of the group. In defining student-athletes as a nontraditional group, for example, it has been shown that college faculty members tend to have negative stereotypes of athletes (Engstrom & Sedlacek, 1991). Furthermore, the unique experiences and culture of student-athletes distinguishes them from other students (Sowa & Gressard, 1983). With games, practices, and meetings, much of their time is consumed by their sport. Whether in official team settings or studying, athletes tend to spend much of their time around each other.

### **Statement of Problem**

Due to NCAA eligibility guidelines, coaches and administrators have a special interest in the academic performance of student-athletes. Furthermore, as a nontraditional group, it may be useful to use the NCQ to describe student-athletes. Insight into possible influences on their academic performance may help to improve services, especially academic support services, for student-athletes. Therefore, the purpose of this study was to extend Sedlacek's use of noncognitive dimensions to all student-athletes, regardless of gender, ethnicity, or age. The research questions this study addressed were 1. Do the scores on the NCQ differ among student-athletes by gender? 2. Do the scores on the NCQ differ among student-athletes by race? 3. Do the scores on the



NCQ differ among student-athletes by age? 4. Is there a significant relationship between GPA and noncognitive factors measured by the NCQ?

## **Methods**

### **Participants**

The participants in this study were student-athletes at a mid-sized, southeastern university. In the spring of 2000, the undergraduate enrollment was 11,445. Total enrollment, including joint-enrolled, graduate, transient, and other students was 13,517. The total enrollment included 9,253 (68%) European American students, 3,641 (27%) African American students, 238 (2%) Asian students, 150 (1%) Hispanic students, 32 (.24%) Indian students, and 203 (2%) multiracial students. Three hundred fifty-three students, 3% of the undergraduate enrollment, participate in intercollegiate athletics at the institution. Of these 353 student-athletes, 227 (64%) are male. Two hundred twenty-one student-athletes (63%) are European American. One hundred twenty (34%) student-athletes are African American. Two are Asian, four are Hispanic, and six student-athletes are multiracial (Georgia Southern University Student-Athlete Services, 2000).

Thirty-four student-athletes, representing 9.63% of all student-athletes at the institution, completed the questionnaire. Twenty-seven (79%) of the participants granted permission to obtain their GPA. Of these 34 participants, 20 (59%) were male. Twenty participants were European American (59%), ten participants were African American (29%), and one participant was Hispanic (3%). Two respondents marked "Other" and

one respondent did not answer the question. On the question of age, eight (24%) of the participants were 18 years old, 15 (44%) were 19 years old, five (15%) were 20 years old, four (12%) were 21 years old, and one (3%) participant was 22 years old. One participant did not answer the question. The participants had a mean age of  $M=19.24$  years ( $SD=1.06$  years). The participants had a mean GPA of  $M=2.32$  ( $SD=.50$ ).

### **Instrument**

The Noncognitive Questionnaire (NCQ) (see Appendix A) was designed by Sedlacek and Tracey (1984) to measure the following dimensions: (a) self-concept, (b) realistic self-appraisal, (c) ability to understand and deal with racism, (d) preference to long-term goals to short-term needs, (e) availability of a strong support person, (f) demonstrated leadership experience, (g) demonstrated community service, and (h) acquired knowledge in a nontraditional field. The NCQ contains 18 five-point Likert-format items, two multiple-choice items concerning educational aspirations, and three open-ended items concerning current goals, past accomplishments, and other activities.

### **Reliability**

Tracey and Sedlacek (1984) concluded that the NCQ has adequate test-retest reliability. Two-week test-retest correlations for the items ranged from .70 to .94, with a median value of .85 (Tracey & Sedlacek, 1984). Interrater reliability coefficients were established for the open-ended items. The item asking for one's goals was rated for (a) the amount of time required to complete the goal, and (b) the degree to which the goals are academically related. The reliability coefficients were .89 and .83, respectively (Tracey & Sedlacek, 1984). The open-ended item pertaining to past accomplishments was rated for the degree of difficulty relative to all high school graduates. This item had

a interrater reliability coefficient of .88 (Tracey & Sedlacek, 1984). The open-ended item asking for extracurricular activities was rated on four dimensions: (a) number of activities, (b) leadership exhibited, (c) academic relatedness of activities, and (d) community involvement. The coefficients were 1.00, .89, .98, and .94, respectively (Tracey & Sedlacek, 1984).

