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PSYCHOLOGICAL FACTORS RELATED TO
DRUG USE IN COLLEGE ATHLETES

THESIS

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

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August, 1990

Evans, Melissa, Psychological Factors Related to Drug Use in College Athletes. Master of Science (Kinesiology), August, 1990, 88 pp., 1 table, 4 figures, references, 69 titles.

The purpose of the present investigation was to compare the psychological factors related to drug use by college athletes on seven drug categories. A questionnaire was given to male and female Division I college athletes asking them about their use of drugs. The frequency, intensity and duration of use/non-use was used to divide subjects into high and low/non-user categories. Dependent measures included the Profile of Mood States, Coopersmith Self-Esteem Inventory and questions assessing athlete stress. A multivariate analysis of variance(MANOVA) was conducted in a 2 x 2 (alcohol high/low, non-user x male/female) design to distinguish significant differences on the POMS and stress questions followed by univariate ANOVA's. A separate ANOVA was run on Coopersmith's Self-Esteem Inventory. Results indicated that high alcohol users scored significantly higher on anger, fatigue and vigor than low/non-users. Significant differences were found between males and females on the pressure felt from coaches to perform well.

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CHAPTER I

INTRODUCTION

Drug use has become a regular part of American daily life. Millions of Americans use caffeine to get going in the mornings and alcohol to unwind after work. All kinds of drugs are used between the morning cup of coffee and the nightcap, including stimulants, depressants and hallucinogens. However, many drugs used by Americans are necessary and very valuable in fighting disease and illness. Americans have grown accustomed to taking drugs for a variety of reasons, and the problems associated with drug use extend across all socioeconomic, gender and age boundaries.

Researchers have searched for answers to explain why some members of society turn to drugs. Drug use has been attributed to a variety of explanations, including demographic, social, intrapersonal, behavioral and religious factors as well as biological mechanisms (Perry & Murray, 1985; Schlaadt & Shannon, 1982).

Research often associates drug use with depression. For example, symptoms of depression, along with helplessness and frustration, were found in adolescent drug users (Dodson, Alexander, Wright, & Wunderlick, 1971). Cocaine users suffered from depression, emotional lability and restlessness (Khantzian, Gawin, & Klever, 1984; Khantzian & Khantzian, 1984). In addition, other types of drug users, including narcotic and multiple drug users, also suffered from depression (Rounsaville, Weissman, & Crits-

Cristoph, 1982; Woody, O'Brien, & McLellen, 1979; Woody, O'Brien, & Rickels, 1975).

Low self-esteem has also been related to drug use in several studies and this is often true for adolescent drug users (Sherouse, 1985). A threatened self-esteem may leave a person susceptible to pressures which could lead to drug use (Norem-Hebeisen, 1975). Studies have shown that freshman athletes in college often suffer from low self-esteem and turn to drugs in an attempt to regain the lost self-esteem (Roberts-Wilbur, Wilbur, & Morris, 1987). Other researchers have associated low self-esteem with drug use as well (Kaplan, 1982; Treece & Khantzian, 1986).

Along with depression and low self-esteem, aggression has been related to a variety of drug users. Marijuana users displayed aggression when angry and that aggression was taken out on other people and the environment when the marijuana use increased (Stoner, 1987). LSD users also had problems with aggression (Welpton, 1968), and anabolic steroid users displayed a variety of aggressive behaviors such as hostility and violence (Chaikin & Telander, 1988; Taylor, 1985).

Other psychological effects associated with drug use include delusions of grandeur and extreme egotism in anabolic steroid users as well in marijuana, amphetamine and adolescent heroin users (Chein, Gerald, Lee, & Rosenfeld, 1964; Hendin, 1973; Hendin, 1974; Pope, Katz, & Champoux, 1988). Dependency needs and withdrawn social behavior have also occurred with chronic LSD and heroin users (Chein, Gerald, Lee, & Rosenfeld, 1964; Welpton, 1968). Depression, low self-esteem, aggression as well as other psychological effects have been associated with the use of a variety of drugs.

These drugs and the problems associated with drug use can touch all levels of society including athletes.

Athletes are merely a part of society; therefore, they are subject to the same pressures regarding drug use as the general population. Drug use among athletes has received enormous publicity during the past few years. Deaths, drug convictions and suspensions of athletes have become a regular part of the sporting news coverage. Due to the emphasis placed on athletes in American society, one might get the impression that athletes use drugs at a higher rate than society. However, research comparing athletes to non-athletes reveals a different story.

Specifically, comparisons between college athletes and college students showed few differences between the two groups (Anderson & Snellman, 1985; Duda, 1984; Toohey, 1978, 1981). Alcohol remained the number one drug used by both students and athletes, with marijuana being the second most frequently used drug (Nicholi, 1983). Female athletes were found to drink alcohol more often than female non-athletes with both groups using other drugs in low proportions ("Documenting drug use," 1988; "How many athletes are high?," 1987).

Few difference were found between male and female athletes, although male athletes were more prone to use anabolic steroids (Toohey & Corder, 1981). Other researchers have suggested that differences between male and female drug use exist. For example, Perry and Murray (1985) claimed adolescent males were more prone to heavy use of drugs, with the exception of tobacco and stimulants, than were adolescent females.

Researchers are not the only people concerned with the use of drugs by athletes, for athletes themselves agree that drug use has become a problem among their population. Specifically, athletes have reported the use of drugs by athletes to be from 20% up to as high as 90% (Axthelm, 1988b; Moses, 1988). As a result, the reasons for drug use by athletes has become an important issue for people working with athletes.

Pressure is one reason suggested for drug use among college athletes. The demands of performing well in the classroom and on the athletic field put a strain on most college athletes. According to Roberts-Wilbur, Wilbur, and Morris (1987), athletes are often required to spend as many as sixty hours a week involved in their sport. Bernard Sliger, Florida State University president, claims football and basketball players spend an average of 30 hours per week involved in their sport, which is more than the time spent preparing for class and in class ("Too much time," 1988). In addition, athletes must also satisfy grade and semester hour requirements. The combination of academic and athletic pressures may produce problems such as depression, anxiety or burnout (Heyman, 1986). Keniston (1969) supports the association between pressure and drug use among college students in general. He claims high academic pressures and psychological numbing, which often occurs during times of extreme fatigue, depression or a let down, may drive some college students to use drugs as a way to cope with the pressures.

Stress and pressure may also occur when an athlete's self-esteem has been threatened, or when the athlete is confronted with a difficult decision. In an attempt to escape the stress and pressure, an athlete may turn to

drugs. Treece and Khantzian (1986) suggest that drug use may be precipitated by a crisis situation. Although some athletes may only use drugs during a crisis, the use of drugs during a crisis situation may start some individuals on the path to regular drug use or abuse. Support for the relationship between pressure and drug use was presented by Levy (1966), who discussed the turbulent adolescent period and claimed drug use was an attempt to escape anxiety.

Another major reason for drug use by athletes has been termed the win-at-all-costs philosophy (Axthelm, 1988a, 1988b; Duda, 1986; Taylor, 1985). Athletes striving to be the best have often taken that philosophy to the extreme and as a result used performance-enhancing drugs. Female athletes have also felt the pressures to continually perform better and have turned to drugs in an attempt to be "the best" (Duda, 1986). The win-at-all-costs philosophy may have produced another related problem for athletes to deal with -- the fear of failure. Wall (1987) suggested drug use was the result of the fear of failure in society as well as in sports. Some athletes may have used stimulant drugs in an attempt to improve their athletic performances and mask their fears of failure (Bell & Doege, 1987; Dartmouth College, 1988; Johnson, 1973).

Today, college athletes face pressures from a variety of sources, academic as well as athletic. The emphasis placed on athletes and the realization that drugs have become a problem for athletes, as well as for society, have created the need for research in an attempt to deal with the drug problem. Currently, no psychological profiles have been identified regarding drug use by athletes. This study will attempt to compare the

psychological factors related to drug use or non-use by college athletes. Differences between the psychological factors related to drug use by male and female athletes will be compared over the seven categories of drugs as well. In addition, the athletes' reasons for using drugs or not using drugs will be explored.

Purposes

One purpose of the study was to compare the psychological factors related to drug use or non-use by college athletes on seven major categories of drugs.

A second purpose was to compare the psychological factors related to drug use or non-use by college male and female athletes on seven major categories of drugs.

Hypotheses

1. There will be a relationship between certain psychological factors and the use of drugs by college athletes.
2. The psychological factors related to the use of drugs will be different for male and female college athletes.

Limitations

Due to the sensitive nature of drug use, some athletes may give socially desirable answers even though the answers will be kept anonymous.

Delimitations

This study will be limited to the use of Division I college athletes only. A limit of seven drug categories will be addressed in the questionnaire.

Definitions of Terms

Drug user: Those individuals who report using the specified drug during the previous 12 months

Non-user: Those individuals who report no use of the specified drug during the previous 12 months.

Alcohol: A depressant drug which will be categorized by itself in this study due to its widespread use.

Amphetamines: Drugs which stimulate the central nervous system and can produce effects ranging from increased alertness and energy to judgment impairment, irritability and paranoia (Irwin, 1986).

Anabolic Steroids: A group of drugs derived from male hormones which promote increases in weight and muscle mass through the assimilation of protein (Dartmouth College, 1988; Gilbert, 1969).

Barbiturates/Tranquilizers: A group of drugs which slow the central nervous system and produce effects such as drowsiness, relaxation and confusion (Irwin, 1986).

Cocaine: A stimulant drug which is highly addictive and can produce feelings of paranoia and psychotic episodes (Irwin, 1986).

Hallucinogens: A group of drugs which produce illusions or hallucinations of the various senses. Common hallucinogens include marijuana, LSD, and PCP (Hafen, 1970).

Marijuana: A drug which is considered a type of hallucinogen as well as a depressant. Effects range from relaxation, increased sensitivity and euphoria to problems with judgment and coordination (Irwin, 1986).

CHAPTER II

REVIEW OF LITERATURE

Drugs have become a way of life in American culture; as most people would be surprised at the large number of drugs found in their family medicine supply. Americans have become accustomed to relying on drugs for a variety of reasons. Caffeine helps millions of Americans face the morning. Novocaine and a dose of laughing gas make the visit to the dentist more tolerable. A few amphetamines may help keep one from gaining those few extra pounds or help fight fatigue. Americans use alcohol to relax after a hard day at the office and as part of social functions. Cocaine has become a very popular drug at social gatherings as well. Sleep disturbances have often been treated with various forms of depressant type drugs. Each morning, the cycle of drugs often begins again. Stimulants get Americans going, and depressants slow them down.

