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THE EFFECTS OF A TYPE AND INTEREST-BASED CAREER EXPLORATION PROGRAM ON THE CAREER MATURITY AND GOAL STABILITY OF COLLEGIATE STUDENT-ATHLETES

By

Martha McGill Ludwig

AN ABSTRACT OF A DISSERTATION

Submitted to
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in partial fulfillment of the requirements
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Dr. Norman R. Stewart - Dissertation Director

ABSTRACT

THE EFFECTS OF A TYPE AND INTEREST-BASED CAREER EXPLORATION PROGRAM ON THE CAREER MATURITY AND GOAL STABILITY OF COLLEGIATE STUDENT-ATHLETES

By

Martha McGill Ludwig

This study was conducted to examine the effects of an educational career exploration program on Division I collegiate student-athletes' career maturity, goal instability, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. Various sport team members (N = 50) of the varsity athletic program at a large midwestern university voluntarily participated in the six-session career education program. All participants received the same intervention program which consisted of transferable skills, interest and self-exploration, and values clarification. A pre-test, career intervention, and post-test design was implemented. Follow-up data collection and assessment were conducted at the end of six weeks for some participants and six months for others.

It was hypothesized that the Career Exploration Program (CEP) would improve career maturity and goal instability, and that there would be no differences in the maintenance of the effects of CEP between the six-week follow-up group and the six-month follow-up group. It was also hypothesized that CEP would improve each of the six subscale measurements of the Goal Instability Scale (motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation).

In order to examine the effect of the Career Exploration Program for collegiate student-athletes, a repeated measures analysis of variance was conducted. Twelve directional hypotheses were tested. An alpha level of .01 was set for testing each of the hypotheses. There were significant differences on each of the repeated measures and no significant differences between the mean scores of the six-week and six-month follow-up groups.

Seven exploratory questions about gender, age, team classification, athlete classification, academic major, and career goals were also examined. Significant differences ($p = .05$) were found between women and men, playing status groups, and choice of academic major groups on career maturity; choice of academic major groups also differed on goal instability; and significant differences were found on academic comfort between revenue and nonrevenue-sport athletes, between team and individual-sport athletes, and between scholarship and nonscholarship athletes.

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MARTHA McGILL LUDWIG

1993

To Paul and Betty, my loving parents.

To laugh often and much,
to win the respect of intelligent people
and the affection of children...
to leave the world a bit better...
to know even one life had breathed easier
because you had lived,
that is to have succeeded.

Bessie Anderson Stanley

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LIST OF ABBREVIATIONS

CEP: Career Exploration Program

CMI: Career Maturity Inventory

GIS: Goal Instability Scale

- MOT: Motivation to Succeed subscale
- GO: Goal Orientation subscale
- AB: Perception of Abilities subscale
- DM: Decision-Making subscale
- CON: Confidence subscale
- SO: Study Orientation subscale

SII: Strong Interest Inventory

- AC: Academic Comfort scale
- IE: Introversion/Extroversion scale

MBTI: Myers Briggs Type Indicator

I:	Introversion	F:	Feeling
E:	Extroversion	T:	Thinking
N:	Intuition	P:	Perception
S:	Sensing	J:	Judgment

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CHAPTER I

INTRODUCTION

Overview

Some student-athletes, particularly males in revenue-producing sports, enter college at a ninth-grade career maturity level (Kennedy & Dimick, 1987) due to the fact that they have made premature commitments to particular careers or ideologies. This premature commitment is labeled in the developmental psychology literature as identity foreclosure (Marcia,1966), and is one factor, in particular, which influences the career decisions (or lack of career decisions) for student-athletes who have prematurely committed themselves to professional sport careers (Petipas, 1978). Indications are that young athletes who have failed to explore career tracks other than in sport are in great need of assistance through career exploration and counseling. Therefore, the present study examined the effects of a career exploration program on collegiate student-athletes' career maturity, goal instability, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation.

Rationale for the Study

Athletes and nonathletes have been found to differ significantly on a number of factors: the development of educational plans, the development of career plans, career maturity, and social maturity with peers (Sowa & Gressard, 1983). In fact, researchers have concluded that educational skills and planning, and career planning and mobility may be hindered by athletic participation (Blann, 1985; Lanning, 1982; Sowa & Gressard, 1983). Egocentric identification with sport performance has been a common trait of athletes for centuries. A need exists, therefore, for an educational career counseling program which will serve as a catalyst to break through egocentric, foreclosed sport identities and provide student-athletes with clearer self-understanding, options for a dual career track, and the motivation to explore such options.

Competitive athletic participation also has a negative relationship with academic performance (Adler & Adler, 1985), particularly for those who come to college merely to advance their athletic careers. Academic commitment for student-athletes might be enhanced through increased availability of career counseling for athletes due to the fact that selection of an academic major in college represents a strong commitment towards an occupation (Wallace & Walker, 1989). Research has also shown that career maturity has a positive relationship with academic commitment and grade point

average, and career maturity is indicative of an increased understanding of interaction with the environment (Healy, O'Shea & Crook, 1985).

In order to develop career maturity there must be involvement in the process of career exploration. The absence of exploration can leave a tremendous void in the student-athlete's motivation to pursue interest areas other than athletics (i.e., academics). Many young student-athletes have failed to explore potential career options during high school due to their narrow focus (identity foreclosure) on athletics. Therefore, if and when a "token" academic major is declared in college without any previous career exploration, it may have little meaning to the athlete, be of no importance to a future career, and/or serve as a deterrent rather than a motivator toward academic performance.

Career counseling can provide motivation for persistence and commitment to obtaining a degree (McCauley, 1988). Career planning has led to breadth beyond athletics, to academic success, and to personal growth for many athletes (McFarland, 1976). An athlete can develop a true sense of motivation to succeed in academics through a viable life/career plan, one which is realistic and meaningful to the individual.

In order to encourage career exploration and to enhance motivation towards academic persistence, individuals need support for their interest alternatives to sport. Alternative careers to athletics can prove to be extremely

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threatening for the young athlete dreaming of professional stardom, and also threatening to the coach who has recruited the athlete with promises of a future in professional athletics. If only one direction is enforced (e.g., athletics) then that is the one which will be followed (Betz, 1989).

Many athletes actually do come to school with the idea that they will graduate (Lederman, 1988), but become disillusioned and detached from academics as athletics takes precedence. Consequently, it is recommended that career counseling be initiated before an athlete is totally resigned to a pure athletic role (i.e, freshman year), as the means for introducing a purpose for academic involvement and for clarifying identity issues (Chartrand & Lent, 1987; Nelson, 1982; Petipas, 1978). Nelson (1983) stated that "without the benefit of counseling to include exploration of personal, educational, and occupational values and alternative career options, athletes may prematurely commit themselves to unrealistic objectives and life aspirations" (p. 177).

It seems to follow that due to the career exploration, academic commitment, and identity deficiencies in the college athlete population, and due to the fact that officials of higher education have become increasingly and particularly concerned about academic commitment in college athletics, that career exploration should be a major component of athlete student affairs programs. Athletes should perceive that they have some realistic options, and among those

options, they should have choices which allow them to individuate from their athletic peers. In order to develop options they must first know themselves, not only from the athletic perspective, but as total persons with the potential to enter and succeed in the world of work.

Interventions at the collegiate level are necessary in order to assist athletes with personal/career exploration and decisions. Interventions become necessary because the proactive, goal-oriented, competitive environment of athletics rarely facilitates long-term self-exploration, nor do the time constraints of academic-athletic commitments permit such engagements. A critical component of a career intervention program is the testing/assessment process which can accelerate evaluation and self-examination and provide a concrete framework from which to develop a viable career counseling plan. Immediate feedback and concrete information (assessment) from which to initiate interaction are essential building blocks of a counseling program designed especially for collegiate student-athletes. Athletes, as a unique population subgroup require alternative forms of counseling (Miller, McKee, Springer, & Soper, 1985) which are action-oriented and educational, and employ behavioral strategies such as modeling, direct instructions, specific examples, guided practice, social contracts, self-management, reading material, step-by-step goal setting, and the use of hands-on programs (e.g. programmed learning, computer-assisted materials). Structured and straight-forward interactions are

advisable along with impersonal approaches to problem-solving. Exploratory interventions should also be expected to account for personal and cultural differences from a developmental perspective. The intervention program designed for this research introduces an alternative to traditional didactic counseling methods for athletes and follows many of the above recommendations. It is a structured, straight-forward, educational approach to career exploration based on immediate assessment feedback and self-examination. The program is meant to be the catalytic, initial stage of an ongoing exploratory process, a process which for many athletes never begins. The assessment of this program is necessary to measure its effectiveness in changing the career maturity of collegiate student-athletes. Student-athletes, as an isolated group, have received very little attention in the counseling psychology and career development literature. The specific career counseling needs of student-athletes have received even less attention, which further magnifies the need for the present research.

Background of the Study

As with most population groups, the attitudes and behaviors of student-athletes have been impacted by the daily issues of life and survival, however, the pressures of Division I athletics can be far more overwhelming. As a former Division I collegiate coach, this researcher has been extremely disenchanted by the "big business" model of college

athletics and the lack of emphasis on the personal development of the student-athletes. Academic coursework, research, and individual counseling of student-athletes has given the author not only a better sense of the need for developmental and educational programming, but also a feel for the poor or nonexistent reality orientation of many Division I athletes. Thus a career counseling program was developed to provide career exploration which would help each individual student-athlete invest in an alternative career "just in case" professional sports became inaccessible. The intent was to replace the athletes' narrow focus on sport with a broader focus on personal information and interests; in other words, to exchange irrational beliefs for practical information and self-investment.

As the plans for the Career Exploration Program (CEP) began to crystallize, it became apparent to the researcher that the student-athletes first needed to be empowered through recognition of their current career-related skills to believe that they possess the ability to pursue careers other than sports. Petipas and Schwartz' (1989) work on transferable skills provided the inspiration for this first educational component of the program. Secondly, the combination of psychological scales such as the Strong Interest Inventory (SII) and the Myers-Briggs type Indicator (MBTI) seemed to provide the perfect blend of non-pathological self-understanding and vocational/avocational interest inventories. Several authors have recommended the

integration of the SII and the MBTI for career counseling (DeVito, 1989; Dillon & Weissman, 1987; Pinkney, 1983) and the Consulting Psychologists Press (CPP) organization has recently conducted extensive research in this area (Hammer & Kummerow, 1992). The final values clarification component is one which has been recommended by several authors as a necessary piece to include when counseling student-athletes (Branyon, 1987; Carver & Smart, 1985; Chartrand & Lent, 1987; Kennedy & Dimick, 1987; Nelson, 1983; Petipas, Danish, McKelvain, & Murphy, 1989; Petipas & Schwartz, 1989; Remer et al, 1987; Seelig & Tucker, 1983; Stone & Strange, 1989; and Thompson, 1986). Through the comprehensive exploration of skills, self, interests, and values the invested participant is then ready to continue the process of making career choices based on concrete self-information. Even the use of computer-assisted career programs requires self-knowledge in the above areas in order to plug in enough information to make the service profitable. An auxiliary goal of the CEP is to provide as much information and incentive for career exploration as possible in as short a time period as possible. Student-athletes always seem to be caught in a time-crunch (Remer, Tongate, & Watson, 1978; Nelson, 1982) so there is a sense of urgency to achieve all goals "yesterday". Consequently, the CEP was developed to be comprehensive yet time-efficient, and to function as a catalytic stimulus for further exploration.

A pilot study of the CEP format was conducted to examine

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and design the structural course content and to refine the career counseling process. Initial effects of CEP on career maturity were examined. The positive results of the pilot project served to further reinforce the value and purpose of the present study.

The belief of this researcher and others (Nisbet, Ruble, & Schurr, 1982) is that athletes should discover options to athletics while they are still part of the educational system and before they must face multifaceted social and cultural challenges. Professional efforts are recommended, first on the scholastic level, then on the collegiate level to help athletes broaden their developmental scope. In lieu of that opportunity during the scholastic years, interventions at the collegiate level have become even more important to assist athletes with career exploration and decisions. Heyman (1987) projects that all levels of athletes will most likely require some kind of intervention during their careers. It was with these concerns in mind that the following research was conceived and developed.

Statement of the Problem

The overall purpose of the study was to determine if a catalytic career exploration program could be incorporated into the athletic counseling curriculum which would develop career maturity and goal stability for collegiate student-athletes. This research was designed to specifically examine

the effects of an educational career counseling program on NCAA Division I collegiate student-athletes' career maturity, goal instability, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. These factors were examined prior to the counseling program intervention, at the close of the intervention, and at six weeks and six months following the intervention. The second purpose of this investigation was to examine the maintenance of the CEP intervention on career maturity and goal stability effects over time. The relationship between the CEP and gender, age, sport classification (i.e., revenue sports versus nonrevenue sports), and athlete classification (i.e., scholarship athlete versus non-scholarship athlete) were also explored, as well as the relationship between the CMI and GIS scales.

Definitions

The following operational definitions apply to this research investigation:

- Academic comfort -- indication of how comfortable a person is in an academic setting -- subscale score on Strong Interest Inventory (AC; Strong, Hansen & Campbell, 1985)
- Career maturity -- career maturity is indicative of an increased understanding of interaction with the environment -- score on the Career Maturity Inventory, Attitude Scale form A-1 (CMI; Crites, 1973)
- Catalytic Career Exploration Program -- career counseling program which serves as an initial stimulus to encourage students to explore careers which fit with their personal and vocational interests
- Confidence -- confidence in academic performance and choice of career -- subscale score on Goal Instability Scale (CO; Robbins & Patton, 1985)
- Decision-making -- perception of decision-making ability -- subscale score on Goal Instability Scale (DM; Robbins & Patton, 1985)
- Goal instability or stability -- scale used to predict college student's ability to formulate and pursue career plans -- total score on Goal Instability Scale (GIS; Robbins & Patton, 1985)
- Goal orientation -- idealization scale -- indicates fear of long-term goals and lack of goal directedness -- commitment,

or lack of, to mature purposes or objectives -- subscale score on Goal Instability Scale (GO; Robbins & Patton, 1985)

- Grade point average -- current cumulative grade point average of completed academic terms in college (GPA)
- Identity foreclosure -- a premature commitment to a particular career or ideology (Marcia, 1966)
- Introversion-Extroversion -- high introversion scores can be indicative of lower career maturity and absense of goals due to preference for introverted activities, can be shy, oriented to work with ideas and things -- high extroversion scores indicate a greater affinity for working with groups of people over an extended period of time, like to be center of attention, socially oriented -- subscale score on Strong Interest Inventory (I-E; Strong, Hansen & Campbell, 1985)
- Motivation to succeed/Ambition -- part of self expressed by striving/desire to achieve something -- subscale score on Goal Instability Scale (MOT; Robbins & Patton, 1985)
- Perception of abilities -- as more self-fulfilled, use abilities more effectively -- subscale score on Goal Instability Scale (AB; Robbins & Patton, 1985)
- Sport classification --

  Revenue sports -- men's and women's basketball, men's football, men's ice hockey -- sports which accrue income for the university athletic department via gate receipts

  Nonrevenue sports -- men's baseball, men's cross country, men's fencing, women's golf, women's

gymnastics, men's lacrosse, women's soccer, women's softball, women's swimming, women's track and field -- sports which do not accrue income for the university athletic department via gate receipts

Team sports -- men's baseball, men's and women's basketball, men's football, men's ice hockey, men's lacrosse, women's soccer, women's softball

Individual sports -- men's cross country, men's fencing, women's golf, women's gymnastics, women's swimming, women's track and field

- Athlete Classification --

  Starter -- Athlete who recorded self as a starting member of her/his athletic squad

  Substitute -- Athlete who recorded self as a substitute member of her/his athletic squad

  Red shirt -- Athlete who did not participate in any intercollegiate competitive contests throughout the school year in order to maintain that year of eligibility to be used over the course of five years rather than in four years

  Scholarship -- Athlete who was provided full or partial university fees in exchange for her/his participation in the university athletic program

  Non-scholarship -- Athlete who received no financial assistance for her/his participation in the university athletic program

- Study orientation -- orientation towards productive

study skills and academic excellence -- subscale score on Goal Instability Scale (SO; Robbins & Patton, 1985)

Major Research Questions

The primary question asked in this investigation is whether collegiate student-athletes' career maturity and goal stability could be changed by a six week career exploration program which increases one's self-understanding and identifies career interests. The second question to be answered is if the effects of the career exploration program could be maintained over time. Exploratory research questions revolve around subgroup differences such as whether males and females differ on career maturity and goal stability. Other exploratory questions focus on the interrelationships between the CMI, the GIS, and the subscales of the GIS. Specifically, the following major research questions will be answered.

1. Will the Career Exploration Program intervention improve college student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

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2. Will the intervention effects be sustained over time after the completion of the Career Exploration Program?
   a. At six weeks
   b. At six months

Exploratory Research Questions

The following non-directional, less predictive questions have been extracted from the list of research questions and labeled as exploratory research questions. There are numerous subgroup questions which arise beyond the repeated measures effects of the Career Exploration Program. Due to the fact that these questions have not been examined in existing literature it is necessary to classify these questions as exploratory.

1. Is there a difference between male and female collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

2. Is there a difference between 18 year old and 19 year old collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

3. Is there a difference between collegiate student-athletes based on their sport classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

4. Is there a difference between collegiate student-athletes based on their athlete classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

5. Is there a difference between collegiate student-athletes based on their choice of academic major and career goals on the following dimensions?

a. Major and career maturity
b. Major and goal stability
c. Career goals and CMI
d. Career goals and GIS

6. Are there significant relationships between academic goals/achievement and career maturity/goal stability?

a. GPA and career maturity
b. GPA and goal stability
c. Academic comfort and CMI
d. Academic comfort and GIS
e. Intro/extroversion and CMI
f. Intro/extroversion and GIS

7. Are there significant relationships between career maturity as measured by the Career Maturity Inventory (CMI) and goal stability as measured by the Goal Instability Scale (GIS)?

a. CMI and GIS
b. CMI and MOT
c. CMI and GO
d. CMI and AB
e. CMI and DM
f. CMI and CON
g. CMI and SO
h. GIS and MOT
i. GIS and GO
j. GIS and AB
k. GIS and DM
l. GIS and CON
m. GIS and SO

Basic Assumptions

It is assumed that the majority of athletes at the Division I level have had some portion of their career exploration during adolescence precluded by their intense preparation for top level collegiate competition (Petipas, 1978). That is, many athletes have made premature commitments to careers in athletics and/or have failed to prepare for an alternative career to athletics. This preclusion has been labeled as identity foreclosure in the developmental psychology literature (Marcia, 1966). Consequently, it is assumed that the sample of student-athletes collected for this research represents a reasonable portion of foreclosed identities.

It is assumed that career exploration programming is beneficial as it helps clients gain awareness of the relationships among their personal motivations, self-knowledge, personality characteristics, and career interests (Holland, 1973; Miller, 1988).

Limitations and Delimitations

Limitations

The present study uses a pre-test/intervention program/post-test design with a selected sample of collegiate student-athletes. An experimental study with a control group

design would have certainly increased the validity of this research; however, such a design was not possible due to constraints placed on the researcher by the university athletic department in which the study was conducted. Access to a much larger sample of student-athletes and to the student-athlete subjects in the present study for long term follow-up assessment was also limited. Follow-up assessment was restricted beyond March 1993 due to Athletic Department policy.

Thus, due to limited availability and access to subjects, the sample size was 50 athletes, a reasonable sample that can be differentiated by gender, age, sport classification, and athlete classifciation.

Data were collected during three separate semester periods in order to involve as many student-athletes as possible. Each session of the Career Exploration Program was conducted using an identical format.

Delimitations

Due to the specific needs and nature of the collegiate student-athlete population, the limited sample size, and a non-random sample, the results from this investigation can only be generalized beyond the university athletic program to other similar Division I athletic programs with caution. Further, with proper scrutiny, prudent adaptation, and great caution, career exploration programs could be established for

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other college, high school, and professional athletes in an appropriate counseling setting.

Significance of the Study

The significance of this study became evident due to the lack of published research on the effects of career counseling programs for collegiate student-athletes. Nelson (1982) examined the effects of career counseling for freshman athletes on academic achievement and choice of major. Her results showed that participation in career counseling early in the college career produced higher grades, more changes in major, and greater satisfaction in the chosen major. However, Nelson makes no distinction between male and female athletes or between revenue and non-revenue sport athletes. Furthermore, several other models and descriptions of career counseling programs exist in the literature (Abel, 1988; Malone & Malone, 1988; McCurdy, 1983; McFarland, 1976; and Petipas & Champagne, 1988), but none of these is examined from a research perspective.

The present study is unique because it examines the effects of a catalytic career exploration program (CEP) on the career maturity of student-athletes. Career maturity has been shown to be deficient for revenue-producing sport athletes (Kennedy & Dimick, 1987) and for identity foreclosed athletes (Petipas & Champagne, 1988). Not only does this

research look at career exploration program development, it investigates the differences between revenue and non-revenue sport athletes, as well as the differences between male and female athletes. Numerous studies of academic/study skills programs have looked at the differences between men and women, but the discussions of career programs have not made both gender and sport classification distinctions. Therefore, these two dimensions are explored in this study.

The inclusion of the Goal Instability Scale with subscales on motivation, goal orientation, perception of abilities, decision-making, confidence, and study orientation provides additional understanding of the specific effects of CEP.

A final factor of significance is the value that a short-term catalytic program, such as CEP, can have for student-athletes who have so little free time, and for coaches and administrators who find it difficult to require services which encourage the athletes to deviate from sport and academics.

In summary, this study is significant because it provides research data which document (a) the effectiveness of a career exploration program model based on career maturity and goal stability, (b) the differential benfits based on gender and sport distinctions, and (c) the value of this particular career counseling approach to selected student-athletes.

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CHAPTER II

REVIEW OF THE LITERATURE

This chapter will review literature pertinent to the focus of this study. The major topics which will be covered are the counseling needs of student-athletes, career development for the college athlete, career counseling programs for student-athletes, and career exploration program assessment tools (The Strong Interest Inventory and The Myers-Briggs Type Indicator). The dependent variable instruments (The Career Maturity Inventory and The Goal Instability Scale) will be discussed in Chapter III as part of the methodology. The following sections explore the problematic issues peculiar to athletes, the incorporation of these issues into counseling, and therefore, the need for population-specific counseling. The latter part of the chapter provides background information regarding the major assessment tools utilized in the career exploration program.

Counseling Needs of Student-Athletes

Counseling for student/athletes, career counseling in particular, is fast becoming a priority in college athletic departments, but for many victims of "the athletic system",

it is too little too late. Opportunities for upward social mobility in sport are myths. Based on the 1980 United States census, only .007% of all males and .0004% of all females successfully entered the professional sports arena (Leonard & Reyman, 1988). Only 3.3 percent of college athletes ever realize their childhood dream of professional competition (Remer, Tongate, & Watson, 1978), however, 48 percent (68% black/39% white) expect to reach professional status (Kennedy & Dimick, 1987). Those who do succeed soon discover that the average career is 3.4 years in the NBA and 4.2 years in the NFL (Oglivie & Howe, 1986). Oglivie and Howe cited from a 1981 personal communication with Harry Edwards, sport sociologist at University of California-Berkley, that 75 to 80 percent of black athletes on scholarship never graduate. Thirty-two percent or less of professional black athletes have a college degree. Statistics, such as those presented above, reinforce the need for all athletes to prepare for an alternative career to professional sport

A second area of concern for student-athletes and athletic administrators is maintainance of academic achievement. Studies which explore the relationship between athletic participation and academic performance have been inconclusive (Brede & Camp, 1987). Brede and Camp suggested from their study of NCAA Division I male football and basketball student-athletes that there are several basic patterns of academic survival among athletes. Grade and credit hour changes are a popular means of maintaining

eligibility, as well as enrollment in specifically designed coursework through which eligibility can be ensured (Figler, 1984; Raney, Knapp, & Small, 1986). These authors stress the importance of evaluating the process and dynamics of each student's approach to education in order to understand fully the unique factors which will influence that individual's progress toward graduation. One such factor is that of personal investment in an academic major which can lead toward a career of choice.

Through carefully designed counseling programs we can begin to provide support for student-athletes who have been identified as the *cause* of ongoing problems in college athletics. College administrators have been permitted to blame the victim (Sage, 1987) for their own administrative failure to address the true forces behind corruption, cheating, and unethical conduct. The provision of specific counseling and career counseling services for student-athletes can help athletes help themselves to reach higher levels of personal understanding and self-actualization.

Both sport and the counselor-client relationship have been described as microcosms of society. Cayleff (1986) elaborates on the microcosms of society found in sport:

> We often forget that our young men and women are not merely playing a game, rather they are dabbling in 'life'. They are subject to the whims of the American sport system which often reflects the same stigmas, prejudices and exploitation. Leadership

> and guidance personnel who subscribe to the business opportunities in sport can be members of that same microcosm. Relationships develop as dictated by society. They reflect the beliefs, stratifications, tensions, and injustices that exist in American society. (p.345)

Consequently, counseling professionals who are participants in the microcosm of sport are challenged to be aware of societal oppression and exploitation, and to avoid the negative reflections of society by encouraging growth and independence in their clients. Kleiber & Malik (1989) stress the need for athletes to take an active role in their educational process in order for the academic process to have a continuing impact on the athlete's life after college. The athlete should be able to relate to a mortal world outside of sport. Real academic progress turns the athlete towards a meaningful career that fits her/his interests and abilities. That career can become a lucrative and satisfying means of long-term employment and productivity. The athlete should be expected to adequately develop and perform socially, academically, and personally (Gerdy, 1987). It, therefore, becomes the duty/obligation of each institution to provide educational opportunities and sufficient support programs so that the athlete might indeed receive a functional degree in return for her/his athletic contributions (Dixon, 1987; Edwards, 1983; Thomas & Ermler, 1988).

Institutional moral obligations have become distorted and deranged. *Caring* for the athlete has evolved into pampered treatment which often denies the athlete development of the basic coping skills that life requires. Thomas and Ermler (1988) propose that the true obligation of athletic programs should be to protect the individual autonomy of the athlete and to engage each student with the power of information and deliberation. Many athletes are willing victims as they revel in the false security of the prestige, privilege, and status which camouflages athletics. The goal of counseling should be to treat the athlete as an end rather than a means, to provide her/him with the skills necessary for survival and fulfillment beyond their athletic careers. The task is to direct the athlete toward the developmental achievement of autonomy, purpose, and mature personal relationships (Sowa & Gressard, 1983). "When subjected to over-guidance or over-government, the inevitable tendency is to render them comparatively helpless" (Harper in Thomas & Ermler, 1988).

What are the fates of these and other athletes when their athletic careers draw to a close? What are the components which make the counseling needs of the student-athlete unique and complex? What are the solutions which will address these needs in the future? These are but a few of the critical questions facing modern-day administrators, coaches, and counseling professionals.

The current literature is sparce. What little has been

published is in direct response to statistics, such as those listed above that reveal the existing educational exploitation of young athletes in American colleges and universities. Empirical research is slowly developing as models for student-athlete counseling programs evolve in response to an inevitable crisis. The problem is not specific to male athletes aspiring to basketball and football stardom. Many athletes, regardless of their ultimate level of athletic achievement, suffer the consequences of terminated participation in sport, often unexpectedly. In general, the termination literature calls for guidance, counseling, and career preparation of young athletes, therefore it is important to develop and examine the effects of potential counseling formats.

Identity Foreclosure

One of the greatest challenges facing the adolescent population is that of identity. Too many young men and women foreclose on their identity due to the demands of their environment. These individuals have either not allowed for, or not had the opportunity for exploration of, their internal needs and values. Marcia (1966) explains that foreclosure occurs when young people prematurely commit to a particular career or ideology. They have accepted a safe alternative to an exploratory, identity crisis by choosing a socially accepted role. However, they have sacrificed their own uniqueness and personal freedom as well as their opportunity

for growth and creativity.

The concept of identity foreclosure was first introduced by Erikson in the mid 1950's as part of the industry versus inferiority phase of development. During this stage children begin to find identification through work ideals as well as play. As adolescence begins, identity confusion can develop for those who are unable to define themselves as meaningful contributors to society. Such turmoil is often relieved through hero identification and stereotypical labeling. Tremendous fear revolves around any activity which could evoke ridicule or self-doubt (Erikson, 1968). Consequently, the successful young athlete is far more secure in a sporting environment than in risking the exploration of less proven ground.

Adolescence is a critical time period for the shaping of a stable, more final identity. During this time it is important to have an opportunity for integration of each earlier stage (moratorium). Stark and Traxler (1974) confirmed in a study of 507 college students that the ego identity process crystallizes during late adolescence, in keeping with Erikson's theory. The late adolescent period also represents the most prolific interval for athletic prowess and development. There is little time for a moratorium or threat of confusion for those whose identity crystallizes within the athletic arena.

Marcia (1966) proposed four identity status' as different ways of resolving an identity crisis:

Identity diffusion - alternatives not considered and no commitment

Moratorium - actively considering options with no commitment

Identity Achievement - Considered options and committed to one

Foreclosure - alternatives not considered with commitment to one

Individuals in a state of foreclosure are often living through the expectations of their parents. Foreclosed men tend to make socially acceptable statements about themselves (Marcia, 1967) and set goals that are unrealistically high (e.g. professional sport aspirations). Meilman (1979) found in a cross-sectional examination of males age 12 through 24 that identity achievement status increases with age, and foreclosure and diffusion decrease with age. The same may be true for athletes over time, but the identity achievement status may be greatly delayed for professional competitors. The study did not account for cohort differences. Picciotto (1987) also noted a significant shift with age from the foreclosure status toward achievement (n = 214 male and female students, age 12 - 18).

Friedman and Marcia (1970) found that foreclosed women also make more socially acceptable expressions and score low on anxiety and high on self-esteem scales. They attributed the foreclosure to high social support for girls to meet their parents' expectations. There appears to be more social

pressure in general for women to have a stable identity, which could account for additional foreclosures (Toder & Marcia, 1973). It is far easier and safer to "fit in" and yield to external pressure. The advent of feminism has changed the picture considerably and taken away the expectation that women identify with their husbands. However, the foreclosure issue may become more accentuated as women face challenges similar to those of men both in sport and in society.

Waterman (1982) includes foreclosure in his sequential pattern of ego development. He postulates that an individual enters Stage 5 (Identity versus Confusion) and moves through identity diffusion. If crisis occurs, then a state of moratorium exists, if not, a commitment moves the individual into foreclosure, while lack of commitment leads back to identity diffusion. Once foreclosed, if the commitment is lost and crisis occurs, then there is movement toward a moratorium. Lack of crisis at this point reverts back to diffusion. In all situations, for identity achievement to occur, a moratorium must occur prior to gaining a sense of commitment. At this point identity development can move to Stage 6 (Intimacy versus Isolation).

The developmental patterns of foreclosure tend to refer to psychological foreclosure, based on parental approval and security. Situationally foreclosed individuals tend to be more rigid and closed to change. They often lack exposure to diversity of information and ideas (Waterman, 1982). Young

people move from one status to another continuously, but, once the foreclosure status is abandoned, it is no longer a threat (Erikson, 1968; Marcia, 1966; Waterman, 1982).

Foreclosure is a critical aspect of identity development for many adolescents. As noted from time to time in the theoretical discussion, it can be an equally difficult issue for young athletes. As we examine our athletic superstars from a less heroic perspective, we can begin to understand the dilemma which sport has created behind its fantasyland facade. Identity foreclosure can impact all adolescents as they seek the approval and security of significant others and begin to make important life decisions. Collegiate student-athletes also are constantly impacted by critical identity foreclosure issues, particularly when it comes to making career decisions.

Identity Foreclosure in Sport

Athlete identities are traditionally built on successful physical performances more than on cognitive and affective skills. Such narrowly defined self-esteem is extremely fragile and vulnerable to worldly expectations beyond sport (Snyder, 1985).

From very early on in life, sport and physical activity can have a profound effect on individual development. Nelson (1983) discusses this developmental effect. Better coordinated children interact more quickly with their

environment which facilitates a sense of trust in that environment and consequently in themselves. Physical activities become a means to an end, such as achieving self-esteem and measuring self-worth. Through increased physical competencies children acquire a sense of initiative and motivational drive. They develop a sense of industry as opposed to inferiority (Heyman, 1987). As reinforcement for these competencies increases, the activity becomes more meaningful. Ultimately, sport participation leads to importance within the peer group and to the attainment of success and prestige.

