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THE EFFECT OF AN ATHLETE-MENTOR PROGRAM ON STUDENT-ATHLETES

MAKING THE TRANSITION FROM HIGH SCHOOL TO COLLEGE

Вy

Christina L. Hester

A THESIS

Submitted to
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for the degree of

MASTER OF ARTS

School of Health Education, Counseling Psychology and Human Performance

ABSTRACT

THE EFFECT OF AN ATHLETE-MENTOR PROGRAM ON STUDENT-ATHLETES MAKING THE TRANSITION FROM HIGH SCHOOL TO COLLEGE

BY

Christina L. Hester

The present study investigated the effects of an athlete-mentor intervention program for freshmen student-athletes participating in intercollegiate sports on the effectiveness of their transition from high school to college. The hypotheses for this study were that the subjects who had a mentor would show greater adjustment to college life than those freshmen student-athletes that did not have a mentor, as measured by the POMS and the superior adjustment and mastery of the external world subscales of Offer's OSIQ. subjects were 28 freshmen student-athletes at a Division I midwestern university who were participating in men's and women's basketball, men's and women's gymnastics, men's and women's swimming, wrestling, and men's indoor track. The eight teams were randomly assigned to either an experimental group (those receiving a mentor) or a control group (those not receiving a mentor). Pretests and post-tests were completed by the two groups at the beginning and end of the 5 week intervention program. Statistical analysis failed to support the hypotheses. However, trends toward the effectiveness of the program were recorded.

DEDICATION

This thesis is dedicated to my Lord Jesus Christ, my parents,

Mack and Gloria Hester, my sisters, Cynthia Hester and Carol Hester
McKinney and my brother-in-law, Dwight Hester-McKinney for their

support and prayers.

ACKNOWLEDGMENTS

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THE EFFECT OF AN ATHLETE-MENTOR PROGRAM ON STUDENT-ATHLETES MAKING THE TRANSITION FROM HIGH SCHOOL TO COLLEGE

BY

Christina L. Hester

We approve the thesis of Christina L. Hester Date of Signature

Martha E. Ewing, Ph.D.

Thesis Advisor, Committee Chair Associate Professor of

Physical Education

Professor of Physical Education

Assistant Professor of Psychology

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CHAPTER ONE

INTRODUCTION

The first day on a college campus is an exciting time for all students who are entering college for the first time. Finding out where the buildings are located and who your roommate is are only a small part of getting acquainted with college life. One of the foremost questions facing all entering students is whether they will be successful academically at the college level. While all students experience concerns about the transition from high school to college, additional concerns may be felt by the student-athlete who has come to compete in an intercollegiate sport. Competition at the collegiate level represents a new phase in an athlete's life.

What additional problems do freshmen athletes experience during their first year in college? Hester (1988) interviewed several freshmen athletes regarding their experiences as student-athletes at a major midwestern university. One freshman student-athlete from a small town explained her experience as the feeling of being "back on the bottom of the totem pole." Athletically, she was the best in her hometown and everyone looked up to her, but once at the big midwestern university, she was no longer considered the best. It was a new beginning all the way around. The result of this transition was poor performance on the court and not being prepared in the classroom. As a second year student, she made adjustments from her

first year experience to become more successful in the classroom and on the court. These adjustments were made by her without the help of an older peer. This example represents one view of the transition process experienced by student-athletes.

A second student-athlete did not find the geographical change a problem. The biggest problem for her was adjusting in the classroom. Because of the difficulty in the classroom, she did not perform well athletically. The way she handled the stress in the classroom was to talk to one of her coaches (Hester, 1988).

The last student-athlete did not experience any trouble in adjustment to a new geographical location or adjustment to college academically. Her major adjustment came in athletics especially when she was not playing. As she explained there was no communication between her and the head coach which resulted in her not knowing what was expected from her. This experience resulted in poor performances occasionally (Hester, 1988).

All three student-athletes experienced transition problems but reacted to the problems in three different ways. What if all three of these student-athletes had someone to consult who had already been through the transition? Would their performance on the court and in the classroom have been improved? Could the transition have been made easier?

Transition is a change or passing from one condition to another (Barnhart & Thorndike, 1941). Transition in life is an ongoing process for each of us. One of the major transitions some people make is from high school to college. Likewise, during this time

adolescents are making the adjustment toward becoming adults.

The research that addresses the issue of transition from high school to college has dealt with the regular student. A regular student is someone who enters college and carries twelve or more credits per term (MSU, 1988). The student may or may not participate in extracurricular activities. The issue of whether a student's involvement in extracurricular activities, including athletics, affects the transition from high school to college has not been investigated.

Transitions involve periods of change, loss, or disruption of a prior structure or order in an individual's life (Compas, Wagner, Slavin, & Vannatta, 1986). Transition is something every human being experiences regardless of age. For example, we experience the transitions of going to elementary school for the first time, graduating from high school, and going into the work force or going to college. The transition period of interest in this study is leaving high school and going to college.

The transition from high school to college is a time of "growing up." This is the time adolescents become adults. This is the time college-bound high school seniors must step out on their own into an unknown and different environment and face adult decision-making responsibilities (Gibbs, 1988). Not only are they faced with adult decisions, they are leaving family and friends and managing (or mis-managing) their own finances. Students may experience homesickness as a part of the transition and adjustment to college life. The time has arrived for them to decide what they want to

do with their life. The freshman year at college is often a student's first taste of sustained independence. Equally important, it is a time of challenge for the parent (Kutner, 1988).

During the transitional period from high school to college, parents must relinquish control of certain responsibilities to their 17 or 18 year old daughter or son. Parents are no longer available to take care of their child's every need. Parents experience changes in their relationship with their child which can lead to some struggles that, if not appropriately understood, can lead to possible psychological or other problems. Likewise, transition and change, as a part of life, are likely to result in stress for the student which sometimes causes psychological and physical disturbances (Fisher & Hood, 1988). The transition is suppose to be positive, but sometimes a negative response or outcome is realized by the student, such as homesickness and absent-mindedness.

Fisher and Hood (1987, 1988) conducted two studies looking at transition. Both studies dealt with psychological disturbances, absent-mindedness and vulnerability to homesickness. Homesickness has been defined as a complex cognitive-motivational-emotional state concerned with grieving for, yearning for, and being preoccupied with, thoughts of home (Fisher & Hood, 1988). Vulnerability to homesickness is critical and the most common time of vulnerability for students is soon after college entrance (Compas, et al. 1986), thus making entering college an adjustment period.

Transition is experienced by all students, including student-athletes. In fact, athletes going through this transition



may experience a different adjustment than the regular student. Student-athletes must learn to adapt athletically to a new environment and a new level of challenge as well as to the other changes facing the regular student population, i.e., expanded social, emotional, and academic experiences. College presents the first taste of life as an adult, a period for facing a higher level of decision-making situations, while still in a structured environment. The areas mentioned above can be characterized as areas of adjustment. These areas are pertinent to an adolescent's development into adulthood, a part of which takes place in college. The student-athlete goes to college for at least two reasons: to get an education and to play sports. Like the regular student, the student-athlete is obligated to his/her education. However, the student athlete does have a second obligation and that is to play sports for his/her institution. This is an obligation for student-athletes because they have signed a contract that says they will participate in intercollegiate athletics upon their arrival at the university in return for payment of their tuition and fees. Now the student has added an extra area of adjustment to the list. How will the student athlete handle this? Researchers suggest how this adjustment may be facilitated and how specific needs can be met through counseling (Wittmer, Phillips, Waters, & Bostic, 1981; Lanning, 1982).

The adjustment the college student-athlete has to make is in athletics and in how the academic system works at the university level. This adjustment must be facilitated (Wittmer et al., 1981)

and the athlete must be counseled in a manner that is specific for the athlete (Lanning, 1982). This type of counseling helps the athlete make adjustments which are necessary for coping with the new way of life. Cooker & Caffey (1984) showed in their study that some form of counseling as well as instructional reading skills for the athlete is beneficial.

The University of Florida has established a complete course focusing on self-concept, vocational and academic awareness, leadership, racial relations, interpersonal communication skills, and how to meet with the media. In addition, a counseling program has been established in the athletic dormitory (Wittmer et al., 1981). A total of 62 student—athletes successfully completed the two hour nongraded course (Spring quarter, 1979) at the University of Florida. The class was considered a success and is now offered twice a year (Summer and Fall) for three quarter hours of credit and graded on a pass—fail system. Wittmer et al. (1981) and the University of Florida do not feel that they have answered all of the student—athletes' questions but feel positive progress has been made. These studies have demonstrated the different needs of the college athlete and have suggested ways to address these needs.

While these programs may be beneficial in helping the student-athlete in coping with interpersonal relationship problems and career choice problems, they do not appear to meet the special need athletes have of self-image development. Offer, Ostrov, and Howard (1982b) developed the Offer Self-Image Questionnaire (OSIQ) to "tap significant areas in the adjustment and the psychology of

the teen-ager." The Offer Self-Image Questionnaire (Offer et al., 1982b) is made up of five separate aspects of the self-system. These five scales are (a) the psychological self, (b) the social self, (c) the family self, (d) the sexual self, and (e) the coping self. Of these five, the coping self is of importance to the transition of the student-athlete. The coping self looks at the strengths that an individual possesses to cope with his/her world. "The scales, constituting this aspect of the self, measure the psychiatric symptoms the adolescent states he/she has, if any; they also allow the adolescent to describe how he/she copes with his/her world" (Offer, 1982b, p.4). There are three scales within the coping self aspect: (1) mastery of the external world, (2) psychopathology, and (3) superior adjustment. This study will focus on mastery of the external world which measures how well an adolescent adapts to the immediate environment and superior adjustment which measures how well the adolescent copes with him/herself, significant others and his/her world.

In their study Offer, Ostrov, and Howard (1981) reported that "As far as we know, almost every researcher who has studied a representative sample of normal teen-agers has come to the conclusion that they are characterized by good coping and a smooth transition into adulthood"(p.91). The OSIQ was psychometrically tested using adolescents from urban and suburban white lower-middle, middle-middle, and upper-middle social class. There are a few recent studies that have included rural, ghetto, and lower class teen-agers (Offer et al., 1982a). The ages of these subjects ranged from 13-19 years,

with 13-15 year old subjects being the younger group and 16-19 year old subjects being the older group. Research involving the OSIQ has shown that typical middle class youths in our society are happy with themselves and are making the necessary transitional adjustments (cf. Covey; 1984, Offer et al., 1981). This population excluded adolescents who had decided to include athletics as a part of their life. The student-athlete's background is not predictable and does not always fall into the "typical middle-class" category, thus adding a new dimension to the test.

Although the OSIQ (Offer et al., 1981) has reported positive findings for adolescents making the transition into adulthood, it remains to be seen if student-athletes are making that same positive transition. Another way to measure whether or not the student-athlete is making the positive transition reported by Offer is using the Profile of Mood States (POMS) short form. The Profile of Mood States short form was developed by Shacham (1983) from the long form developed by McNair, Lorr, & Doppleman (1971).

The Profile of Mood States was developed "to assess transient, distinct mood states" (Shacham, 1983, p. 305). The six factors that are measured are: tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, vigor-activity, and confusion-bewilderment. Shacham (1983) administered the short form of the POMS to 83 cancer patients to test the reliability of the short form. The results showed that the short form had a correlation of .95 with the original POMS. These results show that the short form can be used without losing any information or internal

consistancy when there are time limits which preclude use of the long form.

Measuring how a student-athlete handles the transition from high school to college is important. What if the transition was not made smoothly and the student-athlete did not adjust? How can the transition be facilitated? One possible solution could be the introduction of an older student-athlete to help the freshman student-athlete make the transition. Having an intervention program can possibly help in the transition.

Rosenfeld, Richman, & Hardy (1989) conducted a study to find out who was contributing to the athlete's social support system and how much. Social support was provided by coaches, teammates, friends, and parents, and each made a unique contribution to the athletes' support system.