However, all drugs are certainly not bad as some drugs are necessary and valuable in treating illness and disease (Arnheim, 1985). However, the American public does seem to have become dependent on drugs in order to get through a typical day. On most any given day, the media are full of reports on the problems of drug use in American society. The problems with drugs effect rich and poor, young and old, the corporate executive and the unemployed, and males and females.

Psychological Correlates of Drug Use

The reasons for drug use in American society have led to a great deal of research. Several factors have been suggested and researched in an attempt to discover the motivations for drug abuse. Researchers have looked at a variety of demographic, social, intrapersonal and behavioral factors, as well as religious factors and biological mechanisms (Perry & Murray, 1985; Schlaadt & Shannon, 1982).

In the literature, depression has often been related to drug use. However, it is still unclear whether drug use is a result of depression or whether depression is a result of drug use. None the less, researchers have found that depression is associated with the use and abuse of a variety of drugs. For example, adolescent drug users have been described as having symptoms including depression, helplessness and frustration (Dodson, Alexander, Wright, & Wunderlick, 1971). Depression has also been found to be associated with a variety of specific drugs. Cocaine dependent users suffered from emotional liability and restlessness, along with depression (Khantzian, Gawin, & Kleber, 1984; Khantzian & Khantzian, 1984). In addition, narcotic and multiple drug users have been susceptible to depression according to several studies (Rounsaville, Weissman, & Crits-Cristoph, 1982; Woody, O'Brien, & McLellen, 1979; Woody, O'Brien, & Rickels, 1975). Alcohol users have also claimed alcohol helps to relieve anxiety and depression and makes them feel better (Jaffe, Petersen, & Hodgson, 1980).

Along with depression, low self-esteem may also be related to drug use, especially for adolescents. Many adolescents struggle with their feelings about themselves. Sherouse (1985) found low self-esteem to be a common

characteristic among adolescent drug users. Some reasons given for drug use among adolescents included curiosity, escape from pressures, excitement, a way to deal with negative feelings and low self-esteem. The stress of a threatened self-esteem may leave an individual susceptible to other pressures, which may lead the individual to use drugs (Norem-Hebeisen, 1975).

Adolescents are not the only people who face self-esteem problems. Low self-esteem has been found to exist among college freshman athletes as well (Roberts-Wilbur, Wilbur, & Morris, 1987). The college freshman athlete must adapt to a new environment, new coaches, teachers and peers as well as prove himself or herself in both the athletic and academic arenas. A loss of self-esteem may trigger an individual to become involved in some type of deviant behavior in an attempt to regain the lost self-esteem, and drug use has often been associated with deviant behavior (Kaplan, 1982). Treece and Khantzian (1986) also identified self-esteem as a vulnerable area in the development of drug dependence.

Besides self-esteem, aggression has also been associated with the use of drugs. For example, aggression has been found in frequent marijuana users when they have become angry, and this anger became worse as the marijuana use increased (Stoner, 1987). In the world of sports, aggressive behaviors such as explosive hostility, violence, excessive energy and desire to train intensely have been found among anabolic steroid users (Chaikin & Telander, 1988; Taylor, 1985). In addition, chronic users of LSD have also been identified as having problems in controlling aggression (Welpton, 1968).

Other mental disturbances have been found in association with drug use. For example, psychosis involving delusions of grandeur and paranoia as well as serious mood disturbances were found in anabolic steroid users (Pope, Katz, & Champoux, 1988). Dependency needs were found among chronic LSD users according to Welpton (1968). Marijuana and amphetamine users tend to be very egotistical with an emphasis on competition, achievement and independence (Hendin, 1973; Hendin, 1974). Interestingly, marijuana and amphetamines have often been used by athletes, some of whom have been described as being extremely egotistical. Because of their status in American society, athletes are often seen as larger than life and expected to handle problems with ease because of their physical skills. However, athletes are no different than other people in society, and some athletes have fallen prey to drugs just as some members of society have fallen prey to drugs.

Athletes and Drugs

Drug use by athletes is not a new issue; athletes have been searching for that edge that will put them ahead of the competition for years. As far back as the Aztecs, who used a stimulant deriving from cactus for running long distances, people have searched for something to improve physical performance (Dartmouth College, 1988). The competitive world of sports in American society has created an excessively strong desire to win and be viewed as successful among athletes. Unfortunately, in an attempt to reach the top, some athletes have turned to drugs and tragedies have occurred.

For instance, the American sporting world was shocked in 1986 by the news that the first round draft choice by the Boston Celtics, Len Bias, had died after taking cocaine. Eight days later, Don Rogers also died after using cocaine. Rogers had been the American Football Conference (AFC) Defensive Rookie of the Year (Callahan, 1986; Keteyian & Selcraig, 1986; Leo, 1986). Most recently, at the 1988 Summer Olympics in Seoul, South Korea, the men's 100 meter gold medalist, Ben Johnson, had his medal stripped from him after he tested positive for anabolic steroids (Johnson & Moore, 1988).

Drug Use Among Athletes and Non-Athletes

Athletes receive a great deal of publicity and attention in American society. When an athlete is caught using drugs or admits he or she has a problem with drugs that athlete receives even more media attention. Athletes and drugs are a popular and well-publicized topic, and the recent suspensions, convictions and deaths of athletes related to drugs have left the impression that drug use occurs more frequently among athletes than among the general population. Research comparing athletes to non-athletes at the collegiate level, however, tells another story entirely. Studies show few differences in drug use between college athletes and non-athletes. Overall, statistics of college aged young adults show that a large number have tried some type of drugs. For young adults, aged 18 through 25, 64% have tried marijuana, and 40% have tried some other types of illegal drugs (Fishburne, Abelson & Cisin, 1982). The drug most widely used by college students was found to be alcohol while marijuana was the second most widely used drug (Nicholi, 1983). One reason alcohol may be the most abused drug that

alcohol is legal and is easily accessible, even for those young adults under the legal drinking age. Alcohol is also socially accepted, whereas most other illicit drugs are not generally approved of by society. These findings reflect the same results found among non-athletes for alcohol and marijuana use.

When looking at drug use by college athletes as compared to drug use by college students, few differences have been found. Studies by Toohey (1978, 1981) and Duda (1984) concluded that college athletes do not use drugs at a higher rate than other college students, with the exception of anabolic steroids. The National Collegiate Athletic Association (NCAA) sponsored a study which also found similar usage between college athletes and college students with use of alcohol, amphetamines and marijuana slightly higher among college students (Anderson and Snellman, 1986). A survey conducted by the Hazelden-Cork Sports Education Program found female athletes (76%) were more likely to drink alcohol than female non-athletes (50%) in a survey of college, other amateur, Olympic level, professionals, senior/master and retired athletes. Other drug use, including cigarettes, marijuana, cocaine, amphetamines and narcotics, was reported to be low by the athletes ("Documenting drug use," 1988; "How many athletes," 1987). A study comparing male athletes to male non-athletes has also been planned by the same group. Although few differences have been found between college athletes and non-athletes, mixed results have been reported in the comparison between males and females.

Drug Use Among Males and Females

Research investigating the differences between drug use among male and females has involved male and female athletes as well as male and female non-athletes. For example, Toohey and Corder (1981) found no significant differences between male and female athletes with the exception that males were more likely to use anabolic steroids. Similar drug use patterns for both male and female athletes were also found in Anderson and Snellman's study (1986), although male athletes reported higher usage of six of the nine drugs. These findings were contrary to those of Perry and Murray (1985) who suggested adolescent males were more likely to use drugs than adolescent females, and this was especially true for heavy use of drugs and illegal drugs. Wechsler and McFadden (1976) suggested the differences between male and female drug use were very slim for teenagers and young adults. Few differences were also reported in use and/or experimentation among high school students in the state of New York. The males did tend to consume alcohol more frequently, whereas the females had a tendency to use pills more frequently, especially barbiturates and amphetamines (Kandel, Kingle, & Kessler, 1976).

Researchers, however, are not the only people discussing the use of drugs by athletes. Athletes themselves have described a drug problem in sports. For example, an unnamed Soviet Olympic athlete suggested that 90% of all athletes, including the Soviet athletes, use drugs (Axthelm, 1988a). Olympic triple jumper Willie Banks estimated the number of drug using athletes to be between 20% and 30% (Axthelm, 1988a). Edwin Moses, 400-meter hurdle gold medalist stated, "My educated guess is that at least 50

percent of the athletes in the high performance sports such as track and field, cycling and rowing would be disqualified if they weren't so adept at beating the (drug) tests" (Moses, 1988). The top American distance runner, Mary Decker Slaney, claimed drug use was extensive and was in favor of drug testing throughout the year, not just at meets (Briefly, 1988). Many of these Olympians, from the United States as well as other countries, are also United States college athletes.

Drug use reported by athletes has not been limited to track and field athletes. An American weight lifter admitted that drug use was involved in his sport as far back as 1969 (Gilbert, 1969). Professional baseball, basketball and football all have drug testing programs, indicating some drugs are used. The NCAA has also instituted a drug testing program for the college athletes belonging to their association. The documented use of drugs by athletes has lead many to the question, 'Why do athletes take drugs?'

Why Athletes Use Drugs

Athletes have turned to drugs for a variety of reasons. First, pressure and stress on the collegiate athlete have become extreme in some cases, and this pressure may develop from a variety of sources. For instance, the demands to excel academically as well as athletically may provide extreme pressure and stress for the college athlete. A typical college football player may put in 45 to 49 hours a week of training during the season (Roberts-Wilbur, Wilbur, & Morris, 1987). Bernard Sliger, Florida State University president, is concerned with football and basketball players who spend more time (30 hours per week) in their sport than in their classes or in

preparation for those classes ("Too much time," 1988). The time devoted to any sport may put a strain on the amount of time left for the athlete to properly study, and this may be especially true for some athletes who also must work part-time in order to attend school. This type of stress may lead to responses such as depression, anxiety, psychotic breaks or burnout (Heyman, 1986).

