



Selected funding variables of athletic departments in the Big Sky Conference and their relation to attendance, winning, athletes' academic success, NCAA violations, and coaching staff turnover
by Thomas Allen Raunig

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

University athletic departments receive pressure from outside sources who attempt to influence the decisions of athletic administrators. Many variables must be considered in order to evaluate university athletics, but little scientific research has been done on the subject.

The goal of this study was to provide administrators with an understanding of the variables that affect university athletic programs, and to aid them in decision making.

Nine universities, each a member of the Big Sky Athletic Conference, provided their annual athletic department audit. The audits included football and men's basketball expenditures for the fiscal years 1987 through 1991. Data for other variables was collected directly from the Big Sky Conference Commissioner's office. Variables used to evaluate the athletic departments were academic achievement, attendance, won-lost records, coaching staff turnover, funding level, and type of funding. NCAA rule violations was removed as a variable due to lack of data. The athletic programs were placed in groups based upon data then analyzed for each variable using discriminant analysis to explain group placement.

Key findings showed that institutions with high unearned funding levels for athletics have the greatest academic achievement and that winning, attendance and high funding are closely related. In addition, the programs who won more had lower academic achievement. This study's findings supported the Knight Commission's recommendations for increased state funding as a way to increase institutional control over athletic departments.

The study concluded that scientific methods can be applied meaningfully to university athletic issues. It also concluded that money plays an integral part in the success of an athletic department, and the recommendation was made that if a balanced competitive conference is desired, the conference should limit the amount of money spent by their members or increase revenue sharing. In addition, it was recommended that when the conference is considering new members they should compare data from this study to that of prospective members to help determine if they are a compatible member for the conference.

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THE BIG SKY CONFERENCE AND THEIR RELATION TO
ATTENDANCE, WINNING, ATHLETES' ACADEMIC
SUCCESS, NCAA VIOLATIONS, AND COACHING
STAFF TURNOVER

by

Thomas Allen Raunig

Advisor

John W. Kohl

A thesis submitted in partial fulfillment
of the requirements for the degree

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APPROVAL

of a thesis submitted by

Thomas Allen Raunig

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

7/14/95
Date

John W. Kohl
Chairperson, Graduate Committee

Approved for the Department of Education

7/14/95
Date

Deanne M. Bell
Head, Major Department

Approved for the College of Graduate Studies

10/20/95
Date

Pat Brown
Graduate Dean

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Date August 11, 1995

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CHAPTER I

INTRODUCTION

Funding intercollegiate athletics is a major problem at universities today (Thelin & Wiseman, 1990, p. 1). Many feel that the need for balancing the budget is tied to major problems in intercollegiate athletics, and there appears to be a relationship between money and improprieties in athletic departments (Bergmann, 1991, p. 28). For example, when money is used to pay for a higher than legal scholarship to get a top level athlete, the situation becomes one of ethics. Money may also be instrumental when a coach is fired for not drawing enough fans to games. Furthermore, when a university changes a transcript to allow an ineligible athlete to play, it may be related to the need to draw fans and revenue. Thelin and Wiseman (1990, p. 9) say tracing illegally used money in athletic programs is problematic. The impact of money on an athletic department is so diverse that it seems necessary to accept the fact that there are no exact answers to the problems it creates in intercollegiate athletics. However, looking for trends and relationships between selected variables has the potential of providing some information to

administrators that may help them stay out of trouble with their athletic programs.

Rosenbaum (1990) questioned the state of intercollegiate athletics: "Is there a solution for incurable intercollegiate scandals? So far, the answer seems to be no. Somebody always wants an edge. Some realists contend it is impossible to combine quality sports competition and quality learning--not enough time for both" (The NCAA News, 12/19/90, p. 4).

Rosenbaum alludes to a seemingly impossible situation, but there are many examples of programs succeeding in both the classroom and the game. In fact, the National Collegiate Athletic Association (NCAA) is now starting to address such problems. The NCAA has toughened academic eligibility requirements requiring an 18 ACT or a 700 SAT for freshman eligibility as well as a 2.0 GPA in core high school classes (NCAA Manual 1990, p. 108, 109; Lapchick, p. 15). It has also made funds available to finance full-time academic advisory positions at NCAA Division I schools (The NCAA News, 12/19/91, p. 1).

In some universities reforms are taking place which may give a balance to athletics and academics. Money, of course, plays a key role in leading these positive reforms. New NCAA rules are in place which help save costs on stationery, travel, recruiting visits, and scholarships (The NCAA News, 3/6/91, p. 18). Also, there is an attempt to bring about

parity among universities, allowing those with less funding to have a better chance of competing with wealthier universities.