There are four areas of support given to the athlete that do not require the person to be an expert. These areas are (a) listening—listening without giving advice or making judgments; (b) emotional support—support the individual during an emotionally difficult time without taking their side; (c) emotional challenge—someone who challenges the individual to do their best to overcome obstacles and attain goals; and (d) shared social reality—people with similar priorities, values and perspectives. There are two types of support that require the person to be an expert in sports or a particular sport: (a) technical appreciation—acknowledgment of a good performance and (b) technical challenge—stretch, challenge, and encourage the athlete to achieve more.

Rosenfeld et al. (1989) found in their study that the major (primary) social supporters in an athlete's life are coaches, friends, parents, teammates, and others (e.g., a relative other than parent). The teammates provided the technical support secondarily. The coaches primary support was technical challenge and technical appreciation secondarily. The athlete's friends provided listening and shared social reality as primary support and emotional support secondarily. The parents provided technical appreciation support and emotional support primarily and listening support secondarily. Rosenfeld et al. (1989) found that the social support system is important. Rosenfeld stated that, "The evidence is strong that there is a relationship between social support and the overall well-being of the recipient." (p.32)

This type of research helps and somewhat clarifies whether or not an intervention program for freshmen student—athletes would help the student—athlete make the transition from high school to college. The teammate can be more involved with the transition of the freshman student—athlete by becoming their friend. The teammate is already a part of the social support system for the student—athlete. Therefore, using an intervention program to further involve the teammate in the freshman student—athlete's transition may help them make the necessary adjustments.

STATEMENT OF THE PROBLEM

Introduction of an older peer as a possible mentor may help the freshman student-athlete in his/her adjustment to college life.



By introducing this older peer the student may be able to adapt to the immediate environment (also known as mastery of the external world) or cope with her/himself, significant others, and his/her world (also known as superior adjustment) (cf. Covey, 1984). Thus, the purpose of this study is to determine if a group of student—athletes making a transition from high school to college with a mentor will adjust better than athletes who make the transition without a mentor.

HYPOTHESIS

The following hypotheses were investigated in this study.

- 1. There will be no difference between the athlete-mentor group and the group that does not receive a mentor on the pre-test scores on the scales of mastery of the external world and superior adjustment from the OSIQ.
- 2. The student-athletes participating in the athlete-mentor program will show greater change from the pretest to the post-test on the scales of mastery of the external world and superior adjustment from the OSIQ than those student-athletes not participating in the athlete-mentor program.
- 3. There will be no difference between the athlete-mentor group and the group that does not receive a mentor on the pre-test of the Profile of Mood States.
- 4. The student-athletes participating in the athlete-mentor program will show greater change from the pretest to the post-test of the POMS than those student-athletes not participating in the athlete-mentor program.

Corollary Questions

- 1. Although gender differences are not anticipated, the question often arises. Therefore the question of gender differences will be investigated. A preliminary investigation of male and female student-athlete's responses to the superior adjustment and mastery of the external world scales will be performed. No significant differences are expected.
- 2. An interesting issue is how divergent entering freshmen are in their responses to transition. The scores of entering freshmen will be compared to the scores of the returning members of the team.

 Group differences are expected on the pretest with the freshmen scoring lower than the returning players on both subscales. It is uncertain how responses of the groups will differ on the post-test.

DEFINITIONS

Definitions of the following variables will aid in understanding the design of this study.

- Mentor: A trusted counselor or guide that will educate and guide (Woolf, 1973). For this study a mentor will be operationally defined as an upperclass student athlete who will befriend and guide a freshman student-athlete.
- 2. Normal Student: Minimum academic progress scale defined as 12 or more credits attempted per term (MSU, 1988).
- 3. Student-Athlete: "An amateur student-athlete is one who engages in a particular sport for the educational, physical, mental, and social benefits derived there from and for whom participation in that sport is an avocation" (Tow, 1989).

4. Transition: A change or passing from one condition to another.

DELIMITATIONS AND ASSUMPTIONS

Generalizations of the results can only be made to incoming male and female intercollegiate freshman-level athletes participating in men's and women's basketball, men's and women's swimming, men's and women's gymnastics, wrestling, and men's indoor track between the ages of 17-19 years of age at a midwestern university. The results cannot be generalized to freshmen student-athletes that participate in sports that start practice before the first day of classes. Those freshmen student-athletes have an opportunity to adjust to their new athletic environment without the extra added pressures of academics. They also have an opportunity to get acquainted with their new teammates without a large number of people being present. The athletes in this study were assessed by the use of the OSIQ and Profile of Mood States (POMS). For purposes of this study, it was assumed that the Offer Self-Image Questionnaire, Profile of Mood States, and the background questionnaire are valid and reliable measures of successful transition for student-athletes from high school to college.

LIMITATIONS

One limitation of this study was the lack of control of how much the control group will interact with others. There was also a lack of control by the experimenter over the athlete-mentor interactions.

IMPLICATIONS OF THE STUDY

The research that has examined transition from high school to university has covered the normal student. It has been shown that students going through this transition experience different psychological disturbances. Previous research has not examined the transition experienced by the student-athlete. This research has addressed the student-athlete's transition from a counseling perspective. In general, the counseling takes place after the student arrives on campus and is done by a professional. There is very little research, if any, that has examined the effect of a peer mentoring program on the student-athlete's transition from high school to university life. Research of this nature is needed because it will help identify how well freshmen student-athletes are adjusting to their new environment and how well peer mentoring facilitates this adjustment.

CHAPTER TWO

REVIEW OF LITERATURE

Transition

Transitions involve periods of change, loss, or disruption of a prior structure or order in an individual's life (Compas. et al. 1986). Transition is something every human being experiences regardless of age. For example, we experience the transition of going to elementary school for the first time, graduating from high school and going into the work force or going on to college. The focus of most research in this area is on leaving high school and going on to college. There is very little, if any, literature that addresses the transition of the student-athlete leaving high school and going on to college. The extent to which the transition to college from high school is accomplished with a minimum of complications by the student-athlete is unknown. There is, however, research that addresses the problem of transition for the regular student. A regular student is someone who enters college and carries twelve or more credits per term (MSU, 1988). The student may or may not participate in extra-curricular activities. The issue of whether a student's involvement in extra-curricular activities, including athletics, facilitates the transition from high school to college has not been investigated.

Entering college means it is time for students to decide what

they want to do with their life and how they are going to live their life. The freshman year at college is often a student's first taste of sustained independence. Equally important, the transition is a time of challenge for the parent (Kutner, 1988). During the transitional period from high school to college, parents must relinquish control of certain responsibilities to their 17 or 18 year old son or daughter. Parents are no longer available to take care of their child's every need. Parents experience changes in their relationship with their child which can lead to some struggles which, if not appropriately understood, can lead to possible psychological or other problems for the child.

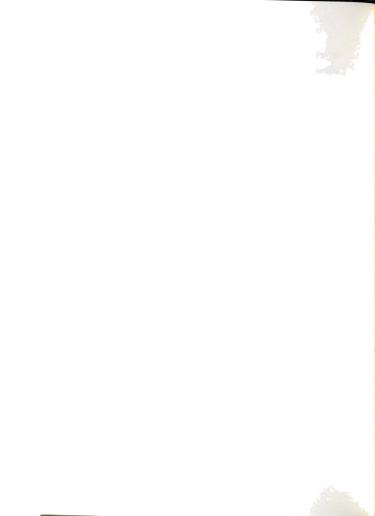
The time of transition from high school to college is a time of "growing up." Adolescents become adults. College bound high school seniors must step out on their own into an unknown and different environment and face adult decision-making responsibilities (Gibbs, 1988). Not only are these seniors faced with adult decisions, they are leaving family and friends and managing (or mis-managing) their own finances. Transition and change are a part of life and are likely to result in stress which sometimes causes psychological and physical disturbances (Fisher & Hood, 1987, 1988; Fisher, Murray, & Frazer, 1985; Compas et al., 1986).

Homesickness and absent-mindedness are two possible psychological problems for the first year college student. Homesickness has been defined as a complex cognitive-motivational-emotional state concerned with grieving for, yearning for and being preoccupied with thoughts of home (Fisher & Hood, 1987,1988). Vulnerability to homesickness

is critical and the time of greatest vulnerability is soon after entrance into college (Compas et al., 1986). What constitutes "soon after"? Fisher et al., (1985, 1988) assessed students during the sixth week to see if they were experiencing any psychological and/or physical problems. The results showed that students did exhibit homesickness as well as other psychological disturbances. The problems that students had, such as homesickness and absent-mindedness, could have had an effect on their coping skills and how they dealt with the transition.

The problem of homesickness can possibly be alleviated partially through a peer mentor program. The mentor can partially fill the void the student is feeling once they have arrived on campus. The problem of absent-mindedness is a problem that does not really pertain to this study and will not be measured.

One method of coping with such problems as homesickness is increased mobility. When the student has already experienced time away from home through travel, the transition from high school to college may be easier. Mobility can be a factor in how the student reacts to the transition from high school to college (Fisher & Hood, 1988; cf. Fisher et al., 1988). Stokols, Schumaker & Martinez (cf. Fisher et al.,1988) conducted research that studied mobility and its effects. Stokols et al. (1983) found that those subjects who reported greater mobility experienced difficulty in making adjustments and poor physical health. However, this finding was not supported by Fisher et al. (1988) who found that the higher the self-reported mobility the less homesick the student. In addition, Fisher et al.



(1988) found that homesick subjects reported higher perceived stress in association with all residential moves, were less likely to have left home to live at school, and were less likely to have left for the holidays without their parents. The non-homesick group on the other hand reported a higher total number of moves away from home and parents. Time spent away from parents was greater for the non-homesick subjects. The findings in this study suggest that mobility could possibly be a factor in transition by forcing students to cope with being away from family for short periods of time. There are some student-athletes who have the mobility history that would enable them to handle the transition effectively. Student-athletes may experience mobility by going away to sport camps for one or two weeks at a time. Mobility may be an indirect method for learning how to cope with leaving home but it is not the primary focus of this study. Greater mobility may or may not affect how a student-athlete makes the transition from being a "star" on a high school team to being a member of a college team.

Coping

The way people handle transition is just as important as the transition itself. Cantor, Norem, Niedenthal, Langston and Brower (1987) looked at transition as a set of current life tasks on which the individual is working. Cantor et al. (1987) selected students in the honors college at the University of Michigan as their subjects. These students were chosen because their basic background factors were likely to be relatively homogeneous influences on adjustment and college performance (Cantor et al., 1987). The main purpose

was to see how the student handled life-task cognitive strategies. The two strategies that were chosen were achievement strategies of defensive-pessimism and optimism.

The defensive-pessimism strategy proposes that individuals set defensively low expectations, in spite of good past experiences. Conversely, optimistic individuals set high expectations based on their successful past experience. The defensive-pessimist did well because of the low expectation set, therefore, they were able to deal with their anxiety and capable of moving on to the next task. The optimists also did well and felt comfortable with themselves and the task at hand. Both strategies enabled students to handle the transition which was vital to their success. These may be two ways that the regular college freshman tries to handle the transition. Do these same strategies impact the student-athlete's transition similarly?

The student-athlete could possibly use the same strategies but apply them to either their athletics or their academic courses. For example, a freshman student-athlete playing basketball could approach the situation from a defensive-pessimist perspective and set the goal of not being a part of the first eight players to play in a game, although they were a starter all through high school and an All-State player. Therefore, if they did not make the top eight, they would be able to handle the stress and work towards the next task, which may include being a part of the top nine players on the team. The freshman student-athlete who is an optimist would set a goal of starting because he/she was a starter all through high

school and an All-State player. At this time, support for the approaches is not found in the literature but may be inferred anecdotely.

Hester (1988) interviewed several freshmen athletes at a major midwestern university about their transition from high school to college. These athletes did not use the same type of coping strategies that the students did in Cantor's (1987) study. One athlete had the same type of attitude as a defensive-pessimist but did not set any type of goals for herself. The second athlete also did not set any goals for herself once she had entered college. These student-athletes did not have any type of coping strategy to handle the transition.