Stress may also occur for athletes when they believe their self-esteem has been attacked (Roberts-Wilbur, Wilbur, & Morris, 1987). For example, when a coach or other players joke, correct or gripe at an athlete. Furthermore, stress can occur when a goal has been blocked or when a person must make a difficult decision. Stress that is excessively high or that continues for a prolonged period of time may produce undesirable consequences, according to Barrow and Prosen (1981). Drug use, as well as poor grades, often become one of the undesirable consequences for college athletes who attempt to escape from the stressors in their lives (Roberts-Wilbur, Wilbur, & Morris, 1987). Treece and Khantzian (1986) suggested that the stress of a crisis may precede drug use. This is especially true when the drug use occurs only during the time of the crisis. However, the use of the drugs following a stressful or crisis situation may be the first step toward regular drug use or abuse. Drugs may then be used to avoid facing the stressor, or as a way to relieve the tension when the stressor reappears. Levy (1966) suggested that teenagers take drugs in an attempt to escape feelings of inadequacy and anxiety associated with adolescence. Adolescents, however, are not the only ones facing pressures and turning to drugs in an

attempt to handle the pressures. Kenison (1969) supports the relationship between pressure and drug use among college students as well.

Other pressure-related reasons may also lead an athlete to drug use. One such reason may involve the win-at-all-costs attitude (Axthelm, 1988a; Duda, 1986). Some athletes, coaches and alumni will do most anything to win, and athletes are often told to "Be the best" and "Do whatever it takes to win." Unfortunately, many athletes have taken those sayings to the extreme and performance-enhancing drugs are often tempting for an athlete who wants to be "the best." United States shot-putter Augie Wolf says, "Drug taking is rampant, only the uninformed get caught. The pressure to take drugs is enormous. An athlete asks himself, Do I take drugs and win medals, or do I play fair and finish last?" (Axthelm, 1988b). Taylor (1985) also links problems with performance-enhancing drugs to the win-at-all-costs philosophy in sport. John Ziegler, M.D., has emphasized the lengths some athletes might go to in order to improve performance and increase their chances of winning. He states, "I honestly believe that if I'd told people . . . that rat manure would make them strong, they'd have eaten rat manure" (Goldman, 1984).

Male athletes are not the only ones feeling the desires and pressures to excel. Today, women athletes are reaping the rewards of athletic experiences and careers, and some are using drugs as competition intensifies. Dorothy Harris, sport psychologist states, "Female athletes are now making the same commitments to training as men. There's greater emphasis on winning, and females are using chemicals to improve performance" (Duda, 1986). Karla Hill-Donisch, a training specialist for the Hazeldon-Cork Sports

Education Program, feels women athletes have adopted the same win-at-all-costs attitudes that male athletes have adopted. Hill-Donisch says, "Women will do anything to win, and as a result, we're seeing a lot more drug problems in women's professional sports" (Duda, 1986).

The win-at-all-costs philosophy may have caused another problem which contributes to drug use -- the fear of failure. Many athletes look upon second place as failure despite how well they perform. James Wall (1987) attributes the use of drugs to a fear of failure, not only in athletics but in society in general. One college athlete states, "I'd never admit it, not even to myself, but I used it (amphetamines) to cover up a lot of fears: of not being strong enough, or quick enough, or aggressive enough. Besides, I never knew if the other guy was on something, so better safe than sorry, right?" (Dartmouth College, 1988). In an attempt to avoid failure and improve athletic performance, some athletes have used stimulant drugs. The athletes claimed the drugs helped them get psyched up for the event, feel quicker, increase self-confidence and increase aggressiveness (Bell & Doege, 1987; Dartmouth College, 1988; Johnson, 1973).

College athletes face a great deal of pressure to succeed both academically and athletically. That pressure may lead some college athletes to turn to drugs in an attempt to cope with those pressures. There are no easy answers to the problem of drugs in sports or in society. More studies have begun to look into the use of drugs by athletes due to the emphasis placed on athletes in American society and the realization that drugs have become a problem. Yet, no psychological profiles have been identified involving drug use by athletes. This study will explore the psychological

factors associated with drug use by college athletes. The psychological factors related to drug use and non-use by athletes will be compared to see if differences exist and to identify those differences. Finally, this study will explore whether differences occur in the psychological factors related to drug use or non-use by male and female athletes for the seven categories of drugs. The results from this study should provide some information to coaches, trainers and other people working with athletes regarding the detection of psychological factors which may make athletes susceptible to drug use. In addition, the reasons why athletes use drugs will be examined as well as their reasons for stopping or not using the drugs. This information will be valuable in the continuing development of preventive and treatment programs for dealing with the use of drugs by athletes.

CHAPTER III

METHOD

Subjects

Five hundred and forty-four male and female college athletes from Division I universities in the southwest composed the subject pool. The athletes represented a variety of sports which are approved by the NCAA for Division I institutions.

Questionnaire

Each athlete completed a questionnaire consisting of five sections. The first section provided the athlete with instructions for completing the questionnaire (see Appendix A). The second section gathered demographic information about the athlete, such as gender, sport and school classification. In addition, seven questions were included to address the pressures felt by the athlete from his or her role as student and athlete (see Appendix B). The third section consisted of the Profile of Mood States (POMS) questionnaire (McNair, Lorr, & Droppleman, 1971) which identified six major mood states, including tension/anxiety, depression, anger, vigor, fatigue and confusion. The athletes ranked the way they generally felt on a scale from 0 (not at all) to 4 (extremely)(see Appendix C). The test-retest reliability for the POMS found the reliability coefficients of .74 for depression, .71 for anger, .70 for

tension, .68 for confusion, .66 for fatigue and .65 for vigor (Keyser & Sweetland, 1984).

The fourth section of the questionnaire was designed to measure the self-esteem of the athlete with the Coopersmith Self-Esteem Inventory (Coopersmith, 1967). In the inventory, short statements were answered with "like me" or "unlike me" (see Appendix D). Reliability for the short form of the Coopersmith Self-Esteem Inventory used in this investigation found the Kuder-Richardson reliability estimates (KR20) to be .74 and .71 for males and females, respectively (Bedian, 1977). In their test of the validity for the short form, Robinson and Shaver (1973) found correlations between the Rosenberg scale for college students to be .59 and .60. In addition, correlations of .75 and .44 with the Edwards and the Marlowe-Crowne social desirability scales were found by Taylor and Keitz (1968).

The fifth and final section of the questionnaire dealt with the frequency, intensity and duration of drug use by athletes. Seven categories of drugs were addressed, including alcohol, amphetamines, anabolic steroids, barbiturates/tranquilizers, cocaine, hallucinogens and marijuana. The questionnaire also examined the reasons why some athletes use drugs and why some athletes have stopped or have never taken drugs (see Appendix E). The questionnaire took approximately fifteen to thirty minutes to complete.

Procedures

The academic advisors of each of the participating universities were contacted by telephone to ask them for their assistance in conducting the study at their university. The study was fully explained as well as the

academic advisor's role in the study. The academic advisors helped the researcher in setting up testing times with each of the sport teams and handing out and returning the completed questionnaires. A follow-up letter was sent to the Academic Advisors as well as questionnaires and detailed instructions (see Appendix F).

The athletic director of each of the chosen universities was also contacted by telephone to inform him or her of the study and ask permission to use the university athletes in the study. A follow-up letter was sent to the Athletic Directors to confirm the purpose and procedures of the study.

The researcher contacted the academic advisors by telephone before each scheduled testing period to answer any questions and to make sure the instructions were fully understood. The academic advisors set up testing times with each of the sport teams. At the scheduled time, the athletes were gathered together and read the consent form explaining the study and emphasizing the importance of the study along with the assurance that all answers would be kept strictly confidential and anonymous (see Appendix G). Those athletes participating in the study signed the consent form, and those athletes not participating in the study were allowed to leave the testing site. The athletes received questionnaire packets, the academic advisors read the instructions read and the athletes completed the questionnaires. After the athletes completed the questionnaire, they sealed their questionnaires in the unmarked envelope provided and then left the testing area. All of the sealed packets were returned to the researcher in a self-addressed, stamped envelope by the academic advisor. Final results were sent to each of the athletic directors and academic advisors.

CHAPTER IV

RESULTS

Descriptive Statistics

The subjects used in the present investigation were 544 Division I college athletes comprised of 377 males and 167 females. Although 1,000 questionnaires were sent out, the actual return rate is unknown due to different procedures in administering the questionnaire by each of the participating universities involved in the investigation. For example, one university did not return any completed questionnaires. Some universities did not offer the questionnaire to all of the varsity sports or athletes at that university and some universities had some variation in the number and type of varsity sports offered. All of the athletes also had the option not participate in the investigation.

Descriptive statistics were gathered on a variety of demographic and academic variables. For example, results indicated that 42.9% of the athletes listed their main sport as football, 19.6% track and field, 15.1% baseball, 10.9% basketball, 6.4% "other" and 5.1% softball. The percentages of athletes found among the different sports in this investigation closely reflect the findings of a study sponsored by the NCAA investigating drug use among college athletes (Anderson & Snellman, 1986). The athletes were also asked whether they had participated in a second varsity college sport. These results showed that 41% of the responses marked "other," with track and

field second at 25.3%, basketball and baseball tied for third at 13.3%, football fifth at 6.0% and softball sixth at 1.2%. The question regarding the value of any athletic scholarship awarded ranged from full to none, with 44% of the athletes stating they were on full athletic scholarships, 8.7% on three-quarters scholarship, 17.7% on a half scholarship, 7.0% on one-quarter scholarship, 20.6% receiving no athletic scholarship and 2.0% reporting some "other" scholarship value.

Questions regarding eligibility and academic standings found that 36.9% of the subjects were in their first year of athletic eligibility, while 21.7% were in their second year, 26.6% in their third year, 10.7% in their fourth year and 4.1% in their fifth year of eligibility. Freshmen made up the largest percentage of subjects(34.5%) with juniors(30%), sophomores(24%) and seniors(11.5%) following. The grade point average for 67.8% of the subjects ranged between 2.0 and 2.99 based on a 4.0 scale, for 27.0% it ranged between 3.0 and 4.0 and for only 5.2% it ranged between 0 and 1.99.