### **Construct Validity**

Factor analysis was used to determine if the NCQ items loaded on the proposed noncognitive factors. The result showed similar structures for both European American and African American students. The items do seem to cluster along the factors as designed (Tracey & Sedlacek, 1984).

Woods and Sedlacek (1988) further established construct validity by writing 65 new NCQ items and establishing their relationships to the original eight NCQ variables. They identified fifteen factors that accounted for 62% of the common variance (Woods & Sedlacek, 1988). The factors were (1) internal-external locus of control, (2) achievement and self-improvement, (3) social responsibility and activism, (4) leadership and effectiveness, (5) ethnocentricity, (6) professional relationships, (7) self-awareness issues, (8) resourcefulness, (9) community awareness and involvement, (10) assertiveness and initiative issues, (11) social relationships with others, (12) introversion-extroversion, (13) social support, (14) nontraditional learning styles, and (15) self-understanding.

### **Data Collection**

Copies of the NCQ were distributed through the Office of Student-Athlete Services. This office provides academic services, such as study hall, tutoring sessions, and a computer lab, for student-athletes. Student-athletes who visited the office were

asked to complete a questionnaire. Participation was voluntary. Data was collected over the course of a one-month period.

In accordance with the requirements of the Institutional Review Board (see Appendix B), each participant received an informed consent letter (see Appendix C). The letter provided information about the purpose of the questionnaire, the amount of time (approximately 15 minutes) required to complete the questionnaire, as well as the contact information for the Institutional Review Board. It was also explained that data was to be analyzed for group responses only, and that individual responses would be kept confidential.

Cumulative grade point averages (GPAs) were collected, with prior approval, through the Office of Vice-President for Student Affairs. Each student-athlete was required to complete and sign a permission form in order for his/her GPA to be released for this study (see Appendix D).

### **Data Analysis**

Upon collection of all questionnaires from the student-athletes, the data were analyzed using the computer program Statistical Package for Social Sciences, version 8.0 (SPSS, 1998). The computer program SPSS was used to calculate means, standard deviations, independent t-tests, and correlation coefficients. Items that student-athletes chose not to answer were not used in analysis. These items were entered into SPSS as "missing data."

## Results

Table 1 was created to address the first research question: Do the scores on the NCQ differ among student-athletes by gender? The independent t-test resulted in no significant difference in the NCQ score by gender. Female student-athletes obtained a mean NCQ score of  $M=91.14$  ( $SD=6.40$ ), while male student-athletes had a mean NCQ score of  $M=88.10$  ( $SD=9.27$ ). Male student-athletes achieved a significantly lower score than female student-athletes on the community service dimension. There was no significant difference in the scores of male and female student-athletes on the other seven dimensions. An alpha level of .05 was used for all statistical tests.

Table 1

NCQ and Dimension Means and Standard Deviations and Independent t-test Results for  
Student-Athletes by Gender

Dimension	Group	Mean	SD	t	p
SC	Male <sup>a</sup>	19.70	2.96	-.71	.48
	Female <sup>b</sup>	20.36	2.10		
SA	Male	10.60	1.98	.16	.88
	Female	10.50	1.61		
RA	Male	17.80	2.33	-.37	.71
	Female	18.14	3.01		
GL	Male	9.15	1.73	.13	.90
	Female	9.07	1.77		
SP	Male	12.95	2.39	-.80	.43
	Female	13.57	1.95		
LE	Male	9.50	1.54	0	1.00
	Female	9.50	1.65		
CS	Male	4.90	1.21	-2.41	.02*
	Female	5.86	1.03		
KN	Male	3.50	1.00	-1.88	.07
	Female	4.14	.95		
TOTAL	Male	88.10	9.27	-1.06	.30
	Female	91.14	6.40		

Note. SC = Positive self-concept; SA = Realistic self-appraisal; RA = Understands and is able to deal with racism; GL = Prefers long-range goals to short-term needs; SP = Availability of a strong support person; LE = Successful leadership experience; CS = Demonstrated community service; KN = Knowledge acquired in a nontraditional field

<sup>a</sup>n=20

<sup>b</sup>n=14

Table 2 was created to address the second research question: Do the scores on the NCQ differ among student-athletes by race? The independent t-test resulted in no significant difference in the NCQ score by race. European American student-athletes obtained a mean NCQ score of  $M=89.10$  ( $SD=8.09$ ), while minority student-athletes had a mean NCQ score of  $M=90.45$  ( $SD=7.96$ ). There was no significant difference in the eight dimension scores of European American and minority student-athletes.