Hester (1988) did interview one freshman student-athlete from a small town who explained her experience as the feeling of being back on the bottom of the totem pole. Athletically, at home, she was the best and everyone looked up to her, but once at the big midwestern university she was no longer considered the best. It was a new beginning all the way around. The result of this transition was poor performance on the floor and not being prepared in the classroom. As a second year student she has made adjustments from her first year experience to become more successful in the classroom and on the playing floor. These adjustments were made by her without the help of an older peer. This example represents one view of the transition adjustments experienced by student-athletes.

A second student-athlete did not find the geographical change a problem. The biggest problem for her was adjusting in the



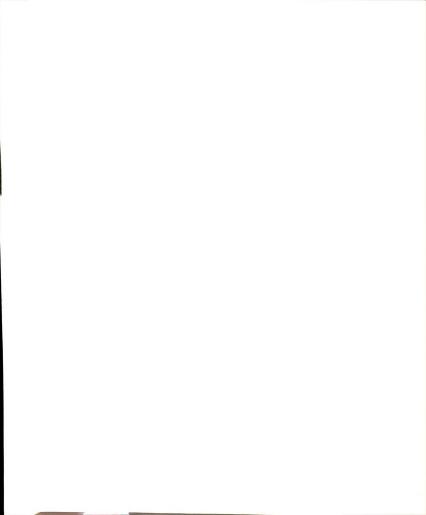
classroom. Because of the difficulty in the classroom, she did not perform well athletically. The way she handled the stress in the classroom was by talking to one of her coaches (Hester, 1988).

Both of these athletes experienced transition problems but reacted to the problem in two different ways. What if both of these student—athletes had had someone with whom to consult that had already been through the transition? Would their performance on the floor and in the classroom have been improved? Could the transition have been made easier?

Transition is experienced by all students, including studentathletes. In fact, athletes going through this transition may
experience a different adjustment than the regular student.

Student-athletes must learn to adapt athletically to a new environment
as well as to the other changes facing the regular student population,
i.e., expanded social, emotional, and academic experiences. College
presents the first taste of life as an adult. College is a time
for facing a higher level of decision-making situations, while still
in a structured environment. The areas mentioned above can be
characterized as areas of adjustment.

The expanded social area that students experience is an area where they have to learn how to live with a wide variety of people from different backgrounds than themselves. They also are establishing a new group of friends with which to associate. Emotionally the student deals with separation from home, family and friends. The academic adjustments that are experienced by the student can vary depending on the individual student. The amount of work

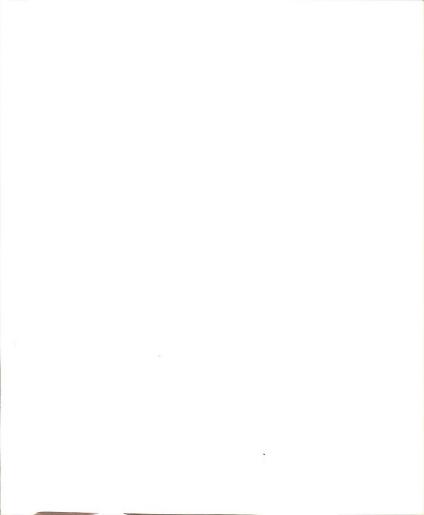


required such as reading assignments and projects are different from high school to high school. The other academic adjustment is that the students are responsible for getting themselves to class on time.

These areas are pertinent to an adolescent's development into adulthood, a part of which takes place in college. The student-athlete goes to college for at least two reasons: to get an education and to play sports. Like regular students, student-athletes are obligated to their education. However, student-athletes do have a second obligation and that is to play sports for their institution. This obligation for most student-athletes results from their having signed a contract that says they will participate in intercollegiate athletics upon their arrival at the university in return for payment of their tuition and fees. Some student-athletes could have successfully auditioned to be on a team, thus committing to participate like the other athletes who signed the contract. In this same way students choose to add an extra area of adjustment to the list. How well does the student-athlete handle this extra adjustment? Researchers suggest how it may be facilitated and how specific needs can be met through counseling (Wittmer et al., 1981; Lanning, 1982).

Counseling

The literature that concentrates on the transition from high school to college neglects the fact that student-athletes are a part of the same transition. There was a lack of research addressing the transition for student-athletes. Wittmer et al., (1981) and Lanning (1982) examined some possible solutions to helping the



student-athlete, i.e., counseling. The counseling takes place after the students have arrived on campus and have started school and/or practice, depending on the sport they are participating in.

The adjustment the college athlete has to make is in athletics and in how the academic system works at the university level. This adjustment must be facilitated (Wittmer et al., 1981) and the athlete must be counseled in a manner that is specific for the athlete (Lanning, 1982). In 1979, Bostic did research to see if there were any differences amongst black and white athletes in their adjustment to college. The results showed there were no differences; however, the results did show that the athletes differed from the general population of college students. The areas they specifically differed in were adjusting to school work, social life, finances-living conditions, and employment area, as well as the future vocational and educational problem areas (cf. Wittmer et al., 1981). This type of counseling helped the athlete make adjustments which were necessary for coping with the new way of life.

Cooker and Caffey (1984) found that some form of counseling as well as instructional reading skills for the athlete were beneficial. The University of Florida has established a complete course focusing on self-concept, vocational and academic awareness, leadership, racial relations, interpersonal communication skills, and how to meet the media. The purpose of the course was to demonstrate the interrelationships of the listed topics and how they effect the growth and development of each individual athlete. In addition, a counseling program was established in the athletic



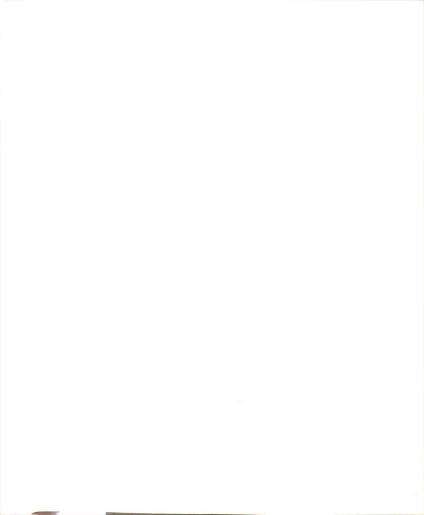
dormitory to increase the availability of the counselor to the athlete (Wittmer et al., 1981). A total of 62 student-athletes successfully completed the two hour nongraded course (Spring quarter, 1979). The class was considered a success and is now offered twice a year (Summer and Fall) for three quarter hours of credit and graded on a pass-fail system. Wittmer et al. (1981) and the University of Florida do not feel that they have answered all of the questions but feel positive progress has been made. They felt that it was too early to verify the success of the program (Wittmer et al., 1981). Mentors

There is not a lot, if any, literature or research that focuses directly on the concept of mentoring. There is, however, some literature that deals with the social support networks among athletes. Shumaker and Brownell (cf. Rosenfeld, Richman & Hardy, 1989) defined social support as "an exchange between at least two individuals perceived by the provider or the recipient to be intended to enhance the well being of the recipient" (p. 23). Behaviors that fulfill support functions include emotional support (e.g., affection), appraisal support (e.g., performance feedback), giving information (e.g., advice or role clarification), offering emotionally sustaining behaviors (e.g., empathy), and listening to the feelings and concerns of the other person (Rosenfeld et al., 1989). There are four areas of support given to the athlete that do not require the person to be an expert. These areas are (a) listening-listening without giving advice or making judgments; (b) emotional support- support the individual during an emotionally difficult time without taking his/her

side; (c) emotional challenge- someone who challenges the individual to do his/her best to overcome obstacles and attain goals; and (d) shared social reality-people with similar priorities, values and perspectives. Two types of support that may require the person to be an expert in sports or a particular sport include (a) technical appreciation-acknowledgment of a good performance and (b) technical challenge-challenge, stretch, and encourage the athlete to achieve more.

These behaviors can be satisfied by a teammate, coach, friend, or parent. Rosenfeld et al. (1989) found in their study that the major (primary) social supporters in an athlete's life are coaches, friends, parents, teammates, and others (e.g., a relative other than parent). The teammates provided the technical support as the primary support and listening and shared social reality support secondarily. The coaches primary support was technical challenge and technical appreciation secondarily. The athletes' friends provided listening and shared social reality as primary support and emotional support secondarily. The parents provided technical appreciation support and emotional support primarily and listening support secondarily. Others provided listening support primarily and emotional support secondarily. Rosenfeld et al. found that the social support system is important. Rosenfeld et al. stated that "The evidence is strong that there is a relationship between social support and the overall well-being of the recipient" (p.32).

This type of research helps clarify whether or not an intervention program for freshman student-athletes would help the



student-athlete make the transition from high school to college.

The teammate can be more involved with the transition of the freshman student-athlete by becoming her/his friend. The teammate is already a part of the social support system for the student-athlete. Using an intervention program to further involve the teammate in the freshmen student-athletes transition can help them make the necessary adjustments.

Offer Self-Image Questionnaire

While these programs (Wittmer et al., 1981; Lanning, 1982) may be beneficial in helping the student-athlete in coping with interpersonal relationship problems and career choice problems, they do not appear to meet the special need athletes may have of adjusting to their new environment. In their study Offer, Ostrov, and Howard (1981) reported that "As far as we know, almost every researcher who has studied a representative sample of normal teen-agers has come to the conclusion that they are characterized by good coping and a smooth transition into adulthood" (p.91). Adulthood can consist of many different areas but Offer et al. have defined five areas.

The five aspects that Offer et al. (1981) are using to judge whether or not normal adolescents are making a smooth transition into adulthood are as follows: psychological self includes the scales of impulse control, emotional tone, and body and self-image; social self includes the scales of social relationships, morals, and vocational educational goals; sexual attitude includes the scale of sexual attitudes; familial self includes the scale of family relationships; coping self includes the scales of mastery of the

external world, psychopathology, and superior adjustment. Of these five aspects, the coping self is of importance to the transition of the student-athlete. The coping self looks at the strengths that an individual possesses. The scales constituting this aspect of the self measure the psychiatric symptoms the adolescent states he/she has, if any; it also allows the adolescent to describe how he/she copes with his/her world (Offer et al., 1982b). This study will focus on mastery of the external world which measures how well an adolescent adapts to the immediate environment and superior adjustment which measures how well the adolescent copes with him/herself, and significant others. Superior adjustment and mastery of the external world are of particular importance to this study. The scale of psychopathology will not be used because it identifies overt or severe psychopathy and there are no indications that there are sufficient numbers of athletes that fall into this category.

Scales of measurement. Offer, Ostrov, and Howard (1981, 1982a, 1982b) developed the Offer Self-Image Questionnaire (OSIQ) to "tap significant areas in the adjustment and the psychology of the teen-ager." (Offer & Howard, 1972, p. 529). The OSIQ measures the personality adjustment of children ages 13-19 years, with adjustment being defined as "the effectiveness of the child's efforts to adjust to his environment" (cf. Covey, 1984 p. 68). A large number of adolescents have been used to see how children are adjusting to their environment. The groups of adolescents that have been used in studies are normal, delinquent, physically ill, older (16-19 years), younger (13-15 years), females, males, urban, rural, suburban, and teen-agers

from the United States, Australia, Israel, and Ireland. These adolescents came primarily from the middle class.

The population sample excluded the adolescent who has decided to include athletics as part of their life. The student-athlete's background is not predictable and does not always fall into the "typical middle-class" category. This may present some problems for this study as entering student-athletes come from diverse backgrounds. The OSIQ has evaluated many adolescents from different cultures as well as different types of environments. This type of diversity in the instrument suggests that the OSIQ is appropiate for assessing student-athletes' adjustments to college life.

The OSIQ contains 11 scales which are grouped into five separate aspects of the self system. These 5 areas are (a) the psychological self, (b) the social self, (c) the family self, (d) the sexual self, and (e) the coping self (Offer et al., 1982b). The 11 areas of an adolescents life that are believed to be important to the psychological life of the adolescent are based on theory, clinical experience, and a review of empirical findings (Offer et al., 1982b). The 11 areas are impulse control, emotional tone, body and self image, social relationships, morals, vocational-educational goals, sexual self, family relationships, mastery of the external world, psychopathology, and superior adjustment.