Alcohol was found to be the most widely used drug(87.8%) with marijuana second(15.4%). The three most frequent reasons given for using alcohol were recreational/social(77.9%), make the athlete feel good(46.9%), and to help deal with stresses of college life(28.3%). The three most frequent reasons given for using marijuana were identical to the reasons given for using alcohol(recreational/social 61.5%, feel good 56.5%, and deal with stresses of college life 32.4%), with only the percentages differing. The three primary reasons given for not using alcohol included concerns about the effects on health(34.6%), no desire to experience the effects(16.5%), and fear that alcohol would hurt athletic performance(20.3%). Reasons for not using

marijuana were similar to those cited for alcohol, effects on health(59.1%), against beliefs(30.2%) and no desire for effects(26%). The reasons for and against using alcohol and marijuana, the two most frequently used drugs, are shown in Figures 1 and 2.

One question included in the questionnaire was designed to explore the amount of a drug the athlete used during the previous competitive season as opposed to the past 12 months. Results from this analysis found the following for alcohol use during the competitive season: 0 times = 34.3%, 1 to 2 times = 33%, 3 to 4 times = 14%, 5 to 6 times = 6.5%, 7 or more times = 12.2%. Analysis of the other six drug categories showed over 94% of the athletes reported no use of the specified drug during the competitive season.

Psychological Factors

Due to the number of tests and to reduce the probability of Type I error, a multivariate analysis of variance (MANOVA) was conducted in a 2 x 2 (Alcohol High User/Low-User x Male/Female) design to distinguish significant differences for the POMS categories and the student-athlete stress questions. If an overall multivariate main effect was found, then univariate ANOVA's were used to determine what specific variables were responsible for the significant differences on the POMS and stress questions. A separate ANOVA was then run on Coopersmith's Self-Esteem Inventory. Due to the limited number of athletes reporting drug use among the other drug categories, one way MANOVA's (user/non-user) were conducted on the other six drug categories.

Figure 1. Reasons for alcohol and marijuana use

ALCOHOL

MARIJUANA

Figure 2. Reasons for not using alcohol and marijuana.

For alcohol, high users($N=187$) were classified as those athletes who scored in the top 75th percentile based on the reported total frequency, intensity and duration of alcohol use, whereas low/non-users($N=141$) were classified as those in the bottom 25th percentile. Results of the 2×2 MANOVA over the POMS subscales for alcohol produced a significant Wilks Lambda $=.94$ $p < .009$ for the main effect for high users vs low/non-users. Univariate ANOVA's indicated that high alcohol users scored significantly higher than low/non-users on vigor $F(1,272)=4.52$ $p < .034$; anger $F(1,272)=8.02$ $p < .005$; and fatigue $F(1,272)=4.49$ $p < .035$. Discriminant function analysis supported the univariate findings with the highest standardized discriminant function coefficients found for vigor(.67), anger(.81) and fatigue(.41). The mean scores for high alcohol users on vigor($M=20.0$), anger($M=20.6$) and fatigue($M=14.0$) were all higher than those for low/non-users on vigor($M=19.7$), anger($M=16.0$) and fatigue($M=12.3$). Mean and standard deviations are shown in Table 3. No significant differences were found for the stress questions or the Coopersmith Self-Esteem Inventory.

A significant multivariate gender main effect was also found on the POMS test, Wilks Lambda $=.92$ $p < .001$. Specifically, univariate ANOVA's revealed that females scored higher on vigor $F(1,272)=6.20$ $p < .013$ and tension $F(1,272)=5.81$ $p < .017$, with mean scores of 20.55 and 16.13, respectively as compared to the male scores on vigor($M=19.6$) and tension($M=14.8$). Discriminant function results found .72 for both vigor and tension. Analysis of Coopersmith's Self-Esteem, $F(1,3375)=11.19$ $p < .001$,

scale revealed that the males ($M=74.3$) had significantly higher scores than the females ($M=68.5$).

Results also produced a significant alcohol high/low non-user x gender interaction effect, Wilks Lambda = .94 $p < .015$. Post hoc tests revealed that vigor resulted in the only significant POMS subscale difference $F(1,272)=5.10$ $p < .025$. As shown in Figure 1, high alcohol using females had a higher mean score ($M=21.9$) on the vigor subscale than the low/non-using females ($M=19.6$). For the males, however, the high alcohol user group reported a lower mean vigor score ($M=19.5$) than the low/non-user males ($M=20.4$).

Among the stress questions, a significant high/low non-user x gender interaction was also found, Wilks Lambda = .94 $p < .016$. Univariate ANOVA's revealed significant differences for the question concerning the pressure felt from coaches to perform well $F(1, 264)=4.16$ $p < .043$, with the discriminant function score(1.14) supporting the ANOVA findings. As displayed in Figure 2, females in the low/non-user group had a higher mean score ($M=8.8$) than those in the high user group ($M=8.5$). In contrast, the male high user group ($M=9.0$) scored higher than the low/non-user group ($M=8.4$). No significant differences were found on Coopersmith's Self-Esteem test.

To test for differences within male vs male and female vs female high and low/non-users, a one-way MANOVA (high vs low/non-users) was conducted for the males and females separately. For the POMS, results for the male high alcohol users ($N=117$) vs male low/non-users ($N=114$) were significant, Wilks Lambda = .86, $p < .001$. Univariate ANOVA's revealed that male high alcohol users scored significantly higher on the POMS subscales of tension $F(1,227)=7.83$, $p < .006$; anger $F(1,227)=15.57$, $p < .000$; confusion

$F(1,227)=11.45, p < .001$; and fatigue $F(1,227)=11.56, p < .001$ than male low/non-users. No significant POMS differences were found for female high($N=52$) vs low/non-users($N=42$). In addition, no significant differences were found on the self-esteem scale for either males vs males or females vs females. Table 3 displays the means and standard deviations found in this study for the POMS subscales.

MANOVA results on the stress questions indicated a significant overall main effect for male alcohol high vs low/non-users, Wilks Lambda = .89 $p < .001$. Univariate ANOVA's revealed male alcohol low/non-users scored significantly higher than male high alcohol users on the stress question inquiring about the level of anxiety experienced from making the grades needed to maintain athletic eligibility $F(1,223)=4.71, p < .031$, discriminant function .53. In addition, high male alcohol users scored significantly higher, $F(1,223)=4.26, p < .04$, than male alcohol low/non-users on the stress question regarding the pressure felt to perform well from coaches, discriminant function .89. No significant differences were found for female high users($N=42$) vs low/non-users($N=52$) on the stress questions.

Due to the low number of drug users among the six other drug categories, high and low/non-user groups could not be established. Instead, drug user and non-user groups were used, with users being defined as those individuals who reported using a specified drug during the previous 12 months, whereas non-users were defined as those individuals who reported no use of the specified drug during the previous 12 months. Results of a one-way, (users/non-users) MANOVA produced significant differences among barbiturate users and non-users, Wilks Lambda = .98, $p < .05$.

Table 1

Means and Standard Deviations for POMS Subscales

Groups	Vigor		Anger		Tension		Fatigue		Confusion		Depression	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Alcohol High	20.0±4.9*		20.6±9.8**		15.7±5.5		14.0±5.7*		11.8±5.0		17.4±10.8	
Alcohol Low	19.7±4.8*		16.0±9.8**		14.8±6.2		12.3±6.4*		10.6±4.7		17.1±10.5	
Males	19.6±6.1**		18.5±10.2		14.8±5.7*		13.3±7.0		11.0±5.0		16.7±11.0	
Female	20.6±4.9**		16.4±9.3		16.1±6.2*		13.1±5.6		11.3±4.6		17.0±10.6	
Male Alcohol High	19.5±4.8		20.7±9.6**		15.4±5.4**		13.9±5.9**		11.8±5.1**		16.8±10.4	
Male Alcohol Low	20.4±8.2		15.9±9.1**		13.4±5.7**		11.6±8.3**		9.6±4.4**		15.8±10.3	
Female Alcohol High	21.9±4.9		16.4±8.7		15.8±6.2		13.1±5.3		11.1±4.4		17.8±10.7	
Female Alcohol Low	19.6±5.1		17.1±10.9		16.6±7.0		13.2±5.8		12.4±5.1		18.8±11.9	
Barbiturate Users	19.9±6.4		27.3±9.4**		20.2±5.2**		16.3±5.9		14.0±4.6*		25.1±12.7**	
Barbiturate Non-users	19.9±5.8		17.7±9.9**		15.1±5.9**		13.2±6.6		11.1±4.9*		16.6±10.8**	

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

Figure 3: High/low non-user x gender interaction for vigor.

Figure 4: High/low non-user x gender interaction for stress.

Specifically, univariate tests revealed barbiturate users scored significantly higher than non-users on the POMS subscales of tension $F(1,532)=.62$ $p < .005$; anger $F(1,532)=.76$ $p < .002$; confusion $F(1,532)=.33$ $p < .05$; and depression $F(1,532)=.20$ $p < .01$. In addition, barbiturate users scored significantly lower on Coopersmith's Self-Esteem scale, $F=5.45(1, 1782.49)$ $p < .02$. However, the number of barbiturate users ($N=11$) as compared to non-users ($N=525$) warrants that these results be viewed cautiously.

No significant differences were found using MANOVA between marijuana users($N=82$) and non-users($N=452$) for the POMS or stress questions, despite marijuana being reported as the second most frequently used drug. In addition, no significant differences were found using MANOVA for the other drug categories. The lack of significant results may be due to the low number of drug users found in this investigation.

Normative Comparisons

In comparing the scores found in this study to the norms established by the POMS scale for college students, 84.4% of the high alcohol users($M=19.98$) scored above the norm(between 15 and 16) for the vigor subscale whereas 79.4% of the low/non-users($M=19.7$) were above the norm. Further analysis of the POMS distribution of scores found 5.1% of the high alcohol users scored at or above the 70th percentile on the vigor subscale as compared to 4.2% of the low/non-users. Even though a high percentage of the subjects in this study scored above the norm, only a small number scored among the higher level of 70th percentile.