Parity is not yet in place, and one person who realizes that is Donna Lupiano, former Women's Athletic Director at the University of Texas. Lupiano was very forward with her expectations of Texas coaches. She said, "If you're not in the Top 10, goodbye" (Wolff, 1991 p. 79). Lupiano feels her expectations were valid because of the great wealth at the University of Texas. She stated, "Your goals are reflected in your resources" (Wolff, 1991, p. 79). Although Lupiano's expectations may have been justified at the University of Texas, the question is whether other universities trying to compete with the University of Texas should have the same expectations of their coaches, or should the broader picture be looked at? Perhaps those with less resources should not expect as many wins?

At the NCAA Division III level, where athletic scholarships are not given, the view is much different than that shown by Lupiano. When Allegheny College won the Division III National Championship in football, its coach expressed a different view of winning than Lupiano. Allegheny coach Ken O'Keefe stated, "Success is not measured in terms of wins and losses. We are developing students, players, people" (Looney, 1990, p. 38). O'Keefe's viewpoint may be related to the fact that Allegheny College President Daniel Sullivan has taken a strong stance on sports at the NCAA Division I and II

levels. He said, "It is hard to teach integrity in the pursuit of knowledge, or how to live a life of purpose and service when an institution's own integrity is compromised in the unconstrained pursuit of victory on the playing fields" (Looney, 1990, p. 38). These very different views by administrators may reflect the overall attitude of Division I universities as compared to Division III. The only major difference in NCAA rules between the two divisions is that one can offer scholarships and the other cannot. Yet the viewpoint between the two, as expressed by Lupiano and Sullivan, is far different. This difference in viewpoints brings into focus the latent conflict between academics and athletics.

~~A~~ Currently, boosters seem to exert a lot of influence on the decisions that are made in relation to athletic programs. For example, when Mississippi State asked Head Football Coach Rocky Felker to resign after a five win/six loss season, the Mississippi State Faculty Council Head had this to say, "You have to understand that Coach Felker resigned because supporters promised that significant amounts of money would be withheld from the university if he didn't" (Reed, 1990, p. 35). After Felker resigned, Mississippi State hired Jackie Sherrill, a coach who was forced to leave Texas A&M due to NCAA rules violations. In fact, Texas A&M was found guilty of 25 NCAA violations and was put on probation for 2 years. On the other hand, Sherrill had a won-lost record of 102-37-2 at

the last two universities at which he coached. So Mississippi State chose a winner who was known to be willing to break rules to win in the past, and they did so under booster pressure (Reed, 1990, pp. 35, 36). These examples demonstrate the type of ethical dilemmas which universities are subjected to by their athletic programs.

Presidents, of course, do not always have the final say about what goes on at their universities. At Indiana University of Pennsylvania, women's gymnastics and field hockey were cut for financial reasons, but a federal district judge ordered that the sports be reinstated. At Colgate University, a court ordered them to add the sport of ice hockey for purposes of gender equity; Colgate is appealing that order (The NCAA News, 11/9/92, p. 22).

It is not only athletic boosters and courts which are involved in influencing university practices toward athletics; countless legislators play a role in the shaping of university policy. Their most important role is approving funding, and they have recently been approving less funding. In the last few years, state support of higher education has fallen one percent (The NCAA News, 11/2/92, p. 18). When the state provides less money to the university, the president often becomes the person leading the way on decisions to help balance the budget. This, of course, opens the door for conflict within the university, and often this conflict is between academics and the athletic program.

The Knight Newspaper Syndicate sponsored a commission to investigate college athletics and some of its problems. This commission was headed by former University of North Carolina President William C. Friday and former Notre Dame President Theodore M. Hesburg. The group conducted an 18-month investigation of intercollegiate athletics, and from their findings they advocated greater control by university presidents over athletics. However, some argued that this could lead to problems if the president does not take an interest in athletics. The Commission also felt that winning was over-emphasized and could be a factor in some of university athletic departments' problems (The NCAA News, 3/20/91, pp. 1, 3).

Frank Deford of Sports Illustrated indicated that university presidents have had control over athletics since the 1800s and have not had much success in controlling them (The NCAA News, 5/22/91, p. 4). His beliefs may not be those of the majority, but such statements indicate a kind of mistrust of having the academicians controlling athletics.

Since there are many groups and individuals inside and outside of universities who try to influence athletic decisions and who may have very little knowledge of the complexity of the relationships involved, there needs to be a rational method to evaluate athletic programs. A model which uses research methods to address athletic issues could be a means to bridge this gap. Information for this evaluation

could come in the form of selected funding variables analyzed relative to specific athletic department performances, such as academic achievement, NCAA rules compliance, attendance, winning, and coaching staff turnover.