Reliability and validity. Offer et al. (1982b) used a statistical method called alpha to support internal consistency. When applied to OSIQ data it was shown that the scales were internally consistent. In 1979 stability data were collected on a sample of

normal teen-agers from the suburbs in the Chicago area. There was a six month time period between the first collection of data and the second collection of data. The scale scores were almost as stable as they were internally consistent. The range for the stability coefficient was from .48 to .84 for the scales and .73 for the total scores (Offer et al., 1982b). There have been other studies that have reported comparable results (cf. Offer et al., 1982b). Offer (1982b) conducted a longitudinal study in the 1960's that provided evidence of the stability of the construct underlying these scores.

There were significant differences between males and females on all scales except two, emotional tone and superior adjustment.

The older group, to which this study is aimed, showed no significant difference in any of the scales. The scores for male versus female subjects (13-19 years of age) were significantly different at the .05 level for mastery of the external world and not significant for superior adjustment. There was, however, no significant difference between older males and older females (16-19 years) in the mastery of the external world or in superior adjustment. There was a significant difference at the .05 level between the older group (16-19 years) and younger group (13-15 years) in mastery of the external world and no significant difference in superior adjustment.

Offer and Howard (1972) used analyses of variance and \underline{t} tests to evaluate how much each scale differed for various samples. The reasoning used to show validity for the OSIQ was that there were significant differences between the younger group and the older group on all the scales except four: impulse control, body and self-image,

psychopathology, and superior adjustment. Based on age the older group is expected to be healthier and better adjusted on the whole.

The alpha levels for the OSIQ for the two scales of interest to this study were .65 and .66 for mastery of the external world and superior adjustment, respectively, for normal older males. For older normal females, the alphas were .71 and .67 for mastery of the external world and superior adjustment respectively. These numbers are acceptable but they are low. Although the OSIQ (Offer et al., 1981) has reported positive findings for adolescents making the transition into adulthood, it remains to be seen if student-athletes are making that same transition.

Profile of Mood States

Profile of Mood States also known as POMS was developed by McNair, Lorr, & Doppleman (1971) with 65 items. The purpose of POMS was "to assess transient, distinct mood states" (Shacham, 1983, p. 305). There are six factors that are assessed on a five point scale. These factors are tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, vigor-activity, and confusion-bewilderment.

Shacham (1983) developed a shortened form of the POMS with 37 items instead of 65. The short form was formulated by using the Reliability program from Statistical Package for Social Sciences (cf. Shacham, 1983). The shortened version was developed to shorten the time needed to administer the POMS for patients that were under stress, pain, or under a time restraint. Items were eliminated by using two criteria: (a) "the contribution to internal consistency

(coefficient alpha) of the scale, and (b) the face validity of the items in the scales" (p.305).

The long form of the POMS was compared to the short form of the POMS by Shacham (1983). The POMS was given to 83 cancer patients. The results showed that the factors from the short form of the POMS had a high correlation to the factors from the long form of the POMS (all above r=.95). This type of result shows that the POMS can be shortened without it losing information or internal consistency. The POMS can help tap into what the student-athlete is feeling and facilitate the results from the OSIQ.

Measuring how a student-athlete handles the transition is of importance. What if the transition was not made smoothly and the student-athlete did not adjust? How can the transition be facilitated? One possible solution could be the introduction of an older student-athlete to help the freshman student-athlete make the transition. Having a peer-mentoring intervention program could possibly help in the transition.

CHAPTER THREE

METHOD

Subjects

The subjects were 28 freshmen student-athletes who volunteered to participate in the study. One subject did not take the pre- and post-test of the OSIQ, which is why there is a discrepancy in the cells for the OSIQ and the POMS. The subjects represented eight winter intercollegiate sport teams at a midwestern university. The sports included men's and women's basketball, men's and women's gymnastics, men's and women's swimming, wrestling, and men's indoor track. The total sample was limited by the number of entering freshmen athletes on each team. Only entering freshmen athletes were chosen because they were experiencing the transition from high school to college.

Design

The design for this study was a 2x2 (Group x Testing period) factorial design. The athletic teams were randomly assigned to one of two groups, i.e., the Athlete-Mentor program group or the control group. Pre- and post-tests were administered to both groups.

	Athlete-Mentor	Control
Pretest	18	10
Post-test	18	10

Athlete-Mentor Program

The Athlete-Mentor program paired freshmen athletes with either senior or junior athletes from the same team. The upperclassmen (mentor) were instructed to spend one hour per week for 5 weeks with their assigned freshman athlete. During this time the mentor did such activities as shopping, studying, going to the movies and going to parties with the freshman athlete.

Questionnaires

Two scales of the Offer Self-Image Questionnaire (See Appendix A) were used, namely, mastery of the external world and superior adjustment. The OSIQ was a 24 item questionnaire scored on a 6 point Likert scale with one extreme score, "describes me very well" receiving a score of 1 and the other extreme, "does not describe me at all" receiving a score of 6. The total raw scores for each scale were then converted to standardized scores using the norms presented by Offer et al. (1982b). The POMS short form was used also (See Appendix B). The POMS was a 37 item form scored on a 5 point Likert scale with the low extreme score, "not at all," receiving a score of 0 and the other extreme, "extremely," receiving a score of 4. Responses to the 37 items were summed to create a total score. A background questionnaire (See Appendix C) was used to describe

the sample and to enrich the statistical treatment of the collected data. A social interactions form was developed to monitor the number of activities that the mentor actually engaged in with the athlete (See Appendix D). The social interaction form was a methods questionnaire adapted from a study that dealt with the coping responses and adjustment among 32 college freshmen on academic probation (Reischl & Hirsch, 1989). The freshmen student-athletes were required to complete a social interaction form that had spaces for all of the team member's names to be listed plus a list of activities (See Appendix E).

Procedures

A presentation explaining the Athlete-Mentor program was given to each head coach having team members targeted for inclusion in the program. The head coaches were asked permission to involve their respective teams in this particular study. The coaches were told that if their team was chosen for the experimental group, a certain number of their upperclassmen would be asked to serve as mentors and each would be assigned to a freshman athlete.

Selection of Mentors. After the coaches approved of their team's involvement, each team was randomly assigned to either the control group or the experimental group. During the second week of August a reminder letter was sent to each head coach (See Appendix F and Appendix G). The mentors were selected from a list of seniors, fifth year seniors, and juniors, if needed, which was provided by the head coach on a form attached to the summer letter (See Appendix H).

Implementation of Program. The presentation of the consent

forms, the background questionnaires, the POMS, and the OSIQ were given to each team during the first 2 weeks of the Fall term (See Appendix I) at a time that had been prearranged with the head coach. All subjects were asked to read and sign a Human Subjects Release form to verify informed consent (See Appendix J). At that time, the athletes were assured of anonymity through the use of their uniform number and were asked to enter this number on each pretest. They were assured that the numbers would be cut off the questionnaires to assure that no athlete's response could be identified.

The control group was required to take the tests at the beginning and at the end of the 5 weeks. They were not required to do anything else. This distinguished them from the experimental group. Although athletes from the control group were able to seek guidance from a coach or other outside sources, it was not expected that they would be establishing the same type of peer relationship that the experimental group would establish.

The freshmen experimental group and the mentors were asked to stay after the pretests had been given. The investigator and a trained assistant instructed the freshmen in the experimental group and the mentors in separate rooms (See Appendix K). The freshmen in the experimental group were told that they would be paired with an upperclassman for 5 weeks and that the upperclassman would act as their guide and provide them with help getting acquainted with their new environment. They would help them buy books, find classrooms and buildings, and take them to social gatherings on campus. The freshmen student—athletes were encouraged to do these

outside activities with their mentors.

The mentors were told that because they had made a successful adjustment to the large campus, they were being asked to help freshmen athletes adjust to their new environment. The main idea was to establish a relationship with the athletes and to make them feel comfortable with their new environment. The upperclassmen were also informed that they would be paired with a freshman on their own team for 5 weeks. The mentors were paired with the freshmen according to recommendations made by the head coach. The mentors were required to spend at least one hour a week with the freshman athlete doing some informal activity. The social interaction form was used to generate activity ideas (See Appendix D). The mentor was asked to fill out the social interaction form at the end of each week and to record the amount of time spent with the athlete during the week. They were also asked to make additional comments on the form if they did an activity not included on the form. A total of five forms were used as an activity log book. The log book was distributed during the instructional meeting.

An activity matrix (See Appendix E) was taken around to each freshman participant in the study during the third and fifth week. The investigator asked the freshmen to indicate on the matrix what activities were done the previous week and with whom.

At the end of the 5 week experimental period the OSIQ and the POMS were again given to all of the subjects in the experimental and control groups. The log book of each mentor was collected at the end of the 5 weeks. Both groups were thanked for their cooperation

and then dismissed. There was a willingness expressed by the investigator to the head coach to implement the program with the teams that were in the control group, if there was a desire for the program.

TREATMENT OF DATA

To test the hypothesis that there would be no differences between the experimental group (mentor group) and the control group (no mentors) on the pretest scores of mastery of the external world and superior adjustment, a multivariate analysis of variance (MANOVA) was performed. A 2x2 (groups x pre-post) MANOVA with repeated measures was performed to test the hypothesis that the post-test scores of the group receiving mentoring would score higher than the group that did not receive mentoring on the mastery of the external world and superior adjustment. A third hypothesis stated that there would be no difference between the group that received mentoring and the group that did not receive any mentoring on the pretest scores of the Profile of Mood States. This hypothesis was tested by using an one way analysis of variance (ANOVA). The hypothesis that the group receiving mentoring would score higher on the post-test of the Profile of Mood States than the group that did not receive mentoring was tested by using a 2x2 (groups x pre-post) MANOVA with repeated measures.

CHAPTER FOUR

RESULTS

One of the assumptions of this study was that the transition from high school to college could be facilitated with some form of intervention program, specifically, peer mentoring. The purpose of this study was to determine if a peer mentoring program for freshmen athletes would help them make a better transition from high school to college as measured by changes in the POMS and Offer's mastery of the external world and superior adjustment scales. The results of this study have been organized in five sections. The first section presents data from the ages of the participants of the study. The second and third sections contain results for mastery of the external world and superior adjustment subscales and the POMS. The fourth and fifth sections present results from the corollary questions and the activity log sheets respectively.

Ages of Participants

The total number of freshmen participating in the study was $28 \ (\underline{M}=18.00 \text{ years of age, } \underline{SD}=.47)$. There was a total of 103 upperclassmen that completed the pretest in the study ($\underline{M}=19.67 \text{ years}$ of age, $\underline{SD}=1.35$). A total of 18 mentors were selected from the 103 upperclassmen ($\underline{M}=20.44 \text{ years of age, } \underline{SD}=1.20$). Junior and senior athletes were selected to serve as mentors because it was assumed that these older athletes would be better adjusted to college



life.

Several t tests were performed to determine if there were any significant differences between the ages of the upperclassmen. upperclassmen and freshmen, and mentors and freshmen in the experimental group. The average age for those upperclassmen who were not mentors was 19.50 years of age (SD= 1.32) and the average age for those who were chosen to be mentors was 20.44 years of age (SD= 1.20). The result of the t test between the upperclassmen who were mentors and those who were not mentors showed that there was a significant difference between the two groups, t(101) = 2.77, p < .05. The t test performed to investigate the difference between all upperclassmen and all freshmen revealed a significant age difference between these two groups, $\underline{t}(139) = -7.47$, p< .05. The final t test showed that there was a significant difference between the mentors and the freshmen they were mentoring, t(38) = 8.89, p<.05. The results of the t test's supported the idea that the freshmen athletes were significantly younger than both their mentors and all upperclassmen. Interestingly, the mentors were also significantly older than the other upperclassmen.