However, these seemingly rewarding attributes of physical involvement can be potentially problematic (Heyman, 1987; Oglivie, 1987; Oglivie & Howe, 1986). When sport becomes the sole measure of self-worth, when an athlete's physical talents are equated with her/his value as a human being, then we are faced with a uni-dimensional personality and possible identity foreclosure. The danger exists within the "proving ground" mentality of sport which excludes personal motives due to the demands of external motivational factors (e.g. pressures from coach, family, and peers to perform and to excel). Foreclosure becomes more and more threatening due to an athlete's vulnerability to self-esteem manipulation and directional response to consistent feedback (Marcia, 1967). An even more serious identity crisis can occur if it becomes impossible to fulfill the expected role as an athlete. Such a crisis becomes manifested by social

difficulties and limited ability to adapt. The "who am I?" issue is very problematic in sport. This is illustrated by the following self-analysis report of an intercollegiate football player:

> When I was a freshman in high school I decided I would study hard to make good grades, and I was a nothing. In my sophomore year I went out for football and made the varsity team, because I was so big. I went out for basketball after football season was over and then baseball, and I was important. I've put everything into sports, and I can't stop now. I have to keep playing football - there isn't anything else that I can do as well. (Nelson, 1983, p. 179)

The committed athlete lacks the opportunity to develop a well-rounded, full personality and to capitalize on other options and aptitudes when her/his entire self-worth is based on athletics (Oglivie & Howe, 1986; Snyder, 1985). The reality of personal limits set by constitutional factors often escapes the young athlete in her/his pursuit of physical excellence. Dream goals in sport can be unwittingly shattered by such reality. A psychological catastrophe exists when the dream **IS** the individual, when there are no other primary needs than those associated with sport.

The adolescent who achieves a meaningful sense of self

is able to deal with many diverse behaviors expected of young adults (e.g., relationships, occupational choices, personal matters). When she/he suffers from identity confusion, many socially undesired behaviors are evident as part of a negative identity base. Foreclosed subjects tend to seek security rather than intimacy and have trouble establishing close mutual relationships (Orlofsky, Marcia, & Lesser, 1973). However, through foreclosure the individual is protected from the anxieties, uncertainties, and conflicts associated with the development of a broad identity (Heyman, 1987). Even though an athletic identity provides temporary relief from the rigors of adolescence, anxiety can return during a second period of adolescence which occurs once the athletic career collapses. It is easy for some athletes to hide behind the image of the "dumb jock", but once that image fades, repressed internal conflicts can become aggressive actions manifested through inappropriate social behavior.

Petipas and Champagne (1988) have targeted athletes as a population whose psychosocial dynamics need clarification. The high school senior non-athlete scores higher in psychosocial maturity than does the high school senior athlete or college freshman athlete (Petipas, 1978). This overidentification with athletics has been described not only as identity foreclosure, but also as selective optimization, suspended maturation, and overprivileged minority. A foreclosed athlete often displays many of the following behavior patterns: lack of autonomy and intraception, low

moral development, high authoritarian thinking, unrealistic education and career goals, high conventional thinking, stereotyped sex role expectations, and low career maturity (Petipas & Champagne, 1988). Petipas, Finley, and Vottero (1984) believe that athletes are more situationally foreclosed than psychologically foreclosed due to lack of information. Psychological foreclosure occurs when an individual follows the absolute direction of an authority figure (e.g., parent) rather than developing her/his own sense of self.

The collegiate athlete confronts increased pressure to perform not only from external sources, but also from her/his self-inflicted expectations (Nelson, 1982). What once was a developmentally positive physical experience is now a way of life, the only means of existence. "Big time sports on campus are a way of extending the childhood of students, that is to say, their innocence" (Hochefield, 1987). Increased competitive pressure can inflict greater anxiety for the student/athlete as she/he encounters more complex social, academic, and personal issues within the college environment. Athletes face personal, academic, and vocational problems unique to them, in addition to the pressures and problems that students face in general (Bergandi & Wittig, 1984; Cooker & Caffey, 1984; Lanning, 1982; Rhatigan, 1984; Remer et al, 1978; Stone & Strange, 1989; Wittmer, Bostic, Phillips, & Waters, 1981). Through developmental awareness and education of athletic leaders we can hopefully guide

future generations of young athletes toward self-fulfillment and avoid the pitfalls associated with situationally foreclosed identity. However, in the event that foreclosure does occur, self-exploration and career education can help athletes face the planning issues most critical to success in their futures.

Insufficient long-range planning for athletes often occurs due to lack of adequate guidance (Remer et al, 1978) and can result from identity foreclosure as *just an athlete* (Nelson, 1982, 1983). Identity formation is often successfully resolved through the achievement of occupational status. Unrealistic professional expectations can be extremely detrimental for the athlete (Cooker & Caffey, 1984) and can inhibit counseling efforts as well as academic progress (Snyder, 1985). "Athletes become willing prisoners of their physical talents and cease to develop in other directions open to them" (Nelson, 1983).

The primary developmental task of late adolescence is that of understanding oneself, one's interests, capabilities, and values, so as to narrow down future career possibilities and make preparations for them (Nelson, 1982). The athlete who has foreclosed her/his identity purely as a sports performer has severely limited her/his survival skills and growth. Due to a "general lack of concern and planning for life-after-termination, the transition is never easy and is occasionally fatal" (Oglivie & Howe, 1986, p.373).

Once an individual makes a psychological commitment to

her/his sports role, then she/he must deal with impending role conflicts and eventually athletic retirement. The pursuit of an athletic career becomes a "public act that involves investment of physical and emotional energy and, hence, a commitment to an athletic role" (Chartrand & Lent, 1987, p. 164). Once such a commitment is solidified, the athlete succumbs to a process which progressively restricts alternatives to athletic involvement (Janis & Mann, 1977; Kiesler, Collins, & Miller, 1983).

> What is usually true is that an 18 year-old who has developed exceptional athletic ability and reputation is a precocious specialist, just as is the mathematical prodigy. He is what he is because he has spent a lot of time and effort in becoming very good at games with balls, because he has concentrated on athletics. There is a tendency for such young performers to be somewhat innocent and clumsy when it comes to dealing with other realities. The tendency is understandable. (Gilbert, 1974, p. 121)

Consequently, the committed athlete is unable to interpret career information clearly, is inhibited from detailed career decision-making, and has few alternatives from which to choose after athletic retirement. In other words, as individuals become more committed to their position in sport, they are less likely to explore career options. This in itself is grounds for intensified student-athlete

career planning programs.

Sport-Related Counseling Issues

There are many issues which can be problematic for any college student. The issues that affect the student-athlete are simply complicated by the dual responsibilities of academics and athletics. Practitioners have identified numerous factors that tend to be particularly challenging for athletes in a university setting such as winning and losing, role conflict, academic performance, isolation on campus, relationships with teammates, and/or cultural and gender issues.

Losing can be a social embarrassment that stimulates feelings of inferiority, decreased capability, and subsequent anxiety (Nelson, 1983). Remer et al (1978) report that increased anxiety predisposes athletes to develop maladaptive study habits and poor attitudes toward academic productivity. Consequently, an athlete who experiences losing either in sport or in the classroom can become an underachiever in the classroom which is often mistaken for academic inability. The social encouragement which athletes receive for participation in sports, at the expense of other activities, further inhibits the pursuit of long-range academic goals (Landers, Feltz, Obermeier, & Brouse, 1978). The athlete is caught in a vicious cycle, one which demands athletic performance for identity and acceptance, and another which

inflicts personal, social, and academic ramifications due to poor scholastic achievement, and is precipitated by over-emphasis on athletics (Kennedy & Dimick, 1987). The athlete then faces a struggle to discover solutions to the ensuing conflict between athletics, academics, and personal identity.

Remer et al (1978) suggest that athletes are perceived as a problem group by faculty, counselors, coaches, and athletic administrators. Minority athletes may be particularly prone to faculty animosity due to the "dumb jock" image commonly associated with minority student-athletes on many predominantly white campuses (Nettles & Johnson, 1987). Similarly, non-athlete students view all athletes as overprivileged while athletes see themselves as "isolates, pressured by studies and practices" (Remer et al, 1978). Wittmer et al (1981) suggest that the problems of athletes are due to their segregation from the educational environment. These problems, as shown by the Mooney Problem Check List, are with adjusting to school work, social life, finances/living, employment, and future vocational and educational areas. Lederman (1988) found that major-college football and basketball players were plagued with 'multiple problems'. He categorized those problems into five areas: (a) psychological distress, (b) physical distress, (c) difficulty avoiding drugs and alcohol, (d) mental and physical abuse, and (e) unsatisfactory academic performance. When counseling athletes, Remer et al (1978) found athletes to be lacking in social skills, academic skills, self-

confidence, sensitivity to others, and opportunities for psychosocial maturation. Consequently, athletes have been found to lack realistic life expectations and goals.

Remer et al (1978) also recommend that athletes explore values clarification, interpersonal dynamics, and alternate frames of reference in order to resolve some of the above factors which can lead to role confusion. For an athlete to reach full potential, all of her/his cognitive-affective experiences should be integrated (Cooker & Caffey, 1984). The sport experience should not be isolated from other aspects of adult development and adjustment (Greendorfer & Blinde, 1985; Kleiber, Greendorfer, Blinde, & Samdahl, 1987).

Athletes suffer not only from athletic isolation, but athletes of color also may suffer from racial isolation on many majority race campuses (Lederman, 1989; Williams & Leonard, 1988). Minority athletes are sometimes faced with criminal charges for crimes they did not commit (Edwards, 1983). They can be goaded by racial epithets and often treated as unqualified students simply because they are recruited athletes. While the white athlete is struggling with developmental issues, the minority athlete may be wrestling with developmental issues as well as how to survive in an unfamiliar, hostile environment. Many athletes might perceive that the only way to attain glory and superiority is through sport. Consequently, meeting the needs of athlete clients more often than not requires psychological and

counseling services plus social support and the examination of proactive survival/coping skills (Atkinson, 1987; Mallinckrodt, 1988; Reeder & Heppner, 1985).

The more isolated an athlete becomes, the more likely she/he will experience role conflict. Varsity college athletes of all cultures and both genders are often greatly troubled by their efforts to reconcile their dual roles as athletes and as students (Sack & Theil, 1985; Snyder, 1985). The multiple roles are distracting and in direct conflict with each other. Students often have problems meeting various demands and making wise choices in college. The intrinsic satisfaction derived from sport is most likely far greater than that associated with academics. The athlete's identity and role involvement is supplemented by even greater extrinsic rewards and validating experiences [e.g., experiences which are desirable to others or personally rewarding to the self-concept] (Snyder, 1985). Unfortunately, identities which are constructed on the basis of successful performances are extremely fragile and subject to fluctuations over time. The problem can then become manifested as a series of behavioral outbursts and inappropriate coping mechanisms [e.g., cheating, drug and alcohol abuse] (Sack & Thiel, 1985). The prudent counselor will explore the factors which might preclude such misconduct and fully examine role conflict as an underlying issue.

Another issue when counseling athletes stems from relationships among teammates, between coach and athlete, and

counselor and athlete which are all influenced by the culturally-based world-view of each athlete. The athlete is going to differ on her/his cultural values, and those values must be taken into consideration when providing services (Carter, 1990). Carter emphasizes the need to account for within-group differences as well as between-group differences when trying to understand the effect of cultural values on individual behaviors. Cultural biases often cloud our attention to the unique needs of each individual. Professionals should be sensitive to cultural and personal diversity and how the two interact. Such values affect how an individual perceives her/his relationship to time, people, and nature. These are the factors which represent a group's distinctiveness and should be given particular individual attention when working with student-athletes.

Forced disengagement from sport is also among the many different kinds of counseling issues. Researchers have examined the effect of career termination on athletes rather extensively, particularly its effects on professional athletes (Hallinan & Snyder, 1987; Oglivie, 1987; Oglivie & Howe, 1981; Oglivie & Howe, 1986). Hallinan and Snyder have compared the disengagement process to the stages of the Kubler-Ross theory of death/loss. Athletes can experience denial and isolation, anger, bargaining for reinstatement, depression, and finally acceptance of the inevitable. Counselors should examine this process with clients who will or have faced a difficult separation from sport.

Overall, professionals who work with athletes should be prepared to deal with peer group problems unique to the competitive, goal-oriented team environment, time management and study skills, career development and choices, self-concept/identity development, and loss via forced disengagement (Lanning, 1982). Athletes' productivity outside of sport can be inhibited by their perceived sense of entitlement, by athletic neurosis brought on by an excessive dependence on sport, by a system which overindulges its participants (Lanning, 1982; Petipas & Champagne, 1988), and by insensitivity to cultural differences (i.e., racial and athletic). The entire educational process is often undermined by subtle racism and sexism which can negatively impact all groups with special interests. It is difficult to retain students who do not have access to services that might help them adapt and survive in that sometimes hostile educational environment. If support services are important for retention of college students, it should follow that support services are equally important for the retention of student-athletes.

Gender Issues

Gender differences exist when counseling student-athletes due to the comparatively extensive professional sport opportunities for men versus the limited opportunities for women. However, the need for career exploration by both

genders is recognized in the literature. Career counseling for male athletes helps expand their identity to include realistic career alternatives which are congruent with their self-concepts (Landers, Feltz, Obermeier & Brouse, 1978). On the other hand, identification of a future career for a female athlete can help her resolve identity confusion through meaningful goals and values (Nelson, 1982). McCurdy (1983) notes that many of the female athletes at UCLA had not prepared for any kind of specific career beyond college. Harris (1987) also mentions that research surveys seem to indicate that there is poor career orientation among female athletes and they often fail to prepare for any kind of vocation beyond athletics.

The female athlete is subject to many of the same kinds of adjustment, performance, time management, academic, and personal issues as are male athletes. However, as long as the professional sport opportunities for women are limited, female athletes tend to strike more of a balance between the athletic, personal, and career components of their identities (Thomas & Ermler, 1988). Nelson (1983) cautions the female athlete who attends college merely to continue her athletic career against a pure athletic focus. Once again, this can be indicative of the athlete who has foreclosed her identity with no alternative life direction other than sport, thus making her a prime candidate for extended support services.

Allison and Meyer (1988) believe that women tennis players experience less ego-involvement in their sport as

opposed to men for whom sport is their identity. They see athletics as merely an alternative role for women that can be easily replaced following termination. It is proposed that sport is not the bonding social experience for women that it is for men, therefore, there is less personal investment for women. However, Nelson (1982) goes a step beyond ego-involvement. She finds that women have difficulty fantasizing about a future career whether it is sport-related or not. Consequently, many young female athletes seek to prolong their participation in sports by attending college, but, at that point, without proper guidance, they may face confusion about their non-athletic identity.

One of the most common issues for women in sport during the 1970's and 1980's has revolved around sex roles and sexuality. Some of these issues resolve themselves with age, but the pain and confusion of trying to accommodate social patterns and identity expectations is devastating to many young women in sport (Heyman, 1987). Women must still fight against the myth that athleticism is "presumed to be the antithesis of femininity" (Harris, 1987). Parallel to these issues are those regarding social skills, relationships, and intimacy. Young athletes often breeze through adolescence enveloped in athletic pursuits, only to arrive on the college scene in a state of naiveté and intimidation. Gender roles, sexuality, and social skills concerns may be paramount for many young female athletes.

Some female athletes must cope with a different style of

socialization into sport than male athletes. Young girls and women are still faced with the need for social approval. For some that approval is given unconditionally, for others it may only be given for the socially acceptable, individual sports which are classified as more feminine. The female athlete who has chosen to fight the norm against the wishes of her family and community, may need more personal counseling before she is ready for educational and career planning.

The research on counseling the female athlete has not yet been accelerated by the athletic reform movement, since the NCAA is just beginning to face gender equity issues in the 1990's. Consequently, our body of knowledge is small. However, no individual, regardless of gender, is immune from the issues that face collegiate student-athletes. Heyman (1987) projects that all levels of athletes will most likely require some kind of intervention during their careers. Counseling professionals and athletic personnel should be aware of the impact which any or all of these issues could have on any given athlete at any given time. Proactive support services could save an athlete years of anguish and suffering as well as increase the potential for current satisfaction and successful performances. As Heyman (1987) suggested, "If the combination of demands makes athletes a greater risk for a variety of problems, are we [administrators, counselors, coaches] not required to offer them assistance?".

Issues of Exploitation in College Athletics

When athletes enter a university, they begin to compete with the stars from other high schools. They also face high expectations both in academics and on the athletic fields, and often find they are "treated like dumb jocks out for a free ride on the university success train. To preserve their eligibility, they often are shunted into crib courses like cattle and expected to stay there" (Nelson, 1983, p. 183). Many athletes cannot find an alternate route. They struggle with how to escape from the patterns of a lifetime when no one expects or wants them to change. For many, the pattern is one of developmental neglect which is complicated by weak academic schedules, questionable financial assistance, narrow academic interests, and limited vocational outlook (Stuart, 1985). The most viable opportunity seems to be to play professional sports and become another role model in the media to entice more eager youngsters towards the myth of professional stardom. Athletes are often subjected to a form of passive discrimination. When they are placed in an environment which lures them towards unrealistic professional goals, which fails to act in their behalf, and which fails to address the issues created by its unique demands, then they are indeed exploited. Athletes experience extenuating circumstances throughout the course of their academic careers, which, therefore, entitles them to assistance (Betz, 1989).

The dilemma of the collegiate athlete illustrated above is all too common. The ideology of the American Dream perpetuates "an open class system, a meritocracy, where hard work, perseverance, and honed talent can lead to personal success" (Leonard & Reyman, 1988, p. 167). The greatest chance of exploitation and manipulation of the athlete exists at the college level (Oglivie & Howe, 1986). She/he is often unprepared for the termination of her/his athletic career whether it be due to the selection process (not making the team), injury, inability to keep up with the skill requirements of the sport, or the natural closing of a life stage (e.g., high school, college, professional involvement). The athlete who has made an extreme sacrifice of emotion, time and energy, for whom sport has taken precedence in her/his life, suffers the most from termination. These are the athletes who can gain the most from an alternative career track, but they are less likely to seek out an alternative without the assistance of career exploration programming.

Career Development for the College Athlete

Career development for the college athlete involves more in depth exploration than that of the non-athlete due to the fact that athletes have been found to have less mature educational and career plans than non-athletes. Three studies have examined these differences between athletes and

non-athletes. The results are discussed below.

Sowa and Gressard (1983) found significant differences between athletes and non-athletes on 3 subscales of the Student Developmental Task Inventory (SDTI): educational plans, career plans, and mature relationships with peers. There were no significant differences between male and female athletes nor were there significant interactions between athletic participation and sex. Socioeconomic status, academic achievement, and ability could have been confounding, but were uncontrolled. The authors speculate that the differences could be due to factors related to athletic participation: (a) suggestibility or coachability of a player may cause difficulty for the athlete in developing purpose, and (b) developing purpose requires the integration of avocational interests, vocational plans, and lifestyle considerations. The implications of the data are that athletes have difficulty formulating well-defined educational goals, let alone integrating all of the above. The SDTI defines mature relationships with peers as indicative of a shift towards greater independence and individuality. The authors note that this is uncharacteristic in athletics, particularly with team sports.

Blann (1985) collected data on the educational and career subtasks of the SDTI-2 from 350 athletes and 218 nonathletes (Divisions I & III, male and female). He compared the results based on their university class status (upper vs. lower). The findings indicate that freshman and

sophomore male athletes at both levels have significantly less mature educational and career plans than nonathletes. He noted that athletes were preoccupied with playing. The greater maturity of junior and senior athletes could be attributed to a more realistic perspective on life or to the increased attrition rate of those who were more athletically inclined. The study showed no differences among females. Blann recommended more extensive educational and career planning for collegiate athletes.

Kennedy and Dimick (1987) found intercollegiate male football and basketball players to be significantly lower than nonathletes on Crites' Career Maturity Inventory (CMI). The athletes' results were equivalent to ninth grade norms. This indicates an extremely low tendency of these athletes toward making career choices and entering the work force. The normative value of their scores might imply that more counseling attention needs to be directed toward incoming high school athletes who are potentially replacing their career choice tendencies with athletic participation. The authors hypothesize that the athletes most negatively affected by participation are intercollegiate males in revenue-producing sports. However, Blann (1985) and Sowa and Gressard (1983) did not make the distinction between revenue and non-revenue participants.

Recommendations for Career Counseling

Recommendations have been made for professional organizations to provide career guidance for their athletes in order to promote a smooth transition from one career to another. Outgoing professional athletes are too young to be idle and too old to perform or to begin a second career without training or experience (Gilbert, 1974). This is a good policy for those who are unprepared; however, the most important recommendation is to youth sport and high school programs where leaders and parents must develop positive educational and career attitudes. This is particularly true in light of Kennedy and Dimick's (1987) findings that college athletes scored lower in career maturity than did non-athletes. Sowa and Gressard (1983) also proposed that the time spent in high school sports may inhibit the exploration of other skills and limit future planning. In the meantime, crisis intervention should be employed at the college level where talented athletes are often promised college educations and professional careers. Many spend five years in school with little regard for the completion of an academic degree and no preparation for a career (Oglivie & Howe, 1986). Those who come into higher education from underprivileged backgrounds, which is the case of numerous minority athletes, should receive particular attention in career development (Hoyt, 1986).

Many athletes view athletics as an alternative rather than an integral part of the educational experience (Landers et al, 1978).

> From sports I have learned leadership, lifelong friendship, cooperation, and how to deal with people. Some people think the rewards are not worth the price, but to me they are. For my future, I am not certain. College and sports are it for now. I really do not want to think about what I will do after. My ultimate dream would be to keep playing ball and being competitive for the rest of my life. (Nelson, 1983, p.182)

Counseling can help the male athlete expand his identity to include realistic career alternatives which are congruent with his self-concept. All athletes need to recognize that the positive attributes of sport (e.g., positive feelings about the body, sense of mastery over the physical world, ability to work with others/team, vehicle for enhancing self-esteem, organization, discipline, pride in ability, and goal orientation) can be confidently transferred to other life/career pursuits and not lost when they disconnect from athletics (Oglivie & Howe, 1986; Petipas & Schwartz, 1989; Thompson, 1986).

Female athletes who come to school merely to extend their participation in sports have difficulty fantasizing about any future career (Nelson, 1982). Women are no longer exempt from the competitive pressures and exploitation of

sport. Nor are they exempt from occupational and academic performance stress. Consequently, many of the counseling issues which are commonly reserved for the male athlete must also be addressed by the female. Remer et al (1978) identify counseling interventions as preventive measures for female athletes.

Recent findings show that vocational counseling tends to be the largest category of concern from all student-athletes, regardless of gender (Nelson, 1982; Whitner & Altman, 1986). Nelson speculates that athletes with unrealistic career goals and aspirations, plus decreased levels of persistence to graduation, may achieve even greater benefits from counseling. All 54 participants in an athletes' educational planning program at the University of Toledo said that they needed career development information (Whitner & Altman, 1986). In fact, Nelson's (1982) study with college freshman athletes indicates that those who received career counseling early in their college career made more changes in choice of college major, had a higher degree of satisfaction with their majors, and earned higher grade averages than those who received no counseling. No distinction was made between male and female athletes or between revenue and non-revenue sports. Ultimately, these athletes should be better prepared to pursue an extended career beyond athletics. Through proper guidance, that extended career will be congruent with their identities in spite of the loss of the athletic component.

Nelson found her results to reinforce Super and Holland's theories that vocational choice is more enhancing when it is congruent with the self-concept. Likewise, Stone and Strange (1987) found that athletes were less involved than non-athletes in the overall college environment. Using Holland's theory to explore a variety of interests allows the student-athlete to discover other potential directions of participation. Nelson's intent was to follow her subjects through their college careers to see if a greater percentage of the experimental group persisted to graduation. Extensive longitudinal research is mandatory in order to fully understand and alleviate the counseling needs of student/athletes.

Career counseling is highly recommended for student-athletes as a means of beating exploitation, overcoming identity foreclosure, motivation towards successful academic performance, improving the quality of education, and improving the quality of preparation for a meaningful future (Nelson, 1982, 1983; Nyquist, 1982; Petipas, 1978; Phelps, 1982; Rhatigan, 1984; Stone & Strange, 1989; Thompson, 1986). Without adequate guidance and direction it is easy for young athletes to lose their aspirations towards future success in any non-athletic career (Picou & Hwang, 1982). As student-athletes increase their goals for success in their academic majors and future careers, there is decreased need for *eligibility courses* to fill out empty curriculum plans (Raney et al, 1986).

Counseling Programs for Student-Athletes

A number of student-athlete counseling programs are functioning as an integral part of intercollegiate athletic departments. Many of them are discussed in the literature (Abel, 1988; Cooker & Caffey, 1984; Greer, Moore & Horton, 1986; Hardon & Pina-Tallmon, 1988; Harney, Brigham & Sanders, 1986; Malone & Malone, 1988; McCurdy, 1983; McFarland, 1976; Nelson, 1982; Petipas & Champagne, 1988; Petipas, Danish, McKelvain, & Murphy, 1989; Petipas, Finley, & Vottero, 1984; Whitner & Sanz, 1988; Wittmer, Bostic, Phillips, & Waters, 1981). The influx of athletic reform by the NCAA has stimulated more of a commitment from athletic administrators to the present and future well-being of their athletes. The purpose is to reward the athlete with a solid education and to save them from post-graduation oblivion (Malone & Malone, 1988). The reform aims to restore balance to the lives of student-athletes and to eliminate the exploitation which student-athletes have experienced at the hands of big business in college sport. It is unfortunate that executive legislation is required in order to rescue helpless victims from a system of exploitation.

Schools, in general, seem to provide some kind of academic counseling for athletes. At the very least, they monitor the student-athletes' academic progress so as to assure their eligibility. The programs referenced above have added a number of components to the academic process. These

aspects include career counseling, self-esteem, attitudes, communication skills, transferable skills, study skills, structured advising, mentor programs (faculty and peers), study halls, achievement motivation, interests testing (SII), and interpersonal skills. Much of the emphasis has been on functional skills to enhance academic performance. The more comprehensive programs have initiated career programming and developmental skills, but such programs are few and far between. Comprehensive developmental services for athletes are still in their incipient stages. Recommendations remain as recommendations waiting to be tried and tested.

Several authors have discussed suggestions for working with high-risk students (Dunphy, 1985; Francis, McDaniel, & Doyle, 1987; Hudesman, Avramides, Loveday, Wendell, & Griemsmann, 1986), a category sufficient for the inclusion of many student-athletes. High-risk students seem to respond most positively to programs which include college orientation, survival/coping skills, career exploration, interest evaluation plus self-directed computer-assisted exploration, communication skills (e.g., attending, active listening and clarifying, clearing up confusion), and performance goal-setting. Hudesman et al (1986) found that a structured, directive counseling style was significantly more helpful to high-risk students than was a non-directive style. Such an approach provides the student with an immediate, concrete plan or direction by which to improve any given situation. The student-athlete might benefit from any or all

of these recommendations as a potential high-risk student in an isolated, specialized environment.

Abel (1988) presents an overview of the University of Utah's career planning program for athletes. The purpose of the program is to assist student-athletes with the selection of a major suited to their talents and potential achievement, as well as to provide an opportunity for exploration of the various options necessary for making appropriate career choices. By providing information and choices for the athletes, the students avoid "settling" for a major that will merely "get them by." Included in the program is personal counseling to help the students overcome fears and anxieties, and transfer crucial skills learned through athletics such as time management, setting personal goals, teamwork, leadership, tolerance, loyalty, and courage to the world of work. The combination is powerful and aids the athletes by helping them find direction and add purpose to their college careers. The freshmen who come in for athletics may learn through this program that there is life after sport, one they can control and to which they can look forward.

The common values and goals between athletics and academics are also emphasized by the John Jay College in New York (Malone & Malone, 1988). The purpose of the program is to save as many student-athletes from "post-graduation oblivion" as possible. Their effort is to involve the entire community in the program. The Athletic Counseling Program has three basic objectives:

1. To provide athletes with special help so they can cope with the pressure of dual commitments.
2. Help student-athletes realize they are students first and athletes second.
3. Provide information to all concerned faculty and staff, thereby developing a comprehensive awareness and understanding of the circumstances facing them in relation to student-athletes. (p.253)

The program is based on a contract system which is agreed upon between the counselor, the student-athlete and the physical education department. The contract is reassessed at each counseling session and cooperation is solicited from the coaching staff to help the athletes reach their goals. The student-athletes respond well to the college's unified commitment to their best interests, consequently, they (the athletes) take a greater interest in themselves. As with Utah, John Jay College believes in the transfer of sport-related values to academic pursuits, values such as self-sacrifice, sound character, mental toughness, team work, discipline and integrity. They base their approach on the assumption that both athletic goals and educational awareness should and can be achieved through sports.

A developmental model for counseling intercollegiate athletes, proposed by Petipas et al (1984) attends to the process that all athletes undergo as they acquire values and make choices in life. The model includes specific

suggestions for each year of school:

The freshman year is considered a self-exploration experience. The students enroll in a course for credit, *Developmental Issues of the College Age Adult*. The content includes identity development, intimacy, sexuality, communications, conflict management, sex role issues, career choice, and character/moral development. The educational process involves small group discussion, case materials, psychological inventories, stimulus questions, self disclosure, and feedback. Upper-class athletes and non-athletes participate as role models. The alternatives to taking the course are an orientation program, mandatory study hall, and experimental projects.

The student-athletes continue the process of self-exploration during their sophomore year. The concepts which are explored include transferable skills, contingency planning, and goal setting. Numerous skills are taught such as preparing for courses, assertion/confidence in the classroom, and how to expand support networks. The students attempt to plan a parallel career to continued involvement in sport, and learn to transfer goal-setting techniques of sport to career, interpersonal, and other life skill areas.

The junior year elaborates on career exploration. The curriculum is a shared experience program through selected alumni and/or former athletes. The goal of the program is for the athletes to explore a variety of occupations, to practice the transfer of skills through contact with others,

and to enhance their sense of values, needs, interests, and skills. On-campus the students integrate into the general student services and continue to utilize on-campus resources.

The senior year incorporates actual career implementation. The program includes job hunting strategies, a continuation of the shared experience program, career shadowing, and developing career action plans. The athletes become active facilitators for incoming freshmen, and begin to initiate formal job hunting activities and/or graduate school application processes.

Petipas' program is based on the premise that athletes tend to be situationally foreclosed in their identity development. Through self-exploration they can apply the same dedication and goal directed behaviors to self and career discovery as they do to sport.

These are but three examples of what can become key factors to the future success of student-athletes. Such programs give the student-athletes control of their lives and their choices. Counselors and administrators must be predisposed to the development of such programs, which in conjunction with NCAA reform, can assist young athletes to their full developmental potential.

Career Exploration Program Assessment Tools

The following assessment tools have been chosen as the core components of the career exploration intervention. Numerous instruments have been developed to measure personality characteristics, increase self-exploration, and provide direction in career counseling. They range from interest inventories to personality profiles to computer assisted self-exploration. The Strong Interest Inventory (SII) and the Myers Briggs Type Indicator (MBTI) combine interest exploration with personality type in order to provide a balanced approach to the career exploration process.

The Strong Interest Inventory

The SII is the most widely used of all psychological inventories. It has been extensively researched, it recognizes sex differences without imposing differential treatment, and it emphasizes appropriate interpretation of the results as well as providing detailed interpretative information. The SII incorporates John Holland's personality types as they relate to various occupations based on individual interests and is the leading interest inventory used in career testing (Layton, 1989). The SII draws from a wide range of interests and does not seek to measure aptitude or intelligence. It can assist men and women of all cultures

(the inventory is available in English and in Spanish) with long-range curricular and/or occupational choices, and provides a full gamut of matched female and male occupational scales. Understanding one's interests can help create a formula for academic study, work experiences, and activities which will lead toward a potentially meaningful career. The SII helps the client explore various lifestyles, not just occupations. Use of the instrument with athletes can help them understand their athletic lifestyle as well as other lifestyles with which they might be less familiar.

Holland's theory, which has been incorporated into the SII, infers that people in general can be categorized into six types or combinations of types. The premise is that individuals tend to strive for careers which will allow them to use the characteristics described by the typology. The stronger, more defined a person is in a particular interest area, the more likely it is for a perfect match between type and occupation. The six General Occupational Themes (GOT) have been graphically presented by a hexagonal model which demonstrates the relationship of each theme to the other. Those themes with the highest correlation lie adjacent to each other on the hexagon while those with the lowest correlation rest on opposite corners. The pattern of the intercorrelations supports the construct validity of the themes.