Perhaps the most significant results were found on the anger subscale, with both the high alcohol users ($M=20.6$) and low/non-users ($M=16.0$) having a high percentage of scores above the norm (norm=between 9 and 10). In the high alcohol user group, 85.6% of the subjects scored above the norm for anger compared to the low/non-user group, in which 70.6% of the subjects scored above the norm. Further in depth analysis of the anger scores found 14.7% of the high alcohol users at or above the score of 32 (80th percentile) as compared to 7% of the low/non-users at or above 32 (80th percentile). Despite both the high and low/non-user groups having a large percentage above the norm, further analysis indicates the some distinct differences do occur between the two user groups at the 80th percentile range. The high user group had slightly over twice the percentage for anger, (14.7% as compared to 7%) at the 80th percentile range or higher. The differences between the alcohol high and low/non-user groups on the subscale anger might be an area for future investigation and possible concern, although the number of subjects at the 80th percentile for the alcohol high user group does not appear to be highly abnormal.

Comparing males to males, the anger subscale again produced the strongest results, with the male high user group ($M=20.7$) having 73.8% of its subjects above the male norm ($M=13.5$) compared to 49.9% above the norm for the low/non-user males ($M=15.9$). More in depth analysis revealed that, once again, the high user males had over twice the percentage (10.4%) of subjects at or above the 70th percentile level for anger as compared to 4.5% of the low/non-user males. Female to female comparison found no

significant differences over any of the POMS subscales, so no comparisons were made to female norm scores.

The fatigue subscale also had both groups above the norm (norm=between 10 and 11), with the high alcohol user group ($M=14.0$) scoring the highest (68.2% above) as compared to the low/non-user group ($M=12.3$ and 57.2% above). The low/non-user group did have slightly more subjects (4.2%) with scores at or above the 70th percentile as compared to the high user group (3.7%). Despite the above norm percentages for both the high and low/non-user groups, neither group was found to have a high percentage of scores at or above the 70th percentile.

CHAPTER V

DISCUSSION

Descriptive Statistics

Results of the present investigation confirmed alcohol was the most widely used drug among college athletes, which was not surprising due to the fact that alcohol is legal and socially acceptable. The high reported use of alcohol supports the findings of a recent follow-up study sponsored by the NCAA which found alcohol to be the drug most frequently used by athletes ("More athletes," 1989). The current study also found marijuana to be the second most frequently used drug which supports the research by Nicholi (1983) who also found alcohol to be the most frequently used drug by college students and marijuana the second most frequently used drug.

The large number of subjects who used alcohol helped provide a subject pool large enough to make some true comparisons between high and low user psychological factors. The small numbers of athletes reporting use of the other six drugs made meaningful analysis between high and low user groups difficult. Several reasons could account for the small numbers of drug users for the other six categories. First, the majority of the athletes questioned in this study simply may, in fact, not use any of the other drugs in question, as indicated by the results. The anti-drug campaigns and the growing social concern and research about the dangers of drug use to the general health as well as athletic performance may have encouraged many

athletes not to use drugs. The dangers and consequences of drug use by athletes was emphasized by the sudden and tragic death of Len Bias, who died from an apparent one time cocaine overdose in 1986 (Callahan, 1986; Leo, 1986). Ben Johnson, 1988 Summer Olympic men's 100 meter gold medalist who was disqualified after testing positive for anabolic steroids, provided another example of the consequences of drug use (Johnson & Moore, 1988). The mandatory NCAA drug testing program may have discouraged some athletes from using drugs, even though this was not reported as one of the three major reasons given why the athletes in this study did not use drugs. Another reason for the low drug use reported may involve social desirability. Many of the athletes may have not answered the questionnaire truthfully out of fear, even though every precaution was taken to keep the questionnaires and answers anonymous. The problem of socially desirable answers is one many researchers face, especially when dealing with a sensitive topic such as drug use. Also, some athletes who do use drugs simply may have chosen not to complete the questionnaire.

Psychological Factors

Studies investigating athletes and drug use have focused on a variety of issues, including athletes' attitudes about drug use (King, Tricker, & Cook, 1988; Anderson & Snellman, 1986, Gaskins & deShazo, 1985), types and frequency of drug use (Anderson & Snellman, 1986), comparisons between athletes and non-athletes (Bell & Doege, 1987) and specific issues facing female athletes and drug use (Hazelden-Cork Sports Education Program, 1986; Duda, 1986; "Documenting drug use," 1988). The primary purpose of

this study was not to find any cause-effect relationships between moods, stress and/or self-esteem and drug use, but simply to identify some specific psychological differences between high users and low/non-users of drugs.

The results of the present investigation identified some psychological differences between college athletes who use alcohol at higher levels and college athletes who are low/non-users of alcohol. Based on the results of the analysis, significant differences were found for alcohol high users and low/non-users, with the high alcohol users scoring higher on the POMS subscales of anger, fatigue and vigor.

Anger emerged as the strongest psychological difference between alcohol high and low/non-users. Results from this investigation found the mean scores for anger of the two groups differed greatly; the high alcohol user group had over twice the percentage of athletes among the 80th percentile as compared to the low/non-user group. The percentage of high anger scores among the high alcohol user group as compared to the low/non-user group does raise some concern about anger and the increased use of alcohol. Heyman (1986) discusses the way physical aggression is encouraged and rewarded in athletics and how control over aggression may be affected by alcohol and other drugs. A study by Stoner (1987) specifically looked at anger and marijuana use associated with anger. Despite the fact that no significant differences regarding marijuana use were found between users and non-users in this study, some parallels between the two studies can be made. Specifically, Stoner (1987) found that anger scores were significantly higher among the high users of marijuana as compared to the low/non-users. The higher anger scores among high alcohol users lends support to Stoner's

findings. Other researchers (Welpton, 1968; Chaikin & Telander, 1988; and Taylor, 1985) have also found aggression to be associated with various types of drug use.

In addition to anger, fatigue proved to be another area in which statistically significant differences were found between alcohol high and low/non-user groups with the high alcohol users scoring higher than the low/non-users. The high fatigue scores among high alcohol users found in the present study lend support to Keniston's (1969) claims that during times of extreme fatigue drugs may be used in an effort to cope. The hours needed to complete college academic requirements in addition to the long hours spent preparing and competing in athletic competitions may leave an athlete feeling fatigued. This is especially true for athletes who must also work to help pay for their education. Roberts-Wilbur, Wilbur and Morris (1987) discuss these problems and other stressors associated with freshmen college athletes and how these pressures may result in self-defeating behaviors such as drinking. Despite stronger differences between the mean scores of the two groups, both the alcohol high and low/non-users scored were only slightly above the norm on the fatigue subscale. The results found in this investigation suggest differences do occur between high and low/non-users of alcohol, but the fatigue scores reported for each of the two groups were not among critically high fatigue scores based on the norm scores taken from the POMS data.

Along with anger and fatigue, scores on vigor were also found to be significantly higher among high alcohol users than among the low/non-users. The significant differences regarding vigor lend support to the work of

Zuckerman (1979), who suggests "sensation seeking" as a factor relevant to alcohol use. Zuckerman (1979) also suggests a person who may need more sensory input and stimulation or who is considered "wild" may use/abuse alcohol, and other drugs. This might lend some explanation to the higher vigor scores among the high alcohol-using athletes. Differences between scores of alcohol high and low/non-users on vigor did prove to be statistically significant; however, a closer analysis of the mean scores of the two groups showed only a slight difference. Despite the statistically significant differences between the two groups in the present investigation, vigor would not seem to be a major psychological factor for athletes who use alcohol.

Up to this point, the psychological profile associated with drug use among the athletes in this investigation has focused on alcohol users. However another drug category, barbiturates, revealed significant differences between users and non-users providing some support to the findings before mentioned. Specifically, significant differences were found for barbiturate users vs non-users with results indicating high barbiturate users scoring higher than the non-users, on anger, tension, confusion and depression. Barbiturates work like depressants, slowing down the functioning of the brain and nervous system, similar to the way alcohol depresses the brain and nervous system (Irwin, 1986). Again, the subscales of anger, tension, confusion and depression emerged as areas which differed significantly among high and low/non-user groups. Tension and confusion may develop in an athlete from a variety of sources, including academics, athletic and even social sources (Heyman, 1986; Roberts-Wilbur, Wilbur, &

Morris, 1987). Some athletes may use barbiturates, much like alcohol, as a way to cope and depress feelings of anxiety, tension and confusion. Jaffe, Petersen and Hodgson (1980) reported anxiety relief and calming the nerves as reasons given by alcohol and opioid users for using the drugs. The significant finding regarding depression among barbiturate users in this investigation lends support to other studies which have found depression associated with drug use (Dodson, Alexander, Wright & Wunderlick, 1971; Rounsaville, Weissman, & Crits-Cristoph, 1982; Khantzian & Khantzian, 1984). The results from this analysis should be viewed cautiously, however, because of the small number of barbiturate users ($N=11$) in this study.

Gender Differences

Some psychological differences were found between the male and female athletes involved in this investigation. Significant interaction effects found that male alcohol low/non-users scored higher on vigor than the male high alcohol users. In contrast, the female high alcohol users scored higher than the female low/non-users on the POMS subscale vigor. One would expect the male low/non-users to score higher on vigor because this group would not be experiencing the negative physical and mental effects associated with high alcohol use. Alcohol is a depressant, and the depressant effects would be expected to hinder athletes' abilities to perform consistently at high levels in an occupation which relies so heavily on the proper functioning of the body. However, the results for the female athletes were contradictory to those for the males, with the high alcohol using females scoring higher on vigor than the low/non-using females. One possible

explanation for this finding may be that high alcohol using females may be more socially active and involved in various college activities. High alcohol using females may feel more socially accepted and thus report higher scores on vigor, especially because alcohol is a socially acceptable drug and often involved in many college social activities. More research is needed to determine the reasons for the differences between scores for male and female high and low/non-user groups as found in this investigation.

Analyses of male athletes and non-athletes and female athletes and non-athletes found differing results. Similar to the high alcohol users, the male high alcohol users scored significantly higher than the male low/non-users on the POMS subscales of anger, fatigue, tension and confusion. Heyman (1986) suggests the "macho" image of proving oneself, especially among male athletes, may be one factor especially relevant to alcohol use and athletes. Issues such as general identity issues, homosexuality/bisexuality, eternal adolescence, as suggested by Heyman (1986), or the strenuous demands and transition to college athletics and academics, as suggested by Roberts-Wilbur, Wilbur and Morris (1987), may contribute to feelings of confusion. Results from this investigation indicated that there were no significant differences between female alcohol high user and low/ non-user groups among the POMS subscales. The lack of significant results among the females may be due, in part, to the lower number of female athletes involved in the study. In addition, comparison of mean scores among the POMS subscales for both high and low/non-users found that the mean scores of low/non-user females were often higher than the

mean scores of the low/non-user males whereas the mean scores of high user for both groups were, in most cases, very similar.