Mastery of the External World and Superior Adjustment

To assess the impact of the mentoring program on freshmen athlete's mastery of the external world and superior adjustment, it was necessary to determine that the mentored and non-mentored groups entered college with similar self-image scores. The first hypothesis stated that there would be no differences between the experimental group (mentor group) and the control group (no mentors)

on the pretest scores from the OSIQ. A MANOVA was performed on the pretest scores of the mastery of external world and superior adjustment. The results supported the hypothesis that there was no significant difference between the two groups, $\underline{F}(2,24)=1.70$, $\underline{p}>.05$. However the means do show that the experimental group scored higher than the control group. The lack of significance could be due to the small sample size. The means and standard deviations are presented in Table 1.

Table 1

Means and Standard Deviations on Pretest Scores for Mastery of the External World and Superior Adjustment

	Mastery of the external world		Supe adjus		
	М	SD	М	SD	
Experimental (n=17)	58.42	10.13	57.42	11.44	
Control (n=10)	54.40	8.21	51.20	7.13	

To test the influence of the mentoring after a 5 week period, a 2x2 (group x prepost) MANOVA with repeated measures on time was used to test the hypothesis that the post-test scores of the group receiving mentoring would score higher than the group that did not receive mentoring on mastery of the external world and superior adjustment. The results did not support the proposed hypothesis. Results of the MANOVA are presented in Table 2, with means and standard deviations presented in Tables 3 and 4.

	F value	d.f.	<u>p</u> value
Group	2.32	2,24	.120
Prepost	0.572	2,24	.572
Group X Prepost	0.014	2,24	.986

TABLE 3 Means and Standard Deviations on the Pretest and Post-test Scores for Mastery of the External World.

	Pretest		Post	-test	Total G	Total Group		
	М	SD	М	SD	М	SD		
Experimental (n=17)	58.41	10.12	58.88	8.67	58.65	9.40		
Control (n=10)	54.40	8.21	54.70	8.88	54.55	8.55		
Total (n=27)	56.93	9.50	57.33	8.82	56.60	8.98		

TABLE 4

Means and Standard Deviations on the Pretest and Post-test Scores for Superior Adjustment.

	Pretest		Post	-test	Total	Total Group		
	М	SD	М	SD	М	SD		
Experimental (n=17)	57.41	11.44	60.12	11.30	58.77	11.37		
Control (n=10)	51.20	7.13	53.20	7.51	52.20	7.32		
Total (n=27)	55.11	10.37	57.56	10.47	55.49	9.35		

In summary, no differences were found between the freshmen student-athletes that were mentored by upperclass student-athletes and those freshmen student-athletes who did not receive the mentoring. Thus, it was concluded that 5 weeks was not a sufficient amount of time to effect the differences in adjustment to college life as measured by mastery of the external world and superior adjustment from the OSIQ.

Profile of Mood States

The POMS was the last measurement used to test effects of a mentoring program on the student-athletes' transition to college from high school. The hypothesis stated that there would be no difference between the group that received mentoring and the group that did not receive any mentoring on the pretest scores of the POMS. An oneway ANOVA was performed to test this hypothesis and the results showed that there was no significant difference between the two groups, $\underline{F}(1,26) = .57$, $\underline{p} > .05$. Means and standard deviations

are presented in Table 5.

TABLE 5

Means and Standard Deviations on Pretest and Post-Test Scores for the Profile of Mood States

	Pretest of Mood	Profile States	Post-Tes of Mood	st Profile States	
	М	SD	М	SD	
Experimental (n=18)	44.06	13.81	49.28	22.39	
Control (n=10)	40.10	12.10	46.20	20.07	

The last hypothesis looked at the effectiveness of the mentoring program on the post-test of the POMS. The purpose was to determine if the group that received mentoring would show a greater increase on the post-test of the POMS than those who did not receive the mentoring. To test the hypothesis a 2x2 (group x prepost) MANOVA with repeated measures was performed. The results from the MANOVA with repeated measures showed that there was no significant difference between the two groups, $\underline{F}(1,26)=0.46$, $\underline{p}>.05$. The means and standard deviations are presented in Table 5.

In summary, student-athletes who were mentored did not differ significantly from the student-athletes who were not mentored in their scores on the Profile of Mood States. Improvement was shown by both groups from pre- to post-test assessments.

Corollary Questions

In addition to testing the hypotheses presented above, several corollary questions were investigated. These corollary questions

were not part of the hypotheses but were questions which, could help facilitate interpretations of the main hypotheses. The first corollary question investigated gender differences on the OSIQ, both pre- and post-tests. The results from the MANOVA with repeated measures on the pre- and post-test of both mastery of the external world and superior adjustment showed that there was a trend toward gender differences, $\underline{F}(2,24)=3.25$, $\underline{p}<.06$. No significant differences were found for gender by prepost, $\underline{F}(2,24)=.43$, $\underline{p}>.05$, or prepost, $\underline{F}(2,24)=.26$, $\underline{p}>.05$. The means and standard deviations are presented in Tables 6 and 7.

TABLE 6

Means and Standard Deviations of Genders for Pre- and Post-Test Scores
Mastery of the External World.

	Pre Mastery of the external world			stery of rnal world	Total Group		
	М	SD	М	SD	М	SD	
Male (n=14)	53.79	9.63	53.86	8.97	53.83	9.30	
Female (n=13)	60.31	8.44	61.08	7.23	60.70	7.84	
Total (n=27)	56.93	9.50	57.33	8.82	57.13	9.16	

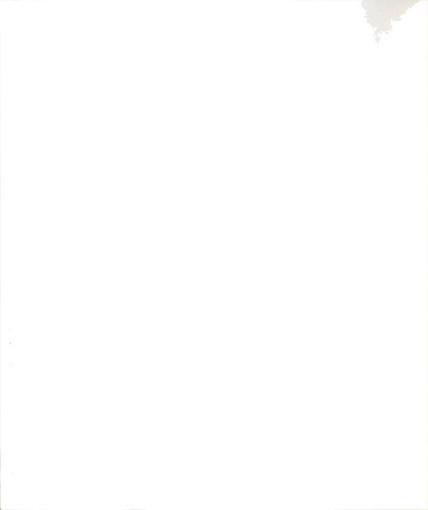


TABLE 7

Means and Standard Deviations of Genders for Pre- and Post-Test Scores of Superior Adjustment.

	Pre Superior adjustment			Post superior adjustment		1 p
	М	SD	М	SD	М	SD
Male (n=14)	52.07	8.71	56.07	11.23	54.07	9.97
Female (n=13)	58.38	11.32	59.15	9.78	58.77	10.55
Total (n=27)	55.11	10.37	57.56	10.47	56.42	10.26

In order to interpret the main effect trend for gender, univariate F-tests were performed on mastery of the external world and superior adjustment. The results revealed that females were higher in their responses to mastery of the external world, $\underline{F}(1,25)$ = 6.47, $\underline{p}<$.05 than the males. Males and females did not differ in their responses to superior adjustment.

An assumption of this study was that the freshmen would not score as high as the upperclassmen on the pretest on mastery of the external world, superior adjustment, and POMS. Conceptually, the upperclassmen should be better adjusted to their environment and thus score higher. The results from the MANOVA revealed that there were no significant differences between the freshmen and the upperclassmen on all three scales, $\underline{F}(3,127)=0.194$, $\underline{p}>.05$. The means and standard deviations are shown in Table 8.

TABLE 8

Means and Standard Deviations by Class for Mastery of the External World, Superior Adjustment, and Profile of Mood States.

	Mastery of the external world		Super adjust		Profile of Mood States		
	М	SD	М	SD	М	SD	
Freshmen (n=34)	55.97	10.18	55.38	10.24	43.09	15.30	
Upperclassmen (n=97)	55.82	11.60	56.43	12.58	45.33	21.06	

In summary, gender differences were not found on superior adjustment but a trend was found for mastery of the external world. This trend did not follow the same findings that Offer had reported (Offer et al., 1981). Offer et al. (1981) found gender differences on the psychopathology scale which was not used for this study. The assumption that the upperclassmen would score higher on the POMS than the freshmen was not supported. This finding implies that the upperclass athletes may not be as well-adjusted to college life as one would expect or that the freshmen of class athletes are better adjusted than one would expect.

Activity Logs

The effectiveness or ineffectiveness of a peer mentoring program could be understood more easily if the activities of the athletes and their mentors were known. Thus, an activity log sheet was kept by each mentor to monitor activity actually engaged in with each freshman athlete. In addition, the freshmen athletes were asked to complete an activity sheet showing their involvement with all

team members two times during the 5 week period. The activities recorded by the mentors and the freshmen are contained in Table 9. The three most popular activities in which the control group engaged with teammates were doing academic work, going to parties, and volunteer work. The four most popular activities reported by the mentored group were going to parties, talking about ideas and personal issues, talking about team issues and doing academic work. The mentors' top three activities were talking about team issues, going to parties, and going to movies and athletic events. The most common activity engaged in by all three groups was going to parties. The activity that was engaged in the least by all three groups was going to church. In addition, the control group (non-mentored freshmen athletes) reported that they had not talked about team issues with their teammates during the first 5 weeks of school. The experimental group had low percentages in the "other" category and the mentors spent little time in volunteer work and attending nonsport meetings.

TABLE 9

Activities Freshmen and Mentors Participated in and Percentages of Those Who Participated

Activity	Mer	Mentors		Experimental		ntrol
	n	%	n	%	n	%
Doing academic work	6	50.0	15	68.2	9	75.0
Shopping	3	25.0	10	45.5	6	37.5
Going to parties	9	75.0	16	72.7	9	75.0
Going to movies, athletic events	8	66.7	9	40.9	6	50.0
Attending nonsport meetings	1	8.3	9	40.9	2	16.7
Talking about personal issues	5	41.7	16	72.7	6	50.0
Going to church	0	0.0	2	9.1	0	0.0
Talking on the phone	5	41.7	13	59.1	5	41.7
Talking about team issues	10	83.3	15	68.2	0	0.0
Volunteer work	1	8.3	5	22.7	9	75.0
Other	4	33.3	1	4.5	3	25.0

n= number of student-athletes that participated in each activity.

The activity log sheet, as stated before, was used to check on the activities that were being participated in by the freshmen and upperclassmen. It also served as a check on the mentors to find out if they were actually doing the activities that they reported having done with the freshmen student-athletes. There were some discrepancies in the reported activity by the mentors and the freshmen. There were several reasons why these discrepancies exist. First, the freshmen that received mentoring not only participated in activities with their mentors but also with other team members.



Second, the mentors did not report all of the activities that they did with the freshmen student-athletes. Third the freshmen student-athletes not only reported activity with team members but also with people outside of the team.

The percentages reported in Table 9 give a clearer picture as to what kind of activity was participated in and how many people actually did participate. The percentages should decrease across the 3 groups for the activities, but they do not for reasons explained The mentors were suppose to be the most active group but yet they have the lowest percentages in 7 out of the 11 possible activity categories. The second most active group if not equally active with mentors should have been the experimental group. They were not as low as the mentors in number of low percentages, they only were the lowest in 2 out of the possible 11 activity categories. The control group faired better than the mentors did in this comparison also. They had the lowest percentages in only 3 out of the possible ll activity categories. It is important to remember that the log sheet for the mentors indicates only activities done with the person they were matched up with, whereas the freshmen logged activities that they did with all their teammates.

Summary

The intervention program using upperclassmen student-athletes to mentor freshmen student-athletes did not support the hypotheses that freshmen receiving the mentoring would adjust to college life better than those student-athletes who did not receive the mentoring. There were no differences between the mentored group and the

non-mentored group on the pretest scores on mastery of the external world, superior adjustment, and Profile of Mood States. There were no differences between the mentored group and non-mentored group after a 5 week intervention program on mastery of the external world, superior adjustment, and Profile of Mood States. The corollary questions resulted in a trend with the females scoring higher in their responses on the mastery of the external world scale of the Offer Self-Image Questionnaire than the males. Although two of the primary hypotheses were not supported by statistical testing there were other findings in the study that opens the door for further investigation.

CHAPTER FIVE

DISCUSSION

Transition from high school to college is an experience that all college students go through with varying degrees of success.