Even though there are several measurement tools which reflect Holland's typology, the SII has proven, through

extensive use in psychological testing, to be highly reliable and valid. Hansen and Campbell (1985) report a test-retest correlation of .91 for three weeks to .81 for a three year period. The GOT internal consistency ranges from .90 to .95. Further validity support comes from the Vocational Preference Inventory (VPI), another popular instrument, particularly in research, for measuring Holland's personality traits. The construct validity correlation between the VPI and the SII was .76. Each scale of the Basic Interest Scales (BIS) consists of logically related items which supports the content validity of the instrument. Concurrent validity of the BIS can be derived from the substantial relationship between the selected interest scale(s) and the occupations pursued. The SII does not propose predictive validity between the BIS and such occupations, however, individuals are more likely to enter a particular occupation if their score is high on both the Occupational Scale and a related BIS (Westbrook, 1989). Overall, the SII has proven to be an exceptionally sound psychometric tool in counseling psychology.

The SII has been administered with various populations at diverse stages of career maturity. Clients who have specialized in any one given area throughout early adolescence may be at a disadvantage when faced with choosing a career. Athletes, in particular, who have sometimes foreclosed their identities in early childhood so that athletics is their only dream, may have even less knowledge

of occupations than their non-athlete counterparts. Therefore, it is important to provide athletes with a broad range of information not only about potential career choices, but about the individual interests or combination thereof which can be manifested in those careers. Sensitive individual interpretation of the SII can be extremely beneficial for those searching for personal and vocational direction.

The Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) was designed for use with non-pathological populations for the purpose of self-exploration and personal growth, and has become one of the most widely used instruments in non-psychiatric personality testing. The instrument explores personality styles and dynamics according to preferences indicated by the client. It employs a non-judgmental process of differentiation with emphasis on individuation. The preferences evolved from Isabel Myers' interpretation of Carl Jung's type theory and comprise four dichotomies: Extraversion versus Introversion (EI), Sensing versus Intuition (SN), Thinking versus Feeling (TF), and Judgment versus Perception (JP). The Extraversion-Introversion dichotomy describes the degree to which an individual extracts energy either from people or from solitude (Keirsey & Bates, 1984). The SN index reflects the way in which one

perceives, while the TF dichotomy is indicative of judging style. The JP modes measure the preference for Judgment or Perception, respectively speaking, planning and order versus spontaneity. Each preference score shows the degree of polarity for that dimension as well as indicating the dominant function which is most preferred by the individual. The second most favored preference becomes the auxiliary function, the third is the tertiary function, and the fourth is the least preferred. The four preferences interact to create 16 four-letter types from which the dominant and auxiliary functions are drawn. Devito (1989) recommends further study of these functions in order to increase the confidence of the scoring scale.

The psychometric data on the MBTI is not as strong as the SII, but certainly adequate. Myers and McCaulley (1985) report test-retest reliability which range from .48 over 14 months to .87 for seven weeks. The MBTI has also been shown to be reliable regardless of the conditions or situation in which it is administered (Parham, Miller, & Carskadon, 1984). The range for split-half reliability is .67 to .90. The MBTI positively correlates with numerous other psychological instruments and with many normative studies of vocational assessment which enhances its construct validity. Correlations with the Adjective Check List, California Personality Inventory, and the Sixteen Personality Factor Questionnaire have demonstrated consistent patterns within the MBTI (Myers & McCaulley, 1985).

Different styles of interpersonal interaction have also been found to correspond to various occupations and careers which can be further explored by the client. Devito (1989) notes that the rationale for using the MBTI for academic and career decision-making is that Thinking, Feeling, Sensing, and Intuition are critical to the process of planning and making choices. To date the instrument has not proven to be a predictor of occupational selection and has been criticized for its methodological weaknesses as a pure occupational instrument (Druckman & Bjork, 1991). However, the MBTI does provide self-assessment depth and a degree of validity when used in tandem with other more predictive measures such as the SII (as recommended by Devito, 1989).

Integration of the SII and MBTI in Career Counseling

The Myers-Briggs Type Indicator (MBTI) and the Strong Interest Inventory (SII) have successfully complemented each other in career counseling evaluation (Dillon & Weissman, 1987; Myers & McCaulley, 1985). The MBTI is regarded as a "useful adjunct" to the SII for individuals making career choices (Devito, 1989). The SII delineates specific careers and interests according to Holland's typology, while the MBTI examines the reasons why those careers are appealing due to preferences selected by an individual (Myers & McCaulley, 1985). The SII was designed specifically to categorize people and occupations according to six types (Realistic,

Investigative, Artistic, Social, Enterprising, Conventional) or combinations of types. For the MBTI "the rationale here is that the Thinking, Feeling, Sensing, and Intuiting functions manifest themselves in academic and career choices" (Devito, 1989, p.1031). The validity of the SII for making career choices is far greater than that of the MBTI, but used in tandem the two instruments provide a wealth of information for counselor/client exploration.

The MBTI can also be employed to help individuals understand their interaction with the environment. It is recognized as a nonthreatening personality inventory that facilitates exploration of the self-concept in career planning (Apostal, 1988). The MBTI has been used to gain insight into the lifestyles and orientations of diverse groups and populations (Hart, 1982; Mitchell, 1983). Through understanding of the self and others overall life experience can be enhanced, and therefore, improve academic and athletic performance, self-satisfaction, and interpersonal relationships.

Regardless of what tests are selected it is important to develop local norms and to take into account past history and culture when making interpretations. It is all too easy to allow a test profile to make a blanket statement about an individual without incorporating the personal differences which make that person unique. Developmental theory can be effectively interwoven into career counseling via test interpretations and personal exploration. Such emphasis is

critical for clients who lack career maturity, such as student-athletes, in order for them to recognize and rectify developmental deficiencies. Multiple measures such as the SII/MBTI combination can provide an indication of important exploratory issues as well as breadth of information.

The SII and the MBTI have become very popular assessment tools in counseling psychology. However, there is very little available literature pertaining to the actual integrated application of the two instruments. Pinkney (1983) recommends the MBTI as a positive alternative to the SII for referred or test-aware, test-expected career clients. The MBTI is presented as a compromise between not testing at all and using the career title-oriented SII. In this day and age of change and uncertainty it would appear that combining the self-understanding of the Myers-Briggs with the SII's proposed exploration of careers would be far more productive than either instrument in isolation. The integration of personal awareness with occupational insight might also inhibit the tendency of clients to drop-out from exploration done exclusively with the SII (Dolliver & Kunce, 1973). As the pool of personal and occupational informational becomes deeper, the dedication of the client may strengthen.

Holland's (1973) theory of careers assumes that people who are stable, successful, and satisfied in their careers are involved in a work environment which fulfills their personality type. The two basic assumptions of Holland's theory are that (a) people in a particular occupation have

similar personalities, and (b) people tend to choose careers which are congruent with their personalities. Therefore, certain traits, behaviors, and problem-solving styles can be used to describe each of Holland's six theoretical types. Due to the established link between personality and career exploration and the assumption that vocational preference is derived from personality type, Miller (1988) has proposed a procedure for relating scores from the Myers-Briggs personality types to Holland's typology used in the SII. The similarities between the two typologies are illustrated in Figure 1. As with Holland's hexagon, the closer two types are in proximity on the hexagon, the greater the similarity. The configuration is not absolute due to the amount of overlap, shifting, and change which can occur with temperament measurement. The less differentiation there is with either set of types, the less clear will be the comparison. However, in spite of the gray areas in Miller's proposal, he lists two viable implications for counselors: "(a) to introduce to the career undecided client the connectedness between personality traits and occupational environments, and (b) to complement other test results, especially those structured around Holland's typology" (1988, p.26).

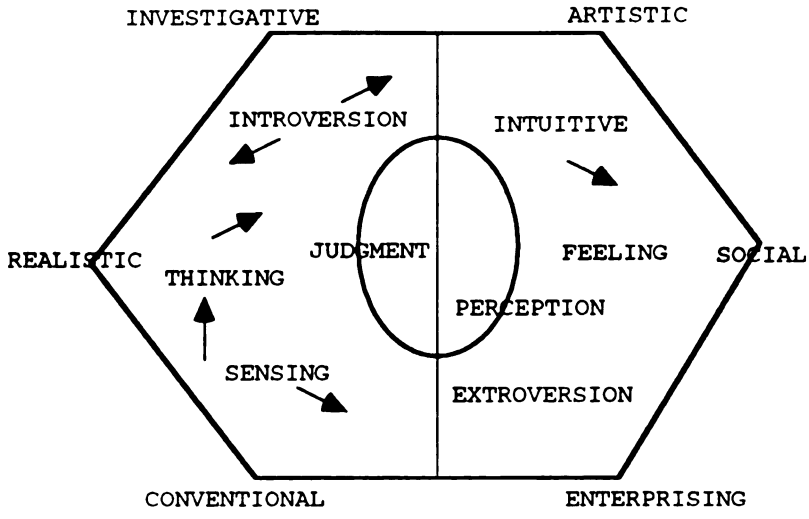


FIGURE 1. Theoretical relationship between Holland's hexagonal arrangement of types and indices from the Myers-Briggs Type Indicator (Miller, 1988, p.28)

Dillon and Weissman (1987) have examined the relationship between interest typologies of the SII and the preference typologies of the MBTI (Table 1). They project that clients can gain a broader picture using both sets of information. The association can potentially motivate the client to be more selective when choosing a career based on multiple criterion, e.g., interests, preference functions, and attitudes. The most significant result from using both instruments could be to develop greater understanding of the self, which can be incorporated not only into a career pattern, but into overall interaction with the environment as well.

Table 1

SII - MBTI Typology Correlations (Dillon & Weissman, 1987)

Holland (SCII)	Jung (MBTI)	Jung	Holland
Realistic	Sensing, Thinking	Introverts	Investigative, Conventional
Investigative	Intuitive, Thinking	Extraverts	Social, Enterprising
Artistic	Intuitive, Feeling, Perceptive	Sensing	Realistic. Enterprising, Conventional
Social	Extroverting, Feeling	Intuitive	Investigative, Artistic
Enterprising	Extroverting, Thinking	Thinking	Realistic, Investigative, Enterprising
Conventional	Sensing, Judging	Feeling	Artistic, Social
		Judging	Enterprising, Conventional
		Perceptive	Artistic, Social

Pinkney (1983) has integrated the two instruments according to four dimensions:

1) Focus of interest:

Extraversion --> people and things

Introversion --> concepts and ideas

2) Information gathering:

Sensing --> facts and data

Intuitive --> possibilities and guesses

3) Involvement with information:

Feeling --> personal involvement

Thinking --> logical analysis

4) Deposition of information:

Judging --> decision making

Perception --> awareness

Throughout the growth process of career exploration it is important to understand many different perspectives not only from the world of work, but from within the self as well. The Social and Enterprising Themes of Holland's typology have been related to a preference for dealing with people, Investigative and Artistic to a preference for data (ideas) and Realistic and Conventional to a preference for things. Pinkney has expanded on the people, data, things concept and integrated it with the Myers-Briggs preference scores as they relate to four integral functions from the work environment. For example, an individual with a preference for the Extraversion type would (according to Pinkney) select people and things as her/his focus of

interest. Consequently, preferred occupations might be chosen from the Social/Enterprising Themes which deal more with people. Making all of the connections within Pinkney's model is a complex and sometimes confusing task, but on an individual basis, consideration of the way in which these theories might integrate may provide depth and increased understanding to the counseling process.

There are many similarities between the MBTI and the SII results which can be incorporated into counseling strategies to help a client understand her/his interaction with the environment as well as understanding her/his decision-making process. Counselors should be sensitive to the exceptions, but cognizant of the wealth of information provided by the two instruments.

Implications For Counseling Student-Athletes with the SII and the MBTI.

Testing and evaluation in sport has moved from descriptive psychological assessment to testing and training for optimal athletic performance (Singer, 1988). As individual student-athletes become more self-actualized through personal exploration, they may also be better able to attend to the group and performance needs of their respective teams. Self-actualization includes full exploration of interests and the self, academic and career issues, and personal growth. The SII and the MBTI used together or separately can take the student-athlete at least one step closer to personal

fulfillment.

The SII and the MBTI can also provide the student-athlete with insight and understanding often inhibited by a foreclosed athletic identity (i.e., see self only as an athlete, identity does not exist without athletics). The athlete's proactive, goal-oriented, competitive environment rarely facilitates long term self-exploration, nor do the time constraints of academic-athletic commitments permit such an engagement. The testing/assessment process in counseling can accelerate evaluation and self-examination and provide a concrete framework from which to develop a viable counseling plan. Securing and maintaining a relationship with an apprehensive athlete can depend on the nature of the initial counselor-client meeting. The first encounter must be meaningful, productive, and purposeful in order to establish rapport with a goal/task-oriented student-athlete. Athletes are often eager to defend their egos when challenged and might abandon the counseling effort if personally threatened. The use of non-judgmental, value-free assessment tools, such as the SII and the MBTI may further solidify the counseling relationship.

There are many implications for counselors of athletes. Miller, McKee, Springer, and Soper (1985) have made several suggestions based on their study of collegiate varsity football athletes. Their research examines athletes' vocational interest patterns as measured by the SII. From the results they draw a number of conclusions which are

important to the counselor-client relationship. The primary occupational themes represented are Realistic(R) and Conventional(C). The first implication focuses on the dissimilarity between the football players (RC) and counselors who, as an occupational group, score predominantly in the Social and Artistic areas. Successful counseling outcomes have been attributed to compatible counselor-client pairings. Therefore, it is important to select strategies and techniques which will allow for any dissimilarities in the counseling dyad. The second concern is that RC classified individuals will most likely not be responsive to feeling reflection, restatement, and/or confrontation, all of which are typical counseling practices. Thirdly, athletes come to expect question and answer dialogue from persons of authority, such as a counselor. This authoritarian view will tend to inhibit self-disclosure. Miller et al recommend alternative forms of counseling: action-oriented, special educational programs, and paraprofessional services employing former college athletes. They further support behavioral strategies such as modeling, direct instructions, specific examples, guided practice, social contracts, self-management, reading material, step by step goal setting, and the use of hands on programs (e.g. programmed learning, computer-assisted materials). Structure and straight forward interactions are advisable along with impersonal approaches to problem-solving. Often times athletes are referred as clients from coaches and/or advisors. Consequently, a higher

degree of resistance may be evident than with non-referred clients. Flexibility and nontraditional approaches are critical to counseling success with athletic populations such as the collegiate football athletes in the above study.

Immediate feedback and concrete information from which to initiate interaction is greatly needed when counseling athletes. The SII and the MBTI provide an excellent beginning with numerous advantages. The most apparent benefit of integrated SII-MBTI testing is to assist the athlete with career exploration. The athlete can identify potential careers and academic pursuits by examining her/his interests and preferences as they relate to various occupations. Alternative careers to athletics can prove to be extremely threatening for the young athlete dreaming of professional stardom. The MBTI has helped many different people understand what often appear to be unrelated facts in the world of work (McCaulley & Morgan, 1982). The integration of such understanding with occupational interests might encourage an athlete to continue self-exploration and to prepare for an alternative career.

Not only is the Myers-Briggs useful as an adjunct measure for career counseling, but interventions can also be drawn from the data to improve communication styles (Yeakley, 1982, 1983). The MBTI continues to be a popular tool for team building in management, industry, and education (Rideout & Richardson, 1989). Athletes are often faced with diverse styles of coaching leadership throughout their playing

careers which require them to make adjustments in their communication styles in order to accommodate the coach. These leadership styles range on a continuum from autocratic to participative. Schweiger and Jago (1982) projected that preferences for different decision-making styles are based on individual types. Even though Sensing and Intuitive types tend to influence groups according to their participation level (Sensing = more participative), the study shows that decision-making style is situationally determined rather than based on type. "Individual differences in participativeness exist but are subordinate to situational factors that govern behavior" (p.1315). There is some evidence, however minimal, to support the relationship between style and predisposition toward type characteristics. Applying type characteristics to sport might help the athlete understand her/his relationship with particular styles of leadership. Even in the face of athlete conflict with coaching style, in depth discussion of the impact of situation, type, and style could serve as a catalyst for appropriate coach-athlete adaptation to a potentially destructive environment. The effort to adapt to situational factors can be reduced through greater self-understanding of interests, values, attitudes, and perceptions. Decreased stress and increased satisfaction have been derived from compatible person-environment matches. Athletes can benefit from understanding the reasons behind their interactional styles with teammates and coaches. Additional satisfaction can also be gained through the

development of weaker preferences and interests (Lynch,1985).

Officials of higher education have become increasingly concerned about academic commitment in college athletics. According to Nisbet, Ruble, and Schurr (1982), the use of the MBTI for self-examination, for improving communication style, and for better understanding of the decision-making process could lead to improved academic/athletic performance of athletes who successfully complete a counseling intervention. Incorporation of the SII can help the athlete understand the meaning of her/his academic comfort level (Hansen & Campbell, 1985), as well as to delineate appropriate career options. Recommendations can be made to the athlete to accommodate for strengths and weaknesses in the Investigative and Artistic interest areas which lend themselves to scholarly pursuits (Wigington, 1985). "Improvement in one's career attitudes may lead to more effective approaches to one's academic obligations, which, in turn, may lead to greater care in working" (Healy et al, 1985, p.243). The inference here might be not only for academics and future career opportunities, but also for an improvement in athletic performance due to overall increases in self-reliance and understanding.

There are a number of more specific applications of the SII and the MBTI for research and counseling of athletes. The following implications have been adapted from ongoing established projects and recommendations discussed in the Strong and Myers-Briggs manuals (Hansen & Campbell, 1985;

Myers & McCaulley, 1985):

1. Both instruments can be used to type athletes. Different types behave differently in different environments. The combination of interests and personality type preferences provides greater insight into an athlete's interaction with her/his academic, athletic, and social environment.

2. The General Occupational Themes of the SII identify global interests, which can assist in the selection of counseling techniques that will improve the counseling process either on a one-to-one basis or in a group setting. This has implications not only for the success of the counseling dyad, but also for applied psychological interventions with athletic teams.

3. The SII becomes a catalyst for the investigation of patterns of career development for athletes. As the pattern crystallizes so does the potential for increased academic commitment and performance. The MBTI further enhances the development process through understanding of the strengths and gifts of individual preferences as they apply to various interests and occupations.

4. The various interests and types have been applied to numerous occupational, cultural, and age groups. Longitudinal research with the SII and the MBTI will provide a census of interests for athletes. From such data, trends and recommendations can be inferred which will increase understanding of the specialized athletic population and improve the quality of the helping services available to all

athletes.

5. The SII has been used to understand the influence of characteristics of individuals on overall group behavior. Through the findings of the MBTI an athlete can learn the value of differences and similarities among teammates. Growth and persistence can help one recognize, appreciate, and make use of the strengths of each type on a team. Each individual team member can grow in her/his own development as she/he learns from the skills of other athletes and the coaches.

6. Those committed to excellence in leadership dynamics can create unique program designs and adapt their coaching styles to the interest patterns of a team. It is important to understand type differences in motivation and achievement, and to take advantage of the contributions of each type through various styles of leadership. A successful leader can create a climate where differences are seen as interesting and valuable in order to promote team cohesion and positive interactions.

In conclusion, the potential for integrated application of the SII and the MBTI to competitive athletics is overwhelming. Much of what has already been investigated in general research can be replicated in athletic environments. More significantly, counseling is greatly needed for career exploration, career development, academic, and personal concerns of athletes. However, professional assistance is often hindered by the stigmas associated with psychological

counseling and by the logistical time and commitment constraints of intensive athletic training. The provision of concrete personal information through well-integrated vehicles such as the SII and the MBTI could very well revolutionize the impact of psychological services on the well-being of our athletic population.

The overall counseling needs of student-athletes are diverse and extensive. Athletics impose a complex diversion into an already complicated educational environment, a diversion for which many student-athletes are unprepared and unable to cope. These issues become further antagonized by problems of identity foreclosure, gender, performance expectations, social stigmas, culture, and the exploitive atmosphere of college athletics. Career development and specific career counseling programming for student-athletes is an important solution to consider.

In summary, the counseling needs of student-athletes have been found to include identity foreclosure, gender and cultural issues, winning and losing, academic performance, career, educational, and social immaturity, isolation, exploitation, and unrealistic social and performance expectations. Career development for student-athletes has been recommended in the literature as a means of overcoming identity foreclosure and exploitation, and as a means of increasing motivation to improve academic performance and the quality of education. The Strong Interest Inventory and the Myers Briggs Type Indicator, when used in tandem as a career

exploration assessment tool, can provide the student-athlete with vocational insight and self-understanding often inhibited by a foreclosed athletic identity. Therefore, it is reasonable to examine the effect of a career exploration program, based on the SII and the MBTI, on the career maturity and goal stability of collegiate student-athletes.

CHAPTER III

Methodology

This chapter includes a discussion of the effect that the pilot study had on the final content of the CEP intervention, the research design and process of the present study, a description of the sample, and a discussion of the dependent variables as measured by the Career Maturity Inventory (CMI) and the Goal Instability Scale.(GIS) The Procedures section includes an explanation of the study, a detailed discussion of the Myers-Briggs Type Indicator (MBTI), the Strong Interest Inventory (SII), the educational format of the career exploration program, and the data collection schedule. The remainder of the chapter focuses on the major hypotheses in testable form, the exploratory research questions, and the means by which each of the hypotheses and questions are analyzed.

Pilot Study

The pilot program was implemented as a six-session seminar separate from accredited university course work. It was designed and offered to meet the specific career development needs of collegiate student-athletes. The two-hour seminars were conducted once a week for a six-week period during winter quarter. The CMI pre-test, the MBTI, and the SII were administered during the initial meeting. The CMI

post-test and subjective course evaluation were administered during the final session of the program. The second and fifth seminars were discussion-oriented as they encompassed transferable skills and integration of the MBTI and SII, respectively. The third and fourth sessions, which focused on interpretation of the MBTI and SII profiles, were self-reflective and stimulated more of a question and answer format. The sessions followed the original program outline.

The pilot study, although the sample was small (N = 3), was primarily designed to test out the Career Exploration Program intervention procedures and design. The pilot study did, however, point out individual differences among subjects and noticeable diversity in the CMI results. This variance did not appear to pose a problem for course conduct or content, but from a developmental perspective, individual differences may suffer in the group setting. It was highly recommended that future interventions allow for individual input and necessary dyadic interaction in order to provide optimal self-understanding and feedback from the assessment profiles.

The delineation of transferable skills from athletics to careers was very helpful to the students, as recorded in anonymous self-reports. Many athletes failed to consciously recognize the number of positive attributes which they have acquired in the sport arena. Once recognized, it was relatively simple for the students to apply the same skills to job-related situations. The transferable skills which

were identified by the student-athletes during the pilot study are listed in Table 2 and were incorporated into the transferable skills session of the CEP study.

Table 2

Transferable skills as identified by student-athletes

Abilities	Characteristics
Set and focus on goals	Courage
Work well with others	Discipline - hard work
Deal well with defeat(s)	Endurance - persistence
Time management	Integrity - trust
Seek information	Leadership
Self-evaluation	Loyalty
Stress management	Physical/mental alertness
Conflict resolution	Confidence
Receptive to learning	Tolerance
Self-sacrifice - risk taking	Positive thinking/attitude

Each participant in the pilot study found the career development program to be productive and beneficial to their individual needs. They appreciated the opportunity to learn about themselves as it related to career, school, decision-making, and also to sport. It was an opportunity to integrate old and new self-knowledge into an understandable package which would enable them to further explore the world of work. One participant was excited to explore all the

possibilities which were presented by the program. Another participant was reassured about decisions she had already made and discovered ideas about what she should pursue further. The third subject found value in the elimination process of the interest exploration, so that she was not so overwhelmed by the numerous career possibilities.

The integration of the MBTI/SII results allowed the athletes to incorporate all aspects of their lives in an evaluative manner so that they could begin to prepare for the future with confidence, improved decision-making skills, and more of an in-depth understanding of careers as they relate to personal interests and knowledge.

There were three areas recommended by the students for inclusion in an expanded career exploration program for athletes: (a) peer counseling with upperclass student-athletes in different fields; (b) faculty mentorship in careers of interest; and (c) speakers who are experts in their fields. While these items may or may not be feasible for an initial limited six-week intervention, they would certainly be valuable for a more extensive career exploration program offered on a semester basis. All three subjects found the CEP program to be insightful and valuable, and recommended it for all students, athletes and non-athletes.

Several changes were made in the content and structure of CEP due to feedback from the pilot study. The CMI testing was reduced to use the Attitude Scale only. The entire CMI inventory was too lengthy and was discouraging to the

participants. The transferable skills session was altered from a written exploration to one of verbal discussion. The pilot study indicated that the written segment was time-consuming and repetitive. The addition of individual interpretations for the SII and the MBTI was also inspired by the pilot study.

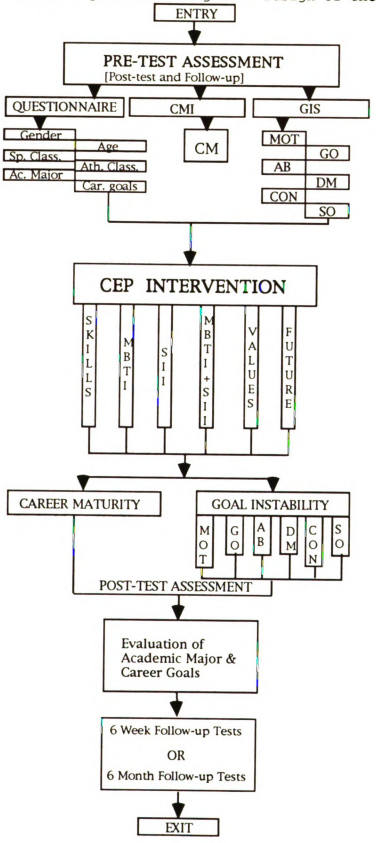
Consequently, the results of the pilot study were helpful to the focus and design of the present study. Furthermore, the feedback from the participants was practical and very useful. The test results were consistent with the literature for career maturity, the MBTI, and the SII. It was recommended that the program be further evaluated with a statistically acceptable group of student-athletes according to pre-test, post-test, and follow-up data. The value of the process is of significant interest. The goal of the program is to provide dual track career options for the student-athletes through the acquisition of self-knowledge and interest opportunities as they face career decisions often clouded by their athletic pursuits. (See Appendix B for pilot study results.)

Research Design of the Present Study

The career exploration program (CEP) study employs a pretest/ posttest/ follow-up repeated measures design. The purpose of the design is to test the effect of the CEP intervention over a six-week implementation period, and the

maintenance of the effects during a six-week or a six-month follow-up period, depending on the group in which a particular member participated. The design examines the effect of the treatment over three time periods for each subject according to two primary dependent variables and six secondary subscales. The primary dependent variables are career maturity (as measured by the Career Maturity Inventory) and goal instability (as measured by the Goal Instability Scale). The six secondary subscales are motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation (as measured by the Goal Instability Scale). The following model, presented as Figure 2, provides a pictorial view of the design.

Figure 2. Career Exploration Program - Design of the Study



Description of Subjects

The sample was drawn through volunteer participation from a pool of Division I collegiate student-athletes at a large midwestern university. The students were recruited from the study hall program provided for all student-athletes in conjunction with athletic student affairs services and the assistance of the academic counselors.. Fifty male and female members of the intercollegiate varsity athletic program were the research participants in this study. The subjects ranged in age from 18 to 20 years of age and included only those student-athletes who gave informed consent to participate. A summary of the personal data is provided in Table 3 and a summary of the sport data is contained in Table 4.

The sample was almost evenly split between males (24) and females (26), the majority of whom identified themselves as caucasians, 41 (8 African-American, 1 Hispanic). The subject group was rather evenly distributed in age (26/18 year olds, 24/19 year olds), as well. However, all but seven of the participants were in their freshman year of study.

The majority of the sample were members of team-related sports (74%) as opposed to individual-type sports (26%). Not one individual sport is considered to be revenue-producing. Twenty-two of the team sport athletes played for revenue sports and 82 percent of those individuals received a scholarship. Of the total sample, 66 percent were

scholarship athletes and 34 percent were non-scholarship. A second type of athlete classification other than scholarship status is that of playing status. An athlete can be in one of three categories: starter, substitute, or red-shirt. Ten members, or 20 percent, of the sample had been red-shirted as freshmen in order to maintain four years of eligibility. Another twenty-five athletes considered themselves to be substitutes, whereas 15 were starters for their teams.

Table 3

Descriptive data of the sample

	FEMALE	MALE	WHITE	BLACK	HISP	18 YR	19 YR	FRESH	SOPH
FEM.	26		25	0	1	14	12	24	2
MALE		24	16	8	0	12	12	19	5
WHITE	25	16	41			21	20	36	5
BLACK	0	8		8		4	4	6	2
HISP	1	0			1	1	0	1	0
18 YR	14	12	21	4	1	26		25	1
19 YR	12	12	20	4	0		24	18	6
FRESH	24	19	36	6	1	25	18	43	
SOPH	2	5	5	2	0	1	6		7

Table 4

Descriptive sport data of the sample

	TEAM	INDIV	REVEN	NON-R	SCHOL	NON-S	START	SUB	RED S
TEAM	37		22	15	28	9	12	18	7
INDIV		13	0	13	5	8	3	7	3
REVEN	22	0	22		18	4	6	10	6
NON-R	15	13		28	15	13	9	15	4
SCHOL	28	5	18	15	33		12	14	7
NON-S	9	8	4	13		17	3	11	3
START	12	3	6	9	12	3	15		
SUB	18	7	10	15	14	11		25	
RED S	7	3	6	4	7	3			10

The hometowns for the majority of the sample were located in the midwest (74%). One individual (2%) was from the south, six percent were from the west, and the final 18 percent resided in the east. This geographic distribution is typical of a large state-funded university. Fifty-two percent of the sample were in-state students.

The majority of the student-athletes (88%) came from traditional family backgrounds with both a male parent and a female parent living in the home. Only 12 percent indicated that they lived in single-parent households, of which all of them listed a female (mother) as head of the home.

Each athlete was a member of a varsity athletic program at the university. There was representation from each of the following teams: men's (8) and women's (3) basketball, women's gymnastics (4), women's track (1), men's fencing (2), women's soccer (10), men's football (9), women's golf (2), women's swimming (3), men's baseball (1), women's softball(3), men's cross country (1), men's lacrosse (1), and men's ice hockey (2).

Pre-Test/Post-Test Measures

Career maturity, as a critical component of career development, serves as a viable measure of the ongoing personal growth process. "Generally speaking, career maturity refers to the degree of development, the place reached on the hypothetical continuum of development across the life stages, and is important for assessing the client's career status" (Jepsen, 1990). Jepsen and Crites (1973b, 1981) have determined that the Career Maturity Inventory-Attitude Scale is the only instrument with evidence of developmental assessment for the adolescent/young adult population. Crites, as the creator of the CMI instrument, could be considered to be unfairly biased towards the CMI. However, he has produced vast amounts of quality research in successful defense of the application and the value of the CMI. It is also practical to initiate the career counseling process with an assessment of career maturity. The CMI

provides sufficient information for determining the future direction of the educational/counseling process.

Career maturity was chosen as the primary dependent variable by which to evaluate the impact of the career exploration program (CEP) because of its favorable reputation as a measure of individual career development. Career maturity is an important issue to examine with a collegiate student-athlete population since they have historically been found to be low in career maturity and high in identity foreclosure.

Goal instability was selected as the second dependent variable by which to assess the impact of the CEP intervention on collegiate student-athletes. The rationale was that, as career maturity would increase due to increased self-knowledge and understanding of vocational interests, so might the stability of goals increase. The goal instability scale (GIS) has been used to predict college student's ability to formulate and pursue career plans (Patton, Connor, & Scott, 1982; Robbins & Patton, 1985). The subscales of the GIS provided specific information on changes in motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. All of these variables were relative to the career exploration process and the college educational environment. Both the Career Maturity Inventory (CMI) and the Goal Instability Scale (GIS) are discussed in detail below.

Career Maturity Inventory

The Career Maturity Inventory, Attitude Scale Form A-1 (CMI; Crites, 1973a) was used to operationally define career maturity. Each subject answered 50 true-false items. The Attitude Scale has been particularly recommended for pretest - posttest evaluation of career education programs (Frary, 1988). The internal consistency reliability estimates for total scores range from .73 to .75. Test-retest reliability scores are similar. The CMI shows weak but statistically significant correlations with other relevant measures and mean score changes. Overall, in spite of somewhat low scores, given the length of the inventory, the CMI has "reasonable and well-documented psychometric characteristics" (Frary, 1988). Crites (1981) has found the CMI to be a reliable and valid measure of career maturity over a ten year span in studies involving thousands of students (K - 12, college).

Attitudes have been shown to mature with age and grade as related to the educational process, and maturity is associated with clearly defined career choices, consistency across time, and reality orientation (Crites, 1973b). "The Attitude Scale elicits the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice and entering the world of work" (Crites, 1973b. p.3). The inventory was designed according to the basic constructs of developmental theory in order to

measure the maturity of attitudes that are instrumental to the career decision-making process. The items, as stated by students, reflect aspects of the decision-making process on five attitudinal clusters:

- involvement in the career choice process;
- orientation toward work;
- independence in decision making;
- preference for career choice factors;
- conceptions of the career choice process.