This study found some significant gender main effect differences with females scoring higher than males on vigor and tension. The reason the female athletes scored higher on vigor could be related to the fact that male athletes in male sports may experience more pressure to succeed at a higher and more profitable level. Men's football and basketball, especially at the Division I level, are often expected to be large revenue-producing sports, as witnessed by the large sums of money distributed to the recent men's NCAA basketball tournament teams ("Payout estimated," 1990). Another reason for the low vigor scores among the males may involve the large percentage of football players involved in this investigation. Football is a sport which requires a great deal of physical contact, and the pressure to succeed combined with the large number of subjects involved in the highly physical contact sport of football may be responsible for the low vigor scores among the males.

One reason females may score higher on tension could be related to the role conflict female athletes must face as addressed by Duda (1986), including the issues of femininity and athletic ability, and body image. Roberts-Wilbur, Wilbur, and Morris (1989) address specifically the problems many female athletes have adjusting to the college athletic system, which may add to the tension experienced by some female athletes. More research is needed to determine the reasons for the differences found between male and female athletes.

Academic/Athletic Stress

In an attempt to target some stressful areas in the student-athletes' lives, a series of questions was designed to assess the level of stress relating to specific academic and athletic issues. Results revealed significant differences for the specific question addressing the pressure felt from coaches to perform well. Specifically, the low/non-using males felt less pressure from coaches to perform well than the high alcohol using males, whereas the low/non-using females felt more pressure from coaches to perform well than the high alcohol using females. The high alcohol using males may feel more pressure from their coaches to perform well because high alcohol consumption may be negatively affecting their ability to perform well, or the high users may feel pressured to perform above their capabilities and turn to alcohol as a way to cope. The low/non-using females may feel more pressure to perform well from their coaches because these female athletes may have coaches who strictly forbid them to drink. This situation may result in guilty feelings, paranoia and/or feelings of additional stress to perform well so that no indication is given that the athlete is drinking. The low/non-user females may also feel added pressure to perform well from a coach who tries to control other aspects of the athletes' lives, especially their social lives. Again, more research is needed to determine differences, and the reasons for those differences between male and female athletes in the area of athletic-related stress and drug use.

Significant differences were also found in the comparison of male high alcohol users to male alcohol low/non-users, with results indicating two different stressors for the two groups. Specifically, results from the stress

questions found the high alcohol user group reported significantly more pressure from their coaches to perform well(athletic-related pressure), whereas the low/non-user group reported higher levels of anxiety resulting from maintaining the grades needed to remain eligible(academic-related pressure). These results lend support to Roberts-Wilbur, Wilbur, and Morris (1987), who discuss in great detail the stress and pressure, both academic and athletic, often experienced by college student-athletes. The high users, again, may feel pressure from coaches to perform well simply because they may be performing poorly due to high alcohol use, or they may be using alcohol due to poor performance. The low/non-users may feel more pressure from maintaining the grades necessary to remain eligible because these athletes are facing the challenges and demands of college level academic work head on and not escaping from those pressures as the high alcohol users may be doing by drinking. Alcohol is sometimes used as a coping mechanism, though often self-defeating, among college athletes when faced with stress and pressure (Roberts-Wilbur, Wilbur, & Morris, 1987).

If researchers are correct in linking drug use to an attempt to cope with stress and pressure (Kenison, 1969; Roberts-Wilbur, Wilbur, & Morris, 1987; Treece & Khantzian, 1986), these athletes may be using alcohol in an attempt to cope with the pressure of balancing academics and athletics. However, the first and second reasons given for using alcohol by the athletes in this investigation involved recreational/social reasons and to feel good, respectively. The third reason given for using alcohol involved coping with stresses of college life. This finding lends some support to the idea that

drugs, in this study primarily alcohol, may be used by some individuals as a way to cope with stress and pressure.

Self-Esteem

Previous research has often associated low self-esteem with drug use (Kaplan, 1982; Norem-Hebelsen, 1975; Sherouse, 1985; and Treece and Khantzian, 1986). Specifically, Roberts-Wilbur, Wilbur and Morris(1987) contend that freshmen college athletes often suffer from low self-esteem and may turn to alcohol in an attempt to cope. This study found some conflicting results with regard to self-esteem. Barbiturate users had lower self-esteem scores than the non-users, providing some support to the studies associating low self-esteem and drug use. Among alcohol users, however, the high users had higher self-esteem scores than the low/non-users. This could be due to the fact that alcohol is socially acceptable and the peer pressure to drink is often very strong with drinking being associated with social activities and acceptance, especially for college aged young adults. Heyman (1986) suggests peer pressure as one of two factors particularly relevant to athletes and drug use. Thus, the high alcohol users may feel more socially accepted by their peers and more comfortable with themselves, and their status among their peers, in turn, gives them a better self-image.

Results from this study also found higher self-esteem scores for the males than for the females. This may be partially explained because many female athletes have to deal with a role conflict between femininity and athletic prowess as well as body image conflict . The issue of homosexuality has also been associated with many female athletes. These issues and others

specifically related to female athletes are discussed by Duda (1986), the Hazelden-Cork Sports Education Program (1986), and Roberts-Wilbur, Wilbur, and Morris (1989). Female sports and athletes are often considered less important than their male counterparts. Male athletes have more avenues and opportunities to advance to professional careers relating to their athletic skills. Society, in general, respects and rewards the male athlete, whereas the female athlete has generally had to fight for respect and recognition, even though she practices just as hard and plays with the same intensity and desire for success. These attitudes may add to the pressures and frustrations felt by female athletes and may also have an adverse effect on the self-esteem of some women athletes. Many of these same explanations have been suggested as reasons for drug use among female athletes by Duda (1986).

Summary

A variety of descriptive statistics were found for the college athletes involved in this investigation. The primary reasons given by the athletes for using alcohol was recreational/social, feel good and helps to deal with stress from college life. The primary reasons for not using alcohol were concerns about effects on health, no desire for effects and hurt athletic performance. It should be noted that much of the analysis in this investigation was conducted on the alcohol high and low/non-users because a large percentage of the athletes reported using alcohol, whereas few reported using the other drugs.

The results from this study have identified some differences in the psychological factors of high alcohol users and low/non-users. The one POMS subscale which provided the most meaningful results was the anger subscale. The high alcohol users scored much higher than the low/non-users of alcohol. Further analysis of the anger scores found over twice as many high alcohol users at or above the 80th percentile of college norm anger scores as compared to the low/non-users. Significant differences were also found for the POMS subscales of fatigue and vigor, with the high alcohol users again scoring higher than the low/non-users. Despite the significant differences between the two user groups for fatigue and vigor, comparison to the college norm scores found only slightly higher scores for the athletes. Significant differences were also found among the POMS scales for male and female athletes (interaction) as well as within male high vs low/non-users.

The pressures found to affect the college student-athletes most significantly involved the pressure felt from coaches to perform well. High alcohol using males felt more pressure from the coaches as compared to the male low/non-users. In contrast, the low/non-using females felt more pressure from the coaches than the female high alcohol users. In addition, the male high alcohol user group felt more pressure from the coaches, whereas the low/non-users felt more pressure from maintaining the grades needed to remain eligible. Results from the Coopersmith's Self-Esteem test found significant differences between the male and female athletes in this investigation, with the male athletes scoring higher on the self-esteem test.

The results obtained from this study may provide a better understanding of some factors which may be associated with athletes and

drug use. Implications from this investigation may be especially valuable to coaches, trainers and others working with athletes in the continuing development of preventive and treatment programs designed especially for athletes. Coaches, trainers and others working with athletes should be especially aware and sensitive to signs of anger among athletes because anger was the psychological variable most significantly associated with drug use among athletes. More information regarding the signs of anger and ways anger can be dealt with among athletes would be useful. Another psychological variable which should be addressed dealt with the pressure athletes felt from coaches to perform well. Some athletes are able to handle pressure from coaches more effectively than other athletes, and this should be taken into consideration by coaches when dealing with individual athletes.

Pressure from maintaining grades in order to remain eligible along with fatigue are two other factors which coaches should also be conscious of when dealing with athletes and the issue of drug use. More applied information, as well as possible training seminars, for coaches on more effective ways to identify athletes susceptible to or involved with drugs would be beneficial. Teaching athletes more effective coping techniques and study skills would also be advantageous in helping athletes deal with the many pressures and problems unique to being both a college athlete and student and help them avoid problems with drugs.

Future research recommendations include increasing the size of athlete subject pools for larger, more in depth studies over a broad range of drugs. Studies involving athletes of different ages and skill levels would also

be beneficial to determine if differences occur between athletes of varying ages, for example, junior high aged athletes in contrast to Olympic or professional athletes. One would expect to find some very distinct and important differences between some age and/or skill level populations due in part to the maturity level of the athletes and the athletes' knowledge of his or her skill, body and drug effects. This information could then be directly applied to preventive and treatment programs targeted to that particular age and/or skill level. As within society, differences occur among various segments of the athletic society, and these differences need to be explored to develop a better understanding of the specific needs and temptations of athletes.

APPENDIX A
INSTRUCTIONS FOR QUESTIONNAIRE

APPENDIX A

INSTRUCTIONS FOR QUESTIONNAIRE

1. Do **NOT** write your name on the questionnaire.
2. Please read all the information and instructions in each section.
3. Two methods will be used in answering the questions. Please **CIRCLE** the letter beside the answer you wish to choose. Other questions will ask for a rank order (first, second and third choice). Please indicate your first choice by placing the letter of your response in the blank labeled 1st choice. Place the letter of your second answer in the space labeled 2nd choice and the letter of your third answer in the space labeled 3rd choice. You may give less than three reasons if you desire.
4. If you need an answer not listed, please **PRINT** your answer(s) in the place designated.
5. After you complete the questionnaire, seal the questionnaire in the unmarked envelope provided and please return it to the researcher.
6. If you have any questions, please ask the researcher for assistance.

APPENDIX B
DEMOGRAPHIC INFORMATION AND STRESS QUESTIONS

APPENDIX B

DEMOGRAPHIC AND STRESS QUESTIONS

Directions: The following questions ask for some information about your college athletic and academic career.