The student-athlete is a part of the student population going through the transition from high school to college. Student-athletes are not only adjusting to regular college life but they are also adjusting to a new athletic experience at the collegiate level.

The purpose of the athlete-mentor program was to help the freshmen student-athletes in their transition from high school to college. The upperclassmen student-athletes served as mentors who had already experienced this transition and hopefully made the transition successfully. It was indicated in the results that the upperclassmen were significantly older than the freshmen. It was further displayed that the mentors were significantly older than the freshmen student-athletes that they were to mentor. This age difference leads to the belief that the mentors were more mature than the freshmen and thus better adjusted to their environment. The mentoring program that was implemented did not show any significant changes in adjustment for freshmen athletes but there were some trends that were recorded.

The results of this study did not support the hypotheses that peer mentoring would result in an easier adjustment to college life.



The first hypothesis stated that the freshmen receiving mentoring would score significantly higher on mastery of the external world and superior adjustment from the OSIQ than those freshmen that did not receive mentoring after a 5 week period. The second hypothesis stated that the mentored freshmen would show a significant increase in their scores on the POMS than those freshmen that were not mentored.

The scores reported by both the freshmen and the upperclass athletes on the OSIQ were above the norm for adolescents considered to be adjusted to adulthood. The score that Offer (1982b) reported as an indication of being average in adjustment is 50 ± 1 standard deviation. The freshmen in both the experimental group and the control group scored above 50 on the pretest and the post-test on mastery of the external world and superior adjustment. The average scores ranged from 54.40 to 58.88 on mastery of the external world and 51.20 to 60.12 on superior adjustment. Thus, most of the athletes in this study were better adjusted to adulthood than most entering freshmen. One explanation for the better adjustment of these student-athletes may be the increased opportunity to travel and be away from home as a member of a sport team.

Fisher et al. (1988) found that mobility helped in the students transition after leaving home. Some student-athletes have a mobility history that would enable them to handle the transition effectively. Sport provides opportunities to travel, particularly for the highly skilled athlete. For example, student-athletes may experience mobility by going away to sport camps for one or two weeks at a time.

Some athletes may attend several camps during a summer. Approximately 92 percent of the athletes in this study said that they had traveled "some" to "a lot." Thus, these freshmen student-athletes had experienced mobility before entering college. This mobility may depend on the gender of the individual.

Although gender differences were not expected, it was found that females scored higher than males on mastery of the external world. This result cannot be completely explained but some possible explanations that could be investigated in future studies are offered. One possibility is that the females were more mobile than their male counter parts before entering college. Another possible explanation is the amount of activity and the kind of activity that was engaged in by the males and by the females during the intervention program. Closer attention should be paid to the type of activities provided by the resident halls as well as team-related activities for male and female athletes at the start of school. Gender differences are important and need to be investigated further in future research.

There are different reasons why the mentoring program was not as effective as had been predicted. These explanations will be dealt with in two ways, methodological and conceptual.

Methodological Explanations

The implementation of this program began with the mentor. Their education of what being a mentor was and did was of importance.

There were four teams that had mentors. The amount of time that was taken to instruct the mentors was 10 minutes. This 10 minute session was conducted at the beginning of practice for three out

of the four teams. Because the instruction occurred before practice, the preoccupation with practice by the mentors could have resulted in the mentors not fully understanding what to do with the freshmen. The program may have been more successful if a greater emphasis had been placed on the education of the mentor and the importance of their role. For example, role playing how to call an acquaintance and possible dyadic interaction patterns could be beneficial additions to the success of the mentoring program. Table 9 showed the amount of activity that was engaged in by the mentors. The mentors should have had the highest activity of all three groups, but they did not. An extended length of education for the mentors would possibly help the upperclassmen understand why it was important for them to spend time with the freshmen.

One team experienced trouble in the instructional process. There was not an extra room available in the building in which the meeting took place; therefore the instruction meeting took place out in a hall way where other people were moving about. This extra added distraction resulted in a lowered attention to the instructor by the athletes as well as a reduction in the time taken to instruct the mentors. Thus, these mentors may have lacked sufficient understanding of what their role was.

Another methodological reason for the apparent lack of success of the mentoring program is the 5 week time period taken to implement the study. Five weeks at the beginning seemed to be enough time for the upperclassmen to set up times to meet with the freshmen but it was not. The problem is that the amount of activity going on

at the beginning of the school year cuts down a student-athlete's free time. This may seem like a problem but the possibility of this type of high activity can help deter the student-athlete from withdrawing and becoming homesick. The student-athlete is practicing, getting settled into the resident halls, and getting acquainted with the campus. This type of activity needed to be taken into account when implementing the study. A longer time period would allow for better interaction and perhaps quality time being spent with the freshmen student-athletes.

Conceptual Explanations

The whole premise behind the athlete-mentor program was to help the freshmen student-athletes adjust to their new environment. The tools of measurement used were valid and reliable tools and were thought to be capable of measuring the transition from high school to college. However, the OSIQ used in this study is a trait measure rather than a state measure (Offer et al., 1982b). Offer et al. (1982) showed that after six months the scores of subjects did not change significantly. This type of result showed the stability of the instrument and how it was possibly the wrong test to use to assess transitional changes which might occur within a shorter or longer time frame. Offer et al. gives the impression that the OSIQ measures transition whereas it actually does not. Offer et al. showed in the 1979 study that the instrument was stable and did not change over a six month period, yet they say that normal teen-agers are characterized by good coping and smooth transition into adulthood. Offer et al. misleads with the word transition in their description

of what the instrument is actually measuring.

The age of the mentors was a variable that was used to ensure that the freshmen were working with someone that had made the transition from high school to college. The significant age difference was good but the maturity level was not measured; therefore, it could not be guaranteed that the mentors were better adjusted than the freshmen. Indeed, it was found that the upperclassmen did not score significantly higher on mastery of the external world, superior adjustment, and Profile of Mood States than the freshmen. This finding suggested that the upperclassmen were not as adjusted to college life as was thought by the researcher or the freshmen were better adjusted than anticipated. This finding was puzzling and suggests that all student-athletes could benefit from a mentoring program that has already been established. A sports psychologist or academic counselor might serve as better mentors in the future but if older student-athletes could be trained to help those who are entering college this would help both the freshman student-athlete and the mentor.

Recommendations

There are four recommendations that would help improve this study. The first recommendation would be to conduct the mentoring program over a longer time period. A 10 to 15 week program would be recommended. This amount of time would give the mentor more time to plan out activities, allow for more interaction with the freshmen student—athlete, and provide a longer period to measure the adjustment made by the freshmen. Along with an increase in intervention time,

perhaps a follow-up with those who participated in the program could be conducted. A possible time of follow-up would be at the end of the second term or at the end of the school year. The follow-up could also lead into a longitudinal study format. The length of the longitudinal study could go for a five year period.

The second recommendation would be a more comprehensive education program for the mentors. As stated before the time taken to instruct the mentors was approximately 10 minutes. Several 30 to 45 minute sessions may be necessary to educate the mentors. This would result in a better understanding of their role as a mentor. An opportunity to role play how to contact the freshmen and what to say would help the upperclassman feel more comfortable in their initial approach. Other forms of aid could be given also, such as, a five minute video of the initial contact and other contact periods or a pamphlet explaining the program and the role of the mentor. In addition emphasis should be placed on the activity being done during the intervention program. The seriousness of this study would be better understood if the mentors understood better their role and the things they must do to help the freshmen make a better transition.

The third recommendation would be that there be a possible screening of the mentors for the program. The screening program would be an interview process of the junior and senior athletes who were recommended by the coaches. Questions from the tool of measurement would be used to screen the applicants to insure that the mentors were well-adjusted to both the academic and athletic

programs. This process would give the researcher a better idea of the maturity of the mentors and the seriousness with which they undertook their new role.

The fourth and final recommendation for this study would be to use a different assessment tools. The Student Adjustment to College Questionnaire is possibly a better and more accurate tool of measurement for adjustment to college than the three used for this study. The reason the instrument was not used in this study was that it was brought to the attention of the researcher after the implementation of the intervention program. The Student Adjustment to College Questionnaire is a self-report tool that measures the student's perceived adjustment to college. The four scales that are measured are academic, personal, social, and institutional adjustment (cf. Schwitzer, Robbins, & McGovern, 1989).

These recommendations would definitely enhance the research of the effect of an athlete-mentor program on student-athletes making the transition from high school to college. Although the final result of this study showed that the intervention program was not effective, it did open an avenue for further research in this area.

REFERENCES

REFERENCES

- Barnhart, C. L. & Thorndike, E. L. (1941). <u>Thorndike-Barnhart high</u> school dictionary, Fourth Edition, 1002.
- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A. & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. <u>Journal of Personality and Social Psychology</u>, 53 (6), 1178-1191.
- Compas, B. E., Wagner, B.M., Slavin, L. A., & Vannatta, K. (1986). A prospective study of life events, social support and psychological symptomatology during the transition from high school to college. American Journal of Community Psychology, 14, 241-257.
- Cooker, P. G. & Caffey, C. A. (1984). Addressing the cognitive and affective needs of college athletes: Effects of group counseling on self-esteem, reading skills, and coaches' perceptions of attitude. <u>Journal of Sport Psychology</u>, 6, 377-384.
- Covey, L. (1984). The relationship of physical activity to adolescent female psychological development and gender-role identity.

 Unpublished doctoral dissertation, Michigan State University.
- Fisher, S., Murray, K. & Frazer, N. A. (1985). Homesickness, health and efficiency in first year students. <u>Journal of Environmental Psychology</u>, 5, 181-195.
- Fisher, S. & Hood, B. (1987). The stress of the transition to university: A longitudinal study of psychological disturbances, absent-mindedness and vulnerability to homesickness. <u>British Journal of Psychology</u>, 78, 425-441.
- Fisher, S. & Hood, B. (1988). Vulnerability factors in the transition to university: Self-reported mobility history and sex differences as factors in psychological disturbance. <u>British</u> Journal of Psychology, 79, 309-320.
- Gibbs, N. R. (1988). Hail and beware, freshman: Some hard choices ahead for the class of '92. Time, 132, 62.
- Hester, C. L. (1988). The transition from high school to college:

 anxiety and performance. Unpublished Manuscript, Michigan
 State University.
- Kutner, L. (1988). Both freshman and their families face adjustments in the transition to college life. The New York Times, 137, 22.

REFERENCES (CONT.)

- Michigan State University (1988). <u>Academic Programs</u>. East Lansing, Michigan.
- Lanning, W. (1982). The privileged few: Special counseling needs of athletes. <u>Journal of Sport Psychology</u>, 4, 19-23.
- McNair, D.M., Lorr, M., & Droppleman, L.F. (1971). Profile of mood states. <u>Manual for the Profile of Mood States</u>. San Diego: Educational and Industrial Testing Service.
- Offer, D. & Howard, K. I. (1972). An empirical analysis of the Offer Self-Image Questionnaire for adolescents. <u>Archives of General Psychiatry</u>, 27, 529-533.
- Offer, D., Ostrov, E. & Howard, K. I. (1981). <u>The adolescent: A psychological self-portrait</u>. New York: Basic books.
- Offer, D., Ostrov, E. & Howard, K. I. (1982a). Values and self-conceptions held by normal and delinquent adolescent males.

 <u>Journal of Psychiatry Treatment and Evaluation</u>, 4, 503-509.
- Offer, D., Ostrov, E. & Howard, K. I. (1982b). <u>The Offer self-image</u> <u>questionnaire for adolescents: A manual</u>, Third Edition. Chicago: Michael Reese Hospital and Medical Center.
- Reischl, T. M. & Hirsch, B. J. (1989). Identity commitments and coping with a difficult developmental transition. <u>Journal of</u> Youth and Adolescence, 18, 55-69.
- Rosenfeld, L. B., Richman J. M. & Hardy, C.J. (1989). Examining social support networks among athletes: Description and relationship to stress. <u>The Sport Psychologist</u>, <u>3</u>, 23-33.
- Shacham, Saya (1983). A shortened version of the profile of mood states. <u>Journal of Personal Assessment</u>, 47, 305-306.
- Schwitzer, A. M., Robbins, S. B., & McGovern, T. V. (1989).