(Crites, 1973b)

Even though these attitudinal clusters are not scoreable as subscales, the breakdown indicates that the content of the CMI is appropriate for measurement of the career development process.

Goal Instability Scale

The Goal Instability Scale will be used to operationally define goal instability. The scale was adapted from research conducted by Patton, Connor, and Scott (1982) and Robbins and Patton (1985). The scale is theoretically based on Kohut's psychology of the self. In the event that a false sense of self exists (such as the self which has foreclosed as an athlete), the theory suggests that there is less involvement in career planning, which consequently leads to goal-

indirectedness and career indecisiveness. Therefore, a low score on the GIS is indicative of goal instability and a tendency toward less involvement in career decision-making. A high score on the GIS serves as a positive predictor of goal stability and a tendency to make more stable life choices. The GIS is used in conjunction with the CMI for pre-test, post-test, and follow-up measurement in the present study.

There are six scored subscales of the 20-item Goal Instability Scale, which will be additional dependent variables by which to evaluate the career exploration program (CEP). Each item is scored according to a six-point Likert scale anchored by strongly agree (1) and strongly disagree (6). The questions vary as to whether they are answered positively or negatively and the questions are reordered for each repeated measure in order to minimize test-wiseness and to guard against positive or negative response-styles.

Three of the items measure motivation to succeed (ambition). The interrater correlation for this scale is very high, r =.86. This scale represents the part of the self that is expressed by striving or desire to achieve something:

- I am highly committed to my academic endeavors.
- I am eagerly pursuing my plans for future accomplishments.
- I am highly motivated to the pursuit of my career goals.

Goal orientation is measured by six items (r = .77). On

this scale the self is expressed through commitment or lack of commitment to mature purposes or objectives:

- I don't seem to have the drive to get my work done.
- I have no sense of direction.
- I am an outstanding example of someone who knows what he or she wants and is working for its accomplishment.
- I wonder where my life is headed.
- I want a successful future but I am uncertain about how to get it.
- I am making plans now for future commitments.

The second and fourth of the items listed above represent extreme idealization of goals or lack of goals. Having no sense of direction is indicative of fear of long-term goals, while "wondering where my life is headed" is indicative of lack of goal directedness. Robbins and Patton (1985) suggest that these items tap into an absence of goals because of a preference for introverted activities and are indicative of lower career maturity.

The third subscale measures perception or use of abilities ($r = .80$). The depleted self does not use its talent effectively, nor does the depleted self recognize existing talent:

- I find success in almost every work situation because I have multiple talents.
- I refuse to learn new skills or to inform myself.
- I am not sure whether my talents will have an outlet.

The decision-making subscale was added to the GIS in

order to provide an understanding of each individual's decision-making process. One goal of the CEP intervention was to improve the student-athletes' decision-making ability by increasing their understanding of how they interact with the outer and inner world, information they would gain from the interpretation of the Myers-Briggs Type Indicator. The decision-making subscale was designed to measure any changes in the subjects' feelings about decision-making:

- I find little success in most decision-making situations.
- I make firm, well-thought out decisions.

The confidence subscale was also added to the GIS in order to test for increases or decreases in confidence level due to the CEP intervention. One item represents confidence in academics, the other confidence in choosing the right career:

- I am confident that I will perform adequately in my academic major.
- I am confident that I will choose the right career for me.

The sixth subscale measures study orientation. These items are specific to academic and educational pursuits.

- Even though I don't like a subject, I still work hard to make a good grade.
- I feel confused and undecided as to what my educational and vocational goals should be.
- I believe that a college's football reputation is just

as important as its academic standing.

- I feel that I am taking courses that are of little practical value to me.

Study orientation was added to the scale in order to measure the effect that CEP would have on the student-athletes' attitudes towards education and working to achieve in their coursework.

Choosing and incorporating a career into one's lifestyle is a form of self-expression which requires ambition, a sense of self-understanding and confidence, and a strong orientation towards goals, planning, and decision-making. Positive and productive study orientation is a means to an end for those who require a college degree in order to reach their career goals. The Goal Instability Scale not only reflects on the effect of career intervention programs, but it can also provide insight as to the appropriate content to include in such a program. For example, the highly instable individual would require much more structure and guidance, than the more stable individual who might be in need of more specific career information in order to make a reasonable career choice.

Incorporated with the pre-test/post-test instruments in this program are discussion sessions which investigate transferable skills, decision-making skills, values clarification, and the integration of MBTI and SII interpretations as they relate to the choosing of a career.

Procedures

Explanation and Process of the Study

The career exploration program for student-athletes follows many basic tenets of the developmental approach to career counseling. This approach is based on an ongoing process which not only involves the communication and relationship aspect of career counseling, but also encompasses other facets of development such as personal and social issues (Crites, 1981).

Development, regardless of category, occurs over time. As individuals progress through late adolescence, they typically engage in exploratory tasks toward the establishment of personal identity. If the developmental process is impeded due to lack of exploratory behavior (i.e., identity foreclosure), numerous negative characteristics can transpire, many of which are apparent in college athletes: lack of autonomy, unrealistic educational and career goals (Blann, 1985; Sowa & Gressard,1983), and low career maturity (Kennedy & Dimick, 1987). Athletes have been described as victims of a system in which they are overprotected, depersonalized, and misunderstood (Remer, Tongate & Watson, 1978). Consequently, there remain countless developmental issues to be addressed by athletes who have been restricted by their environment.

As career choices evolve over time, people are subject to a series of general developmental principles as listed by

Jepsen (1990). Four of those principles have particular relevance to the athlete's environment:

1. Development is a continuous process;
2. The outcome of normal development is increasing maturity;
3. Developmental phenomena show increasing differentiation and integration of new parts;
4. Development progresses from dependence to independence, from egocentric to socially relevant behavior.

For athletes whose identity is foreclosed, the development process does not continue, nor is there increasing maturity. Isolation within the athletic arena can inhibit differentiation and discourage diverse experiences, which can retard attainment of independence. Focus on personal performance excellence can perpetuate egocentric behaviors, particularly as young athletes live out their childhood fantasies rather than transforming to a stronger, multidimensional reality orientation of adulthood (Jepsen, 1990). Overall, normal developmental potential appears to be reduced for athletes whose primary focus during late adolescence is narrow and foreclosed around sport.

The purpose of this program is to encourage athletes to engage in developmental exploratory behavior, which they may not have experienced during early adolescence, through personal awareness of transferable skills, identification of

interests [which according to Donald E. Super, crystalize during adolescence (Crites, 1981)], and self-knowledge. The use of the program as a catalyst towards active personal exploration is in keeping with a developmental, participatory approach to career counseling (Jepsen, 1990).

Career Exploration Program Assessment Tools

The career exploration program (CEP) was designed to influence the attitudes of student-athletes towards choosing a career through the acquisition of self-knowledge. The primary sources of personal information stem from two assessment tools: The Myers-Briggs Type Indicator (MBTI; Briggs & Myers, 1977) and the Strong Interest Inventory (SII; Strong, Hansen & Campbell, 1985). (For in-depth discussion see Chapter II.) These instruments are included as an integral piece of the career exploration process. They do not serve as evaluative measures (dependent variables) of the overall intervention program. However, their value as psychometric instruments contributes credibility and validity to the intervention.

Numerous instruments have been developed to measure personality characteristics, increase self-exploration, and provide direction in career counseling. They range from interest inventories to personality profiles to computer assisted self-exploration. The SII and the MBTI combine interest exploration with personality type in order to

provide a balanced approach to the career exploration process.

Consequently, the MBTI and the SII have been selected as potentially effective intervention tools for the purpose of helping student-athletes increase their career maturity and the stability of their goals. Three of the six sessions of the career exploration program were focused on the MBTI, the SII, and the integration of both instruments. These inventories provided the primary source of personal and career information for the subjects. Preference scores and type description were provided for each of the students on the MBTI. The expanded career report profile was not utilized due to time and financial constraints, but the MBTI results were presented and discussed according to occupational parameters and implications. The standard Strong Interest Inventory profile was obtained for the students and purchased by the athletic department. The application of the MBTI and the SII as assessment tools for the intervention is discussed further in the following section.

Career Education Format

The career exploration program (CEP) was structured as a six-week intervention program, long enough to discover and digest relevant self-information, but short and concise enough to fit into an already stressed and complicated student-athlete's schedule. The primary areas of focus were

assessment, transferable skills, interpretation of the MBTI, interpretation of the SII, integration of the MBTI and the SII, and values clarification and recommendations for continuation of the career exploration/choice process. In order to comply with the requests of the university athletic department, all of the sessions, with the exception of the initial assessment session, were limited to an hour in length. A list of the session titles is provided in Table 5.

Table 5

Career Exploration Program session titles

Session 1	Preliminary self-evaluation
Session 2	Introduction - What I already know
Session 3	How I interact with people and make decisions
Session 4	Personal and occupational interests
Session 5	Integrated self-exploration
Session 6	Pulling it all together

Session 1. During this session the student-athletes gave their written consent to participate in the study and completed all of the necessary pre-test and assessment instruments. The pre-tests included a demographic questionnaire, the Goal Instability Scale (GIS), and the Career Maturity Inventory (CMI). The assessment instruments were the Strong Interest Inventory and the Myers-Briggs Type

Indicator. All of the instruments were administered in the order listed above and according to the procedures recommended in their respective manuals. Following the completion of the testing process the student-athletes were advised of the next meeting period and excused.

Session 2. Skills which are learned through the athletic expereince and which can be transferred to careers and employment were identified and discussed during the second session. A transferable skills questionnaire designed by Petipas and Schwartz (1989) was used as a discussion guide to stimulate ideas and conversation about such skills, and how they could be used and applied in everyday living. A cumulative record of the skills discussed during the transferable skills sessions was documented for the duration of the study. The transferable skills identified by the student-athletes who participated in the career exploration program (CEP) are listed in Table 6.

Table 6

Transferable skills as identified by CEP student-athletes

Ability to:
- set and concentrate on goals/objectives
- work well with others - teamwork
- deal well with setbacks or defeats - mental toughness
- organize time well - time management
- seek information - resourceful
- self-evaluate

Academic stability
Accept responsibility for actions
Aggressiveness
Alertness - physical and mental
Assertiveness
Coachability
Confidence
Conflict resolution
Courage
Dedication and hard work - discipline - drive
Endurance - persistence
Experience
Individuality
Independence
Integrity
Intensity
Knowledge
Leadership
Loyalty, supportive of group goals
Natural ability - talent
Positive attitude - positive thinking
Reality orientation - acceptance of the inevitable
Receptive to learning
Respect - self and others
Self-sacrifice - ability to take risks
Sound character
Stress management
Tolerance
Trust

After the discussion of transferable skills each athlete received a list of the skills, a copy of *The Role of Athletics in Career Preparation* document, and a copy of *Sports Put Careers on Track*, an article which had been published recently in a local newspaper. The content of these handouts was discussed in detail and applied to the career exploration process.

Session 3. The third session focused on the interpretation of the Myers-Briggs Type Indicator. The researcher provided a lecture on the background and meaning of the MBTI and the MBTI typology using overhead transparencies as a teaching tool. Following the lecture each student-athlete received a handout which explained the meaning of the eight preferences of the MBTI in detail. The researcher then asked the subjects to participate in an exercise during which they were to self-select the type (one of 16) which sounded most like themselves based on the information in the handout. This exercise helped the athletes understand the meaning of all the preferences, not just the ones which applied to them. After each student-athlete had chosen her/his respective type, the researcher distributed the MBTI profile reports and initiated a discussion about the similarities and differences between the predicted types and those identified by the MBTI. Each student had the opportunity to question the results and to accept whatever type seemed the most comfortable for her/him.

They were reminded that the intent of the MBTI was to help them understand their differences and how they interact with the outer and inner world. Understanding their preferences was merely part of this process.

Session 4. This session presented the Strong Interest Inventory profiles and their interpretations. The researcher distributed the profiles and then explained the meaning of the Introversion-Extroversion Scale, the Academic Comfort Scale, the Total Response Index, and the Administrative Indexes. The researcher then explained the overall set-up of the Occupational Themes, Basic Interest Scales, and Occupational Scales, and their respective norms and gender-specific scoring. The student-athletes were instructed to read the interpretation of the six Occupational Themes on the back of their profiles, and to examine the hexagonal diagram of the themes to understand the relationships between the themes. The subjects then examined their scores on each of the themes in order to discover their strongest interest areas.

The next step was to understand the Basic Interest Scales (BIS). Each athlete was given a handout that explained the BIS under each Occupational Theme. The participants were instructed to read through each set of Basic Interest Scales and then to identify those which were of greatest interest to them according to their profile.

The final step of understanding the profile was to interpret the Occupational Scales. At this point the researcher emphasized the importance of patterns and clusters of interests rather than isolated occupations. Each student-athlete had the opportunity for personal, one-to-one interpretation with the researcher at this time. If it was not convenient during the session meeting period, another appointment was scheduled. This was done in order to avoid misunderstanding of what can be a complex and overwhelming profile. Even though the program was designed from a group counseling approach, the use of even non-pathological inventories requires prudent and personalized interpretation.

Session 5. The fifth session provided the opportunity to integrate the MBTI with the SII and the world of work. Handouts showed how the SII themes and the MBTI preferences complemented each other, and how the MBTI results could be interpreted so as to optimize satisfaction when making career decisions and job choices. The discussion during this session was a critical component of the integration process. Each student worked from her/his personal profile, but was also able to gain insight from the questions and comments of others.

Session 6. The final session focused on values clarification and ideas for future exploration. Each student received a handout which listed 14 value-related topics. As the researcher described each area the student-athletes were

instructed to make notes about their personal feelings/ reactions to each item. This handout was not collected or read by anyone other than the participant. The purpose of the exercise was to help each individual round out the exploration process not only with skills, preferences, and interests, but with values as well. By completing the information-set the students were then prepared to continue the exploration process through computer-assisted programs, occupational reference manuals, seminars, personal contacts, faculty mentors, career fairs, and internships. Each was equipped with enough self-information to sort through their list of academic and career options, and to begin to make some meaningful life-choices.

The latter portion of the sixth session was spent completing the post-tests. They were administered in the following order according to the appropriate administrative specifications: wrap-up questionnaire, the Goal Instability Scale, and the Career Maturity Inventory.

Follow-up sessions: Twenty-five of the subjects participated in the six-week follow-up session. The other twenty-five participated in the six-month follow-up session. Both of the follow-up sessions were identical in content and format. The student-athletes were scheduled on an individual basis in order to minimize time conflicts. Each athlete spent approximately 20 minutes completing the follow-up questionnaire, the Goal Instability Questionnaire, and the

Career Maturity Inventory. The students were given the opportunity to ask questions and discuss the career exploration process after the follow-up assessment was complete. The researcher also made herself available at this time for individual appointments above and beyond the confines of the present study. Numerous student-athletes requested continued guidance as part of their exploration process.

Testing time-table. The first group of athletes to participate in the career exploration program did so in the Spring of 1992. Twenty-five student athletes were involved in the study at this time and were placed in the six-month follow-up group. The follow-up was conducted in the late Fall of 1992.

A second treatment period was provided in the Fall of 1992 for ten more participants. Their follow-up was conducted at a six-week interval early in the winter semester of 1993.

The third treatment period engaged 15 more student-athletes and occurred early in the winter semester of 1993. The follow-up interval for the third group was also six weeks. The follow-up testing was conducted early in the Spring of 1993.

Table 7

Data collection time-table

Groups	Pre-test	Intervention	Post-test	Follow-up
Group 1 *n* =25	Spring 1992	6 weeks	Spring 1992	6 months
Group 2 *n* =10	Fall 1992	6 weeks	Fall 1992	6 weeks
Group 3 *n* =15	Winter 1993	6 weeks	Winter 1993	6 weeks

Major Research Hypotheses

Several hypotheses were formulated relevant to the purposes of this investigation. These hypotheses are expressed from a directional perspective and are stated in testable form.

Hypothesis 1

1a. The career maturity level of collegiate student-athletes as measured by the Career Maturity Inventory (CMI) increases over a six-week career exploration program (CEP) intervention period.

1b. The goal instability level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

1c. The motivation to succeed level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

1d. The goal orientation level of collegiate student-athletes as measured by the Goal Instability Scale

(GIS) increases over a six-week career exploration program (CEP) intervention period.

1e. The perception of abilities level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

1f. The decision-making level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

1g. The confidence level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

1h. The study orientation level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) increases over a six-week career exploration program (CEP) intervention period.

Hypothesis 2

2a. The intervention effects of the career exploration program (CEP) will be sustained over a six-week period following the completion of the career exploration program (CEP) intervention.

2b. The intervention effects of the career exploration program (CEP) will be sustained over a six-month period following the completion of the career exploration program (CEP) intervention.

Exploratory Research Questions

The exploratory research questions are of particular interest to the researcher, but are not presented in hypotheses form due to their unpredictable nature. There is insufficient literature and research support from which to estimate the directional quality of each question. The exploratory questions focus upon gender, age, sport classification, athlete classification, choice of academic major, selection of career goals, and correlational relationships between the variables.

The majority of the comparisons are made based on the primary dependent variables listed in questions 1 and 2. Questions 3 and 4 also make comparisons based on academic comfort and intro/extroversion, as measured by the SII.

1. Is there a difference between male and female collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

2. Is there a difference between 18 year old and 19 year old collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

3. Is there a difference between collegiate student-athletes based on their revenue/nonrevenue-sport classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

4. Is there a difference between collegiate student-athletes based on their team/individual-sport classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

5. Is there a difference between collegiate student-athletes based on their scholarship/nonscholarship-athlete classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

6. Is there a difference between collegiate student-athletes based on their starter/substitute/redshirt-athlete classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

7. Is there a difference between collegiate student-athletes based on their choice of academic major and career goals on the following dimensions?

a. Major and career maturity
b. Major and goal stability
c. Career goals and CMI
d. Career goals and GIS

8. Are there significant relationships between academic goals/achievement and career maturity/goal stability?

a. GPA and career maturity
b. GPA and goal stability
c. Academic comfort and CMI
d. Academic comfort and GIS
e. Intro/extroversion and CMI
f. Intro/extroversion and GIS

9. Are there significant relationships between career maturity as measured by the Career Maturity Inventory (CMI) and goal stability as measured by the Goal Instability Scale (GIS)?

a. CMI and GIS
b. CMI and MOT
c. CMI and GO
d. CMI and AB
e. CMI and DM
f. CMI and CON
g. CMI and SO
h. GIS and MOT
i. GIS and GO
j. GIS and AB
k. GIS and DM
l. GIS and CON
m. GIS and SO

Analysis

The analysis of the hypotheses and the exploratory research questions involved two primary statistical measures. Hypotheses 1 and 2 were analyzed by analysis of variance (p = .01) which allows the researcher to test the significance of differences between several interrelated dependent variables across one independent variable with three levels: pretest, postest, and follow-up. Paired t tests were conducted to determine which group differences were significant on the repeated measures for Hypotheses 1. Exploratory questions 1 through 5 were also examined by analysis of variance (p = .05). The decision to use ANOVA as opposed to a multivariate analysis of variance was based on two factors: (a) MANOVA reverses the causal direction of the analysis, which means that the independent variable regresses on the dependent variable, and (b) due to this false regression, the error of

measurement becomes far more threatening than the Type I error caused by multiple ANOVA tests (Hunter, 1987). The use of MANOVA would greatly reduce the power of the test. More power was attained using repeated one-way analysis of variance. The combination of an adequate sample size (N = 50) and a .01 probability value on the repeated measures analysis for Hypotheses 1 establishes confidence that the differences between the group means are significant beyond chance sample variation. Exploratory questions 6 and 7 examined the strength of the correlational relationships between the variables.

Summary

The methodology for the present research involved 50 subjects in a pre-test, intervention, post-test, follow-up repeated measures design in order to measure the effect of a career exploration program on the career maturity and goal instability of collegiate student-athletes. In this chapter the subject pool was described, the psychometric properties of the Career Maturity Inventory and the Goal Instability Scale were discussed, and the impact of a pilot study on the methods of the CEP intervention was presented. Included in the Procedures section was an explanation of the study, a detailed discussion of the Myers-Briggs Type Indicator and the Strong Interest Inventory, and the educational format of the career exploration program. The remainder of the chapter presented the major hypotheses in testable form, the

exploratory research questions, and the means by which each of the hypotheses and questions are analyzed. The results of the analysis are reported in the following chapter.

CHAPTER IV

RESULTS

This study was designed to examine the effect of the Career Exploration Program (CEP) on career maturity, goal instability, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. The maintenance of the effects for a follow-up period (six weeks for some subjects and six months for others) was also investigated. The data were obtained from an analysis of scores on the Career Maturity Inventory (CMI) and the Goal Instability Scale (GIS) from 50 collegiate student-athlete participants in the CEP intervention. The research analyzed twelve directional hypotheses and seven exploratory questions.

Descriptive statistics are presented for each of the dependent variables in order for the reader to have a clear picture of the overall improvement pattern and variance level of these measures throughout the CEP intervention. The descriptive statistics of the dependent variable objective measure results are found in Table 8. The mean and standard deviation are presented for each dependent variable and repeated measure (pretest, posttest, and follow-up test). The increase in the career maturity (CMI) mean scores indicate more definitive career choices, reality orientation, and more consistency (stability) in career decisions and

attitudes over time. The goal instability (GIS) mean scores are indicative of changes in goal stability, more involvement in career decision-making, and a tendency to make more stable life choices. The motivation to succeed (MOT) mean scores are indicative of ambition or one's desire to achieve. The goal orientation (GO) mean scores are indicative of commitment or lack of commitment to mature purposes or objectives. The perception of abilities (AB) mean scores are indicative of increased stability through the recognition and potential use of personal talent. The decision-making (DM) mean scores are indicative of changes in the subjects' feelings about the quality and success of their decision-making processes. The confidence (CON) mean scores are indicative of changes in confidence about performance in a selected academic major and in choosing the right career. The study orientation (SO) mean scores are indicative of attitudes toward the educational process and efforts to achieve in the classroom.

Table 8

Descriptive statistics of the dependent variable objective measures

Dep. Var.	Pretest		Posttest		Follow-up	
	M	SD	M	SD	M	SD
CMI	34.18	4.62	35.42	4.64	36.00	4.95
GIS	77.96	11.89	86.94	13.21	88.82	13.26
MOT	13.24	2.58	14.34	2.46	14.12	2.38
GO	21.26	4.72	23.82	6.00	24.94	5.03
AB	12.74	2.19	13.96	2.04	13.80	2.15
DM	8.00	1.50	8.84	1.63	9.00	1.55
CON	8.34	2.00	9.26	1.47	9.58	1.55
SO	14.38	3.43	16.66	3.63	17.38	4.04

The descriptive data have provided an overall picture of the results of the Career Exploration study. The significance of the analysis of the these results is presented in the following sections on the major research hypotheses and the exploratory research questions.

Effects of CEP: Analysis of Major Hypotheses

Hypothesis 1

1a. The career maturity level of collegiate student-athletes as measured by the Career Maturity Inventory (CMI) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1a was tested by comparing the differences between the mean CMI scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 9 and indicate that there was a significant difference somewhere in the mean CMI scores from pre-test to follow-up test at the .002 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .05 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 9

ANOVA and *t* tests - Repeated measures for career maturity (CMI1-CMI3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	2611.63	53.3	6.81	.0001
Within subjects	100	782.67	7.83		
treatments	2	93.05	46.53	6.61	.002
residual	98	689.61	7.04		
Total	149	3394.29			

Reliability Estimates for - All treatments: .85 Single Treatment: .66

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.24	-2.36	.0222

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.9	-3.32	.0017

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.66	-1.35	.1846

Paired *t* test X: Post-test Y: Follow-up test

1b. The goal instability level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1b was tested by comparing the differences between the mean GIS scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 10 and indicate that there was a significant difference somewhere in the mean GIS scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .0001 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 10

ANOVA and *t* tests - Repeated measures for goal instability (GIS1-GIS3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	19877.36	405.66	5.36	.0001
Within subjects	100	7571.33	75.71		
treatments	2	3368.57	1684.29	39.27	.0001
residual	98	4202.76	42.89		
Total	149	27448.69			

Reliability Estimates for - All treatments: .81 Single Treatment: .59

Table 10 (cont'd).

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-8.98	-6.58	.0001

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-10.86	-7.21	.0001

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.88	-1.87	.0679

Paired *t* test X: Post-test Y: Follow-up test

1c. The motivation to succeed (MOT) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1c was tested by comparing the differences between the mean MOT scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 11 and indicate that there was a significant difference somewhere in the mean MOT scores from pre-test to follow-up test at the .0029 alpha level. Paired *t* tests indicated that mean differences occurred between the

pre-test and the post-test, and between the pre-test and the follow-up test at the .05 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 11

ANOVA and *t* tests - Repeated measures for motivation to succeed (MOT1-MOT3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	634.83	12.96	4.31	.0001
Within subjects	100	300.67	3.01		
treatments	2	33.88	16.94	6.22	.0029
residual	98	266.79	2.72		
Total	149	935.50			

Reliability Estimates for - All treatments: .77 Single Treatment: .52

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.1	-3.04	.0038

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.88	-2.55	.0139

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	.22	.79	.4316

Paired *t* test X: Post-test Y: Follow-up test

1d. The goal orientation (GO) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1d was tested by comparing the differences between the mean GO scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 12 and indicate that there was a significant difference somewhere in the mean GO scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .0002 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 12

ANOVA and t tests - Repeated measures for goal orientation (GO1 - GO3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	3249.66	66.32	5.52	.0001
Within subjects	100	1202.00	12.02		
treatments	2	355.84	177.92	20.61	.0001
residual	98	846.16	8.63		
Total	149	4451.66			

Reliability Estimates for - All treatments: .82 Single Treatment: .60

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-2.56	-4.11	.0002

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-3.68	-6.08	.0001

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.12	-2.11	.0396

Paired *t* test X: Post-test Y: Follow-up test

1e. The perception of abilities (AB) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1e was tested by comparing the differences between the mean AB scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 13 and indicate that there was a significant difference somewhere in the mean AB scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .0011 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 13

ANOVA and t tests - Repeated measures for perception of abilities (AB1-AB3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	486.17	9.92	4.44	.0001
Within subjects	100	223.33	2.23		
treatments	2	43.96	21.98	12.01	.0001
residual	98	179.37	1.83		
Total	149	709.50			

Reliability Estimates for - All treatments: .77 Single Treatment: .53

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.22	-4.49	.0001

Paired *t* test X: Pre-test Y: Post-test

Table 13 (cont'd).

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.06	-3.48	.0011

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	.16	.69	.4918

Paired *t* test X: Post-test Y: Follow-up test

1f. The decision-making (DM) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1f was tested by comparing the differences between the mean DM scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 14 and indicate that there was a significant difference somewhere in the mean DM scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .002 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 14

ANOVA and *t* tests - Repeated measures for decision-making (DM1 - DM3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	217.57	4.44	2.61	.0001
Within subjects	100	170.00	1.70		
treatments	2	28.85	14.43	10.02	.0001
residual	98	141.15	1.44		
Total	149	387.57			

Reliability Estimates for - All treatments: .62 Single Treatment: .35

Table 14 (cont'd).

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.84	-3.26	.002

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.00	-4.07	.0002

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.16	-.75	.4593

Paired *t* test X: Post-test Y: Follow-up test

1g. The confidence (CON) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1g was tested by comparing the differences between the mean CON scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 15 and indicate that there was a significant difference somewhere in the mean CON scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .001 alpha level. Therefore, the null

hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 15

ANOVA and *t* tests - Repeated measures for confidence (CON1-CON3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	270.46	5.52	2.91	.0001
Within subjects	100	190.00	1.90		
treatments	2	41.44	20.72	13.67	.0001
residual	98	148.56	1.52		
Total	149	460.46			

Reliability Estimates for - All treatments: .66 Single Treatment: .39

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.92	-3.5	.001

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-1.24	-4.37	.0001

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.32	-1.78	.0807

Paired *t* test X: Post-test Y: Follow-up test

1h. The study orientation (SO) level of collegiate student-athletes as measured by the Goal Instability Scale (GIS) will not increase over a six-week Career Exploration Program (CEP) intervention period.

Hypothesis 1h was tested by comparing the differences between the mean SO scores of the subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 16 and indicate that there was a significant difference somewhere in the mean SO scores from pre-test to follow-up test at the .0001 alpha level. Paired *t* tests indicated that mean differences occurred between the pre-test and the post-test, and between the pre-test and the follow-up test at the .0001 alpha level. Therefore, the null hypothesis was rejected. Included in the table are the reliability estimates for the career maturity repeated measures.

Table 16

ANOVA and *t* tests - Repeated measures for study orientation (SO1 - SO3)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Between subjects	49	1440.73	29.40	3.55	.0001
Within subjects	100	827.33	8.27		
treatments	2	245.28	122.64	20.65	.0001
residual	98	582.05	5.94		
Total	149	2268.06			

Reliability Estimates for - All treatments: .72 Single Treatment: .46

Table 16 (cont'd).

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-2.28	-4.98	.0001

Paired *t* test X: Pre-test Y: Post-test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-3.00	-5.32	.0001

Paired *t* test X: Pre-test Y: Follow-up test

DF:	Mean X - Y:	*t*	*p* (2-tail)
49	-.72	-1.67	.1008

Paired *t* test X: Post-test Y: Follow-up test

Maintenance of Effects

All of the repeated measures results for Hypothesis 2 and for Exploratory Questions 1 through 7 were significant at the .003 alpha level or better. The repeated measures results indicating the maintenance of effects of the Career Exploration Program intervention are shown in the tables below for each of the tested hypotheses.

Hypothesis 2

2a. The intervention effects of the Career Exploration Program (CEP) on career maturity will not differ between the six-week follow-up group and the six-month follow-up group.

Hypothesis 2a was tested by comparing the differences between the mean CMI scores of the subjects on the follow-up test (six-weeks for some subjects and six-months for the remainder). Analysis of variance results are shown in Table 17 and indicate that there were no significant differences between the mean CMI score on the post-test and the mean CMI score on the six-week or six-month follow-up tests. Directional paired *t* tests affirm the fact that the effects of the CEP intervention were sustained throughout both follow-up periods. Therefore, evidence supports acceptance

of the null hypothesis.

Table 17

ANOVA / means table - Repeated measures for career maturity (Follow-up X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
F-up (A)	1	9.63	9.63	0.18	.6753
subjects w. groups	48	2602.00	54.21		
Repeated Measure (B)	2	93.05	46.53	6.70	.0019
AB	2	22.49	11.25	1.62	.2036
B x subjects w. groups	96	667.12	6.95		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
F-up	six wks	25 34.00	25 35.60	25 35.32	75 34.97
	six mos	25 34.36	25 35.24	25 36.84	75 35.48
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	.28	.59	.2817

Paired t-Test X: six wks - CMI2 Y: six wks - CMI3

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	1.6	1.94	.0642

Paired t-Test X: six mos - CMI3 Y: six mos - CMI2

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	1.52	1.21	.1199

Paired t-Test X: six mos - CMI3 Y: six wks - CMI3

2b. The intervention effects of the Career Exploration Program (CEP) on goal instability will not differ between the six-week follow-up group and the six-month follow-up group.

Hypothesis 2b was tested by comparing the differences between the mean GIS score of the subjects on the follow-up test (six-weeks for some subjects and six-months for the remainder). Analysis of variance results are shown in Table 18 and indicate that there were no significant differences between the mean GIS score on the post-test and the mean GIS score on the six-week or six-month follow-up tests. Directional paired *t* tests affirm the fact that the effects of the CEP intervention were sustained throughout both follow-up periods. Therefore, evidence supports acceptance of the null hypothesis.

Table 18

ANOVA / means table - Repeated measures for goal instability (Follow-up X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
F-up (A)	1	235.63	235.63	0.58	.4517
subjects w. groups	48	19641.73	409.20		
Repeated Measure (B)	2	3368.57	1684.29	39.43	.0001
AB	2	102.41	51.21	1.20	.3060
B x subjects w. groups	96	4100.35	42.71		

Table 18 (cont'd).