Of course, there are cases where universities are forced to spend money on athletics against their will. This can be the situation in cases involving gender equity. Administrators do not have to make any decisions in this situation, as a judge may tell them what to do. This happened in the state of Washington in 1987 when the state's supreme court found Washington State University guilty of gender discrimination and ordered total equality among the schools sports (Whiteside, 9/28/92, p. 58). The court based this decision in part on the lack of funding for women's sports. So this case points out that the distribution of funds can vary greatly between programs at the same university, and the ability of outside influences to alter university policy.

As the NCAA Rule Book gets more and more explicit, even those involved as coaches at the intercollegiate level seem not to have a grasp of what is expected of them. There are so many ways to break the rules, ranging from not fielding the required size team as Tulsa University did in track to the coach actually making car payments for athletes on Lamar University's women's basketball team (The NCAA News, 11/9/92, p. 17; The NCAA News, 11/23/92, p. 13). Both are violations, but in one case the coach was ensuring mediocrity by having a

limited size team. In the other, the coach was using illegal incentives to help win. It is no wonder that the general public looks upon intercollegiate athletics with a certain degree of suspicion; it appears they have reason. For example, when coaches complain about the rules, they are reminded that the rules are made by the membership of the NCAA. Thus, the rules are basically made by coaches and administrators so the coaches are actually complaining about the rules they took part in making. This whole picture presents a very strange view to the public.

If the Knight Commission Report recommendation is going to be observed in regard to more tolerance of coaches not winning and more public funds being made available to support athletics in order to reduce rule violations, evidence is needed to support such a recommendation. The public needs data to make it clear why such recommendations should be carried out (The NCAA News, 3/20/91, p. 3). People need to understand that the purpose of intercollegiate athletics is more than just winning. There should be a way to reward programs that play by the rules even though their won/lost record may not reflect the quality of the program. Providing decision makers with findings that look beyond just winning and losing will add reason to the process of hiring and firing. It may also give the decision makers grounds to defend unpopular decisions when questioned.

At the present time, logical answers do not always play a role in the decisions made by university administrators. For example, Alexander Wolff points out that the only time men's and women's sports are treated equally is when it comes time for budget cuts. Then they each take an equal percentage; however, since women are already at a disadvantage, they stay far behind (Wolff, 9/28/92, p. 58).

Problem Statement

University athletics is under indictment from a number of sources today, but all these accusations have brought about little change. This may be because the problems are not viewed in an appropriate way. Administrators seem to focus in on a particular problem and make a rule in regard to that problem, but that just creates a new rule to be broken. A broader view of the interrelationship among selective variables in university athletics is needed so the problems can be examined and dealt with holistically. At the present time no one looks at how these variables relate to one another, so winning is the only standard for excellence.

Purpose Statement

* The purpose of this study is to examine the interaction between selected variables which affect and shape today's intercollegiate athletic programs. These findings could give those leading the charge for reform in intercollegiate

athletics, as well as administrators trying to evaluate programs, the information needed to make informed judgments. Looking at how a decision on one aspect of an athletic program interacts with another aspect could aid in making better decisions. This study's findings describe how the selected variables relate to each other and, based on the variables, place Big Sky Conference men's football and basketball teams into groups. These groups indicate the quality of a program, but do so based on more information than just wins.

Research Questions

Question 1: Can the Big Sky Conference football and basketball teams with academic success be statistically discriminated from the teams which haven't had academic success in the conference based on the variables NCAA rules violations, attendance, winning, coaching staff turnover, funding, and type of funding for the years July 1, 1987 to July 1, 1991?

Question 2: Can the Big Sky Conference football and basketball teams with the most NCAA rules violations be statistically discriminated from the teams in the conference which have not violated rules, based on the variables academic achievement, attendance, winning, coaching staff turnover, funding, and type of funding for the years July 1, 1987 to July 1, 1991?

Question 3: Can the Big Sky Conference football and basketball teams with the highest attendance be statistically discriminated from the teams in the conference with low attendance based on the variables academic success, NCAA rules violations, winning, coaching staff turnover, funding, and type of funding for the years July 1, 1987 to July 1, 1991?

Question 4: Can the Big Sky Conference football and basketball teams with the highest finishes in the conference won-lost standings be statistically discriminated from the teams in the conference which have finished low in the won-lost standings, based on the variables academic achievement, NCAA rules violations, attendance, coaching staff turnover, funding, and type funding for the years July 1, 1987 to July 1, 1991?