Table 2

NCQ and Dimension Means and Standard Deviations and Independent t-test Results for  
Student-Athletes by Race

<b>Dimension</b>	<b>Group</b>	<b>Mean</b>	<b>SD</b>	<b>t</b>	<b>p</b>
SC	European American <sup>a</sup>	20.50	2.50	-1.08	.29
	Minority <sup>b</sup>	19.54	2.50		
SA	European American	10.50	1.70	-.68	.50
	Minority	10.92	1.80		
RA	European American	17.65	2.60	-.86	.40
	Minority	18.46	2.70		
GL	European American	9.00	1.56	-.76	.46
	Minority	9.46	1.94		
SP	European American	12.85	2.50	-1.15	.26
	Minority	13.77	1.74		
LE	European American	9.55	1.47	.02	.98
	Minority	9.54	1.76		
CS	European American	5.20	1.15	-.59	.56
	Minority	5.46	1.39		
KN	European American	3.85	1.04	.43	.67
	Minority	3.69	1.03		
TOTAL	European American	89.10	8.09	-.61	.55
	Minority	90.85	7.96		

<sup>a</sup>n=20

<sup>b</sup>n=13; One participant did not answer the question.

Table 3 was created to address the third research question: Do the scores on the NCQ differ among student-athletes by age? The participants were divided into two groups, students under the age of 20 years and students 20 years and older. The independent t-test resulted in no significant difference in the NCQ score between these



two groups. The younger student-athletes obtained a mean NCQ score of  $M=91.00$  ( $SD=6.51$ ), while the older student-athletes had a mean NCQ score of  $M=87.00$  ( $SD=10.46$ ). There was no significant difference in the eight dimension scores.

Table 3

NCQ and Dimension Means and Standard Deviations and Independent t-test Results for

Student-Athletes by Age

<b>Dimension</b>	<b>Group</b>	<b>Mean</b>	<b>SD</b>	<b>t</b>	<b>p</b>
SC	Age < 20 <sup>a</sup>	20.43	2.27	-1.09	.28
	Age ≥ 20 <sup>b</sup>	19.40	2.80		
SA	Age < 20	10.87	1.66	-1.03	.31
	Age ≥ 20	10.20	1.87		
RA	Age < 20	18.17	2.81	-.67	.51
	Age ≥ 20	17.50	2.22		
GL	Age < 20	9.22	1.91	-.18	.86
	Age ≥ 20	9.10	1.20		
SP	Age < 20	13.61	1.70	-1.57	.13
	Age ≥ 20	12.30	3.09		
LE	Age < 20	9.57	1.67	-.11	.91
	Age ≥ 20	9.50	1.35		
CS	Age < 20	5.43	1.12	-.93	.36
	Age ≥ 20	5.00	1.49		
KN	Age < 20	3.70	1.06	.78	.44
	Age ≥ 20	4.00	.94		
TOTAL	Age < 20	91.00	6.51	-1.34	.19
	Age ≥ 20	87.00	10.46		

<sup>a</sup>n=23

<sup>b</sup>n=10; One participant did not answer the question.

Table 4 was created to address the fourth research question: Is there a significant relationship between GPA and noncognitive factors measured by the NCQ? The table shows the Pearson correlation coefficients between GPA and scores on the NCQ. There was no significant relationship between any dimension and GPA.