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
F-up	six wks	25 77.68	25 85.76	25 86.52	75 83.32
	six mos	25 78.24	25 88.12	25 91.12	75 85.83
Totals:		50 77.96	50 86.94	50 88.82	150 84.57

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	.76	.54	.2973

Paired t-Test X: six wks - GIS3 Y: six wks - GIS2

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	3	2.09	.047

Paired t-Test X: six mos - GIS3 Y: six mos - GIS2

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
24	4.6	1.07	.147

Paired t-Test X: six mos - GIS3 Y: six wks - GIS3

Effects of CEP: Analysis of Exploratory Research Questions

1. Is there a difference between male and female collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

1a. Career maturity of male and female athletes

Exploratory question 1a was tested by comparing the differences between the mean CMI score of female subjects and the mean CMI score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance and directional paired *t* tests results are shown in Table 19 and indicate that the mean CMI scores were significantly higher for the female subjects than for the male subjects. Therefore, it was concluded that there were significant differences between male and female collegiate student-athletes on career maturity. However, there was no significant interaction effect.

Table 19

ANOVA/means table - Repeated measures for career maturity (Gender X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	263.47	263.47	5.39	.0246
subjects w. groups	48	2348.15	48.92		
Repeated Measure (B)	2	93.05	46.53	6.53	.0022
AB	2	5.88	2.94	0.41	.6627
B x subjects w. groups	96	683.73	7.12		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
GENDER	female	26 35.27	26 36.62	26 37.62	78 36.50
	male	24 33.00	24 34.12	24 34.42	72 33.85
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

Table 19 (cont'd).

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
23	2	1.44	.0424

Paired t-Test X: female - CMI1 Y: male - CMI1

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
23	2.38	2.01	.0279

Paired t-Test X: female - CMI2 Y: male - CMI2

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
23	3.17	2.32	.0148

Paired t-Test X: female - CMI3 Y: male - CMI3

1b. Goal Instability of male and female athletes

Exploratory question 1b was tested by comparing the differences between the mean GIS score of female subjects and the mean GIS score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 20 and indicate that there were no significant differences between the mean GIS score for the female subjects and the mean GIS score for the male subjects. Therefore, it was concluded that there are no significant differences between male and female collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 20

ANOVA table - Repeated measures for goal instability (Gender X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	48.74	48.74	0.12	.7327
subjects w. groups	48	19828.62	413.1		
Repeated Measure (B)	2	3368.57	1684.29	40.70	.0001
AB	2	229.92	114.96	2.78	.0672
B x subjects w. groups	96	3972.84	41.38		

1c. Motivation to succeed of male and female athletes

Exploratory question 1c was tested by comparing the differences between the mean MOT score of female subjects and the mean MOT score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 21 and indicate that there were no significant differences between the mean MOT score for the female subjects and the mean MOT score for the male subjects. Therefore, it was concluded that there are no significant differences between these male and female collegiate student-athletes on motivation to succeed. However, there was a significant interaction effect.

Table 21

ANOVA table - Repeated measures for motivation to succeed (Gender X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	0.90	0.90	0.07	.7953
subjects w. groups	48	633.93	13.21		
Repeated Measure (B)	2	33.88	16.94	6.51	.0022
AB	2	17.13	8.56	3.29	.0414
B x subjects w. groups	96	249.66	2.60		

1d. Goal Orientation of male and female athletes

Exploratory question 1d was tested by comparing the differences between the mean GO score of female subjects and the mean GO score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 22 and indicate that there were no significant differences between the mean GO score for the female subjects and the mean GO score for the male subjects. Therefore, it was concluded that there were no significant differences between the male and female collegiate student-athletes on goal orientation. There was no significant interaction effect.

Table 22

ANOVA table - Repeated measures for goal orientation (Gender X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	57.80	57.80	0.87	.3558
subjects w. groups	48	3191.86	66.50		
Repeated Measure (B)	2	355.84	177.92	21.31	.0001
AB	2	44.59	22.29	2.67	.0744
B x subjects w. groups	96	801.57	8.35		

1e. Perception of abilities of male and female athletes

Exploratory question 1e was tested by comparing the differences between the mean AB score of female subjects and the mean AB score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 23 and indicate that there were no significant differences between the mean AB score for the female subjects and the mean AB score for the male subjects. Therefore, it was concluded that there were no significant differences between male and female collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 23

ANOVA table - Repeated measures for perception of abilities(Gender X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	15.38	15.38	1.57	.2165
subjects w. groups	48	470.78	9.81		
Repeated Measure (B)	2	43.96	21.98	12.37	.0001
AB	2	8.85	4.43	2.49	.0881
B x subjects w. groups	96	170.52	1.78		

1f. Decision-making of male and female athletes

Exploratory question 1f was tested by comparing the differences between the mean DM score of female subjects and the mean DM score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 24 and indicate that there were no significant differences between the mean DM score for the female subjects and the mean DM score for the male subjects. Therefore, it was concluded that there were no significant differences between the male and female collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 24

ANOVA table - Repeated measures for decision-making (Gender X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	7.57	7.57	1.73	.1945
subjects w. groups	48	210.00	4.37		
Repeated Measure (B)	2	28.85	14.43	9.91	.0001
AB	2	1.41	0.71	0.48	.6173
B x subjects w. groups	96	139.74	1.46		

1g. Confidence of male and female athletes

Exploratory question 1g was tested by comparing the differences between the mean CON score of female subjects and the mean CON score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 25 and indicate that there were no significant differences between the mean CON score for the female subjects and the mean CON score for the male subjects. Therefore, it was concluded that there were no significant differences between the male and female collegiate student-athletes on confidence. There was no significant interaction effect.

Table 25

ANOVA table - Repeated measures for confidence (Gender X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	0.00	0.00	0.00	.9825
subjects w. groups	48	270.46	5.63		
Repeated Measure (B)	2	41.44	20.72	13.56	.0001
AB	2	1.92	0.96	0.63	.5354
B x subjects w. groups	96	146.64	1.53		

1h. Study orientation of male and female athletes

Exploratory question 1h was tested by comparing the differences between the mean SO score of female subjects and the mean SO score of male subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 26 and indicate that there were no significant differences between the mean SO score for the female subjects and the mean SO score for the male subjects. Therefore, it was concluded that there were no significant differences between the male and female collegiate student-athletes on study orientation. There was no significant interaction effect.

Table 26

ANOVA table - Repeated measures for study orientation (Gender X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
GENDER (A)	1	42.91	42.91	1.47	.2308
subjects w. groups	48	1397.82	29.12		
Repeated Measure (B)	2	245.28	122.64	20.39	.0001
AB	2	4.61	2.31	0.38	.6827
B x subjects w. groups	96	577.44	6.02		

2. Is there a difference between 18 year old and 19 year old collegiate student-athletes on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation

2a. Career Maturity of 18 and 19 year old athletes

Exploratory question 2a was tested by comparing the differences between the mean CMI score of 18 year old subjects and the mean CMI score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 27 and indicate that there were no significant differences between the mean CMI score for the 18 year old subjects and the mean CMI score for

the 19 year old subjects. Therefore, it was concluded that there were no significant differences between the 18 year old and 19 year old collegiate student-athletes on career maturity. However, there was a significant interaction effect due to an increase in the mean CMI score of the 18 year old subjects between the pre-test and the post-test, and comparatively little change in any of the mean CMI scores for the 19 year old subjects.

Table 27

ANOVA / means table - Repeated measures for career maturity (Age X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	71.34	71.34	1.35	.2514
subjects w. groups	48	2540.29	52.92		
Repeated Measure (B)	2	93.05	46.53	7.36	.0011
AB	2	82.86	41.43	6.55	.0021
B x subjects w. groups	96	606.75	6.32		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
AGE	18 years	26 32.54	26 35.46	26 35.69	78 34.56
	19 years	24 35.96	24 35.38	24 36.50	72 35.94
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

2b. Goal instability of 18 and 19 year old athletes

Exploratory question 2b was tested by comparing the differences between the mean GIS score of 18 year old subjects and the mean GIS score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 28 and indicate that there were no significant differences between the mean GIS score for the 18 year old subjects and the mean GIS score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 28

ANOVA table - Repeated measures for goal instability (Age X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	200.86	200.86	0.49	.4873
subjects w. groups	48	19676.50	409.93		
Repeated Measure (B)	2	3368.57	1684.29	38.65	.0001
AB	2	18.79	9.39	0.22	.8065
B x subjects w. groups	96	4183.97	43.58		

2c. Motivation to succeed of 18 and 19 year old athletes

Exploratory question 2c was tested by comparing the differences between the mean MOT score of 18 year old subjects and the mean MOT score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 29 and indicate that there were no significant differences between the mean MOT score for the 18 year old subjects and the mean MOT score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on motivation to succeed. There was no significant interaction effect.

Table 29

ANOVA - Repeated measures for motivation to succeed (Age X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	0.27	0.27	0.02	.8862
subjects w. groups	48	634.56	13.22		
Repeated Measure (B)	2	33.88	16.94	6.23	.0029
AB	2	5.62	2.81	1.03	.3598
B x subjects w. groups	96	261.16	2.72		

2d. Goal orientation of 18 and 19 year old athletes

Exploratory question 2d was tested by comparing the differences between the mean GO score of 18 year old subjects and the mean GO score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 30 and indicate that there were no significant differences between the mean GO score for the 18 year old subjects and the mean GO score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on goal orientation. There was no significant interaction effect.

Table 30

ANOVA table - Repeated measures for goal orientation (Age X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	35.62	35.62	0.53	.4693
subjects w. groups	48	3214.04	66.96		
Repeated Measure (B)	2	355.84	177.92	20.54	.0001
AB	2	14.52	7.26	0.84	.4357
B x subjects w. groups	96	831.64	8.66		

2e. Perception of abilities of 18 and 19 year old athletes

Exploratory question 2e was tested by comparing the differences between the mean AB score of 18 year old subjects and the mean AB score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 31 and indicate that there were no significant differences between the mean AB score for the 18 year old subjects and the mean AB score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 31

ANOVA table - Repeated measures for perception of abilities (Age X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	0.96	0.96	0.10	.7591
subjects w. groups	48	485.21	10.11		
Repeated Measure (B)	2	43.96	21.98	12.19	.0001
AB	2	6.30	3.15	1.75	.1799
B x subjects w. groups	96	173.08	1.80		

2f. Decision-making of 18 and 19 year old athletes

Exploratory question 2f was tested by comparing the differences between the mean DM score of 18 year old subjects and the mean DM score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 32 and indicate that there were no significant differences between the mean DM score for the 18 year old subjects and the mean DM score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 32

ANOVA table - Repeated measures for decision-making (Age X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	1.01	1.01	0.22	.6377
subjects w. groups	48	216.56	4.51		
Repeated Measure (B)	2	28.85	14.43	9.83	.0001
AB	2	0.19	0.09	0.06	.9383
B x subjects w. groups	96	140.96	1.47		

2g. Confidence of 18 and 19 year old athletes

Exploratory question 2g was tested by comparing the differences between the mean CON score of 18 year old subjects and the mean CON score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 33 and indicate that there were no significant differences between the mean CON score for the 18 year old subjects and the mean CON score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on confidence. There was no significant interaction effect.

Table 33

ANOVA table - Repeated measures for confidence (Age X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	0.00	0.00	0.00	.9825
subjects w. groups	48	270.46	5.63		
Repeated Measure (B)	2	41.44	20.72	13.56	.0001
AB	2	1.88	0.94	0.61	.5433
B x subjects w. groups	96	146.68	1.53		

2h. Study orientation of 18 and 19 year old athletes

Exploratory question 2h was tested by comparing the differences between the mean CMI score of 18 year old subjects and the mean CMI score of 19 year old subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 34 and indicate that there were no significant differences between the mean CMI score for the 18 year old subjects and the mean CMI score for the 19 year old subjects. Therefore, it was concluded that there were no significant differences between 18 year old and 19 year old collegiate student-athletes on career maturity. However, even though the mean differences were not statistically significant, there was an observable pattern to the results. The 18 year old subjects scored lower on the pre-test, post-test and follow-up tests than did the 19 year olds, with a similar amount of increase occurring between testing periods. There was no significant interaction effect.

Table 34

ANOVA table - Repeated measures for study orientation (Age X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
AGE (A)	1	99.13	99.13	3.55	.0657
subjects w. groups	48	1341.60	27.95		
Repeated Measure (B)	2	245.28	122.64	20.33	.0001
AB	2	2.83	1.42	0.23	.7913
B x subjects w. groups	96	579.22	6.03		

3. Is there a difference between collegiate student-athletes based on their revenue/nonrevenue-sport classification on the following dimensions?

a.	Career maturity	f.	Decision-making
b.	Goal Stability	g.	Confidence
c.	Motivation to succeed	h.	Study orientation
d.	Goal orientation	i.	Academic comfort
e.	Perception of ability	j.	Intro/Extroversion

3a. Career maturity of revenue and nonrevenue athletes

Exploratory question 3a was tested by comparing the differences between the mean CMI score of revenue-sport subjects and the mean CMI scores of nonrevenue sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 35 and indicate that there were no significant differences between the mean CMI score for the revenue-sport subjects and the mean CMI score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on career maturity. There was no significant interaction effect.

Table 35

ANOVA table - Repeated measures for career maturity (R/NR X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	75.89	75.89	1.44	.2366
subjects w. groups	48	2535.74	52.83		
Repeated Measure (B)	2	93.05	46.53	6.74	.0018
AB	2	27.10	13.55	1.96	.1460
B x subjects w. groups	96	662.51	6.90		

3b. Goal instability of revenue and nonrevenue athletes

Exploratory question 3b was tested by comparing the differences between the mean GIS score of revenue-sport subjects and the mean GIS score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 36 and indicate that there were no significant differences between the mean GIS score for the revenue-sport subjects and the mean GIS score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between the revenue-sport and nonrevenue-sport collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 36

ANOVA table - Repeated measures for goal instability (R/NR X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	191.64	191.64	0.47	.4975
subjects w. groups	48	19685.72	410.12		
Repeated Measure (B)	2	3368.57	1684.29	38.56	.0001
AB	2	9.82	4.91	0.11	.8938
B x subjects w. groups	96	4192.94	43.68		

3c. Motivation to succeed of revenue and nonrevenue athletes

Exploratory question 3c was tested by comparing the differences between the mean MOT score of revenue-sport subjects and the mean MOT score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 37 and indicate that there were no significant differences between the mean MOT score for the revenue-sport subjects and the mean MOT score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between the revenue-sport and nonrevenue-sport collegiate student-athletes on motivation to succeed. There was no significant interaction effect.

Table 37

ANOVA/means - Repeated measures for motivation to succeed (R/NR X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	0.01	0.01	0.00	.9785
subjects w. groups	48	634.82	13.23		
Repeated Measure (B)	2	33.88	16.94	6.15	.0031
AB	2	2.52	1.26	0.46	.6345
B x subjects w. groups	96	264.27	2.75		

	Repeated Meas.	Pre-test	Post-test	Follow-up	Totals:
Class.	REV	22 13.45	22 14.23	22 14.05	66 13.91
	NR	28 13.07	28 14.43	28 14.18	84 13.89
Totals:		50 13.24	50 14.34	50 14.12	150 13.90

3d. Goal orientation of revenue and nonrevenue athletes

Exploratory question 3d was tested by comparing the differences between the mean GO score of revenue-sport subjects and the mean GO score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 38 and indicate that there were no significant differences between the mean GO score for the revenue-sport subjects and the mean GO score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on goal orientation. There was no significant interaction effect.

Table 38

ANOVA table - Repeated measures for goal orientation (R/NR X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	166.98	166.98	2.60	.1134
subjects w. groups	48	3082.68	64.22		
Repeated Measure (B)	2	355.84	177.92	20.70	.0001
AB	2	20.89	10.44	1.21	.3012
B x subjects w. groups	96	825.27	8.60		

3e. Perception of abilities of revenue and nonrevenue athletes

Exploratory question 3e was tested by comparing the differences between the mean AB score of revenue-sport subjects and the mean AB score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 39. Although the .0523 probability value did not reach the .05 standard for significance, the results indicate that, in absolute terms, the mean AB score for the revenue-sport subjects was higher than the mean AB score for the nonrevenue-sport subjects, particularly on the pre-test score. However, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 39

ANOVA table - Repeated measures for perception of abilities (R/NR X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	37.04	37.04	3.96	.0523
subjects w. groups	48	449.13	9.36		
Repeated Measure (B)	2	43.96	21.98	12.36	.0001
AB	2	8.61	4.31	2.42	.0942
B x subjects w. groups	96	170.76	1.78		

3f. Decision-making of revenue and nonrevenue athletes

Exploratory question 3f was tested by comparing the differences between the mean DM score of revenue-sport subjects and the mean DM score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 40 and indicate that there were no significant differences between the mean DM score for the revenue-sport subjects and the mean DM score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 40

ANOVA table - Repeated measures for decision-making (R/NR X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	1.53	1.53	0.34	.5626
subjects w. groups	48	216.04	4.50		
Repeated Measure (B)	2	28.85	14.43	10.35	.0001
AB	2	7.35	3.68	2.64	.0767
B x subjects w. groups	96	133.79	1.39		

3g. Confidence of revenue and nonrevenue athletes

Exploratory question 3g was tested by comparing the differences between the mean CON score of revenue-sport subjects and the mean CON score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 41 and indicate that there were no significant differences between the mean CON score for the revenue-sport subjects and the mean CON score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on confidence. However, there was a significant interaction effect. The mean score for revenue-sport subjects was lower on the pre-test, and higher on the post-test and the follow-up test than was the mean score for nonrevenue-sport subjects on the confidence scale.

Table 41

ANOVA and means table - Repeated measures for confidence (R/NR X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	0.69	0.69	0.12	.7281
subjects w. groups	48	269.77	5.62		
Repeated Measure (B)	2	41.44	20.72	14.37	.0001
AB	2	10.12	5.06	3.51	.0338
B x subjects w. groups	96	138.44	1.44		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
Class.	REV	22 8.05	22 9.68	22 9.68	66 9.14
	NR	28 8.57	28 8.93	28 9.50	84 9.00
Totals:		50 8.34	50 9.26	50 9.58	150 9.06

3h. Study orientation of revenue and nonrevenue athletes

Exploratory question 3h was tested by comparing the differences between the mean CON score of revenue-sport subjects and the mean CON score of nonrevenue-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 42 and indicate that there were no significant differences between the mean CON score for the revenue-sport subjects and the mean CON score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on confidence.

Table 42

ANOVA table - Repeated measures for study orientation (R/NR X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
Class. (A)	1	50.59	50.59	1.75	.1926
subjects w. groups	48	1390.14	28.96		
Repeated Measure (B)	2	245.28	122.64	21.37	.0001
AB	2	31.15	15.58	2.71	.0713
B x subjects w. groups	96	550.9	5.74		

3i. Academic comfort of revenue and nonrevenue athletes

Exploratory question 3i was tested by comparing the differences between the mean acadenic comfort score of revenue-sport subjects and the mean academic comfort score of nonrevenue-sport subjects. Analysis of variance and directional *t* test results are shown in Table 43 and indicate that the revenue-sport subjects AC mean score was significantly lower than the mean AC score for the nonrevenue-sport subjects. Therefore, it was concluded that there are significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on academic comfort.

Table 43

ANOVA and means table - for Academic comfort (R/NR X AC)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	1833.12	1833.12	8.82	.0046
Within groups	48	9980.50	207.93		
Total	49	11813.62			

Group:	*n*	Mean:	Std. Dev.:	Std. Error:
REV	22	20.91	12.41	2.65
NR	28	33.11	15.81	2.99

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
21	13.5	3.17	.0023

Paired t-Test X1: NR - AC Y1: REV - AC

3j. Introversion/extroversion of revenue and nonrevenue athletes

Exploratory question 3j was tested by comparing the differences between the mean IE score of revenue-sport subjects and the mean IE score of nonrevenue-sport subjects. Analysis of variance results are shown in Table 44 and indicate that there were no significant differences between the mean IE score for the revenue-sport subjects and the mean IE score for the nonrevenue-sport subjects. Therefore, it was concluded that there were no significant differences between revenue-sport and nonrevenue-sport collegiate student-athletes on introversion/extroversion.

Table 44

ANOVA table - for Introversion/extroversion (R/NR X IE)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	10.33	10.33	.07	.7987
Within groups	48	7540.79	157.10		
Total	49	7551.12			

4. Is there a difference between collegiate student-athletes based on their team/individual-sport classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

4a. Career maturity of team and individual athletes

Exploratory question 4a was tested by comparing the differences between the mean CMI score of team-sport subjects and the mean CMI score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 45 and indicate that there were no significant differences between the mean CMI

score for the team-sport subjects and the mean CMI score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on career maturity. However, there was a significant interaction effect. The mean score of individual-sport subjects was lower on the pre-test and higher on the post-test and follow-up measures than the mean score of team-sport subjects.

Table 45

ANOVA / means table - Repeated measures for career maturity (T/I X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	31.52	31.52	0.59	.4476
subjects w. groups	48	2580.11	53.75		
Repeated Measure (B)	2	93.05	46.53	6.98	.0015
AB	2	50.16	25.08	3.77	.0267
B x subjects w. groups	96	639.46	6.66		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
TEAM	TEAM	37 34.38	37 34.81	37 35.68	111 34.95
	IND	13 33.62	13 37.15	13 37.23	39 36.00
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

4b. Goal instability of team and individual athletes

Exploratory question 4b was tested by comparing the differences between the mean GIS score of team-sport subjects and the mean GIS score of individual-sport subjects on the

pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 46 and indicate that there were no significant differences between the mean GIS score for the team-sport subjects and the mean GIS score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 46

ANOVA table - Repeated measures for goal instability (T/I X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	310.35	310.35	0.76	.3873
subjects w. groups	48	19567.01	407.65		
Repeated Measure (B)	2	3368.57	1684.29	38.72	.0001
AB	2	26.80	13.40	0.31	.7356
B x subjects w. groups	96	4175.96	43.50		

4c. Motivation to succeed of team and individual athletes

Exploratory question 4c was tested by comparing the differences between the mean MOT score of team-sport subjects and the mean MOT score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 47 and indicate that there were no significant differences between the mean MOT score for the team-sport subjects and the mean MOT score for

the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on motivation to succeed. There was no significant interaction effect.

Table 47

ANOVA table - Repeated measures for motivation to succeed (T/I X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	0.29	0.29	0.02	.8826
subjects w. groups	48	634.54	13.22		
Repeated Measure (B)	2	33.88	16.94	6.12	.0031
AB	2	1.10	0.55	0.20	.8195
B x subjects w. groups	96	265.68	2.77		

4d. Goal orientation of team and individual athletes

Exploratory question 4d was tested by comparing the differences between the mean GO score of team-sport subjects and the mean GO score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 48 and indicate that there were no significant differences between the mean GO score for the team-sport subjects and the mean GO score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on goal orientation. However, there was a significant interaction

effect. The individual-sport subjects scored lower than the team-sport subjects on the goal orientation pre-test, but the mean score of the individual-sport subjects on the post-test and the follow-up test was higher than the mean score of the team-sport subjects.

Table 48

ANOVA / means table - Repeated measures for goal orientation (T/I X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	4.00	4.00	0.06	.8089
subjects w. groups	48	3245.66	67.62		
Repeated Measure (B)	2	355.84	177.92	22.81	.0001
AB	2	97.25	48.62	6.23	.0029
B x subjects w. groups	96	748.91	7.80		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
TEAM	TEAM	37 21.84	37 23.41	37 24.49	111 23.24
	IND	13 19.62	13 25.00	13 26.23	39 23.62
Totals:		50 21.26	50 23.82	50 24.94	150 23.34

4e. Perception of abilities of team and individual athletes

Exploratory question 4e was tested by comparing the differences between the mean AB score of team-sport subjects and the mean AB score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 49 and indicate that

there were no significant differences between the mean AB score for the team-sport subjects and the mean AB score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 49

ANOVA table - Repeated measures for perception of abilities (T/I X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	0.42	0.42	0.04	.8386
subjects w. groups	48	485.74	10.12		
Repeated Measure (B)	2	43.96	21.98	11.84	.0001
AB	2	1.21	0.61	0.33	.7224
B x subjects w. groups	96	178.16	1.86		

4f. Decision-making of team and individual athletes

Exploratory question 4f was tested by comparing the differences between the mean DM score of team-sport subjects and the mean DM score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 50 and indicate that there were no significant differences between the mean DM score for the team-sport subjects and the mean DM score for the individual-sport subjects. Therefore, it was concluded

that there were no significant differences between team-sport and individual-sport collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 50

ANOVA table - Repeated measures for decision-making (T/I X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	6.87	6.87	1.56	.2170
subjects w. groups	48	210.70	4.39		
Repeated Measure (B)	2	28.85	14.43	10.21	.0001
AB	2	5.50	2.75	1.95	.1485
B x subjects w. groups	96	135.65	1.41		

4g. Confidence of team and individual athletes

Exploratory question 4g was tested by comparing the differences between the mean CON score of team-sport subjects and the mean CON score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 51 and indicate that there were no significant differences between the mean CON score for the team-sport subjects and the mean CON score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on confidence. There was no significant interaction effect.

Table 51

ANOVA table - Repeated measures for confidence (T/I X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	0.75	0.75	0.13	.7160
subjects w. groups	48	269.71	5.62		
Repeated Measure (B)	2	41.44	20.72	13.87	.0001
AB	2	5.16	2.58	1.73	.1834
B x subjects w. groups	96	143.40	1.49		

4h. Study orientation of team and individual athletes

Exploratory question 4h was tested by comparing the differences between the mean SO score of team-sport subjects and the mean SO score of individual-sport subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 52. Although the .0512 probability value did not reach the .05 standard for significance, the mean SO pre-test score for the individual-sport subjects was higher, in absolute terms, than the mean SO pre-test score for the team-sport subjects. The mean post-test and follow-up SO scores also remained higher for the individual-sport subjects than for the team-sport subjects. However, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on study orientation. There was no significant interaction effect.

Table 52

ANOVA table - Repeated measures for study orientation (T/I X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
TEAM (A)	1	110.77	110.77	4.00	.0512
subjects w. groups	48	1329.96	27.71		
Repeated Measure (B)	2	245.28	122.64	20.61	.0001
AB	2	10.88	5.44	0.91	.4042
B x subjects w. groups	96	571.17	5.95		

4i. Academic comfort of team and individual athletes

Exploratory question 4i was tested by comparing the differences between the mean academic comfort score of team-sport subjects and the mean academic comfort score of individual-sport subjects. Analysis of variance and directional *t* test results are shown in Table 53 and indicate that the team-sport subjects mean AC score was significantly lower than the mean AC score for the individual-sport subjects. Therefore, it was concluded that there are significant differences between team-sport and individual-sport collegiate student-athletes on academic comfort.

Table 53

ANOVA and means table - for Academic comfort (T/I X AC)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	2808.81	2808.81	14.97	.0003
Within groups	48	9004.81	187.60		
Total	49	11813.62			

Table 53 (cont'd).

Group:	*n*	Mean:	Std. Dev.:	Std. Error:
TEAM	37	23.30	12.51	2.06
IND	13	40.38	16.76	4.65

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
12	17.08	2.62	.0113

Paired t-Test X1: IND - AC Y1: TEAM - AC

4j. Introversion/extroversion of team and individual athletes

Exploratory question 4j was tested by comparing the differences between the mean IE score of team-sport subjects and the mean IE score of individual-sport subjects. Analysis of variance results are shown in Table 54 and indicate that there were no significant differences between the mean IE score for the team-sport subjects and the mean IE score for the individual-sport subjects. Therefore, it was concluded that there were no significant differences between team-sport and individual-sport collegiate student-athletes on introversion/extroversion.

Table 54

ANOVA table - for Introversion/extroversion (T/I X I/E)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	258.63	258.63	1.7	.1982
Within groups	48	7292.49	151.93		
Total	49	7551.12			

5. Is there a difference between collegiate student-athletes based on their scholarship/nonscholarship-athlete classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

5a. Career maturity of scholarship and nonscholarship athletes

Exploratory question 5a was tested by comparing the differences between the mean CMI score of scholarship-subjects and the mean CMI score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 55 and indicate that

there were no significant differences between scholarship and nonscholarship collegiate student-athletes on career maturity. There was no significant interaction effect.

Table 55

ANOVA table - Repeated measures for career maturity (S/NS X CMI

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	2.65	2.65	0.05	.8263
subjects w. groups	48	2608.98	54.35		
Repeated Measure (B)	2	93.05	46.53	6.60	.0021
AB	2	12.69	6.34	0.90	.4101
B x subjects w. groups	96	676.92	7.05		

5b. Goal instability of scholarship and nonscholarship athletes

Exploratory question 5b was tested by comparing the differences between the mean GIS score of scholarship-subjects and the mean GIS score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 56 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 56

ANOVA table - Repeated measures for goal instability (S/NS X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	0.82	0.82	0.00	.9648
subjects w. groups	48	19876.54	414.09		
Repeated Measure (B)	2	3368.57	1684.29	39.30	.0001
AB	2	88.55	44.28	1.03	.3598
B x subjects w. groups	96	4114.21	42.86		

5c. Motivation to succeed of scholarship and nonscholarship athletes

Exploratory question 5c was tested by comparing the differences between the mean MOT score of scholarship-subjects and the mean MOT score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 57 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on motivation to succeed. There was no significant interaction effect.

Table 57

ANOVA table - Repeated measures for motivation to succeed (S/NS X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	8.69	8.69	0.67	.4185
subjects w. groups	48	626.15	13.04		
Repeated Measure (B)	2	33.88	16.94	6.32	.0026
AB	2	9.64	4.82	1.80	.1710
B x subjects w. groups	96	257.15	2.68		

5d. Goal orientation of scholarship and nonscholarship athletes

Exploratory question 5d was tested by comparing the differences between the mean GO score of scholarship-subjects and the mean GO score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 58 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on goal orientation. There was no significant interaction effect.

Table 58

ANOVA table - Repeated measures for goal orientation (S/NS X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	13.53	13.53	0.20	.6562
subjects w. groups	48	3236.13	67.42		
Repeated Measure (B)	2	355.84	177.92	20.34	.0001
AB	2	6.24	3.12	0.36	.7008
B x subjects w. groups	96	839.92	8.75		

5e. Perception of abilities of scholarship and nonscholarship athletes

Exploratory question 5e was tested by comparing the differences between the mean AB score of scholarship-subjects and the mean AB score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance

results are shown in Table 59 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 59

ANOVA table - Repeated measures for perception of abilities (S/NS X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	11.3	11.30	1.14	.2906
subjects w. groups	48	474.87	9.89		
Repeated Measure (B)	2	43.96	21.98	11.93	.0001
AB	2	2.47	1.24	0.67	.5133
B x subjects w. groups	96	176.90	1.84		

5f. Decision-making of scholarship and nonscholarship athletes

Exploratory question 5f was tested by comparing the differences between the mean DM score of scholarship-subjects and the mean DM score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 60 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 60

ANOVA table - Repeated measures for decision-making (S/NS X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	8.87	8.87	2.04	.1597
subjects w. groups	48	208.70	4.35		
Repeated Measure (B)	2	28.85	14.43	10.07	.0001
AB	2	3.67	1.84	1.28	.2819
B x subjects w. groups	96	137.47	1.43		

5g. Confidence of scholarship and nonscholarship athletes

Exploratory question 5g was tested by comparing the differences between the mean CON score of scholarship-subjects and the mean CON score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 61 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on confidence. There was no significant interaction effect.

Table 61

ANOVA table - Repeated measures for confidence (S/NS X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	5.87	5.87	1.07	.3072
subjects w. groups	48	264.59	5.51		
Repeated Measure (B)	2	41.44	20.72	13.70	.0001
AB	2	3.38	1.69	1.12	.3318
B x subjects w. groups	96	145.18	1.51		

5h. Study orientation of scholarship and nonscholarship athletes

Exploratory question 5h was tested by comparing the differences between the mean SO score of scholarship-subjects and the mean SO score of nonscholarship-subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 62 and indicate that there were no significant differences between scholarship and nonscholarship collegiate student-athletes on study orientation. There was no significant interaction effect.

Table 62

ANOVA table - Repeated measures for study orientation (S/NS X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
$$$$ (A)	1	76.85	76.85	2.70	.1066
subjects w. groups	48	1363.88	28.41		
Repeated Measure (B)	2	245.28	122.64	20.58	.0001
AB	2	10.00	5.00	0.84	.4354
B x subjects w. groups	96	572.06	5.96		

5i. Academic comfort of scholarship and nonscholarship athletes

Exploratory question 5i was tested by comparing the differences between the mean academic comfort score of scholarship-subjects and the mean academic comfort score of nonscholarship-subjects. Analysis of variance and

directional *t* test results are shown in Table 63 and indicate that the scholarship-subjects AC mean score was significantly lower than the mean AC score for the nonscholarship-subjects. Therefore, it was concluded that there are significant differences between scholarship and nonscholarship collegiate student-athletes on academic comfort.