 <u>Interactions between goal instability and social support on college adjustment.</u> A paper presented at the Annual Convention of The American Psychological Association, New Orleans, Louisiana.
- Tow, T. (Ed.) (1989). 1989-1990 NCAA Manuel, National Collegiate Athletic Association, 57 Mission, KS: NCAA.
- Wittmer, J., Phillips, T. D., Waters, W., & Bostic, D. (1981, September). The personal, academic, and career problems of college student athletes: Some possible answers. <u>The Personnel</u> and Guidance Journal, 52-55.

REFERENCES (CONT.)

Woolf, H. B. (Ed.). (1973). Webster's New Collegiate Dictionary, First Edition, 718.

APPENDICES

APPENDIX A OFFER SELF-IMAGE QUESTIONNAIRE

OSIQ

This questionnaire is used for scientific purposes. There are no right or wrong answers

After carefully reading each of the statements on the following pages, please circle the number that indicates how well the item describes you: The numbers correspond with categories that range from (1) "Describe me very well" to (6) "Does not describe me at all". Please circle only one choice for each statement. Please respond to all items. Thank you.

Use the following values:

- l= Describes me very well
- 2= Describes me well
- 3= Describes me fairly well
- 4= Does not quite describe me
- 5= Does not really describe me
- 6= Does not describe me at all
- 1. If I would be separated from all the people I know, I feel that I would not be able to make a go of it. $1\ 2\ 3\ 4\ 5\ 6$
- 2. Most of the time I think that the world is an exciting place to live in. $1\ 2\ 3\ 4\ 5\ 6$
- 3. I do not like to put things in order and make sense of them. $1\ 2\ 3\ 4\ 5\ 6$
- 4. If I put my mind to it I can learn anything. 1 2 3 4 5 6
- 5. I find it difficult to establish new friendships. 1 2 3 4 5 6
- 6. My work, in general, is at least as good as the work of the guy next to me. $1\ 2\ 3\ 4\ 5\ 6$
- 7. I feel I have no talent whatsoever. 1 2 3 4 5 6
- 8. I am a superior student in school. 1 2 3 4 5 6
- 9. I am fearful of growing up. 1 2 3 4 5 6
- 10. Our society is a competitive one and I am not afraid of it. $1\ 2\ 3\ 4\ 5\ 6$
- 11. When tragedy occurs to one of my friends I feel sad too. $$\rm 1\ 2\ 3\ 4\ 5\ 6$$

l= Describes me very well

2= Describes me well 3= Describes me fairly well 4= Does not quite describe me 5= Does not really describe me 6= Does not describe me at all						
12. When I want something I just sit around wishing I co have it. $ \\$		Ld 2	3	4	5	6
13. Dealing with new intellectual subjects is a challeng for \ensuremath{me} .		2	3	4	5	6
14. Working closely with another person never gives me pleasure.	1	2	3	4	5	6
15. If I know that I will have to face a new situation I will try in advance to find out as much as is possible about it.		2	3	4	5	6
16. I find life an endless series of problems without an solutions in sight.	у 1	2	3	4	5	6
17. Whenever I fail in something I try to find out what can do in order to avoid another failure.		2	3	4	5	6
18. I am certain that I will not be able to assume responsibilities for myself in the future.	1	2	3	4	5	6
19. When I decide to do something, I do it.	1	2	3	4	5	6
20. I do not rehearse how I might deal with a real comin event.		2	3	4	5	6

23. Worrying a little about one's future helps to make it work out better. $1\ 2\ 3\ 4\ 5\ 6$

1 2 3 4 5 6

1 2 3 4 5 6

24. I repeat things continuously to be sure that I am right. $$\rm 1\ 2\ 3\ 4\ 5\ 6$$

21. I feel that I am able to make decisions.

22. I do not enjoy solving difficult problems.

APPENDIX B
PROFILE OF MOOD STATES

Team_	
Date	
Uniform	Number

Below is a list of words that describe feelings people have. Please read each one carefully. Then circle the answer that best desribes HOW YOU HAVE BEEN FEELING DURING THE PAST WEEK INCLUDING TODAY.

The numbers refer to these phrases.

- O= Not at all
- l= A little
- 2= Moderately
- 3= Quite a bit
- 4= Extremely

4=	Extremely													
1.	Unhappy	0	1	2	3	4	19.	Uneasy	0	1	2	3	4	
2.	Lively	0	1	2	3	4	20.	Cheerful	0	1	2	3	4	
3.	Confused	0	1	2	3	4	21.	Worthless	0	1	2	3	4	
4.	Tense	0	1	2	3	4	22.	Weary	0	1	2	3	4	
5.	Angry	0	1	2	3	4	23.	Forgetful	0	1	2	3	4	
6.	Worn-out	0	1	2	3	4	24.	Full of pep	0	1	2	3	4	
7.	Fatigued	0	1	2	3	4	25.	Uncertain	0	1	2	3	4	
8.	Blue	0	1	2	3	4		about things						
9.	Peeved	0	1	2	3	4	26.	Bushed	0	1	2	3	4	
10.	Sad	0	1	2	3	4	27.	Hopeless	0	1	2	3	4	
11.	Active	0	1	2	3	4	28.	Restless	0	1	2	3	4	
12.	Unable to Concentrate	0 e	1	2	3	4		Resentful Nervous	0	1	2 2	3 3	4 4	
13.	On edge	0	1	2	3	4	31.	Furious	0	1	2	3	4	
14.	Energetic	0	1	2	3	4	32.	Miserable	0	1	2	3	4	
15.	Grovely	0	1	2	3	4	33.	Discouraged	0	1	2	3	4	
16.	Exhausted	0	1	2	3	4	34.	Helpless	0	1	2	3	4	
17.	Bewildered	0	1	2	3	4	35.	Vigorous	0	1	2	3	4	
18.	Annoyed	0	1	2	3	4	36.	Anxious	0	1	2	3	4	
							37.	Bitter	0	1	2	3	4	

APPENDIX C BACKGROUND QUESTIONNAIRE

	Team Date Uniform Number
	Background Questionnaire
1.	What sport do you play at MSU?
2.	How many years have you played organized sport (elementary, junior high, and high school)?
3.	How many students were in your high school graduating class?
4.	Have you traveled with athletic teams prior to college? very little some alot
5.	In your opinion, how easily do you make friends? easily with some difficulty with alot of difficulty
6.	In how many years do you expect to get your degree? 4 yrs 5 yrs 6 yrs or more Don't expect to get degree
7.	Do you expect to play professional sports after you leave MSU? Yes No
8.	How many members in your family?
9.	How many brothers? sisters?
10.	Are you the first child to leave home and go to college? Yes No

What is your gender? male $__$ female $__$

How old are you? ____

10.

11.

12.

APPENDIX D SOCIAL INTERACTION FORM

Team	
Date	
Uniform	Number

SOCIAL INTERACTION FORM

Below is a list of social activities. Please indicate next to the activity how many times you did the activity with the freshman athlete during the week.

1.	Doing academic work (e.g., going to class, studying together)
2.	Shopping
3.	Going to parties or other social gatherings
4.	Playing music, card games, or board games
5.	Going to movies, athletic events, plays, or concerts
6.	Attending organization meetings outside of sport
7.	Talking at length about your ideas or personal issues
8.	Going to church or religious activities
9.	Talking on the phone
10.	Talking about team issues
11.	Volunteer work
12.	Other (please describe)

APPENDIX E ACTIVITY MATRIX FOR FRESHMAN STUDENT-ATHLETES

Activity Matrix For Freshman Student-Athletes

Team		
Date		
Uniform	Number	

Directions: Please check the appropriate activity box underneath the person's name that you did the activities with during the last week.

Doing Academic work (e.g. studying or going to class)

Shopping

Going to parties or other social gatherings

Going to movies, athletic events plays, or concerts

Attending organizational meetings outside of sport

Talking at length about your ideas or personal issues

Going to church or religious activities

Talking on the phone

Volunteer work

Discussing team issues

Other (please describe)

APPENDIX F COACHES SUMMER LETTER FOR EXPERIMENTAL GROUP

Coaches Summer Letter For Experimental Group

Dear Coach:

I am writing to remind you of the Athlete-Mentor study that you have agreed to participate in this fall. Your team's paticipation is critical to this study. Your team has been selected to be a part of the experimental group.

As you may recall, the purpose of this study is to investigate a way to help freshman athletes adjust to college life. In order to help the freshman athlete as much as possible, I would like for you to give me recommendations of possible athlete-mentor matches. For the purpose of this study, the mentor is defined as a Jr., Sr., or 5th year athlete who will serve as an educator, guide or counselor and friend to an entering student-athlete. The criteria that should be used to match the incoming athletes with their mentors include compatibility of personalities, ability to meet new people, and easy to approach. Upon consideration of these attributes please complete the attached form by listing your incoming freshmen (first year in college, no transfers) and the recommended mentor along side each name. If there are other athletes available to serve as mentors please list their names in the event that the original selections decline to participate. Return your completed form in the envelope provided by August 16, 1989.

I will be in touch with you 2 weeks prior to the start of school to discuss appropriate meeting times to administer the pre and post tests. This study will last 5 weeks.

Thank you for your help and your cooperation.

Sincerely,

Christina L. Hester

Martha E. Ewing, Ph.D. Associate Professor

$\label{eq:appendix} \mbox{\ensuremath{\mathsf{APPENDIX}}} \mbox{\ensuremath{\mathsf{G}}}$ COACHES SUMMER LETTER FOR THE CONTROL GROUP

Coaches Summer Letter For The Control Group

Dear Coach:

I am writing to remind you of the Athlete-Mentor study that you have agreed to participate in this fall. Your team's participation is critical to this study. Your team has been selected to be a part of the control group.

Your team's involvement as a control group requires that they take a preand post-test only. Per our earlier conversation I will be more than happy to implement the program with your team upon completion of the study.

I will be in touch with you 2 weeks prior to the start of school to discuss appropriate meeting times to administer the pre- and post-tests. This study will last 5 weeks.

Thank you for your help and your cooperation.

Sincerely,

Christina L. Hester

Martha E. Ewing, Ph.D. Associate Professor

APPENDIX H ATHLETE-MENTOR MATCHES

Form For Athlete-Mentor Matches

Athlete-Mentor Matches

Coach	Sport
Incoming Freshmen	Mentor (Jr.,Sr.,5th yr)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
	Alternates
	1
	2
	3
	4.

Thank you for your help!

APPENDIX I

INTRODUCTION AND ADMINISTRATION OF STUDY TO SUBJECTS

DAY ONE

Consent Form Background Questionnaire POMS OSIQ
Control Group and Experimental Group

Introduction— My name is Christina Hester and I am a graduate student studying for a masters degree in Sports Psychology. As a career I would like to become a collegiate coach. As a student my primary interest is in the student athlete and what type of experiences and support they have after they enter college. As master candidates we have three options to choose from to fulfill our degree requirements. I have decided to do a study in an area that is of interest to me, which is transition for the student—athlete. I am asking for your help so that I can better understand some of the experiences and the type of support that the athletes go through and have when they enter college.

Describe study— The purpose of this study is to gain a better understanding of your thoughts and feelings once you have arrived on campus. I am interested in how you as a student thinks and feels as well as you as an athlete thinks and feels. Which is very important. By agreeing to participate in this study you will be required to answer three questionnaires at two different time periods. You will also be asked to complete a short form given at two intervals during the next 4 to 5 weeks.

<u>Forms</u>- Human Consent Form: In order to do a study at MSU it is required to obtain consent from the participant. In addition, you have the right to know how these data will be used. The rights are

explained in the consent form. Will read out loud. Head Coaches have agreed to participate in this study and they will not be given any specific results. Are there any questions? I just want you to know that the success of this study depends on you. To facilitate the distribution, each questionnaire will be handed out separately. Once you have completed the questionnaire, turn it over onto the consent form so that I know you are ready to proceed. If you have any questions please feel free to ask my assistant or myself. Please fill out background questionnaire. Hand out POMS. Read directions to POMS. If you do not understand a word please raise your hand and I or my assistant, will help you. Are there any questions? Hand out OSIQ. Read directions to OSIQ and ask for questions.