1. What is your MAIN sport? (Mark one)

MEN

1. Basketball
2. Baseball
3. Track/Field
4. Football
5. Tennis
6. Other

WOMEN

1. Basketball
2. Softball
3. Track/Field
4. Swimming/Diving
5. Tennis
6. Other

Please specify _____

2. If you participate in a second sport, mark below.

MEN

1. Basketball
2. Baseball
3. Track/Field
4. Football
5. Tennis
6. Other

WOMEN

1. Basketball
2. Softball
3. Track/Field
4. Swimming/Diving
5. Tennis
6. Other

Please specify _____

3. What year of eligibility are you in?

1. First	4. Fourth
2. Second	5. Fifth
3. Third	

4. What is your current academic standing?

1. Freshman	4. Senior
2. Sophomore	5. Graduate student
3. Junior	

5. On a 4.0 scale (4.0=A, 3.0=B, 2.0=C, 1.0=D), what is your overall college grade point average? (If you are a Freshman, what was your overall high school grade point average?)

1. 3.5-4.0	5. 1.5-1.99
2. 3.0-3.49	6. .5-0.99
3. 2.5-2.99	7. 0 - .04
4. 2.0-2.49	

6. What is your gender?

1. Male
2. Female

7. What type of athletic scholarship are you currently on?

1. Full	4. 1/4
2. 3/4	5. None
3. 1/2	6. Other (please specify)_____

8. How anxious are you about making the grades needed to maintain your athletic eligibility?

[_____]

1	2	3	4	5	6	7	8	9	10	11
Not					Moderately					Extremely
anxious					anxious					anxious
at all										

9. How anxious are you about having your scholarship reduced for next year?

[_____]

1	2	3	4	5	6	7	8	9	10	11
Not					Moderately					Extremely
anxious					anxious					anxious
at all										

10. How much pressure do you, yourself, feel to maintain a high level of performance?

[_____]

1	2	3	4	5	6	7	8	9	10	11
No					Moderate					Extreme
pressure					pressure					pressure
at all										

11. How much pressure does your team feel to perform well?

12. How much pressure do you feel is put on you to perform well from your coaches?

13. How much pressure do you feel is put on you to perform well from your teammates?

14. How much stress do you feel from being both a student and a college athlete?

APPENDIX C
PROFILE OF MOOD STATES

APPENDIX C

PROFILE OF MOOD STATES

Below is a list of words that describe feelings people have. Please read each one carefully. Then circle the number to the right of each described feeling which best describes HOW YOU HAVE GENERALLY BEEN FEELING OVER THE PAST 12 MONTHS.

The numbers refer to these phrases.			Not at all A little Moderately Quite a bit Extremely		Not at all A little Moderately Quite a bit Extremely
0 - Not at all					
1 - A little					
2 - Moderately					
3 - Quite a bit					
4 - Extremely					
	Not at all A little Moderately Quite a bit Extremely	15. Active	0 1 2 3 4	31. Annoyed	0 1 2 3 4
		16. On edge	0 1 2 3 4	32. Discouraged	0 1 2 3 4
		17. Grumpy	0 1 2 3 4	33. Resentful	0 1 2 3 4
1. Friendly	0 1 2 3 4	18. Blue	0 1 2 3 4	34. Nervous	0 1 2 3 4
2. Tense	0 1 2 3 4	19. Energetic	0 1 2 3 4	35. Lonely	0 1 2 3 4
3. Angry	0 1 2 3 4	20. Panicky	0 1 2 3 4	36. Miserable	0 1 2 3 4
4. Worn out	0 1 2 3 4	21. Hopeless	0 1 2 3 4	37. Muddled	0 1 2 3 4
5. Unhappy	0 1 2 3 4	22. Relaxed	0 1 2 3 4	38. Cheerful	0 1 2 3 4
6. Clear-headed	0 1 2 3 4	23. Unworthy	0 1 2 3 4	39. Bitter	0 1 2 3 4
7. Lively	0 1 2 3 4	24. Spiteful	0 1 2 3 4	40. Exhausted	0 1 2 3 4
8. Confused	0 1 2 3 4	25. Sympathetic	0 1 2 3 4	41. Anxious	0 1 2 3 4
9. Sorry for things done	0 1 2 3 4	26. Uneasy	0 1 2 3 4	42. Ready to fight	0 1 2 3 4
10. Shaky	0 1 2 3 4	27. Restless	0 1 2 3 4	43. Good natured	0 1 2 3 4
11. Listless	0 1 2 3 4	28. Unable to concentrate	0 1 2 3 4	44. Gloomy	0 1 2 3 4
12. Peeved	0 1 2 3 4	29. Fatigued	0 1 2 3 4	45. Desperate	0 1 2 3 4
13. Considerate	0 1 2 3 4	30. Helpful	0 1 2 3 4	46. Sluggish	0 1 2 3 4
14. Sad	0 1 2 3 4				

- 0 - Not at all
 1 - A little
 2 - Moderately
 3 - Quite a bit
 4 - Extremely

	Not at all A little Moderately Quite a bit Extremely		Not at all A little Moderately Quite a bit Extremely
47. Rebellious	0 1 2 3 4	55. Shamed	0 1 2 3 4
48. Helpless	0 1 2 3 4	<p>MAKE SURE YOU HAVE ANSWERED EVERY ITEM.</p>	
49. Weary	0 1 2 3 4		
50. Bewildered	0 1 2 3 4		
51. Alert	0 1 2 3 4		
52. Deceived	0 1 2 3 4		
53. Furious	0 1 2 3 4		
54. Efficient	0 1 2 3 4		
55. Trusting	0 1 2 3 4		
56. Full of pep	0 1 2 3 4		
57. Bad-tempered	0 1 2 3 4		
58. Worthless	0 1 2 3 4		
59. Forgetful	0 1 2 3 4		
60. Carefree	0 1 2 3 4		
61. Terrified	0 1 2 3 4		
62. Guilty	0 1 2 3 4		
63. Vigorous	0 1 2 3 4		
64. Uncertain about things	0 1 2 3 4		

APPENDIX D
SELF-ESTEEM INVENTORY

APPENDIX D

SELF-ESTEEM INVENTORY

Directions: Circle either "like me" or "unlike me" to best describe yourself over the past 12 months for each of the statements.

1. I often wish I were someone else.
like me unlike me
2. I find it very hard to talk in front of a group.
like me unlike me
3. There are lots of things about myself I'd change if I could.
like me unlike me
4. I can make up my mind without too much trouble.
like me unlike me
5. I'm a lot of fun to be with.
like me unlike me
6. I get upset easily at home.
like me unlike me
7. It takes me a long time to get used to anything new.
like me unlike me
8. I'm popular with people my own age.
like me unlike me
9. My family expects too much of me.
like me unlike me
10. My family usually considers my feelings.
like me unlike me
11. I give in very easily.
like me unlike me

12. It's pretty tough to be me.
like me unlike me
13. Things are all mixed up in my life.
like me unlike me
14. Other people usually follow my ideas.
like me unlike me
15. I have a low opinion of myself.
like me unlike me
16. There are many times when I'd like to leave home.
like me unlike me
17. I often feel upset about the work that I do.
like me unlike me
18. I'm not as nice looking as most people.
like me unlike me
19. If I have something to say, I usually say it.
like me unlike me
20. My family understands me.
like me unlike me
21. Most people are better liked than I am.
like me unlike me
22. I usually feel as if my family is pushing me.
like me unlike me
23. I often get discouraged at what I am doing.
like me unlike me
24. Things usually don't bother me.
like me unlike me
25. I can't be depended on.
like me unlike me

APPENDIX E
DRUG QUESTIONNAIRE

APPENDIX E

DRUG QUESTIONNAIRE

Directions: Please circle the appropriate letter which corresponds to your answer.

One drink = A 12 ounce can/bottle of beer

One drink = A 4 ounce glass of wine

One drink = A mixed drink or shot glass of liquor

One drink = A 12 ounce bottle of wine cooler

1. During the past 12 months, what is your average use of alcoholic beverages **PER MONTH**?

A. 0 times

D. 5-6 times

B. 1-2 times

E. 7 or more times

C. 3-4 times

2. When you drink alcohol, how many drinks do you usually have?

A. 0 drinks

D. 5-6 drinks

B. 1-2 drinks

E. 7 or more drinks

C. 3-4 drinks

3. How long have you been drinking alcohol (Total months/years)?

A. Do not take

D. 3-4 years

B. Less than 1 year

E. 5 or more years

C. 1-2 years

4. If you drink alcohol, rank the three main reasons you use alcohol? (You may give less than three reasons). If you **DO NOT** use it, skip to next question.

A. Recreational or social reasons

1st reason _____

B. Helps me deal with stresses of college life

C. Helps me deal with stresses of college athletics

2nd reason _____

D. Improves my athletic performance

E. It makes me feel good

3rd reason _____

F. Other (please specify) _____

5. If you DO NOT or HAVE STOPPED using alcohol, rank the three main reasons why. (You may give less than three reasons). If you DO use it, skip to next question.

- A. Concerned about effects on my health
 - B. It is against my beliefs
 - C. Others would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rules
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

6. During your last competitive season, what was your average use of alcoholic beverages **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

7. During the past 12 months, what is your average use of anabolic steroids **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

8. When you are on a cycle, how many oral anabolic steroids do you usually take **DAILY**?

- A. 0 pills
- B. 1-2 pills
- C. 3-4 pills
- D. 5-6 pills
- E. 7 or more pills

9. When you are on a cycle, how many injectable anabolic steroids do you usually take WEEKLY?

- A. 0 shots
- B. 1-2 shots
- C. 3-4 shots
- D. 5-6 shots
- E. 7 or more shots

10. How long have you been taking anabolic steroids? (Total months/years)

- A. Do not take
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

11. If you take anabolic steroids, rank the three main reasons why (You may give less than three reasons). If you DO NOT use them, skip to next question.

- A. Recreational or social reasons
 - B. Helps me deal with stresses of college life
 - C. Helps me deal with stresses of college athletics
 - D. Improves my athletic performance
 - E. It makes me feel good
 - F. Other _____
- 1st reason _____
2nd reason _____
3rd reason _____

12. If you DO NOT USE or HAVE STOPPED using anabolic steroids, rank the three main reasons why. (You may give less than three reasons) If you DO use them, skip to next question.