Question 5: Can the Big Sky Conference football and basketball teams with the highest coaching staff turnover be statistically discriminated from the teams in the conference which have had low turnover rates, based on the variables academic achievement, NCAA rules violations, attendance, winning, funding, and type of funding for the years July 1, 1987 to July 1, 1991?

Question 6: Can the Big Sky Conference football and basketball teams with the highest level of funding be statistically discriminated from the teams in the conference with low funding based on the variables academic achievement, NCAA rules violations, attendance, winning, coaching staff

turnover, and type of funding for the years July 1, 1987 to July 1, 1991?

Question 7: Can the Big Sky Conference football and basketball teams with the highest level of unearned funding be statistically discriminated from the conference teams with a low level of unearned funding, based on the variables academic achievement, NCAA rules violations, attendance, winning, coaching staff turnover, and funding for the years July 1, 1987 to July 1, 1991?

Delimitations

Information on the Big Sky Conference universities athletic budgets for fiscal years July 1, 1987 to July 1, 1991 is the financial data used for this study. The Big Sky Conference had nine teams during this period (Big Sky Conference Indoor Track Media Guides, 1991, p. 2). The Big Sky Conference athletic programs used in this study were only those which appear as separate items in the audits used for this study. Those sports were men's basketball and football. All other athletic programs are combined into one category for the audit. Thus, an unbiased means to determine their expenditures was not available for those other athletic programs. So this study was delimited to Big Sky Conference Men's Football and Basketball teams, and only inter-conference games were used for the athletic success data.

The variables of academic achievement, NCAA rules violations, attendance, teams' athletic success, coaching staff turnover, funding, and type of funding are the selected variables for this study. Their use was the subject of a pilot study using Big Sky Conference Coaches and Administrators. Only after their input were the variables delimited to these seven.

Limitations

Because this is viewed as sensitive information and hard to obtain, it was necessary to focus on a small group of universities and attempt to get complete data on that group. Thus, this study was delimited to Big Sky Conference universities. Since 1985, these universities have been required to conduct an athletic department audit. This audit serves as the source of financial data for this study (NCAA Manual, 1991, p. 40). The audit was conducted by an outside agency and turned over to the university president for review (NCAA Manual, p. 40). Cooperation from the President's office at universities in this study was critical to the study's success. The accuracy of this study was also dependent upon the honesty of the Athletic Department Audits, which were done for each department by firms outside the university. It was also dependent upon the self-reporting of NCAA rule infractions to the Big Sky Conference Office, proper attendance figure reporting, accurate reporting of student

academic success, and accuracy in the Big Sky Conference reporting of staff members at Big Sky institutions.

Definitions

Athlete's academic success -- Those athletes receiving over a 3.0 GPA. Data in regard to graduation rates on athletes is not completely available for this study.

National Collegiate Athletic Association (NCAA) rule violations -- Any reported NCAA rule infractions that occurred during the period of this study, including those cases of athletes testing positive for steroid use.

Attendance-- The recorded number of people attending an athletic event.

Teams' athletic success -- For football and basketball, the success level will be determined by the inter-conference won-lost records. Only conference games will be considered due to the variation in difficulty in non-conference schedules among Big Sky universities.

Coaching staff turnover -- Full-time coaches who leave a staff for any reason.

Amount of funding -- The total dollar amount of money available to a sport.

Type of Funding - The ratio of state funding or required student fee funds to private funding within an athletic department.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The variables of academic achievement, NCAA rules violations, attendance, winning, coaching staff turnover, funding, and type of funding all play a part in describing the athletic programs in the Big Sky Conference. Although no study appears to have ever been conducted using all these different variables to discriminate between programs and describe the relationships between these variables and how they interrelate to one another, there is a body of knowledge on each of these variables. Each variable has, or can have a tie to the other variable, but the one thing each program has to have is money to operate on. So intercollegiate athletic expenditures is where much of the research today is centered, and the person leading the field in this is Mitchell Raiborn.

Raiborn has been studying the finance of intercollegiate athletics since 1969. His studies on revenue and expense in intercollegiate athletics have been of great value to those wishing to understand athletic finances. Raiborn uses anonymous questionnaires to gather his data. The universities are separated into their respective divisions, but this is the

only way they are identified. His work has been used as a basis for many studies, and many people have attempted to obtain a clearer picture of intercollegiate finances based on his work. Exact answers as to why intercollegiate athletics is continually facing financial problems are very few, and as for the other problems in intercollegiate athletics, there are even fewer definitive answers. Raiborn does remain optimistic about intercollegiate athletics even though he understands their problems very well. He says, "The value of intercollegiate athletics to the direct participants and society at large is worth the monetary support" (Benson, pp. 1, 2).