Table 63

ANOVA, *t* test, and means table - for academic comfort (S/NS X AC)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	2711.44	2711.44	14.3	.0004
Within groups	48	9102.18	189.63		
Total	49	11813.62			

Group:	*n*	Mean:	Std. Dev.:	Std. Error:
SCH	33	22.45	11.93	2.08
NSC	17	38.00	16.86	4.09

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
16	16.24	4.29	.0003

Paired t-Test X1: NSC - AC Y1: SCH - AC

5j. Introversion/extroversion of scholarship and nonscholarship athletes

Exploratory question 5j was tested by comparing the differences between the mean IE score of scholarship-subjects and the mean IE score of nonscholarship-subjects. Analysis of variance results are shown in Table 64 and indicate that

there were no significant differences between scholarship and nonscholarship collegiate student-athletes on introversion/extroversion.

Table 64

ANOVA table - for introversion/extroversion (S/NS X IE)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	1	149.24	149.24	.97	.3302
Within groups	48	7401.88	154.21		
Total	49	7551.12			

6. Is there a difference between collegiate student-athletes based on their starter/substitute/redshirt-athlete classification on the following dimensions?

a. Career maturity
b. Goal Stability
c. Motivation to succeed
d. Goal orientation
e. Perception of ability
f. Decision-making
g. Confidence
h. Study orientation
i. Academic comfort
j. Intro/Extroversion

6a. Career maturity of starter, substitute, and redshirt status athletes

Exploratory question 6a was tested by comparing the differences between the mean CMI score of starters, the mean CMI score of substitutes, and the mean CMI score of redshirt-

status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 65 and indicate that the mean CMI score for the starters was significantly lower than and the mean CMI score for the substitutes and the redshirt-status subjects. Therefore, it was concluded that there were significant differences between starter, substitute, and redshirt-status collegiate student-athletes on career maturity. There was no significant interaction effect.

Table 65

ANOVA/means table- Repeated measures for career maturity(S/Sub/RS X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	399.68	199.84	4.25	.0202
subjects w. groups	47	2211.95	47.06		
Repeated Measure (B)	2	93.05	46.53	6.53	.0022
AB	4	19.65	4.91	0.69	.6011
B x subjects w. groups	94	669.96	7.13		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
STATUS	STAR	15 31.73	15 32.27	15 34.20	45 32.73
	SUB	25 35.36	25 36.68	25 36.88	75 36.31
	RS	10 34.90	10 37.00	10 36.90	30 36.27
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
14	3.4	2.18	.0235

Paired t-Test X: SUB - CMI1 Y: STAR - CMI1

Table 65 (cont'd).

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
9	3.7	2.33	.0222

Paired t-Test X: RS - CMI1 Y: STAR - CMI1

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
9	.2	.13	.4505

Paired t-Test X: SUB - CMI1 Y: RS - CMI1

6b. Goal instability of starter, substitute, and redshirt status athletes

Exploratory question 6b was tested by comparing the differences between the mean GIS score of starters, the mean GIS score of substitutes, and the mean GIS score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 66 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on goal instability. There was no significant interaction effect.

Table 66

ANOVA table - Repeated measures for goal instability (S/Sub/RS X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	420.21	210.10	0.51	.6052
subjects w. groups	47	19457.15	413.98		
Repeated Measure (B)	2	3368.57	1684.29	38.07	.0001
AB	4	43.91	10.98	0.25	.9102
B x subjects w. groups	94	4158.85	44.24		

6c. Motivation to succeed of starter, substitute, and redshirt status athletes

Exploratory question 6c was tested by comparing the differences between the mean MOT score of starters, the mean MOT score of substitutes, and the mean MOT score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 67 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on motivation to succeed. There was no significant interaction effect.

Table 67

ANOVA table - Repeated measures for motivation to succeed (S/Sub/RS X MOT)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	4.67	2.33	0.17	.8408
subjects w. groups	47	630.17	13.41		
Repeated Measure (B)	2	33.88	16.94	6.11	.0032
AB	4	6.03	1.51	0.54	.7044
B x subjects w. groups	94	260.76	2.77		

6d. Goal orientation of starter, substitute, and redshirt status athletes

Exploratory question 6d was tested by comparing the differences between the mean GO score of starters, the mean GO score of substitutes, and the mean GO score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 68 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on goal orientation. There was no significant interaction effect.

Table 68

ANOVA table- Repeated measures for goal orientation(S/Sub/RS X GO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	133.24	66.62	1.00	.3739
subjects w. groups	47	3116.42	66.31		
Repeated Measure (B)	2	355.84	177.92	20.26	.0001
AB	4	20.51	5.13	0.58	.6751
B x subjects w. groups	94	825.65	8.78		

6e. Perception of abilities of starter, substitute, and redshirt status athletes

Exploratory question 6e was tested by comparing the differences between the mean AB score of starters, the mean AB score of substitutes, and the mean AB score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 69 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on perception of ability. There was no significant interaction effect.

Table 69

ANOVA table - Repeated measures for perception of abilities (S/Sub/RS X AB)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	8.49	4.24	0.42	.6611
subjects w. groups	47	477.68	10.16		
Repeated Measure (B)	2	43.96	21.98	11.89	.0001
AB	4	5.63	1.41	0.76	.5532
B x subjects w. groups	94	173.75	1.85		

6f. Decision-making of starter, substitute, and redshirt status athletes

Exploratory question 6f was tested by comparing the differences between the mean DM score of starters, the mean DM score of substitutes, and the mean DM score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 70 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on decision-making. There was no significant interaction effect.

Table 70

ANOVA table - Repeated measures for decision-making(S/Sub/RS X DM)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	6.62	3.31	0.74	.4840
subjects w. groups	47	210.96	4.49		
Repeated Measure (B)	2	28.85	14.43	9.67	.0002
AB	4	0.96	0.24	0.16	.9572
B x subjects w. groups	94	140.18	1.49		

6g. Confidence of starter, substitute, and redshirt status athletes

Exploratory question 6g was tested by comparing the differences between the mean CON score of starters, the mean CON score of substitutes, and the mean CON score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 71 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on confidence. There was no significant interaction effect.

Table 71

ANOVA table - Repeated measures for confidence (S/Sub/RS X CON)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	2.30	1.15	0.20	.8180
subjects w. groups	47	268.16	5.71		
Repeated Measure (B)	2	41.44	20.72	13.40	.0001
AB	4	3.26	0.81	0.53	.7162
B x subjects w. groups	94	145.30	1.55		

6h. Study orientation of starter, substitute, and redshirt status athletes

Exploratory question 6h was tested by comparing the differences between the mean SO score of starters, the mean SO score of substitutes, and the mean SO score of redshirt-status subjects on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 72 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on study orientation. There was no significant interaction effect.

Table 72

ANOVA table - Repeated measures for study orientation (S/Sub/RS X SO)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
STATUS (A)	2	26.36	13.18	0.44	.6479
subjects w. groups	47	1414.36	30.09		
Repeated Measure (B)	2	245.28	122.64	20.40	.0001
AB	4	16.86	4.21	0.70	.5932
B x subjects w. groups	94	565.20	6.01		

6i. Academic comfort of starter, substitute, and redshirt status athletes

Exploratory question 6i was tested by comparing the differences between the mean AC score of starters, the mean AC score of substitutes, and the mean AC score of redshirt-status subjects. Analysis of variance results are shown in Table 73 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on academic comfort.

Table 73

ANOVA table - for Academic comfort (S/Sub/RS X AC)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	2	97.65	48.82	.2	.8228
Within groups	47	11715.97	249.28		
Total	49	11813.62			

6j. Introversion/extroversion of starter, substitute, and redshirt status athletes

Exploratory question 6j was tested by comparing the differences between the mean IE score of starters, the mean IE score of substitutes, and the mean IE score of redshirt-status subjects. Analysis of variance results are shown in Table 74 and indicate that there were no significant differences between starter, substitute, and redshirt-status collegiate student-athletes on introversion/extroversion.

Table 74

ANOVA table - for introversion/extroversion (S/Sub/RS X IE)

Source:	DF:	Sum Squares:	Mean Square:	*F*	*p*
Between groups	2	679.53	339.76	2.32	.1090
Within groups	47	6871.59	146.20		
Total	49	7551.12			

7. Is there a difference between collegiate student-athletes based on their choice of academic major and career goals on the following dimensions?

a. Major and career maturity
b. Major and goal stability
c. Career and career maturity
d. Career and goal instability

7a. Academic major and career maturity

Exploratory question 7a was tested by comparing the differences between the mean CMI score of subjects who changed their academic major during the period of the research study, the mean CMI score of subjects who confirmed their academic major during the period of the research study, and the mean CMI score of subjects who made no change in their academic major during the period of the research study on the pre-test, post-test, and follow-up test. Analysis of variance and directional paired *t* test results are shown in Table 75 and indicate that the mean CMI score for subjects who made no change in their academic major were significantly lower than the mean CMI score for subjects who changed and confirmed their major. Therefore, it was concluded that there are significant differences between collegiate student-athletes on career maturity based on their confirmation of an academic major. There was no significant interaction effect.

Table 75

ANOVA/means-Repeated measures for career maturity(Academic major X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
MAJOR (A)	2	368.89	184.44	3.87	.0279
subjects w. groups	47	2242.74	47.72		
Repeated Measure (B)	2	93.05	46.53	6.78	.0018
AB	4	44.38	11.09	1.62	.1766
B x subjects w. groups	94	645.24	6.86		

Table 75 (cont'd).

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
MAJOR	CHANGE	25 34.84	25 36.84	25 37.72	75 36.47
	CONFIRM	18 34.00	18 34.83	18 35.67	54 34.83
	NONE	7 32.29	7 31.86	7 31.29	21 31.81
Totals:		50 34.18	50 35.42	50 36.08	150 35.23

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
6	8.14	4.09	.0033

Paired t-Test X: CHAN - CMI3 Y: NONE - CMI3

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
6	5.14	2.08	.0414

Paired t-Test X: CONF - CMI3 Y: NONE - CMI3

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
17	1.72	.94	.1804

Paired t-Test X: CHAN - CMI3 Y: CONF - CMI3

7b. Academic major and goal instability

Exploratory question 7b was tested by comparing the differences between the mean GIS score of subjects who changed their academic major during the period of the research study, the mean GIS score of subjects who confirmed their academic major during the period of the research study, and the mean GIS score of subjects who made no change in

their academic major during the period of the research study on the pre-test, post-test, and follow-up test. Analysis of variance and directional paired *t* test results are shown in Table 76 and indicate that the mean GIS score for subjects who made no change in their academic major were significantly lower than the mean GIS score for subjects who changed and confirmed their major. Therefore, it was concluded that there are significant differences between collegiate student-athletes on goal instability based on their confirmation of an academic major. There was also a significant interaction effect between the score of the subjects who confirmed their academic major and those who changed their academic major.

Table 76

ANOVA/means-Repeated measures for goal instability(Academic major X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
MAJOR (A)	2	2518.34	1259.17	3.41	.0414
subjects w. groups	47	17359.02	369.34		
Repeated Measure (B)	2	3368.57	1684.29	43.64	.0001
AB	4	574.89	143.72	3.72	.0074
B x subjects w. groups	94	3627.87	38.59		

Repeated Meas.		Pre-test	Post-test	Follow-up	Totals:
MAJOR	CHANGE	25 77.04	25 89.84	25 91.28	75 86.05
	CONFIRM	18 81.28	18 88.50	18 89.61	54 86.46
	NONE	7 72.71	7 72.57	7 78.00	21 74.43
Totals:		50 77.96	50 86.94	50 88.82	150 84.57

Table 76 (cont'd).

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
6	12.43	3.45	.0068

Paired t-Test X: CHAN - PT3 Y: NONE - PT3

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
6	13.57	2.19	.0357

Paired t-Test X: CONF - PT3 Y: NONE - PT3

DF:	Mean X - Y:	Paired t value:	Prob. (1-tail):
17	1.61	.36	.3602

Paired t-Test X: CHAN - PT3 Y: CONF - PT3

7c. Career change and career maturity

Exploratory question 7c was tested by comparing the differences between the mean CMI score of subjects who changed their career goals during the period of the research study, the mean CMI score of subjects who confirmed their career goals during the period of the research study, and the mean CMI score of subjects who made no change in their career goals during the period of the research study on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 77 and indicate that the mean CMI score for subjects who made no change in their career goals were lower than the mean CMI score for subjects who changed and confirmed their major, but not significantly. Therefore, it was concluded that there were no significant differences

between collegiate student-athletes on career maturity based on their selection of career goals. There was no significant interaction effect.

Table 77

ANOVA table - Repeated measures for career maturity (Career goals X CMI)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
CAREER (A)	2	235.28	117.64	2.33	.1088
subjects w. groups	47	2376.34	50.56		
Repeated Measure (B)	2	93.05	46.53	6.50	.0023
AB	4	17.27	4.32	0.60	.6609
B x subjects w. groups	94	672.34	7.15		

7d. Career goals and goal instability

Exploratory question 7d was tested by comparing the differences between the mean GIS score of subjects who changed their career goals during the period of the research study, the mean GIS score of subjects who confirmed their career goals during the period of the research study, and the mean GIS score of subjects who made no change in their career goals during the period of the research study on the pre-test, post-test, and follow-up test. Analysis of variance results are shown in Table 78 and indicate that the mean GIS score for subjects who made no change in their career goals were lower than the mean GIS score for subjects who changed and confirmed their major, but not significantly. Therefore, it was concluded that there were no significant differences

between collegiate student-athletes on goal instability based on their selection of career goals. There was no significant interaction effect.

Table 78

ANOVA table - Repeated measures for goal instability (Career goals X GIS)

Source:	df:	Sum of Squares:	Mean Square:	*F*	*p*
CAREER (A)	2	1126.49	563.25	1.41	.2538
subjects w. groups	47	18750.87	398.95		
Repeated Measure (B)	2	3368.57	1684.29	39.20	.0001
AB	4	163.92	40.98	0.95	.4367
B x subjects w. groups	94	4038.84	42.97		

8. Are there significant relationships between academic goals/achievement and career maturity/goal stability?

a. Grade point average and career maturity
b. Grade point average and goal stability
c. Academic comfort and career maturity
d. Academic comfort and goal instability
e. Intro/extroversion and career maturity
f. Intro/extroversion and goal instability

8a. Grade point average and career maturity

Exploratory question 8a was tested by examining the correlational relationship between the grade point average of the subjects and the career maturity scores of the subjects. High school grade point average (HSGPA), entering grade point

average (EGPA; i.e., cumulative college GPA when subject began the CEP intervention), and post grade point average (PGPA; i.e., cumulative college GPA when subject completed the CEP intervention) were paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 79. No strong positive or negative relationships were found when grades were compared with repeated measures.

Table 79

Correlation matrix for grade point average and career maturity

	HSGPA	EGPA	PGPA	CMI1	CMI2	CMI3
HSGPA	1.00					
EGPA	.21	1.00				
PGPA	.31	.84	1.00			
CMI1	.18	-.28	-.03	1.00		
CMI2	.27	-.18	-.14	.68	1.00	
CMI3	.30	-.15	-.11	.64	.73	1.00

8b. Grade point average and goal instability

Exploratory question 8b was tested by examining the correlational relationship between the grade point average of the subjects and the goal instability scores of the subjects. High school grade point average (HSGPA), entering grade point average (EGPA; i.e., cumulative college GPA when subject

began the CEP intervention), and post grade point average (PGPA; i.e., cumulative college GPA when subject completed the CEP intervention) were paired with each GIS repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 80. No strong positive or negative relationships were found when grades were compared with repeated measures.

Table 80

Correlation matrix for grade point average and goal instability

	HSGPA	EGPA	PGPA	GIS1	GIS2	GIS3
HSGPA	1.00					
EGPA	.21	1.00				
PGPA	.31	.84	1.00			
GIS1	.02	-.19	-.03	1.00		
GIS2	.19	-.16	-.11	.69	1.00	
GIS3	.13	-.07	.00	.63	.85	1.00

8c. Academic comfort and career maturity

Exploratory question 8c was tested by examining the correlational relationship between the academic comfort scores of the subjects and the career maturity scores of the subjects. Academic comfort (AC), as measured by the Strong Interest Inventory, was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment

correlation statistical analysis. The correlation matrix is shown in Table 81. No strong positive or negative relationships were found when academic comfort scores were compared with repeated measures.

Table 81

Correlation matrix for academic comfort and career maturity

	CMI1	CMI2	CMI3	AC
CMI1	1.00			
CMI2	.68	1.00		
CMI3	.64	.74	1.00	
AC	-.12	.05	.02	1.00

8d. Academic comfort and goal instability

Exploratory question 8d was tested by examining the correlational relationship between the academic comfort scores of the subjects and the goal instability scores of the subjects. Academic comfort (AC), as measured by the Strong Interest Inventory, was paired with each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 82. No strong positive or negative relationships were found when academic comfort scores were compared with repeated measures.

Table 82

Correlation matrix for academic comfort and goal instability

	GIS1	GIS2	GIS3	AC
GIS1	1.00			
GIS2	.71	1.00		
GIS3	.65	.86	1.00	
AC	.29	.26	.23	1.00

8e. Introversion/extroversion and career maturity

Exploratory question 8e was tested by examining the correlational relationship between the introversion/ extroversion scores of the subjects and the career maturity scores of the subjects. Introversion/extroversion (IE), as measured by the Strong Interest Inventory, was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 83. No strong positive or negative relationships were found when introversion/extroversion scores were compared with repeated measures.

Table 83

Correlation matrix for introversion/extroversion and career maturity

	CMI1	CMI2	CMI3	IE
CMI1	1.00			
CMI2	.68	1.00		
CMI3	.64	.74	1.00	
IE	-.01	.04	-.03	1.00

8f. Introversion/extroversion and goal instability

Exploratory question 8f was tested by examining the correlational relationship between the introversion/ extroversion scores of the subjects and the goal instability scores of the subjects. Introversion/ extroversion (IE), as measured by the Strong Interest Inventory, was paired with each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 84. No strong positive or negative relationships were found when introversion/extroversion scores were compared with repeated measures.

Table 84

Correlation matrix for introversion/extroversion and goal instability

	GIS1	GIS2	GIS3	IE
GIS1	1.00			
GIS2	.71	1.00		
GIS3	.65	.86	1.00	
IE	-.36	-.24	-.26	1.00

9. Are there significant relationships between career maturity as measured by the Career Maturity Inventory (CMI) and goal stability as measured by the Goal Instability Scale (GIS)?

a. Career maturity and goal instability
b. Career maturity and motivation to succeed
c. Career maturity and goal orientation
d. Career maturity and perception of abilities
e. Career maturity and decision-making
f. Career maturity and confidence
g. Career maturity and study orientation
h. Goal instability and motivation to succeed
i. Goal instability and goal orientation
j. Goal instability and perception of abilities
k. Goal instability and decision-making
l. Goal instability and confidence
m. Goal instability and study orientation

9a. Career maturity and goal instability

Exploratory question 9a was tested by examining the correlational relationship between the goal instability scores of the subjects and the career maturity scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 85. No strong positive or negative relationships were found between the career maturity and goal instability variables.

Table 85

Correlation matrix for career maturity and goal instability

	CMI1	CMI2	CMI3	GIS1	GIS2	GIS3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
GIS1	.22	.22	.24	1.00		
GIS2	.22	.38	.38	.71	1.00	
GIS3	.25	.38	.52	.65	.86	1.00

9b. Career maturity and motivation to succeed

Exploratory question 9b was tested by examining the correlational relationship between the motivation to succeed scores of the subjects and the career maturity scores of the subjects. Each motivation to succeed repeated measures score (pretest = MOT1, posttest = MOT2, follow-up test = MOT3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 86. No strong positive or negative relationships were found between the career maturity and motivation to succeed variables.

Table 86

Correlation matrix for career maturity and motivation to succeed

	CMI1	CMI2	CMI3	MOT1	MOT2	MOT3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
MOT1	.03	.03	.02	1.00		
MOT2	.12	.21	.28	.49	1.00	
MOT3	.13	.22	.35	.52	.67	1.00

9c. Career maturity and goal orientation

Exploratory question 9c was tested by examining the correlational relationship between the goal orientation scores of the subjects and the career maturity scores of the subjects. Each goal orientation repeated measures score (pretest = GO1, posttest = GO2, follow-up test = GO3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 87. No strong positive or negative relationships were found between the career maturity and goal orientation variables.

Table 87

Correlation matrix for career maturity and goal orientation

	CMI1	CMI2	CMI3	GO1	GO2	GO3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
GO1	.19	.14	.20	1.00		
GO2	.19	.37	.32	.69	1.00	
GO3	.21	.34	.45	.62	.78	1.00

9d. Career maturity and perception of abilities

Exploratory question 9d was tested by examining the correlational relationship between the perception of abilities scores of the subjects and the career maturity scores of the subjects. Each perception of abilities repeated measures score (pretest = AB1, posttest = AB2, follow-up test = AB3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 88. No strong positive or negative relationships were found between the career maturity and perception of abilities variables.

Table 88

Correlation matrix for career maturity and perception of abilities

	CMI1	CMI2	CMI3	AB1	AB2	AB3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
AB1	-.01	-.02	.01	1.00		
AB2	.05	.15	.13	.59	1.00	
AB3	-.06	.16	.22	.51	.70	1.00

9e. Career maturity and decision-making

Exploratory question 9e was tested by examining the correlational relationship between the decision-making scores of the subjects and the career maturity scores of the subjects. Each decision-making repeated measures score (pretest = DM1, posttest = DM2, follow-up test = DM3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 89. No strong positive or negative relationships were found between the career maturity and decision-making variables.

Table 89

Correlation matrix for career maturity and decision-making

	CMI1	CMI2	CMI3	DM1	DM2	DM3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
DM1	.12	.26	.24	1.00		
DM2	.03	.14	.12	.33	1.00	
DM3	.10	.29	.24	.35	.55	1.00

9f. Career maturity and confidence

Exploratory question 9f was tested by examining the correlational relationship between the confidence scores of the subjects and the career maturity scores of the subjects. Each confidence repeated measures score (pretest = CON1, posttest = CON2, follow-up test = CON3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 90. No strong positive or negative relationships were found between the career maturity and confidence variables. However, there was more of a moderate relationship between the confidence follow-up test and both the CMI post-test and follow-up test.

Table 90

Correlation matrix for career maturity and confidence

	CMI1	CMI2	CMI3	CON1	CON2	CON3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
CON1	.21	.26	.29	1.00		
CON2	.12	.22	.26	.46	1.00	
CON3	.41	.52	.51	.38	.65	1.00

9g. Career maturity and study orientation

Exploratory question 9g was tested by examining the correlational relationship between the study orientation scores of the subjects and the career maturity scores of the subjects. Each study orientation repeated measures score (pretest = SO1, posttest = SO2, follow-up test = SO3) was paired with each career maturity repeated measures score (pretest = CMI1, posttest = CMI2, follow-up test = CMI3) in a Pearson product-moment correlation statistical analysis. The correlation matrix is shown in Table 91. No strong positive or negative relationships were found between the career maturity and study orientation variables. However, there was more of a moderate relationship between the SO follow-up test and the CMI follow-up test.

Table 91

Correlation matrix for career maturity and study orientation

	CMI1	CMI2	CMI3	SO1	SO2	SO3
CMI1	1.00					
CMI2	.68	1.00				
CMI3	.64	.74	1.00			
SO1	.29	.29	.27	1.00		
SO2	.36	.39	.41	.58	1.00	
SO3	.32	.30	.54	.44	.69	1.00

9h. Goal instability and motivation to succeed

Exploratory question 9h was tested by examining the correlational relationship between the goal instability scores of the subjects and the motivation to succeed scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each motivation to succeed repeated measures score (pretest = MOT1, posttest = MOT2, follow-up test = MOT3) in a Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 92, indicates a strong relationship between the GIS pre-test and the MOT pre-test, and a moderate relationship between the GIS post-test and the MOT post-test. The relationship between the GIS follow-up test and the MOT follow-up test is the strongest of the three, but also in the high range. The correlations account for 50 percent, 48 percent, and 69 percent of the variance, respectively. All three of the relationships represent positive correlations, meaning that as goal stability increases, motivation to succeed also increases.

Table 92

Correlation matrix for goal instability and motivation to succeed

	GIS1	GIS2	GIS3	MOT1	MOT2	MOT3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
MOT1	.71	.55	.42	1.00		
MOT2	.42	.69	.55	.49	1.00	
MOT3	.56	.77	.83	.52	.67	1.00

9i. Goal instability and goal orientation

Exploratory question 9i was tested by examining the correlational relationship between the goal instability scores of the subjects and the goal orientation scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each goal orientation repeated measures score (pretest = GO1, posttest = GO2, follow-up test = GO3) in a Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 93, indicates a strong relationship between the GIS pre-test and the GO pre-test, as well as between the GIS follow-up test and the GO follow-up test. A very strong relationship was found between the GIS post-test and the GO post-test. The correlations account for 74 percent, 87 percent, and 77 percent of the variance, respectively. All three of the relationships represent

positive correlations, meaning that as goal stability increases, goal orientation also increases.

Table 93

Correlation matrix for goal instability and goal orientation

	GIS1	GIS2	GIS3	GO1	GO2	GO3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
GO1	.86	.67	.58	1.00		
GO2	.66	.93	.74	.69	1.00	
GO3	.60	.82	.88	.62	.78	1.00

9j. Goal instability and perception of abilities

Exploratory question 9j was tested by examining the correlational relationship between the goal instability scores of the subjects and the perception of abilities scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each perception of abilities repeated measures score (pretest = AB1, posttest = AB2, follow-up test = AB3) in a Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 94, indicates moderate relationships between the GIS pre-test and the AB pre-test, the GIS post-test and the AB post-test, and the GIS follow-up test and the AB follow-up test. The correlations account for 24 percent, 36 percent, and 48

percent of the variance, respectively. All three of the relationships represent positive correlations, meaning that as goal stability increases, perception of abilities also increases.

Table 94

Correlation matrix for goal instability and perception of abilities

	GIS1	GIS2	GIS3	AB1	AB2	AB3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
AB1	.49	.34	.46	1.00		
AB2	.53	.60	.64	.59	1.00	
AB3	.41	.50	.69	.51	.70	1.00

9k. Goal instability and decision-making

Exploratory question 9k was tested by examining the correlational relationship between the goal instability scores of the subjects and the decision-making scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each decision-making repeated measures score (pretest = DM1, posttest = DM2, follow-up test = DM3) in a Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 95, indicates moderate relationships between the GIS pre-test and the DM pre-test, the GIS post-test and the DM post-test, and the GIS follow-up

test and the DM follow-up test. The correlations account for 49 percent, 20 percent, and 40 percent of the variance, respectively. All three of the relationships represent positive correlations, meaning that as goal stability increases, decision-making also increases.

Table 95

Correlation matrix for goal instability and decision-making

	GIS1	GIS2	GIS3	DM1	DM2	DM3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
DM1	.70	.39	.40	1.00		
DM2	.30	.45	.40	.33	1.00	
DM3	.41	.58	.63	.35	.55	1.00

91. Goal instability and confidence

Exploratory question 91 was tested by examining the correlational relationship between the goal instability scores of the subjects and the confidence scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each confidence repeated measures score (pretest = CON1, posttest = CON2, follow-up test = CON3) in a Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 96, indicates a moderate relationship between the GIS pre-test and the CON pre-test,

as well as strong relationships between the GIS post-test and the CON post-test, and the GIS follow-up test and the CON follow-up test. The correlations account for 49 percent, 52 percent, and 67 percent of the variance, respectively. All three of the relationships represent positive correlations, meaning that as goal stability increases, confidence also increases.

Table 96

Correlation matrix for goal instability and confidence

	GIS1	GIS2	GIS3	CON1	CON2	CON3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
CON1	.70	.46	.46	1.00		
CON2	.53	.72	.66	.46	1.00	
CON3	.51	.67	.82	.38	.65	1.00

9m. Goal instability and study orientation

Exploratory question 9m was tested by examining the correlational relationship between the goal instability scores of the subjects and the study orientation scores of the subjects. Each goal instability repeated measures score (pretest = GIS1, posttest = GIS2, follow-up test = GIS3) was paired with each study orientation repeated measures score (pretest = SO1, posttest = SO2, follow-up test = SO3) in a

Pearson product-moment correlation statistical analysis. The correlation matrix, shown in Table 97, indicates strong relationships between the GIS pre-test and the SO pre-test, the GIS post-test and the SO post-test, and the GIS follow-up test and the SO follow-up test. The correlations account for 52 percent, 61 percent, and 59 percent of the variance, respectively. All three of the relationships represent positive correlations, meaning that as goal instability increases, study orientation also increases.

Table 97

Correlation matrix for goal instability and study orientation

	GIS1	GIS2	GIS3	SO1	SO2	SO3
GIS1	1.00					
GIS2	.71	1.00				
GIS3	.65	.86	1.00			
SO1	.72	.46	.40	1.00		
SO2	.55	.78	.68	.58	1.00	
SO3	.46	.59	.77	.44	.69	1.00

Summary

In order to examine the effect of the Career Exploration Program for collegiate student-athletes, a repeated measures analysis was conducted comparing eight dependent variables: career maturity, goal instability, and the six subscales of the Goal Instability Scale (motivation to succeed, goal

orientation, perception of abilities, decision-making, confidence, and study orientation). Twelve directional hypotheses were tested and the results were reported in the present chapter. An alpha level of .01 was set for testing each of the hypotheses. As a result of these tests, eight hypotheses were rejected (1a - 1h) and four were not rejected (2a - 2d). There were significant differences on each of the repeated measures at the .01 alpha level and no significant differences between the mean scores of the six-week and six-month follow-up groups.

Seven exploratory questions were also examined using a .05 alpha level. Significant differences were found between males and females on the CMI (1a); between revenue and nonrevenue-sport athletes on academic comfort (3i); between team and individual-sport athletes on academic comfort (4i); between scholarship and nonscholarship-athletes on academic comfort (5i); between starter, substitute, and redshirt-athletes on career maturity (6a); between change, confirmation, and no-change of academic major on career maturity (7a); and between change, confirmation, and no-change of academic major on goal instability (7b). Interaction effect occurred between gender and motivation to succeed (1c); between age and career maturity (2a); between revenue and nonrevenue-sport athletes and confidence (3g); between team and individual-sport athletes and career maturity (4a); between team and individual-sport athletes and goal orientation (4d); and between academic major and

goal instability (7b). Questions 6 and 7 were tested by Pearson product-moment correlation technique. Moderate to strong relationships were found for 9h through 9m. The rest of the relationships were found to be weak or negligible.

A summary of the results is presented in Table 98. The table is organized according to each of the hypotheses (part A) and exploratory research questions (part B). The first column lists the dependent variable by which each set of independent variables is measured. The Type of Analysis column presents the name of the statistical measure as well as the number of levels involved in the analysis. For example, row 1a compares career maturity means across three repeated measures, therefore producing a 1 X 3 analysis of variance. The results are listed in column three. A discussion of the findings is included in the following chapter.

Table 98

Summary of Results

A. Analysis of Research Hypotheses

Dependent Variable	Type of Analysis	Result
1. Repeated measures		
a. Career Maturity	1 X 3 ANOVA	significant p = .0020
b. Goal Instability	1 X 3 ANOVA	significant p = .0001
c. Mot. to succeed	1 X 3 ANOVA	significant p = .0029
d. Goal orientation	1 X 3 ANOVA	significant p = .0001
e. Perception of Abil.	1 X 3 ANOVA	significant p = .0001
f. Decision-making	1 X 3 ANOVA	significant p = .0001
g. Confidence	1 X 3 ANOVA	significant p = .0001
h. Study orientation	1 X 3 ANOVA	significant p = .0001
2. Follow-up: Six-week/six-month		
a. Career maturity	2 X 3 ANOVA	not significant$p$ =.6753
b. Goal instability	2 X 3 ANOVA	not significant$p$ =.4517

Table 98 (cont'd).