Table 4

Correlation Coefficients between GPA and NCQ

<b>Dimension</b>	<b>GPA</b>	<b>p</b>
SC	.31	.16
SA	.10	.64
RA	-.20	.32
GL	.20	.33
SP	.36	.07
LE	-.07	.75
CS	-.03	.89
KN	-.01	.97
TOTAL	.18	.36

## **Discussion**

The first three research questions addressed the differences in the scores on the NCQ between different groups. Independent t-tests were computed to compare the participants by gender, race, and age. No significant differences were found. The results on the first two questions expand on previous findings. Past research using the NCQ has been primarily focused on describing various nontraditional groups and in predicting the academic performance of these groups (Ancis & Sedlacek, 1997; Fuertes & Sedlacek, 1995; Sedlacek & Adams-Gaston, 1992; Tracey & Sedlacek, 1985). However, little of the research has been on using the NCQ to compare different groups. The results on the third research question were somewhat surprising. Given that many of the dimensions of the NCQ are similar to those proposed by Chickering, older students would be expected to achieve higher scores than younger students on the NCQ. Also, as students get older, they tend to experience gains in such areas as self-esteem (Pascarella & Terenzini, 1991). The older participants in this study did not obtain a significantly higher score than the younger participants. In fact, the older student-athletes had a lower mean total score.

These results imply that, statistically, the student-athletes in the sample come from the same population. This conclusion is not surprising considering the design of the research. Due to the layout of the Student-Athlete Services facility, student-athletes who signed in for a tutoring session or study hall were more likely to fill out a survey, than

those student-athletes who came in to use the computer lab. In addition, coaches determine which players on their teams need to attend study hall. Freshmen student-athletes and those struggling in a class--or overall academically--are more likely to be required to keep a stipulated number of study hall hours each week.

The fourth research question addressed the relationship between the scores on the NCQ and academic performance, as measured by GPA. The student-athletes in this study had a mean GPA of  $M=2.32$  ( $SD=.50$ ). Analysis revealed no significant relationship between scores on the NCQ and the GPA of the participants. These findings can be attributed to the limited sample size ( $N=34$ ) and to the limited number of participants ( $n=27$ ) that granted permission for their GPA to be obtained.

### **Limitations**

This study was limited by a few factors. First, there was a small sample of participants. With 34 student-athletes completing the survey, it has limited generalizability to the entire student-athlete population of the institution. Second, the questionnaire was distributed at only one location. Not all student-athletes use Student-Athlete Services. A small percentage of upperclassmen use the office on a regular basis. Third, not all participants answered every question. Omitted questions made obtaining accurate scores difficult. Fourth, not all participants granted permission to obtain their GPA. In addition, some student-athletes refused to participate because their GPA was requested.

### **Implications for Further Research**

The results of this study suggest further research possibilities. A longitudinal study that follows student-athletes from college admission to the time they exit may be

beneficial in determining the long-term efficacy of the NCQ. By administering the NCQ to student-athletes each year, research could be conducted on the correlation between changes in NCQ scores and grades and retention.

Another study could focus on the differences between different types of student-athletes. Such a study could take advantage of a larger sample and more sensitive data analytic techniques. It could address questions, such as: Do student-athletes attending school on an athletics scholarship achieve different scores than those student-athletes not on scholarship? Is there a change in scores depending on if the student-athlete is “in-season” or “out-of-season” when taking the NCQ? The study would provide a base for relating athletic participation to student development.

### **Implications for Practice**

The results indicate that, as measured by the NCQ, the student-athletes at the institution in the study are similar. When taken into consideration, this outcome could make planning easier. Services may be designed with the entire student-athlete population in mind. Furthermore, programs could be developed to enhance noncognitive dimensions. If coaches and advisors are familiar with the noncognitive dimensions, then they could encourage student-athlete participation in activities that would enhance the development of those dimensions.

One service offered by Student-Athlete Services is academic advising. The NCQ could be used to increase the benefits of advising. When dealing with student-athletes, the NCQ could be used to develop a profile (Sedlacek, 1991). The questionnaire is short enough that a student-athlete could complete it during freshmen orientation. Developing

a profile of a student's strengths and weaknesses may assist the advisor in better serving the student.

It is unlikely that the NCAA will stop using standardized tests to determine athletics eligibility. The NCAA needs some standard measure that all member institutions can use. However, to ignore the noncognitive needs of student-athletes once admitted may be detrimental to the future success of both the student-athletes and the institution.

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## Appendices

## Appendix A

### Noncognitive Questionnaire

Results will be reported for groups only; no individuals will be identified. Please mark your responses on this sheet.