- A. Concerned about effects on my health
 - B. It is against my beliefs
 - C. Others would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rules
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
2nd reason _____
3rd reason _____

13. During your last competitive season, what was your average use of anabolic steroids **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

14. During the past 12 months, what is your average use of amphetamines **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

15. When you take amphetamines, how many hits do you usually have?

- A. 0 hits
- B. 1-2 hits
- C. 3-4 hits
- D. 5-6 hits
- E. 7 or more hits

16. How long have you been taking amphetamines? (Total months/years)

- A. Do not take
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

17. If you use amphetamines, rank the three main reasons you use amphetamines? (You may give less than three reasons) If you DO NOT use them, skip to next question.

- A. Recreational or social reasons
 - B. Helps me deal with stresses of college life
 - C. Helps me deal with stresses of college athletics
 - D. Improves my athletic performance
 - E. It makes me feel good
 - F. Other
- 1st reason _____
2nd reason _____
3rd reason _____
-

18. If you DO NOT or HAVE STOPPED using amphetamines, rank the three main reasons why? (You may give less than three reasons) If you DO use them, skip to next question.

- A. Concerned about effects on my health
 - B. It is against my beliefs
 - C. Others would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rules
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

19. During your last competitive season, what was your average use of amphetamines **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

20. During the past 12 months, what is your average use of cocaine **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

21. When you use cocaine, how many hits do you usually have?

- A. 0 hits
- B. 1-2 hits
- C. 3-4 hits
- D. 5-6 hits
- E. 7 or more hits

22. How long have you been taking cocaine? (Total months/years)

- A. Do not take
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

23. If you use cocaine, rank the three main reasons you use cocaine? (You may give less than three reasons) If you DO NOT use it, skip to next question.

- A. Recreational or social reasons 1st reason _____
- B. Helps me deal with stresses of college life
- C. Helps me deal with stresses of college athletics 2nd reason _____
- D. Improves my athletic performance
- E. It makes me feel good 3rd reason _____
- F. Other _____

24. If you DO NOT or HAVE STOPPED using cocaine, rank the three main reasons why. (You may give less than three reasons) If you DO use it, skip to next question.

- A. Concerned about effects on my health
- B. It is against my beliefs
- C. Others would disapprove
- D. It is hard to get
- E. I had a bad experience with it 1st reason _____
- F. I did not get the desired effects
- G. I was afraid of getting caught 2nd reason _____
- H. I do not like it
- I. Coach's rules 3rd reason _____
- J. No desire to experience the effects
- K. It is illegal
- L. It costs too much
- M. It hurt my athletic performance
- N. Other _____

25. During your last competitive season, what was your average use of cocaine **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

26. During the past 12 months, what is your average use of barbiturates/tranquilizers **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

27. When you take barbiturates/tranquilizers, how many pills do you usually take?

- A. 0 pills
- B. 1-2 pills
- C. 3-4 pills
- D. 5-6 pills
- E. 7 or more pills

28. How long have you been taking barbiturates/tranquilizers? (Total months/years)

- A. Do not take
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

29. If you take barbiturates/tranquilizers, rank the three main reasons you use barbiturates/tranquilizers? (You may give less than three reasons) If you **DO NOT** use them, skip to next question.

- A. Recreational or social reasons
 - B. Helps me deal with stresses of college life
 - C. Helps me deal with stresses of college athletics
 - D. Improves my athletic performance
 - E. It makes me feel good
 - F. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

30. If you DO NOT or HAVE STOPPED using barbiturates/tranquilizers, rank the three main reasons why. (You may give less than three reasons) If you DO use them, skip to next question.

- A. Concerned about the effects on my health
 - B. It is against my beliefs
 - C. Others would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rules
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

31. During your last competitive season, what was your average use of barbiturates/tranquilizers **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

The following questions are about hallucinogen.

Examples: Mescaline, LSD, Acid, PCP, Mushrooms

32. During the past 12 months, what is your average use of hallucinogens **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

33. When you take hallucinogens, how many hits do you usually take?

- A. 0 hits
- B. 1-2 hits
- C. 3-4 hits
- D. 5-6 hits
- E. 7 or more hits

34. How long have you been taking hallucinogens? (Total months/years)

- A. Do not take
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

35. If you take hallucinogens, rank the three main reasons you use hallucinogen. (You may give less than three reasons) If you DO NOT take them, skip to next question.

- A. Recreational or social reasons
 - B. Helps me deal with stresses of college life
 - C. Helps me deal with stresses of college athletics
 - D. Improves my athletic performance
 - E. It makes me feel good
 - F. Other _____
- 1st reason _____
2nd reason _____
3rd reason _____

36. If you DO NOT or HAVE STOPPPED using hallucinogens, rank the three main reasons why. (You may give less than three reasons) If you DO use them, skip to next question.

- A. Concerned about effects on my health
 - B. It is against my beliefs
 - C. Other would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rules
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
2nd reason _____
3rd reason _____

37. During your last competitive season, what was your average use of hallucinogens **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

38. During the past 12 months, what is your average use of marijuana **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

39. When you use marijuana, how many joints do you usually have?

- A. 0 joints
- B. 1-2 joints
- C. 3-4 joints
- D. 5-6 joints
- E. 7 or more joints

40. How long have you been using marijuana? (Total months/years)

- A. Do not use
- B. Less than 1 year
- C. 1-2 years
- D. 3-4 years
- E. 5 or more years

41. If you use marijuana, rank the three main reasons why you use marijuana. (You may give less than three reasons) If you **DO NOT** use it, skip to next question.

- A. Recreational or social reasons
 - B. Helps me deal with stresses of college life
 - C. Helps me deal with stresses of college athletics
 - D. Improves my athletic performance
 - E. It makes me feel good
 - F. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

42. If you DO NOT or HAVE STOPPED using marijuana, rank the three main reasons why. (You may give less than three reasons) If you DO use it, skip to next question.

- A. Concerned about effects on my health
 - B. It is against my beliefs
 - C. Others would disapprove
 - D. It is hard to get
 - E. I had a bad experience with it
 - F. I did not get the desired effects
 - G. I was afraid of getting caught
 - H. I do not like it
 - I. Coach's rule
 - J. No desire to experience the effects
 - K. It is illegal
 - L. It costs too much
 - M. It hurt my athletic performance
 - N. Other _____
- 1st reason _____
- 2nd reason _____
- 3rd reason _____

43. During your last competitive season, what was your average use of marijuana **PER MONTH**?

- A. 0 times
- B. 1-2 times
- C. 3-4 times
- D. 5-6 times
- E. 7 or more times

APPENDIX F
LETTER AND INSTRUCTIONS TO ACADEMIC ADVISORS

APPENDIX F

LETTER AND INSTRUCTIONS TO ACADEMIC ADVISORS

Date

Dear (Name of Academic Advisor),

Thank you for your assistance in conducting this study at (name of University). I really appreciate your time and effort in helping me make this a valuable study for those of us concerned with the welfare of college athletes. I hope this study will produce some concrete and valuable information that all of us dealing with college athletes can use in fighting the problem of drugs.

Your Athletic Director has been contacted and he/she has given his/her approval to use your athletes in this study. This letter is to provide you with written information and instructions following our telephone conversation. I will contact you by telephone before your scheduled testing date to answer any questions you may have. Please contact me at any time if you have questions or comments. I can be reached at 817-382-2409 (home) or 817-565-3079 (work). Thanks again for your help!!

Sincerely,

Melissa Evans

INSTRUCTIONS

1. Speak to coaches about the study and set a convenient time for their athletes to complete the study. The study should take about 30 minutes.
2. Set the testing date and inform the researcher of testing date.
3. Researcher will call before test date to answer any questions.
4. Gather athletes into one room, hand out and read aloud the informed consent information. Allow those athletes who do not wish to participate in the study to leave.
5. Have the remaining athletes sign the separate informed consent sheet. This sheet should be immediately sealed in a separate envelope.
6. Hand out the questionnaires and pencils to the remaining athletes.
7. Read the instructions aloud and answer any questions the athletes may have about the questionnaire and/or the study.
8. The athletes will then complete the questionnaire as silently as possible and seal the completed questionnaire in the unmarked envelope provided.
9. Take up the sealed questionnaire packets as the athletes finish them. **DO NOT** attempt to look at the completed questionnaires. Athletes who complete the questionnaires must leave the testing site.
10. After all of the participating athletes complete the questionnaire, mail all the questionnaires and the informed consent sheet which the athletes signed back to the researcher.
11. Please include a note informing the researcher of the following information : Sport team, date questionnaires completed, total number of athletes on the sport team, and the number of athletes who completed the questionnaires as part of the study.

EXAMPLE: Women's basketball, 4-10-1989, 12 total athletes, 10 in study.

12. Final results will be sent to all participating University Athletic Directors and Academic Advisors.

13. Please return all questionnaires by May 6, 1989.

14. Questions or comments, contact Melissa Evans at 817-382-2409(home) or 817-565-3079(office).

APPENDIX G
CONSENT FORM

APPENDIX G

INFORMED CONSENT

Dear athlete:

This questionnaire is part of a study concerned with your opinions and experiences with alcohol and other drugs. The results from this study will be beneficial to coaches, trainers and other people working with athletes to help athletes who may develop or have a problem with drug use. For this study to be accurate, it is very important that you answer each question honestly. All your answers will be kept strictly anonymous and confidential. No one will be able to identify your questionnaire. **DO NOT** write your name on any part of the questionnaire. No one but the researcher will see the completed questionnaires. After you have completed the questionnaire, you will seal the questionnaire in the unmarked envelope provided. No individual, team or individual University results will be reported and therefore, it is impossible for anyone to identify your questionnaire or your answers.

Your participation in this study is voluntary. You can discontinue your participation in the study at any time without penalty. If you have any questions, please ask. Be sure to read the instructions carefully before you begin. Thank you for your help in this important study.

CONSENT FORM

I have seen and heard a clear explanation and understand the nature and procedure of the study. I have heard a clear explanation and understand the benefits to be expected. I understand that the procedure to be performed is investigational and that I may withdraw my consent at any time without prejudice or penalty. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedure designated.

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

Date _____ Signed _____

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Date _____ Signed _____

Date _____ Signed _____

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