B. Analysis of Exploratory Questions

Dependent Variable	Type of Analysis	Result
1. Gender		
a. Career Maturity	2 X 3 ANOVA	significant p =.0246
b. Goal Instability	2 X 3 ANOVA	not significant p =.7327
c. Mot. to succeed	2 X 3 ANOVA	interaction p =.0414
d. Goal orientation	2 X 3 ANOVA	not significant p =.3558
e. Perception of Abil.	2 X 3 ANOVA	not significant p =.2165
f. Decision-making	2 X 3 ANOVA	not significant p =.1945
g. Confidence	2 X 3 ANOVA	not significant p =.9825
h. Study orientation	2 X 3 ANOVA	not significant p =.2308
2. Age		
a. Career Maturity	2 X 3 ANOVA	interaction p =.0021
b. Goal Instability	2 X 3 ANOVA	not significant p =.4873
c. Mot. to succeed	2 X 3 ANOVA	not significant p =.8862
d. Goal orientation	2 X 3 ANOVA	not significant p =.4693
e. Perception of Abil.	2 X 3 ANOVA	not significant p =.7591
f. Decision-making	2 X 3 ANOVA	not significant p =.6377
g. Confidence	2 X 3 ANOVA	not significant p =.9825
h. Study orientation	2 X 3 ANOVA	not significant p =.0657
3. Revenue/Non-rev.		
a. Career Maturity	2 X 3 ANOVA	not significant p =.2366
b. Goal Instability	2 X 3 ANOVA	not significant p =.4975
c. Mot. to succeed	2 X 3 ANOVA	not significant p =.9785
d. Goal orientation	2 X 3 ANOVA	not significant p =.1134
e. Perception of Abil.	2 X 3 ANOVA	not significant p =.0523

f. Decision-making	2 X 3 ANOVA	not significant p =.5626
g. Confidence	2 X 3 ANOVA	interaction p =.0338
h. Study orientation	2 X 3 ANOVA	not significant p =.1926
i. Academic comfort	Factorial ANOVA	significant p =.0046
j. Intro/Extroversion	Factorial ANOVA	not significant p =.7987
4. Team/Individual		
a. Career Maturity	2 X 3 ANOVA	interaction p =.0267
b. Goal Instability	2 X 3 ANOVA	not significant p =.3873
c. Mot. to succeed	2 X 3 ANOVA	not significant p =.8826
d. Goal orientation	2 X 3 ANOVA	interaction p =.0029
e. Perception of Abil.	2 X 3 ANOVA	not significant p =.8386
f. Decision-making	2 X 3 ANOVA	not significant p =.2170
g. Confidence	2 X 3 ANOVA	not significant p =.7160
h. Study orientation	2 X 3 ANOVA	not significant p =.0512
i. Academic comfort	Factorial ANOVA	significant p =.0003
j. Intro/Extroversion	Factorial ANOVA	not significant p =.1982
5. Scholarship/Non-S		
a. Career Maturity	2 X 3 ANOVA	not significant p =.8263
b. Goal Instability	2 X 3 ANOVA	not significant p =.9648
c. Mot. to succeed	2 X 3 ANOVA	not significant p =.4185
d. Goal orientation	2 X 3 ANOVA	not significant p =.6562
e. Perception of Abil.	2 X 3 ANOVA	not significant p =.2906
f. Decision-making	2 X 3 ANOVA	not significant p =.1597
g. Confidence	2 X 3 ANOVA	not significant p =.3072
h. Study orientation	2 X 3 ANOVA	not significant p =.1066
i. Academic comfort	Factorial ANOVA	significant p =.0004
j. Intro/Extroversion	Factorial ANOVA	not significant p =.3302

6. Starter/Sub/R-sh.		
a. Career Maturity	3 X 3 ANOVA	significant p =.0202
b. Goal Instability	3 X 3 ANOVA	not significant p =.6052
c. Mot. to succeed	3 X 3 ANOVA	not significant p =.8408
d. Goal orientation	3 X 3 ANOVA	not significant p =.3739
e. Perception of Abil.	3 X 3 ANOVA	not significant p =.6611
f. Decision-making	3 X 3 ANOVA	not significant p =.4840
g. Confidence	3 X 3 ANOVA	not significant p =.8180
h. Study orientation	3 X 3 ANOVA	not significant p =.6479
i. Academic comfort	Factorial ANOVA	not significant p =.8228
j. Intro/Extroversion	Factorial ANOVA	not significant p =.1090
7. Academic Major		
a. Career maturity	3 X 3 ANOVA	significant p =.0279
b. Goal instability	3 X 3 ANOVA	significant/interaction p =.0414 / p =.0074
Career Goals		
c. Career maturity	3 X 3 ANOVA	not significant p =.1088
d. Goal instability	3 X 3 ANOVA	not significant p =.2538

Table 98 (cont'd).

Correlation result code	0.00 - 0.20	negligible relationship
(Rowntree, 1981)	0.20 - 0.40	weak relationship
	0.40 - 0.70	moderate relationship
	0.70 - 0.90	strong relationship
	0.90 - 1.00	v.strong relationship

8. GPA		
a. Career maturity	Pearson correlation	negligible relationship HS=.18/E = -.18/P= -.11
b. Goal instability	Pearson correlation	negligible relationship HS =.02/E = -.16/P =.00
Academic comfort		
c. Career maturity	Pearson correlation	weak/neg. relationship Pre= -.12/Post=.05/Fup=.02
d. Goal instability	Pearson correlation	weak relationship Pre=.29/Post=.26/Fup=.23
Intro/Extroversion		
e. Career maturity	Pearson correlation	negligible relationship Pre=-.01/Post=.04/Fup=-.03
f. Goal instability	Pearson correlation	weak relationship Pre=-.36/Post=-.24/Fup=-.26

Table 98 (cont'd).

9. CMI a. Goal instability	Pearson correlation	weak/mod. relationship Pre=.22/Post=.38/Fup=.52
b. MOT	Pearson correlation	neg./weak relationship Pre=.03/Post=.21/Fup=.35
c. GO	Pearson correlation	weak/mod. relationship Pre=.19/Post=.37/Fup=.45
d. AB	Pearson correlation	neg./weak relationship Pre= -.01/Post=.15/Fup=.22
e. DM	Pearson correlation	weak relationship Pre=.12/Post=.14/Fup=.24
f. CON	Pearson correlation	weak/mod. relationship Pre=.21/Post=.22/Fup=.51
g. SO	Pearson correlation	weak/mod. relationship Pre=.29/Post=.39/Fup=.54
GIS h. MOT	Pearson correlation	mod/strong relationship Pre=.71/Post=.69/Fup=.83
i. GO	Pearson correlation	s/v.strong relationship Pre=.86/Post=.93/Fup=.88
j. AB	Pearson correlation	moderate relationship Pre=.49/Post=.60/Fup=.69
k. DM	Pearson correlation	moderate relationship Pre=.70/Post=.45/Fup=.63

Table 98 (cont'd).

l. CON	Pearson correlation	mod/strong relationship Pre=.70/Post=.72/Fup=.82
m. SO	Pearson correlation	strong relationship Pre=.72/Post=.78/Fup=.77

CHAPTER V

DISCUSSION

This study examined the effects of the Career Exploration Program (CEP) on the career maturity and goal instability of collegiate student-athletes. It was hypothesized that CEP would improve career maturity and goal instability, and that there would be no differences in the maintenance of the effects of CEP between the six-week follow-up group and the six-month follow-up group. It was also hypothesized that CEP would improve each of the six subscale measurements of the Goal Instability Scale, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. This chapter is divided into the following sections: Discussion of the major research hypotheses, discussion of the exploratory research questions, conclusions, suggestions for future research, and implications for practice.

Effects of CEP: Discussion of Major Research Hypotheses

The results strongly supported the directional predictions of the two major research hypotheses. The first hypothesis test indicated that the Career Exploration Program

appeared to have a significant effect on career maturity, goal instability, motivation to succeed, goal orientation, perception of abilities, decision-making, confidence, and study orientation. The second hypothesis test indicated that there was no difference in the maintenance of effects between the six-week follow-up group and the six-month follow-up group. In other words, the effects of the CEP intervention program were equally maintained over time for a six-week to six-month period.

Repeated Measures - Hypothesis 1

The highly significant career maturity repeated measures results support several findings in the literature. The results reinforce the use of career maturity, as measured by the Career Maturity Inventory (CMI), as an evaluative tool for career exploration programs (Crites, 1981; Frary, 1988). Career maturity improved significantly from pre-test to post-test following the Career Exploration Program (CEP) intervention. This positive change in career maturity occurred over a relatively short time period (six weeks), which would lead one to believe that the change was largely due to the effects of CEP.

Assuming that CEP is a significant means of improving career maturity, the intervention then becomes a valuable educational and developmental tool for numerous student-athletes who tend to be less career mature than other

athletes and non-athletes (Blann, 1985; Kennedy & Dimmick, 1987; Petipas & Champagne, 1988; Sowa & Gressard, 1983).

Overall, the increase in career maturity indicates that CEP tends to increase involvement in the career choice process, increase orientation toward work, improve independence in decision-making, identify preferences for and conceptions of career choice factors (Crites, 1973b). In other words, CEP appears to have a positive impact on the career decision-making process.

The highly significant goal instability repeated measures results indicate that the CEP participants may have become more involved in career planning, increased their goal-directedness, and have a tendency to make more stable life-choices (Patton, Connor, & Scott, 1982; Robbins & Patton, 1985). Increased goal stability may also be indicative of separation from identity foreclosure due to the suggestion that individuals with a false sense of self tend to be less stable and less involved in career exploration.

The motivation to succeed subscale represents ambition toward academic and career achievements. As the student-athletes became more knowledgeable about themselves and their interest patterns they also appeared to become more ambitious about their future accomplishments. This finding accentuates the need for student-athletes to parallel their athletic expectations with personal and career expectations as well. Those who remain single-tracked toward an athletic career may never develop the aspirations to achieve in other interest

areas. Motivation is a key stimulant towards achievement in any aspect of life. It is even more significant for young athletes who may be chasing an empty dream of professional stardom and who may require a viable back-up career plan.

There were several subjects who were examples of this very crisis. The researcher observed that several young athletes were not personally invested in the Career Exploration Program until they suffered potentially career-ending physical injuries. From the point of injury and beyond their focus changed from professional athletics to career-oriented academic preparation. Once they lost their physical prowess, their motivation to succeed was transferred to more tangible pursuits. Regardless of the reason for change, the increase in ambition was a significant factor in the career exploration process.

Extreme idealization of goals is indicative of career immaturity (Robbins & Patton, 1985). The significant increase in goal orientation for the sample group implied more goal directedness and confidence in long-term goals. It also represented increased knowledge of how to achieve success in a goal-oriented career.

The career immature athlete is fearful of long-term goals and non-athletic pursuits. The significance of this finding parallels the significant increase in career maturity. It would follow that one might not improve in career maturity without also becoming more goal-directed and focused on long-term objectives.

The identity foreclosed individual typically fails to recognize personal talents other than those that fulfill the narrow area in which she/he is foreclosed. The process of recognizing talents and matching those talents with career possibilities exposes tremendous potential for growth and development. The significant repeated measures effect for perception of abilities further supports the importance of CEP in the career development process.

One would have to speculate whether the significant increase in decision-making scores from pre-test to post-test was due to the influx of career information or due to knowledge of personal interactive processes within the self and/or with others. Regardless of the cause, the decision-making measure indicates an increase in the success and the quality of made decisions. Indecisiveness is a contributing component to career immaturity. As the ability to decide becomes more deliberate, systematic, and absolute, an individual then has the potential to transfer these skills to the process of determing a future career direction. Knowledge of self and career options is futile if the information cannot be transformed into clear cut decisions.

Confidence is another area which is imperative for performance in any field. Again, the specific cause of the significant repeated measures results for confidence is speculative, but appears to be attributed to CEP in general. Confidence could have resulted from the knowledge that skills which were learned in athletics could be transferred to

careers and employment, and/or confidence could have been drawn from increased self-understanding and/or knowledge of personal and career interests. Regardless of origin, the results indicate that the subjects became more confident that they would perform adequately in their academic major and more confident that they would choose appropriate careers for themselves.

Study orientation is closely related to sense of purpose. In other words, if an athlete is driven towards a professional sports career, then there is no reason for an education outside of athletics. However, the athlete with an alternative career track will be more oriented towards preparation for that goal. The significant repeated measures results for study orientation indicate improved understanding of educational goals, and, therefore, the potential for more practical application of coursework, as well as persistence towards increased academic quality and performance.

Each one of the above factors is relevant to the career development process. The fact that each improved significantly from pre-test to post-test during the Career Exploration Program reinforces the use of CEP as a career development tool. As each of these factors increases there is greater potential for mature and stable career choices to be made. The Career Exploration Program was not designed for the purpose of making the final career decisions, but rather for the purpose of providing the necessary ingredients with which to make mature, informed decisions. The significant

repeated measures results for Hypothesis 1 provide encouragement and rationale for the utilization of career exploration programming with collegiate student-athletes.

Maintenance of Effects - Hypothesis 2

The effects of the Career Exploration Program were equally well maintained for the six-week follow-up group as they were for the six-month follow-up group. The implications of this result are that the effects of CEP can be maintained for six-weeks to six months following the completion of the program.

From an educational perspective, it is interesting to note that the mean career maturity and goal stability scores increased more for the six-month follow-up group than for the six-week follow-up group. As the student-athletes had more time to digest and absorb the content of CEP, as well as more opportunity to continue with the career exploration process, it appears that they became more stable in their goals and more career mature. Career maturity tends to improve merely by directing attention towards the career exploration process (Crites, 1973b). If CEP had been ineffective initially these long-term increases probably would not have evident.

The overall results of Hypotheses 1 and 2 support the expectations of this research. The Career Exploration Program appears to be an effective means of increasing career maturity and goal stability for six weeks to six months.

Effects of CEP: Discussion of Exploratory Research Questions

Exploratory research questions investigated differences in career maturity and goal instability based on gender age, sport classification, athlete classification, and choice of academic major and career goals. The results of the exploratory research questions are less definitive than the results of the major research hypotheses. However, there are a few items of statistical significance as well as several trends and results which are of educational value to researchers and practitioners concerned with the academic and career development of student-athletes.

Gender differences - Exploratory Question 1

The repeated measures mean score on career maturity was significantly higher for the female student-athletes than for the male student-athletes. The women appeared to have the greatest influence on the repeated measures effect as well. With so few professional sport career opportunities for women, it is not surprising that women would pursue alternative careers to sport and, therefore, score higher in career maturity. However, the composite goal instability mean score and all of the GIS subscale scores, except for study orientation, were lower for women on the pre-test than for men. Even though this trend was not statistically significant, it is worth noting because it appears to fit

with the stereotypical socialization patterns which still seem to exist for boys and girls in American society. While it is socially acceptable for women to have high expectations of themselves in the classroom, they have not been expected to set lofty goals, to recognize their talents, to trust their decision-making capacity, nor to have particularly high levels of confidence relative to their male counterparts. As women have reached greater heights of self-actualization, both in sport and in career achievement, these differences may be truly insignificant. The only significant interaction effect between the two genders was on motivation to succeed. While the women started at a lower level at ambition, they improved to a higher level than the men during the Career Exploration Program. This finding may indicate that the female student-athletes were more conscientious with regard to the content and application of CEP. It may also be that the women had more to gain from the program in general, if indeed they were suffering from socialization deficits.

Age differences - Exploratory Question 2

There were no significant main effects between age and any of the dependent variables. There was one significant interaction effect between 18 and 19 year olds on career maturity. The interaction appears to be based on differences on the pre-test measure (the 18 year olds scored 3.42 points lower than the 19 year olds) which then reversed themselves on the post-test (the 18 year olds scored .08 points higher

than the 19 years olds). Even though the point difference between the age groups on the post-test was minute, it was enough to produce the significant interaction. The follow-up mean scores produced yet another interation as the 19 year old career maturity mean score rose 1.38 points higher than the 18 year old score. The single interaction effect is not enough evidence to discern any important differences between 18 and 19 year olds due to the CEP intervention. The lack of significant differences and interaction effects between the age groups was primarily due to the fact that the majority of the sample were freshman students. The developmental differences between 18 year old freshman and 19 year old freshman were not strong enough to influence the results of this study. In order to differentiate between age groups, upperclass (junior and senior) students would require representation. A study of that nature would encounter a maturation-over-time effect in addition to the effect of the intervention. In the case of the present research the lack of differences between 18 and 19 year old student-athletes is inconsequential. Perhaps 18 to 19 years is not a sufficient age span to show differences and both, 18 and 19 year olds are technically first year college students with similar experiences.

Revenue/nonrevenue-sport differences - Exploratory Question 3

Significant differences were found between revenue and nonrevenue-sport athletes on academic comfort only. One significant interaction occurred on the confidence variable. There were no signicant differences on the other variables. The difference between the mean academic comfort score (as measured by the Strong Interest Inventory) of revenue-sport athletes and nonrevenue-sport athletes was highly significant. The nonrevenue-sport athletes scored 13 points higher than the revenue-sport athletes on academic comfort. This is a relevant finding which supports the need for career exploration programs. In order to keep low-comfort level athletes interested in academic pursuits, they must first be invested according to their personal interests and self-knowledge. An athlete who is not comfortable in an academic setting is not going to perform merely due to to coercion. The best academic achievements will come from intrinsic motivation, which can be stimulated by programs such as CEP which provide personal and occupational information. It is interesting to note that the revenue-sport athletes who have professional sport opportunities ahead of them, were far less interested in the academic environment than the nonrevenue-sport athletes whose professional options are limited. This finding should be taken into consideration by support services administrators when designing and implementing support programs for student-athletes.

The interaction effect between revenue and nonrevenue-sport athletes on the confidence measure reflected a greater change in confidence from pre-test to post-test for the revenue-sport athletes than for the nonrevenue-sport athletes. From an inferential perspective, it appears that as the revenue-sport athletes become more knowledgeable about themselves and careers, they may also become more confident in choosing a career and in their potential to perform well in their academic major (as measured by the confidence subscale). The confidence factor may further strengthen the possibility of a connection between knowledge gained from CEP and personal investment in academic performance due to the realization that viable career opportunities exist and are achievable.

Team/individual-sport differences - Exploratory Question 4

Academic comfort was also the only variable on shich significant differences were found between team and individual-sport athletes. Significant interaction effects occurred for career maturity and goal orientation. The difference between the mean academic comfort score (as measured by the Strong Interest Inventory) of team-sport athletes and individual-sport athletes was even more significant than for the revenue and nonrevenue-sport athletes. The mean score for team-sport athletes was 17 points lower than individual-sport athletes on academic comfort. The team-sport grouping may have been influenced by

the revenue-sport portion of the sample. However, the 15 additional nonrevenue, team-sport athletes only raised the mean comfort score by two points. Therefore, it seems safe to assume that individual-sport athletes in general are far more comfortable in an academic environment that are team-sport athletes. Part of the explanation may come from the fact that very few individual-sport athletes come to college with professional-sport opportunities and/or aspirations. Those who achieve professional status usually attain it prior to their collegiate career. Individual athletes tend to be more self-focused, and therefore, more self-informed than team-sport athletes who are more group-oriented. One could speculate that an internally-focused individual may be more comfortable in academe than an externally-focused person. Further research in this area would be necessary in order to draw conclusive results.

It is interesting to note that the individual-sport athletes made far greater improvement in career maturity following the CEP intervention than did the team-sport athletes, consequently producing a significant interaction effect. Again, the individual-sport athletes appear to be more invested in themselves and in their futures.

This same phenomenon occurred for goal orientation. While the team-sport athletes scored higher in goal orientation on the pre-test, the mean score for individual-sport athletes improved by up to six points as compared with a three point or less improvement for team-sport athletes.

Possibly the process of gathering career information and personal understanding was a stimulus for the individual-sport athletes to become more goal-oriented. However, the process may have produced a conflict of interest for the team-sport athletes who were focused on professional sport careers. Once more, this discussion is of speculative nature, but important to consider when designing programs and analyzing their results.

Scholarship/nonscholarship-athlete differences - Exploratory Question 5

The only significant difference between scholarship and nonscholarship-athletes occurred on the academic comfort variable. None of the other variables produced significant main effects or significant interaction effects. The mean academic comfort score for scholarship-athletes was almost 16 points lower than the mean score for nonscholarship-athletes. These differences on academic comfort certainly cause one to wonder about the objectives with which some scholarship-athletes come to college. These data also lend credence to the need for programs which help student-athletes face the reality of their futures and assist them with the discovery of meaningful alternative and/or parallel careers to professional sport.

Starter/substitute/redshirt-athlete differences - Exploratory Question 6

Career maturity was the only dependent variable for which there were significant mean differences between starter, substitute and redshirt- athletes. Overall the starters scored lower on all three repeated measures than either the substitutes or redshirt-athletes. This finding follows the pattern of lower mean scores and less personal investment in self and future for those who felt that they might have the greatest potential to achieve professional-sport status. The redshirt-athletes showed the greatest improvement in mean score from pre-test to post-test, which could have been due to their lack of investment in sport for the school year and increased attention on achievement in the classroom

Academic major/career goals differences - Exploratory Question 7

Significant differences were found on mean scores of career maturity and goal instability between the three levels of choice of academic major. However, no significant differences occurred between the three levels of choice of career goals. It would seem reasonable that there would be similar career maturity and goal stability differences between change and lack of change in both academic major and career goals. However, the results were significant for

change of major only. Apparently, freshman and sophomore college student-athletes are far more invested in a meaningful academic major than they are in their long-term career goals. Consequently, those who either confirmed their present major or changed their major based on information learned through CEP made greater improvement in career maturity and goal stability than those who made no change.

This factor could also be used as a measure of success for the Career Exploration Program. Based on the statistical significance of the group differences (Tables 83 and 84), one could imply an 86 percent success-rate of the program since 43 out of 50 participants in the program either changed or confirmed their academic major and scored higher across the repeated measures of career maturity and goal instability than did the seven athletes who made no decision about their academic major.

The lack of significant difference in the career goals mean scores is not surprising due to the catalytic nature of CEP. The information gained through the program was designed to help student-athletes stabilize their goals and mature in their attitudes toward career exploration. CEP was never defined as an all-conclusive nor all-inclusive career development program. The results have reaffirmed the use of CEP as a primary step in the exploration process, and also reaffirmed that continued counseling is necessary in order for the student-athletes to solidify their long-term career directions.

GPA, academic comfort, intro/extroversion relationships with CMI and GIS - Exploratory Question 8

None of the relationships between GPA, academic comfort, intro/extroversion and career maturity or goal instability were greater than weak (0.20 - 0.40) or negligible (0.00 - .20). The negligible relationship between GPA and career maturity was inconsistent with the career maturity literature (Crites, 1973b). However, a long-term measure of grade point average may show a stronger relationship than the early collegiate GPA scores, because so many adjustment factors can influence first- and second-year grade achievement. The high school grade point averages appear to have more positive, stronger correlations with career maturity than do the college GPAs, but the relationships are still weak. It is recommended that grade point average be evaluated on a longitudinal basis before any final research conclusions are determined.

Career maturity and goal stability relationships - Exploratory Question 9

The relationships between career maturity and the goal instability scores were moderate or less. The lack of relationship between the CMI scores and the GIS scores confirms the fact that the two instruments are independent of each other and measure separate factors. The strongest relationships (all at the moderate level) occurred between

the career maturity follow-up test and the follow-up scores for goal orientation, confidence, and study orientation. These relationships may help to sustantiate the fact that career maturity is associated with more clearly defined career choices (goal orientation), consistency over time (confidence contributes to consistency), and reality orientation (goal stability). There may also be more of a relationship between study orientation and career maturity than there is between grade point average and career maturity. Effort and attitude toward study is not always reflected in grade performance, but could possibly be reflected in maturity.

The relationships between the goal instability score and the GIS subscale scores were the strongest of all the correlations computed. The moderate to very strong relationships between the total GIS score and each of the GIS subscales were reasonable due to the fact that each of the subscales was figured in the overall goal instability score. In other words each of the subscales had some relationship to goal instability.

Conclusions

The purpose and credibility of the Career Exploration Program is strongly supported by the highly significant repeated measures results. The sample size ($N = 50$) and the probability value ($p = .01$) make the findings particularly

encouraging. Based on these results CEP is recommended for implementation as a catalytic program for freshman and sophomore collegiate student-athletes. The fact that there were no significant differences between the six-week and six-month follow-up groups strengthens the program even further. The inference here is that there may be a relationship between the endurance of program effects and personal investment in self and continued career development. The extended maintenance of effects allows the counselor or educator sufficient time for ongoing exploration with each individual as she/he deliberates over career choices and an ultimate career decision.

The overall trend of highly significant differences on academic comfort level for revenue/nonrevenue-sports, team/individual-sports, and scholarship/nonscholarship-athletes reinforces the global stereotype of the athlete who attends college for the purpose of continuing an athletic career. A word of caution, academic comfort is merely a measure of preference or lack of preference for an academic environment, it does not imply lack of academic ability. Due to the lower academic comfort scores, one might wonder if revenue-producing, team-sport, scholarship athletes are less comfortable in an academic setting than nonrevenue-producing, individual-sport, nonscholarship athletes, then what have these young people been taught about the relationship between sport and education? Consequently, what kinds of false expectations do student-athletes exemplify through such a

narrow, athletic focus during their college careers?

The lack of consistent differences between the various subgroups of the sample is partially due to the variance in cell size. Particular sub-populations should be isolated and examined for more conclusive results. This initial research shows enough significance and interaction to suggest that there may be differences in some, if not all areas. If CEP does indeed encourage the change and confirmation of academic major, and if that chosen major represents personal interest and investment, then the long-term prediction might be for improved academic performance and increased athlete graduation rates. The potential of this connection between the Career Exploration Program and improved career maturity, goal stability, and academic commitment is significant to future use of the program for research and also to administrators as incentive for incorporating the program into their athletic support services.

In conclusion, the present results support the combination of transferable skills, Myers-Briggs Type Indicator, Strong Interest Inventory, and values clarification as a catalytic career exploration program (CEP). This research indicates that CEP can be used for the purpose of improving career maturity and goal stability, and to assist with the academic major choice process. Attention should be given to the academic comfort level of incoming athletes as a means of needs assessment. Future research should determine the relationship of comfort level with

classroom and career achievements. It also appears that career maturity and goal instability can be used successfully in tandem as evaluative measures of the career development process. Overall, the significance of this study is a step in the effort to realign the relationship between education/career preparation and intercollegiate athletics.

Suggestions for Future Research

Empirical research on the counseling needs of athletes has been virtually non-existent. All aspects of career development require extensive investigation; everything from the creation of specific psychometric evaluation tools for athletes, to descriptive process studies of the needs of student-athletes and their immediate and long-term effects on performance and quality of life, to longitudinal outcome research of career and personal counseling strategies and programs. Many issues have yet to be properly investigated: 1) how role conflicts between student and athlete which might affect long-range planning, and 2) how developmental barriers such as career indecision from the athlete's perspective, as well as the impact which role commitment and self-efficacy might have on the behavior and personal development of the athlete. All sport-related research should attempt to differentiate between male and female athletes, between scholarship and non-scholarship, recruited and non-recruited athletes, and between revenue and non-revenue

sports. Athletes participate for different reasons and subsequently encounter different pressures and expectations from others and from themselves.

Due to the highly significant repeated measures results it is recommended that a study be designed to replicate the present research with four groups: an athlete control group, an athlete treatment group, a non-athlete comparison treatment group, and a non-athlete control group. It is also suggested that subsequent studies increase the sample cell-sizes for comparisons between the following groups: ethnic minority groups, revenue and nonrevenue sports, and team and individual sports. Differences and similarities should continue to be assessed between male and female participants. Further research should explore the gender differences and include larger cell counts for both men and women. A considerably larger sample size would help to clarify the true differences between men and women.

Another factor to examine is the effect of CEP on same-gender intervention groups versus mixed-gender intervention groups. Some narrative requests by the participants of the study were for same-gender (same-team) grouping, particularly among the revenue-sport athletes who tend to be more isolated as a team in general. The effect of the group comfort level on the overall effect of the program would be interesting to note. Diverse leadership and/or educational styles might also have differing effects on homogeneous and hetereogeneous participant groups. For example, team-sport athletes from an

autocratic team atmosphere may or may not respond better to a directive style of program. Many didactic relationship-styles are possible and each may produce different program results.

A third suggestion for future research is to add The Career Beliefs Inventory (CBI) to the Myers-Briggs Type Indicator/Strong Interest Inventory assessment combination. The CBI assesses ones beliefs about careers and the world of work. The instrument would add a reality orientation component which could help the counselor and the athlete identify issues of immaturity and foreclosure which need to be resolved before further career exploration and decision-making can occur. The three instruments together provide an excellent source of personal and occupational information from which to determine future goals and interests.

A fourth recommendation for future research is to use a measure of identity foreclosure as another dependent variable. Such an addition could strengthen the causal nature of the CEP intervention, as well as provide more descriptive data on the foreclosure status of collegiate student-athletes. The nature of the relationship(s) between identity foreclosure, career maturity, goal instability, and the career planning process would also be able to be investigated.

The counseling process begins with the education of coaches, athletes, and administrators. Statistical evidence will build the strongest foundation of persuasive facts from

which to operate. Consistent examination of the process will pave the way for a stable force of athletic counseling personnel. With that force intact, young athletes have the opportunity to reach their true potential both on and off the athletic field.

Implications for Practice

The ultimate value of the Career Exploration Program can not be determined by this initial piece of research. However, the data indicate that CEP has a relatively positive impact on the career exploration process for collegiate student-athletes in particular. The use of CEP as a catalytic program to enhance career planning for collegiate student-athletes is recommended with the understanding that the program requires additional follow-up and support services throughout the educational career of each student-athlete.

The results of the program do not guarantee that CEP will be successful with all levels of student-athletes. However, the fundamental components of the program can be adapted to meet the developmental level of the student-participants. The purpose of the program to enhance career maturity and goal stability is useful not only at the collegiate level, but at the high school and professional level as well. Any athlete who has failed to develop a strong sense of self outside of athletics will most likely

benefit from information gained through career exploration.

The program would be best administered by counselors trained in integrative interpretation of the Myers-Briggs Type Indicator and the Strong Interest Inventory. While the CEP program appears rather simplistic in design, it is dependent upon sensitive dispersion and discussion of the content. Inappropriate counseling and leadership could cause the program to be ineffective. Therefore, the use of the Career Exploration Program should be properly designed for the developmental level of the population involved and implemented according to the standards and expectations of prudent counseling practice.

Recommendations for Future Programs

The most frequently recommended approach for future student-athlete programs is that which includes career/life planning and self-exploration (Branyon, 1987; Carver & Smart, 1985; Chartrand & Lent, 1987; Kennedy & Dimick, 1987; Nelson, 1983; Petipas, Danish, McKelvain, & Murphy, 1989; Petipas & Schwartz, 1989; Remer et al, 1987; Seelig & Tucker, 1983; Stone & Strange, 1989; and Thompson, 1986). The call for developmental, process-oriented, holistic, psychoeducational programming is overwhelming. The components which might comprise such an undertaking are listed below:

- career development
- career maturity
- values clarification
- reality orientation
- social skills training
- self-awareness
- campus involvement
- conflict resolution
- proactive decision-making
- goal setting
- problem solving
- risk assessment
- coping strategies
- small group counseling
- recognition and application of transferable skills
- preparation for disengagement from sport
- accepting responsibility for personal growth
- participative, experiential, educational programming
- planning non-athletic skill development
- developmental stage exploration

The implication of the above list is that developmental career planning programs for all students must be comprehensive. Such programs for athletes should include developmental issues which may or may not always apply to non-athletes. For example, as an individual moves through Perry's stages of cognitive development, she/he moves from a dualistic, authority-driven point of view to relativistic, exploratory behavior from which one can make a commitment to a future career (Petipas & Champagne, 1988). The critical aspect of these and other counseling recommendations for student-athletes is that the process is multi-dimensional. The athlete must discover personal, social and academic/career growth while continuing to satisfy her/his

athletic needs. A counselor can aid athletes in the process of developing goals and improving their decision-making skills through self-awareness, as well as by fostering independence and reinforcing the development of individual purpose (Sowa & Gressard, 1983).

The literature recommends that counselors of student-athletes increase her/his knowledge of the unique issues in sport and develop innovative strategies of resolution. Professionals must be unusually perceptive as they seek to initiate better reality orientations for the athlete, to strengthen coping skills, and to help the client develop a positive self-image as a person, not solely as an athlete. Through positive expectations, athletes can begin to search for practical and rewarding futures (Williams & Leonard, 1988; Zingg, 1982).

Many of the above recommendations are met through the content of the Career Exploration Program. However, it must be remembered that CEP is a catalytic program which requires systematic personal and educational follow-up. The unique aspect of CEP is the way in which it combines the teaching of transferable skills from athletics to employment, the enhancement of self-understanding and interaction with the external and internal world (MBTI), the gathering of personal and career interests (SII), and the exploration of person-centered career values in an integrative process which seems to increase career maturity and goal stability. CEP attends to developmental issues as well as being an informational

guide. The program answers individual needs and questions within a time-effective, cost-effective group setting, and CEP applies a non-threatening and, yet, structured format appropriate for the collegiate student-athlete. The Career Exploration Program is merely an incipient factor in the search for effective, creative programming for athletic student affairs.