Please fill in the blank or circle the appropriate answer.

1. Your social security number  
(Complete #) only if you have granted permission to obtain your GPA. Leave it blank if you did not complete the attached permission form.)

2. Your sex is:

1. Male
2. Female

3. Your age is: \_\_\_\_\_ years

4. Your father's occupation:

5. Your mother's occupation:

6. Your race is:

1. Black (African-American)
2. White (not of Hispanic origin)
3. Asian (Pacific Islander)
4. Hispanic (Latin American)
5. American Indian (Alaskan Native)
6. Other

7. How much education do you expect to get during your lifetime?

1. College, but less than a Bachelor's degree
2. B.A. or equivalent
3. 1 or 2 years of graduate or professional study (Master's degree)
4. Doctoral degree such as M.D., Ph.D., etc.

8. Please list three goals that you have for yourself right now:

- 1.
- 2.
- 3.

9. About 80% of university students typically leave before receiving a degree. If this should happen to you, what would be the most likely cause?

1. Absolutely certain that I will obtain a degree
2. To accept a good job
3. To enter military service
4. It would cost more than my family could afford
5. Marriage
6. Disinterest in study
7. Lack of academic ability
8. Insufficient reading or study skills
9. Other

10. Please list three things that you are proud of having done:

- 1.
- 2.
- 3.

Please indicate the extent to which you agree or disagree with each of the following items. Respond to the statements below with your feelings at present or with your expectations of how things will be. Write in your answer to the left of each item.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

- \_\_\_ 11. The University should use its influence to improve social conditions in the state.
- \_\_\_ 12. It should not be very hard to get a B (3.0) average at GSU.
- \_\_\_ 13. I get easily discouraged when I try to do something and it doesn't work.
- \_\_\_ 14. I am sometimes looked up to by others.
- \_\_\_ 15. If I run into problems concerning school, I have someone who would listen to me and help me.
- \_\_\_ 16. There is no use in doing things for people, you only find that you get it in the neck in the long run.
- \_\_\_ 17. In groups where I am comfortable, I am often looked to as leader.
- \_\_\_ 18. I expect to have a harder time than most students at GSU.
- \_\_\_ 19. Once I start something, I finish it.
- \_\_\_ 20. When I believe strongly in something, I act on it.
- \_\_\_ 21. I am as skilled academically as the average applicant to GSU.
- \_\_\_ 22. I expect I will encounter racism at GSU.
- \_\_\_ 23. People can pretty easily change me even though I thought my mind was already made up on the subject.
- \_\_\_ 24. My friends and relatives don't feel I should go to college.
- \_\_\_ 25. My family has always wanted me to go to college.
- \_\_\_ 26. If course tutoring is made available on campus at no cost, I would attend regularly.
- \_\_\_ 27. I want a chance to prove myself academically.
- \_\_\_ 28. My high school grades don't really reflect what I can do.
29. Please list offices held and/or groups belonged to in high school or in your community.

\_\_\_\_\_


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## Appendix B

Georgia Southern University Office of Research Services & Sponsored Programs		
<b>Institutional Review Board (IRB)</b>		
Phone: 912-681-5465		P.O. Box 8005
Fax: 912-681-0719	OvrSight@gasou.edu	Statesboro, GA 30460-8005

**To:** Bradley McAllister  
Leadership, Technology & Human Development

**Cc:** Dale Grant, Faculty Advisor  
Leadership, Technology & Human Development

**From:** Mr. Neil Garretson, Coordinator   
Research Oversight Committees (IACUC/IBC/IRB)

**Date:** December 30, 1999

**Subject:** Status of Application for Approval to Utilize Human Subjects in Research

On behalf of Dr. Howard M. Kaplan, Chair of the Institutional Review Board (IRB), I am writing to inform you that we have completed the review of your *Application for Approval to Utilize Human Subjects* in your proposed research, "Relationship Between Non-Cognitive Factors and Academic Success of Student-Athletes." It is the determination of the Chair, on behalf of the Institutional Review Board, that your proposed research adequately protects the rights of human subjects. Your research is approved in accordance with the *Federal Policy for the Protection of Human Subjects* (45 CFR §46101(b)(2)), which states:

(2) Research involving the use of ... survey procedures, interview procedures (as long as (i) information obtained (either) is recorded in such a manner that human subjects ~~can~~ (cannot) be identified, directly or through identifiers linked to the subjects, ~~and~~ (or) (ii) any disclosure of the human subjects' responses outside the research could (not) reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

**However, this approval is conditional upon the following revisions and/or additions being completed prior the collection of any data:**

1. You will need to revise your questionnaire so that it is more clear that ONLY those individuals who consented to grant you permission to obtain their GPA should also complete the social security number (item #1) of the questionnaire. Those who DID NOT grant permission for you to obtain their GPA, should NOT complete item #1.

If you have any questions, comments, or concerns about these conditions of approval, please do not hesitate to contact the IRB Coordinator. Please send a copy of all revised and/or additional materials to the IRB Coordinator at the Office of Research Services and Sponsored Programs (PO Box 8005).

**This IRB approval is in effect for one year from the date of this letter.** If at the end of that time, there have been no changes to the exempted research protocol, you may request an extension of the approval period for an additional year. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, please notify the IRB Coordinator so that your file may be closed.

Georgia Southern University  
Office of Research Services & Sponsored Programs

**Institutional Review Board (IRB)**

Phone: 912-681-5465

Fax: 912-681-0719


Ovsight@gasou.edu

P.O. Box 8005

Statesboro, GA 30460-8005

**To:** Bradley McAllister  
Leadership, Technology & Human Development

**Cc:** Dr. Dale Grant, Faculty Advisor  
Leadership, Technology & Human Development

**From:** Mr. Neil Garretson, Coordinator   
Research Oversight Committees (IACUC/IBC/IRB)

**Date:** January 19, 2000

**Subject:** Status of Conditional IRB Approval to Utilize Human Subjects in Research

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The Institutional Review Board (IRB) Committee has received your revised and/or additional application materials for the approved research titled, "Relationship Between Non-Cognitive Factors and Academic Success of Student-Athletes." You have satisfactorily met the conditions of your Institutional Review Board (IRB) approval, as detailed in the December 30, 1999 approval letter.

Please remember that this approval is in effect for one year (12/30/99 – 12/30/00) and if at the end of that time there have been no substantive changes to the approved methodology, you may request a one year extension of the approval period.

Good luck with your research efforts, and if you have any questions, comments, or concerns about the status of your approval, please do not hesitate to contact me.

## Appendix C

January 26, 2000

Dear Student-Athlete,

My name is Bradley McAllister and I am currently attending Georgia Southern University as a graduate student and am pursuing my Master's Degree in Higher Education Student Services. I am working on my thesis and am interested in studying student-athletes from a noncognitive perspective. I am asking that you please take 15 minutes to complete this survey for my study. Your participation is crucial.

I am asking you to fill out this survey. This survey is confidential. The data will be analyzed only for group responses. Completion of this survey will be considered permission to use your data in this study.

I would like permission to obtain your GPA. In order to do this, I need you to fill out the form on the next page. No individual GPA's will be reported. Only group responses will be reported.

If you are under 18 years of age, please do not fill out this survey. No penalty will be incurred should you not complete the survey. Simply return the blank form to me. You may refuse to answer any item in the survey. Your honest response to each item in the survey is very important for this study.

If you have any questions about this research project, please call me at 871-4158. If you have any questions or concerns about your rights as a participant in this research project, please contact the Institutional Review Board Coordinator at the Office of Research and Sponsored Programs at (912) 681-5456.

I would like to thank you in advance for your assistance with this study. The results will allow university officials to better serve student-athletes. If you would like to know the results of this study, my thesis will be available in the library of GSU by Fall 2000.

Respectfully,

Bradley R. McAllister



## Appendix D

### Permission to Obtain GPA

I understand that by filling out this form I give permission for my GPA to be used for this study. My GPA will be provided by the Office of Vice-President for Student Affairs. I know my GPA will be kept confidential and will only be used for group statistical analysis. I understand that I do not have to give permission to obtain my GPA, but that I am doing so voluntarily. No penalty will be incurred if I do not give permission. I understand that my Social Security Number will be used only to obtain and verify correct GPA.

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Social Security Number

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date