Experimental Group- This concludes the first part of the study.

I would like to thank you for your participation. The second part requires just a few of you. If I call your name please stay. The rest of you are free to go.

of weeks.

APPENDIX J HUMAN SUBJECTS CONSENT FORM

HUMAN SUBJECTS CONSENT FORM

I would like to ask for your assistance in a study that I am conducting to investigate the effects of support systems on college teams. The study will be conducted during the first five weeks that you are on campus. You will be asked to answer a questionnaire at the beginning of the study and at the end of five weeks.

Your answers to the questionnaire will be kept confidential. You will use your uniform number when answering the questionnaire so that only you and the experimenter know the meaning of the number. After the questionnaire has been given the second time all records identifying you will be cut off. Your head coach will not be present during the time of administration of the questionnaire and the coaches will not receive any information about your responses.

Your signature below indicates that you agree to participate in this study and that you have read and understood your rights as a participant. Your decision to participate will not impact in any way your position on the team. If you decide to withdraw from this study, you are free to withdraw your consent form and discontinue your participation. A copy of this consent form will be available upon request.

Thank you for your cooperation.	
Participant's signature	Date
Experimenter signature	Date
Witness' Signature	Date

$\label{eq:appendix} \mbox{\ensuremath{\mathtt{RPENDIX}}} \mbox{\ensuremath{\mathtt{K}}}$ EDUCATION OF MENTORS AND EXPERIMENTAL FRESHMEN

Mentors- Freshmen learning about how to survive on a large campus can be a problem. As a student-athlete who has successfully made the adjustment you have been asked to be a mentor to one of the freshman on your team. A mentor is someone who guides , teaches, and befriends another person. Your role will be to help the freshman with any problems that they may encounter, such as finding buildings, getting to know teammates, and understanding coaches. I want you to be a friend for this person. Remember they are new to MSU just like you were a few years back. I would like for you to spend one hour a week with the freshman you have been assigned outside of practice. You can do anything that you like within limitations. You can even get together as a group if you want. (Hand out list) I have provided you with a list of possible activities that you can Some can one on one activities and/or group activities. You are trying to get to know them and they are trying to get to know you. Try to find out what he/she likes to do and do that with them. You are not to force them to do anything that they do not desire to do. Remember that their value system could be different than yours. This list doubles as a log sheet that you are required to fill out at the end of each week. I want you to record the activities that you do with the freshman at the end of the week. I will collect these five sheets from you at the end of the five week period, which will be (give date). I would like for you to call the person you have been assigned to this evening or get in touch with them tomorrow. Identify yourself as the person who will help them adjust to MSU

and that they can call if they need help with anything. Make sure you give them your phone number. If you have any questions, stop in and see me and call me. My office is 214 Jenison fieldhouse or call me at 353-1951. Thank you and we will see you in five weeks. Freshmen Experimental Group- The reason I asked you to stay is because other athletes have expressed problems adjusting to a large university. In order to facilitate your becoming better againted with MSU, each of you has been assigned an upper classman athlete from your team, who will help you learn more about campus life. I would encourage you to use this person because he/she was once a freshman. You will receive a call tonight or tomorrow your teammate who will identify him/herself as the person who has agreed to help you during this adjustment period to campus life. They may ask you to do different activities with them and I encourage you to do them because it will help vou learn more about MSU. It is important for you to use this person to help you learn about MSU. Thank you for your cooperation and I(Chris) will see you in a couple of weeks.

 $\label{eq:appendix L} \mbox{CODE SHEET and RAW DATA}$

Variable Name ID	<u>Variable Label</u> Student ID #	<u>Value Labels</u>	Line	Column 1-3
Team	Team Membership	l= Mens Basketball	1	4
		2= Wmns Basketball		
		<pre>3= Mens Gymnastics 4= WGymnastics</pre>		
		5= Wrestling		
		6= Mens Indoor Trac	k	
		7= Mens Swimming		
		8= Wmns Swimming		
Prepost	Pretest or Posttest	l= Pretest		5
II-46	Uniform Name	2= Posttest		(7
Uniform Class	Uniform Number Grade in school	l= Freshmen		6–7 8
Class	Grade in School	2= Others		0
Yrsorgs	Years played in	20= Missing		9-10
1100180	org sport	2020015		, 10
NGRADCL	Number of people in	999= Missing		11-13
	graduating class			
Travel	Travel with athletic			14
	team	l= very little		
		2= some 3= alot		
		9= missing		
Friends	Make friends	l= easily		15
	easily	2= some difficulty		
	,	3= alot of difficul	ty	
Degree	How many years	4= 4 years		16
	to get degree	5= 5 years		
		6= 6 years or more		_
Prospor	Play pro sport	8= don't expect to : 1= yes	get degre	e 17
1105p01	after MSU	1- yes 2= no		17
Family	How many members	2- 110	18	- 19
,	in family			-
Brothers	How many brothers		20	-21
Sisters	How many sisters		22	-23
College	First to go to	l= yes		24
0 1	college	2= no		0.5
Gender	Male or Female	l= Male		25
Δαρ	How old are you	2= Female	26	-27
Age POMS1	Unhappy	O= not at all	20	-27 28
1 01.01	Старру	l= a little		20
		2= moderately		
		3= quite a bit		
		4= extremely		
DOLGO	• . •	9= missing		0.0
POMS2	Lively			29
POMS3	Confused			30
POMS4 POMS5	Tense			31 32
עטויוט ז	Angry			J2

POMS6	Worn-out	<pre>0= not at all l= a little 2= moderately 3= quite a bit 4= extremely 9= missing</pre>		33
POMS7 POMS8 POMS9 POMS10 POMS11 POMS12 POMS13 POMS14 POMS15 POMS16 POMS17 POMS18 POMS20 POMS21 POMS22 POMS23 POMS23 POMS24 POMS25 POMS25 POMS25 POMS26 POMS27 POMS28 POMS29 POMS30 POMS31 POMS31 POMS31 POMS33 POMS34 POMS35 POMS36 POMS37	Fatigued Blue Peeved Sad Active Unable to concentrate On edge Energetic Grovely Exhausted Bewildered Annoyed Uneasy Cheerful Worthless Weary Forgetful Full of pep Uncertain about thin Bushed Hopeless Restless Resentful Nervous Furious Miserable Discouraged Helpless Vigorous Anxious Bitter	e e		34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 55 56 57 58 59 60 61 62 63 64
OSIQ1	Separated but not able to make go	<pre>1=very well 2= well 3= fairly well 4= not quite me 5= not really me 6= not me</pre>	2	1
OSIQ2	World exciting place	9= missing		2
OSIQ3	to live in Not like to put thin	gs		3
OSIQ4	in order Put mind to it can			4
OSIQ5	learn anything Difficult to establi new friend	sh		5

OSIQP4	Put mind to it can l=very well 3 learn anythingp 2= well 3= fairly well 4= not quite me 5= not really me 6= not me 9= missing	48
OSIQP5	Difficult to establish	49
OSIQP6	new friendsp Work as good as guy	50
OSIQP7 OSIQP8 OSIQP9 OSIQP10	next to mep No talent what so everp Superior student in schoolp Fearful of growing upp Competitive society and not afraidp	51 52 53 54
OSIQP11 OSIQP12	Tradgedy to friend feel sad toop Want something, sit and wish had itp	55 56
OSIQP13 OSIQP14	New intellectual subjects a challengep Working with another	57 58
OSIQP15	gives pleasurep New situation find out in advancep	59
OSIQP16 OSIQP17	Life endless problems no solutionsp Fail try to find out how to avoid itp	60 61
OSIQP18	Not able to assume resp in futurep	62
OSIQP19	Decide to do something do itp	63
OSIQP20	Not rehearse real coming eventp	64
OSIQP21	Able to make decisionsp	65
OSIQP22	Not enjoy solving difficult problemsp	66
OSIQP23	Worrying about future, works out betterp	67
OSIQP24	Repeat to be sure am rightp	68
ACADEM	Doing academic work 1= yes 4 2= no 9= missing	1
SHOP	Shopping	2
SOCIAL	Going to parties or social events	2 3
PLAYCAR MOVIES NONSPORG TALK CHURCH PHONE VOLWORK TEAMSIS	Playing cards, boardgames Going to the movies Going to nonsport meetings Talking about ideas per Going to church Talking on phone Volunteer work Talking team issues	4 5 6 7 8 9 10 11

OSIQ6	Work as good as guy 1=very well next to me 2= well 3= fairly well 4= not quite me 5= not really me 6= not me	2	6
00707	9= missing		_
OSIQ7	No talent what so ever		7
OSIQ8	Superior student in school		8
OSIQ9	Fearful of growing up		10
OSIQ10	Competitive society and not afraid		10
OSI011	Tradgedy to friend feel sad too		11
OSIQ11	Want something, sit and		12
031Q12	want something, sit and wish it		12
OSIQ13	New intellectual subjects a challenge		13
OSIQ14	Working with another		14
00141	gives pleasure		
OSIQ15	New situation find out in		15
	advance		
OSIQ16	Life endless problems no solutions		16
OSIQ17	Fail try to find out how to		17
	avoid it		
OSIQ18	Not able to assume		18
	resp in future		
OSIQ19	Decide to do something do it		19
OSIQ20	Not rehearse real coming event		20
OSIQ21	Able to make decisions		21
OSIQ22	Not enjoy solving		22
007000	difficult problems		23
OSIQ23	Worrying about future, works out better		23
OSIQ24	Repeat to be sure am right		24
ID		3	1-3
Team	Team Membership l= Mens Basketball	_	4
1 Cam	2= Wmns Basketball		7
	3= Mens Gymnastics		
	4= Wmns Gymnastics		
	5= Wrestling		
	6= Mens Indoor Track		
	7= Mens Swimming		
	8= Wmns Swimming		
Prepost	Pretest or Posttest 1= Pretest		5
	2= Posttest		
Uniform	Uniform Number		6-7
POMSP1	Unhappyp 0= not at all		8
	l= a little		
	2= moderately		
	3= quite a bit		
	4= extremely 9= missing		
	3= mrssing		

POMSP2	Livelyp	<pre>0= not at all l= a little 2= moderately 3= quite a bit 4= extremely 9= missing</pre>	3	9
POMSP3 POMSP4 POMSP5 POMSP6 POMSP7 POMSP8 POMSP9 POMSP10 POMSP11 POMSP12 POMSP13 POMSP14 POMSP15 POMSP16 POMSP17 POMSP20 POMSP21 POMSP21 POMSP22 POMSP23 POMSP23 POMSP24 POMSP25 POMSP26 POMSP27 POMSP26 POMSP27 POMSP28 POMSP30 POMSP31 POMSP32 POMSP33 POMSP34 POMSP35 POMSP36 POMSP37 OSIQP1	Confusedp Tensep Angryp Worn-outp Fatiguedp Bluep Peevedp Sadp Activep Unable to concentrat On edgep Energeticp Grovelyp Exhaustedp Bewilderedp Annoyedp Uneasyp Cheerfulp Worthlessp Wearyp Forgetfulp Full of pepp Uncertain about thin Bushedp Hopelessp Restlessp Resentfulp Nervousp Furiousp Miserablep Discouragedp Helplessp Vigorousp Anxiousp Bitterp Separated but not able to make gop	ер		10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
OSIQP2	World exciting plac	_		46
OSIQP3	to live inp Not like to put thi	ngs		47
	in orderp			

OTHER	Other	1= yes 4 2= no	12
		9= missing	
MENTOR	Mentor (upperclass only)	, mrsoru ⁸	13
GROUP	Experimental or control	<pre>l= experimental</pre>	15
		2= control	
MENFRESH	Mentors and Experimental	l= mentors	16
	freshmen	2= freshmen exp.	

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