APPENDICES

APPENDIX A

Consent Form

APPENDIX A

Consent Form

Dear Athlete:

I would like to request your participation in the study of a career development program for athletes. The study is titled "Developmental career counseling for student-athletes: A catalytic program based on Type and Interest exploration." We hope to learn how this program might help accelerate the career development process for student-athletes, while at the same time, allowing you to learn more about yourself and your interests so that you can make reasonable decisions about your future and your present academic preparation. This information will contribute to research in education and athletics, and will be beneficial to current and future athletes.

The program consists of approximately six (6), two (2) hour sessions which will meet once a week. If you should decide to participate, you will be asked to attend all six sessions. You will be pretested and posttested in order to evaluate the effect of the program. You will also be asked to complete an information questionnaire. The two assessment inventories to which you will be asked to respond are part of the educational program and will help you learn more about yourself and your interests in various careers. All of the results will be available and explained to you during the sessions. There will be plenty of opportunity for questions and discussion. If you should have further questions, individual appointments can be scheduled. The information you receive from this program should enable you to pursue further career exploration and help you make informed decisions about your future. You will be asked, on a volunteer basis, to participate in an individual follow-up session at the completion of the program to assist me in the evaluation of the process.

Every effort will be made to maintain confidentiality. I will be the only one who will have access to your profiles and test results other than yourself. Upon the collection of data, your individual identity will be by code number only on all records. You and I will be the only people with access to your code. The data will be analyzed by identification number, not by name. Your name will never be used in the discussion of the results, nor will you or the University be identifiable by description. The information acquired during this program will not be available to any athletic personnel except upon your written request. Your decision to participate or not in this study will not prejudice your relations with the Athletic Department, your team, or the University at the present time or in the future. If you decide to participate, you will be expected to complete the entire six week program. You have the right to withdraw at any time without any penalty. If you desire a copy of this consent form, one will be provided for you.

If you have any additional questions, please contact me at 353-7157. Your signature below indicates that you have decided to participate in this study and have read and understood the above information. Thank you.

_____ _____

Signature Date

APPENDIX B

Pilot Study

APPENDIX B

Pilot Study

The pilot program was implemented as a six session seminar separate from accredited university course work. It was designed and offered to meet the specific career development needs of collegiate student-athletes. The two hour seminars were conducted once a week for a six week period during winter quarter. The CMI pre-test, the MBTI, and the SII were administered during the initial meeting. The CMI post-test and subjective course evaluation were administered during the final session of the program. The second and fifth seminars were discussion-oriented as they encompassed transferable skills and integration of the MBTI and SII, respectively. The third and fourth sessions, which focused on interpretation of the MBTI and SII profiles, were self-reflective and stimulated more of a question and answer format. The sessions followed the original program outline.

Results and Discussion

The results of the Career Maturity Inventory pre-test and post-test mean scores are listed in Table 1. Due to the limited number of subjects (n = 3) involved in the pilot study, sophisticated analysis of the testing results was unrealistic. All of the students showed improved CMI scores following the intervention program except for one who remained the same (Mean = 3 points raw score increase; Mean =

14.67 increase in percentile rank). The career exploration program appeared to have a positive effect on career maturity which encouraged further examination of the program.

Table 1

Career Maturity Inventory mean scores of the pilot study

Subject	Pre-test		Post-test	
	Raw	%ile	Raw	%ile
1	32	7	37	35
2	38	43	38	43
3	42	83	46	99

Table 2 delineates demographic data for each subject. The average age for the three sophomore subjects was 19.33 years. Included are high school and college grade point averages and current college major. The subject with the higher grade point average also showed a greater level of career maturity which is consistent with past findings (Healy, O'Shea & Crook, 1985).

Table 2

Demographic data of the pilot study subjects

Subject	Age(yrs)	College GPA	HS GPA	College Major
1	19	2.7	2.9	Elementary Ed
2	20	2.6	2.6	Political Sci
3	19	3.4	3.6	Zoology

Table 4 indicates MBTI and SII results, respectively. The four preferences of the MBTI are composed of polar opposite characteristics. Everyone uses each of these processes (SN & TF) and attitudes (IE & JP), but each person tends to prefer one direction more than others. The MBTI provides a suggestion of one of sixteen types. Each preference makes a contribution to each type, as outlined in Table 3. For example an ISTJ type would most likely incorporate depth of concentration, reliance on facts, logic and analysis, and organization when interacting with the outer world and making decisions.

Table 3

Myers-Briggs Type Indicator Preference Contributions to Type

I	Depth of concentration	E	Breadth of interests
S	Reliance on facts	N	Grasp of possibilities
T	Logic and analysis	F	Warmth and sympathy
J	Organization	P	Adaptability

The SII results provide a general picture of each individual's primary interests relative to the world of work. The Social, Enterprising areas are more focused on people in either the helping professions or sales and business, respectively. Data and ideas are the primary interest in the Investigative and Artistic areas. The more scientific and creative pursuits also tend to be indicative of a greater interest in academic exploration. The Realistic and Conventional themes orient towards more physical work with objects and things, technical expertise. The most preferred theme is listed first in the results, with the last classification being the least preferred. Two scales provide more specific interest information within each theme. The basic interest scales (BIS) show preference for 23 activity areas within the six general occupational themes. The occupational scales (OS) further break down the interest

information for each individual as it corresponds to those already working in specific occupations. All three of the students showed interests in the Social and Conventional areas. Two tended toward the Investigative theme, with one more inclined toward Enterprising occupations.

Included with the tabled results are scores from the SII Introversion/Extroversion (IE) and Academic Comfort (AC) scales. Higher scores on the IE scale (above 55) show a preference for working with things and ideas. Scores below 45 indicate more of an interest in working with people. The middle range of 45 to 55 is indicative of working with a combination of people, things, and ideas within the same occupation. Two of the subjects scored in the middle range, with one significantly high in the upper range.

The academic comfort scale is not a measure of ability, but rather one of preference for working in an academic environment. Scores also tend to correlate with level of degree achievement. Those who score above 50 tend to be inclined toward exploration of theory and research. Lower scores (below 40) imply that education may be merely a vehicle towards other goals. One subject fell within her degree level range, but below 40. Another scored in the high school range, and indicates a lower than average interest in the educational process. The third student was well above her degree level range and is highly motivated toward the pursuit of research and academic knowledge.

Table 4

Myers-Briggs Type Indicator and Strong Interest Inventory pilot study results

Subject	MBTI*	SCII#	Introversion/ Extroversion Scale	Academic Comfort Scale
1	ISTJ	SCIERA	65	33
2	ESTJ	SECRAI	51	17
3	ENTP	ISCRAE	52	57

* MBTI Preferences (Types):
EI = Extraversion or Introversion Attitudes
SN = Sensing Perception or Intuitive Perception
TF = Thinking Judgment or Feeling Judgment
JP = Judgment or Perception Styles

\# SCII Classifications (General Occupational Themes):
R = Realistic I = Investigative A = Artistic
C = Conventional E = Enterprising S = Social

The results of both the SII and the MBTI were consistent with published norms. None of the responses was irregular or unusual. The most significant points to be discussed are those which provide evaluation of the intervention. Recommendations and limitations will be included in the following discussion.

Even though the sample was extremely small, there was noticeable diversity in the CMI results. This variance did

not appear to pose a problem for course conduct or content, but from a developmental perspective, individual differences may suffer in the group setting. It was highly recommended that future interventions allow for individual input and necessary dyadic interaction in order to provide optimal self-understanding and feedback from the assessment profiles.

The delineation of transferable skills from athletics to careers was very helpful to the students (as recorded in anonymous self-reports). Many athletes fail to consciously recognize the number of positive attributes which they have acquired in the sport arena. Once recognized, it was relatively simple for the students to apply the same skills to job-related situations. The transferable skills which were identified by the student-athletes during the pilot study are listed in Table 5.

Table 5

Transferable skills as identified by student-athletes

Abilities	Characteristics
Set and focus on goals	Courage
Work well with others	Discipline-hard work
Deal well with defeat(s)	Endurance - persistence
Time management	Integrity - trust
Seek information	Leadership
Self-evaluation	Loyalty - support group goals
Stress management	Physical/mental alertness
Conflict resolution	Confidence
Receptive to learning	Tolerance
Self-sacrifice - risk taking	Positive thinking/attitude

Each participant found the career development program to be productive and beneficial to their individual needs. They appreciated the opportunity to learn about themselves as it related to career, school, decision-making and also to sport. It was an opportunity to integrate old and new self-knowledge into an understandable package which would enable them to further explore the world of work. One participant was excited to explore all the possibilities which were presented by the program. Another participant was reassured about decisions she had already made and discovered ideas about

what she should pursue further. The third subject found value in the elimination process of the interest exploration, so that she was not so overwhelmed by the numerous career possibilities.

The integration of the test results allowed the athletes to incorporate all aspects of their lives in an evaluative manner so that they could begin to prepare for the future with confidence, improved decision-making skills, and more of an in-depth understanding of careers as they relate to personal interests and knowledge.

There were 3 areas recommended by the students for inclusion in an expanded career exploration program for athletes: (a) peer counseling with upperclass student-athletes in different fields; (b) faculty mentorship in careers of interest; and (c) speakers who are experts in their fields. While these items may or may not be feasible for an initial limited six week intervention, they would certainly be valuable for a more extensive career exploration program offered on a semester basis. All three subjects found the program to be inciteful and valuable, and recommended it for all students, athletes and non-athletes.

Several changes were made in the content and structure of CEP due to feedback from the pilot study. The CMI testing was reduced to use the Attitude Scale only. The entire CMI inventory was too lengthy and was discouraging to the participants. The transferable skills session was altered from a written exploration to one of verbal discussion. The

pilot study indicated that the written segment was time-consuming and repetitive. The addition of individual interpretations for the SII and the MBTI was also inspired by the pilot study.

The results of the pilot study were extremely limited by time and sample size, however, the feedback from the participants was excellent. The test results were consistent with the literature for career maturity, the MBTI, and the SII. It was recommended that the program be further evaluated with a statistically acceptable group of student-athletes according to pre-test, post-test, and follow-up data. The value of the process is of significant interest. The goal of the program is to make a difference in the lives of the student-athletes through the acquisition of knowledge and opportunities as they face career decisions often clouded by their athletic pursuits.

APPENDIX C

Questionnaires and Goal Instability Scale (GIS)

APPENDIX C

Questionnaires and Goal Instability Scale (GIS)

INFORMATION QUESTIONNAIRE

ID#____

PART I

Name _____ M F Age_____ Birthdate___/___/___

Campus Address_____ Phone_____

Home Address_____ Phone____/_____

_____ Race_____

College Varsity Sport(s)_____# of years_____

# of years as Starter_____ Important Sub_____ Bench_____

Position in your sport _____

Scholarship status Full_____ Partial_____ None_____

Have you been redshirted? Yes_____ No_____ If so, what year_____

High School Sport(s) [list # of years, varsity, j.v., starter, non-starter]

_____

_____

_____

Youth Sports (list sport, # years of participation, honors won)

_____

_____

College Major/Minor_____ Date declared_____

Current Cummulative GPA ____ HS GPA____ SAT: M_____ V_____ ACT____

Career Goals_____

ID#____

Hobbies/recreational interests_____

_____

Summer/vacation/school employment & internships/volunteer positions (include dates)

_____

_____

_____

_____

_____

List members and relationships of all people living within your family home.

Name	Relationship to you/gender	If employed: Job title	If in school: School level
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			

PART II ID#____

DIRECTIONS: Please read the following statements carefully. Some are stated in the negative, while others are stated in the positive. Circle the answer which best describes your personal feeling at this point in time. The answer scale is as follows:

1 Strongly Agree 2 Agree 3 Sometimes Agree
4 Sometimes Disagree 5 Disagree 6 Strongly Disagree

- I am highly committed to my academic endeavors.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I don't seem to have the drive to get my work done.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am eagerly pursuing my plans for future accomplishments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am highly motivated to the pursuit of my career goals.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I have no sense of direction.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I find success in almost every work situation because I have multiple talents.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#____

- I am an outstanding example of someone who knows what he or she wants and is working for its accomplishment.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I refuse to learn new skills or to inform myself.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I wonder where my life is headed.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I want a successful future but I am uncertain about how to get it.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am making plans now for future commitments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am not sure whether my talents will have an outlet.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will perform adequately in my academic major.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I find little success in most decision-making situations

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#____

- Even though I don't like a subject, I still work hard to make a good grade.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel confused and undecided as to what my educational and vocational goals should be.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I believe that a college's football reputation is just as important as its academic standing.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I make firm, well-thought out decisions

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will choose the right career for me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel that I am taking courses that are of little practical value to me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

WRAP-UP QUESTIONNAIRE ID#_____

PART I

Name _____ Today's Date _____

College Major/Minor_____ Date declared_____

Current Cummulative GPA _____

What was the purpose of this class? _____

_____

_____

_____

What value did the class have for you? _____

_____

_____

_____

What were the **MOST** important components of the class for you and why?

_____

_____

_____

_____

_____

What were the **LEAST** important components of the class for you and why?

_____

_____

ID#____

What will be the next step for you in career exploration? _____

_____

_____

_____

What are your career goals? _____

_____

_____

_____

_____

_____

_____

PART II - WRAP-UP ID#_____

DIRECTIONS: Please read the following statements carefully. Some are stated in the negative, while others are stated in the positive. Circle the answer which best describes your personal feeling at this point in time. The answer scale is as follows:

1 Strongly Agree	2 Agree	3 Sometimes Agree
4 Sometimes Disagree	5 Disagree	6 Strongly Disagree

- I am highly motivated to the pursuit of my career goals.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I refuse to learn new skills or to inform myself.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am eagerly pursuing my plans for future accomplishments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am highly committed to my academic endeavors.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I find little success in most decision-making situations

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- Even though I don't like a subject, I still work hard to make a good grade.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#_____

- I have no sense of direction.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am not sure whether my talents will have an outlet.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am an outstanding example of someone who knows what he or she wants and is working for its accomplishment.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I don't seem to have the drive to get my work done.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am making plans now for future commitments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I want a successful future but I am uncertain about how to get it.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel confused and undecided as to what my educational and vocational goals should be.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I believe that a college's football reputation is just as important as its academic standing.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#_____

- I wonder where my life is headed.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I find success in almost every work situation because I have multiple talents.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will perform adequately in my academic major.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I make firm, well-thought out decisions.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will choose the right career for me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel that I am taking courses that are of little practical value to me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

Part I **FOLLOW-UP QUESTIONNAIRE** ID#_____

Please answer the following questions as completely and specifically as possible.

1. Have your career goals changed since you completed the career exploration program?

2. What are your career goals at this time?

3. Have you changed your major since you completed the career exploration program?

4. What is your major now?
   When did you declare this major?

5. Are you planning to declare a different major?
   When?
   Why?

6. What have you done to continue your career exploration?

7 What questions do you have about your career development, academics, and/or personal growth at this time?

8. Where do you see yourself five to ten years from now?

9. Last term GPA ____ This term GPA ____ Cumulative GPA ____

PART II - FOLLOW-UP ID#_____

DIRECTIONS: Please read the following statements carefully. Some are stated in the negative, while others are stated in the positive. Circle the answer which best describes your personal feeling at this point in time. The answer scale is as follows:

1 Strongly Agree	2 Agree	3 Sometimes Agree
4 Sometimes Disagree	5 Disagree	6 Strongly Disagree

- I am eagerly pursuing my plans for future accomplishments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel that I am taking courses that are of little practical value to me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I feel confused and undecided as to what my educational and vocational goals should be.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I believe that a college's football reputation is just as important as its academic standing.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am highly committed to my academic endeavors.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#____

- I find little success in most decision-making situations

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am not sure whether my talents will have an outlet.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am an outstanding example of someone who knows what he or she wants and is working for its accomplishment.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I don't seem to have the drive to get my work done.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am making plans now for future commitments.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am highly motivated to the pursuit of my career goals.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I refuse to learn new skills or to inform myself.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I want a successful future but I am uncertain about how to get it.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

ID#____

- I find success in almost every work situation because I have multiple talents.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- Even though I don't like a subject, I still work hard to make a good grade.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I have no sense of direction.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will perform adequately in my academic major.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I make firm, well-thought out decisions.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I wonder where my life is headed.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

- I am confident that I will choose the right career for me.

1	2	3	4	5	6
SA	A	SA	SD	D	SD

APPENDIX D

Transferable Skills

APPENDIX D

Transferable Skills

UNDERSTANDING AND IDENTIFYING TRANSFERABLE SKILLS
(Petipas & Schwartz, 1989)

NAME_____ **DATE**_____

PART I

1. What personal qualities and characteristics do you think coaches and teammates look for in athletes?

2. What other personal qualities and characteristics do YOU think are important for athletic achievement?

3. What personal qualities and strengths have helped you succeed in sports?

4. What have you learned from sports successes?

5. What have you learned from sports disappointments?

6. What have you learned from your extensive pre-competition practice experience?

7. What have you learned from competitive situations?

UNDERSTANDING AND IDENTIFYING TRANSFERABLE SKILLS

(Petipas & Schwartz, 1989)

NAME_____ **DATE**_____

PART II

1. Review your responses for questions one and two. Now describe how this may be similar to and/or different from what employers look for in prospective employees.

2. Again review your responses to questions one and two. How will these qualities and characteristics be important for career development and/or life decisions?

3. Review your response to question three. How will these qualities and strengths be important for your career development and/or life decisions?

4. Review your responses to questions four, five, six and seven. How can you apply what you have discovered to areas of your life outside of sports?

5. How do you think teamwork applies to a work setting?

THE ROLE OF ATHLETICS IN CAREER PREPARATION

Your participation in athletics has helped you make a statement about your career potential, about the kind of person you are becoming - highly motivated, hardworking, energetic, and willing and able to take instructions as well as establishing the framework by which to lead others. Through sport you have developed the work habits and attitudes which employers most desire. The following guidelines will guide you towards a successful transfer of these skills to your future career:

- **Cultivate the abilities, behaviors and attitudes toward work demanded in your sport that generalize to competence in any kind of work.**

  Improve interaction with teammates and coaches
  Improve your self-discipline
  Optimize your risk-taking
  Practice developing creative strategies (alternative plans)
  Perfect your time management
  Practice leadership skills

- **Build the mental side of your sport**

  Emotional endurance/steadiness
  Resilience
  Decision-making
  Tolerance

- **Get involved in pregame strategic planning**

  Get close to the thinking that produces results on the field
  Involve self in mental preparation that precedes game
  Take part in mental activity that surrounds contests
  Ask "Why?"
  Use your mind to train your mind to think, weigh alternatives, to plan and adjust

- **Find opportunities for teaching your sport to others**

  Teaching helps you build communication skills

- **Mingle with nonathletes as much as you can**

  To get a broader perspective on life

  Talk about them rather than sports

  Learn to move easily with all kinds of people

- **Make use of your public recognition**

  As you meet people tell them you would like to know more about their work

  Make contacts everywhere - They could be useful in your future

- **Promote yourself**

  Tell people that you believe you possess the potential for success in your career goal. Interviewers will pay the most attention to those who show the greatest drive and self confidence.

  Excessive modesty is often interpreted as lack of self-confidence.

APPENDIX E

Myers-Briggs Type Indicator (MBTI)

APPENDIX E

Myers-Briggs Type Indicator (MBTI)

MBTI INTERPRETATION (from manual, Myers & McCaulley, 1985)

1. VERIFY REPORT AGAINST OWN EXPERIENCE
   "This shows how you came out - Would you say that is right?"

2. TEST FORMAT
   Chose between series of preferences - Like casting votes in election w/ two outstanding candidates

3. ALL TYPES VALUABLE
   No right/wrong - good/bad
   Use both sides - like handedness

4. USE AND DEVELOP MORE SKILLS IN THE PROCESSES YOU LIKE

5. HELPS UNDERSTAND HOW YOU ASSIMILATE INFORMATION AND MAKE DECISIONS
   Helps use information already know in a more organized, practical manner

6. DOMINANT/AUXILARY
   JP points to extraverted function
   If E that will be dominant
   If I extraverted function is auxilary
   Higher auxilary =
   - larger range for SN than FT
   - possible error in type (socialization)
   - not showing clear preference for function which should be most trustworthy and differentiated

7. SCORING BREAKDOWN

Very Clear	41 and up or 31 and up for F
Clear	21-39 or 31 for F
Moderate	11-19
Slight	1-9 = split vote - social pressures - reflection of tension between the two poles "follow head or follow heart"

8. DECISION-MAKING

- focus on one process at a time
- do it consciously and purposefully
- use each process in its own field
- without interference by any other process
- order

  Sensing - facing facts, being realistic - wise impartial bystander

  Intuition - all possibilities

  Thinking-judgment - impersonal analysis of cause and effect - all consequences - full cost of every consequence - examine every misgiving

  Feeling-judgment - how deeply you care about things gained or lost by alternative solutions - temporary vs. permanent

VERIFICATION OF TYPE (from manual, Myers & McCaulley, 1985)

EXPLAIN NATURE OF MBTI AS AN INSTRUMENT

- concerned w/differences in incorporating information and making decisions
- shows interesting and important behavioral patterns - knowledge of these patterns is useful for understanding people and their interaction
- not a "test" but an "indicator" - no right or wrong
- no good or bad, sick or well profiles - based on normal population - assumes born w/preferences which are influenced by environment, family, situations
- each type has its own gifts and blind spots
- scores do not show maturity or excellence - show only strength of the preference of one element over the other

EXPLAIN THE NATURE OF TYPOLOGY

- use language appropriate for the student
- type is shorthand way for describing four set of mental processes

- types are not pigeonholes, but describe preferred ways of functioning
- all types are valuable
- describe four processes or functions (SN & TF) and four attitudes (EI & JP) - describe them correctly showing how each preference has polar opposites
- everyone uses all the process and attitudes but in theory each person likes some more than others.
- give examples of each set of elements - include personal examples
- use graphics

HELP STUDENTS TO INTERPRET THEIR RESULTS

- reassure - being confused at first is normal
- show how elements combine to make up a type - type composed from poles of elements
- guide student through Introduction to Type
- help student to see applications to own experience
- tell student that one's frame of mind (work self vs home self) can influence scores
- stress that it is learner's responsibility for recognizing own type, beyond MBTI scores
- Help student to see that trusting one's favorite processes is key to personal development
- encourage questions and comments
- use questioning approach - Is this true for you?
- keep in mind possible reasons results may not be true - p. 57 of manual

DIFFERENT DRUMS AND DIFFERENT DRUMMERS

If I do not want what you want, please try not to tell me that my want is wrong.

Or if I believe other than you, at least pause before you correct my view.

Or yet if my emotion is less than yours, or more, given the same circumstances, try not to ask me to feel more strongly or weakly.

Or yet if I act, or fail to act, in the manner of your design for action, let me be.

I do not, for the moment at least, ask you to understand me. That will come only when you are willing to give up changing me into a copy of you.

If you will allow me any of my own wants, or emotions, or beliefs, or actions, then you open yourself, so that some day these ways of mine might not seem so wrong, and might finally appear to you as right -- for me. To put up with me is the first step to understanding me. And in understanding me you might come to prize my differences from you, and far from seeking to change me, preserve and even nurture those differences.

(Keirsey & Bates, 1984)

How Do You Relate to Others?

FALLIBILITY

Humans are fallible -

Make mistakes and errors in both:

- **JUDGMENT**
- **BEHAVIOR**

CRAZY

Humans differ only in:

- **FREQUENCY**
- **DURATION**
- **INTENSITY**

of their Craziness!

Myers Briggs Type Indicator shows tendency toward Fallibility and Craziness.

Your profile identifies you as one of sixteen types.

You are simply different from others.

BACKGROUND

- **PERSONA** - **Visible side shown to others**
- **SHADOW** - **Complement**

As the day goes on the shadow starts to show

PREFERENCES VS. "ONLY'S"

- **Scoring direction indicates a PREFERRED style or method of interacting with the environment.**

- **Preferences affect not only *WHAT* people attend to in any given situation, but also *HOW* they draw conclusions about what they perceive.**

The Four Preferences of the MBTI:

EI	'E'xtraversion or 'I'ntroversion	Whether to direct perception judgment mainly on the outer world (E) or mainly on the world of ideas (I)
SN	'S'ensing perception I'N'tuitive perception	Which kind of perception is preferred when one needs or wishes to perceive
TF	'T'hinking judgment 'F'eeling judgment	Which kind of judgment to trust when one needs or wishes to make a decision
JP	'J'udgment 'P'erception	Whether to deal with the outer world in the judging(J) attitude (using T or F) or in the perceptive (P) attitude (using S or N)

ATTITUDES refers to extraversion (E) or introversion (I).

PROCESSES OF PERCEPTION are sensing [or sensation] (S) and intuition (N).

PROCESSES OF JUDGMENT are thinking (T) and feeling (F).

THE STYLE OF DEALING WITH THE OUTSIDE WORLD is shown by judgment (J) or perception (P).

(Myers & McCaulley, 1985)

EXTRAVERSION

- world of actions, objects, and persons
- chooses people as a source of energy
- need for *sociability*
- experience loneliness when not in contact with people
- need for *breadth*
- external, extensive, interaction, multiplicity of relationships, expenditure of energy, interest in external happenings

INTROVERSION

- the inner world of concepts and ideas
- *territorial* - desires space - private places in the mind and private environmental places
- draws energy from solitary activities, working quietly alone, reading, meditating, activities involving few or no other people
- likely to experience loneliness in a crowd
- enjoy interacting w/people but need quiet places and activities to recharge
- need for *depth*
- internal, intensive, concentration, limited relationships, conservation of energy, interest in internal reactions

SENSING

- immediate, real, practical facts of experience
- value *experience* and the wisdom of the past
- want to be *realistic*
- depend on *perspiration*
- actual, down-to-earth, no-nonsense, fact, practical, and sensible

INTUITION

- possibilities, relationships, meanings of life
- value *hunches* and a vision of the *future*
- likely to be *speculative*
- likely to depend on *inspiration*
- possible, fascinating, fantasy, fiction, ingenious, and imaginative

THINKING

- objectively, impersonally considers causes of events and where decision making may lead
- objective, principles, policy, laws, criteria, and firmness
- justice, categories, standards, critique, analysis, allocation
- gives priority to objective criteria
- apt to be good at argumentation - attempting to win people over to point of view through logic rather than appeal to the emotions

FEELING

- subjectively and personally weighs values of choices and how they matter to others
- subjective, values, social values, extenuating circumstances, intimacy, and persuasion
- humane, harmony, good or bad, appreciate, sympathy, devotion
- good at persuasion
- makes choices in the context of the personal impact of the decision on surrounding people

JUDGMENT

- in a planned, decisive, and orderly way aims to regulate and control events
- settled, decided, fixed, plan ahead, run one's life, closure, decision-making, planned, completed, decisive, "wrap it up," urgency deadlines, "get the show on the road"
- choose closure over open options
- apt to report sense of urgency until has made a pending decision, and then be at rest once the decision is made

PERCEPTION

- in a spontaneous, flexible way, aims to understand life and adapt to it
- pending, gather more data, flexible, adapt as you go, let life happen, keep options open, "treasure-hunting," open-ended, emergent, tentative, "something will turn up," there is plenty of time, what deadline?, let's wait and see
- apt to experience resistence to making a decision, wishing that more data could be accumulated as the basis for the decision - may have a feeling of uneasiness and restlessness once decision is made

E (75% of population) versus I (25% of population)

Sociability	Territoriality
Interaction	Concentration
External	Internal
Breadth	Depth
Extensive	Intensive
Multiplicity of relationships	Limited relationships
Expenditure of energies	Conservation of energies
Interest in external events .	Interest in internal reaction

S (75% of population) versus N (25% of population)

Experience .....Hunches
Past ..... Future
Realistic .....Speculative
Perspiration .....Inspiration
Actual .....Possible
Down-to-earth .....Head-in-clouds
Utility .....Fantasy
Fact ..... Fiction

T (50% of population) versus F (50% of population)

Objective	**Subjective**
Principles	**Values**
Policy	**Social values**
Laws	**Extenuating circumstances**
Criterion	**Intimacy**
Firmness	**Persuasion**
Impersonal	**Personal**
Justice	**Humane**
Categories	**Harmony**
Standards	**Good or bad**
Critique	**Appreciate**
Analysis	**Sympathy**
Allocation	**Devotion**

J (50% of population) versus P (50% of population)

Settled	**Pending**
Decided	**Gather more data**
Fixed	**Flexible**
Plan ahead	**Adapt as you go**
Run one's life	**Let life happen**
Closure	**Open options**
Decision-making	**Treasure hunting**
Planned	**Open ended**
Completed	**Emergent**
Decisive	**Tentative**
Wrap it up	**Something will turn up**
Urgency	**There's plenty of time**
Deadline!	**What deadline?**
Get show on the road	**Let's wait and see...**

APPENDIX F

Strong Interest Inventory

APPENDIX E

Strong Interest Inventory

SII INTERPRETATION

1. Academic Comfort Scale - correlates w/ level of schooling
   17-20 High School 20-35 Associate Degree 35-50 BS
   50-60 MS 60 and up PhD (PhD tends to be low - sick school)

2. Holland's Theory - organize into themes
   Being one doesn't mean can't be another
   Fit generally, but not always specifically - mostly fit 75%

3. Box and whisker - F = where women in general will score
   Differential gender-based scoring
   Compare w/ same sex and opposite

4. Statisitically based instrument - based on norm groups

5. Some scales are different for men and women
   e.g. Banker scale - norms women = office tellers
   norms men = executives
   know what comprises the items
   Read through Basic Interest Scales

6. Administrative indexes - looking for balance in scoring

7. Occupational Scales - same sex normed group scale
   People who are happy and successful responded on scales

8. Range of scores
   Look for where the pattern is relatively high - 45 and up
   25-45 showing something but not sure what
   less than 25 not showing a lot - start throwing out - dislike

APPENDIX G

Integration of the MBTI and the SII

APPENDIX G

Integration of the MBTI and the SII

4 DIMENSIONS OF SII/MBTI INTEGRATION

1) **Focus of interest:**
   - Extraversion --> People and Things
   - Introversion --> Concepts and Ideas
2) **Information gathering:**
   - Sensing --> Facts and Data
   - Intuitive --> Possibilitiesand Guesses
3) **Involvement with information:**
   - Feeling --> Personal Involvement
   - Thinking --> Logical Analysis
4) **Deposition of information:**
   - Judging --> Decision Making
   - Perception --> Awareness

(Pinkney, 1983)

CHOOSING A CAREER RELATIVE TO YOUR TYPE

- **ASSUMPTION:** PEOPLE DESIRE WORK THAT IS INTRINSICALLY INTERESTING AND SATISFYING, AND THAT WILL PERMIT USE OF PREFERRED FUNCTIONS

- **SN PREFERENCE =** MOST IMPORTANT IN CHOICE = ASPECTS OF WORK MOST LIKELY TO BE MOTIVATING = ATTENTION

- **EI PREFERENCE =** MOST IMPORTANT FOR FINDING APPROPRIATE WORK SETTING W/IN AN OCCUPATION

WORK EXPECTATIONS

E WORK INTERACTIVELY W/ A SUCCESSION OF PEOPLE OR WITH ACTIVITY OUTSIDE THE OFFICE OR AWAY FROM THE DESK

I PERMITS SOME SOLITUDE AND TIME FOR CONCENTRATION

S ATTENTION TO DETAILS AND CAREFUL OBSERVATION

N A SUCCESSION OF NEW PROBLEMS TO BE SOLVED

T WORK THAT REQUIRES LOGICAL ORDER, ESPECIALLY WITH IDEAS, NUMBERS, OR PHYSICAL OBJECTS

F WORK THAT PROVIDES SERVICE TO PEOPLE AND A HARMONIOUS AND APPRECIATIVE WORK ENVIRONMENT

J WORK THAT IMPOSES A NEED FOR SYSTEM AND ORDER

P ADAPTING TO CHANGING SITUATIONS/WHERE UNDERSTANDING SITUATIONS IS MORE IMPORTANT THAN MANAGING THEM

APPENDIX H

Values Clarification

APPENDIX H

Values Clarification

WHAT VALUES ARE/WILL BE IMPORTANT TO ME WHEN I SELECT A CAREER?

$$$$$$ - Commission vs. Salary

Hours - Flexible vs. Rigid

Travel

Environment (including diversity of personnel)

Benefits - Day care, health, education, etc.

Control - Power

Independence - Freedom of Choice

Affirmative Action

On the Job Training

Purposeful vs. Menial

Progressive - Upwardly mobile vs. Dead end

Career change - Education & Training

Variety - Dynamic vs. Static

Ethics

WHERE DO I GO FROM HERE?

Career placement center - 1st floor student services
Testing center - Counseling Center - 2nd floor student services
SIGI - computer assisted exploration
Library, Main - Reference section - Occupational Outlook Handbook
Internships / Seminars / Observation / Career Fairs
Faculty / Alumni / Friends / Family
Follow-up career counseling

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