Raiborn is not looking to completely change intercollegiate athletics. Oddly enough, though, Raiborn's data does serve as a basis for arguments against intercollegiate athletics. This can be seen where Donald Chu used Raiborn's data to demonstrate that men's athletic program expenditures rose at more than twice the rate women's programs did in universities which play the NCAA's highest level of football (Chu, p. 104). Chu is not the only person taking a hard look at Raiborn's data. More and more college presidents are trying to get a picture of what is going on in intercollegiate athletics. Some presidents have already come to conclusions about athletics. Richard Warch, President of Lawrence University, has declared, "Despite the pious half-time pronouncements we see on televised football and

basketball games, in which the future of humankind is tied to the universities with big-time athletics programs, these very programs contradict the fundamental aims of American higher education" (Sperber, p. 19). Other presidents, such as Joe DiBiaggio of Michigan State, feel that dramatic changes are needed, but there is no need to "destroy the game to save it" (DiBiaggio, p. 21). Some feel the faculty need to play a greater role in changing intercollegiate athletics. Today, however, the faculty representative to the athletic department is usually looked on as a pawn (Atwell, p. 10). So, perhaps the presidents are in the best position to bring about improvements in intercollegiate athletics, yet they, too, seem to have differing outlooks on athletics.

DiBiaggio advocates long-term contracts for coaches in order to relieve some of the pressures to win at all costs (DiBiaggio, p. 22). This is in accord with the Knight Commission's desire for mostly public financing of intercollegiate sports to relieve pressures from those outside of universities who give money (The NCAA News, p. 3). These suggestions touch on the fact that money plays a role in creating both positive change, and in causing some of the problems. So money can be used to help a coach feel secure by providing a long-term contract, but it can also be used by outside sources to gain influence in an athletic department.

This good-bad relationship with money hasn't been clearly correlated to outcomes. In fact, Bailey and Littleton

compared the tremendous increase in dollars which some teams spent that participate in the NCAA Division I Basketball Tournament to the number of rules violations in basketball and found no large increase in rules violations related to expenditures (Bailey & Littleton, p. 39). Bailey and Littleton concluded that gate and television financial returns are only part of the cause for problems with rule violations. They pointed to Division III level athletic programs showing dramatic increases in rule violations, and they have very little income from sports. However, these smaller universities need sports success in order to attract nonathlete students to the school (Bailey & Littleton, p. 40).

Just what causes the many problems in intercollegiate athletics isn't clear, yet people do throw out reform suggestions. One of the most popular is to simply pay athletes (Noll, p. 206; Lawrence, p. 144). This idea is far from anything the Knight Commission suggested, but it fits with the NCAA's idea to use money to solve problems. For example, when the NCAA gives \$25,000 to the athletic department at every NCAA Division I institution for academic enhancement the money will be appreciated, but it will quickly be spent (The NCAA News, 12/19/90, pp. 1, 3). Thelin and Wiseman, based in part on Raiborn's data, concluded that intercollegiate athletic departments are unable to support themselves. This seems to be the case despite arrangements like the one billion dollar television package received in

1989 by the NCAA (Thelin & Wiseman, p. 2). Incidentally, the academic enhancement money is coming from this television package. Should the next bidder not pay as much for the contract, these funds could be gone.

What makes athletic expenditures so hard to contain? To some degree it is the rising cost of all facets of education. Public intercollegiate athletic departments generally use more fee waivers than the state allots them, so they must pay for those. In addition, inflation has caused room and board costs to rise, and travel costs have also increased. Travel costs are felt in two parts of the budget: team travel and recruiting. In hard times, scholarships are looked at as one of the primary areas where costs can be cut, and this was done at the 1991 NCAA Convention. A 10% reduction in athletic scholarships for NCAA Division I institutions was approved that year (The NCAA News, 3/6/91, p. 18), so the scholarships fell from 95 full scholarships for football to 86.5. The National Football League has a squad limit size of 48 players. When comparisons like this are made, the argument for scholarships is made on the basis that recruiting 17 and 18 year old high school students is not an exact science, so there needs to be room to bring in extra candidates, assuming some won't be able to meet either the academic or the athletic expectations (Thelin & Wiseman, p. 7).

The Big Sky Conference competes at the NCAA Division I AA level for football, so their scholarship level is now 63 (The

NCAA News, p. 18). All other Big Sky Conference athletic teams compete at the highest level of NCAA competition. This IA status for Big Sky Conference universities is often viewed as an option for cost cutting, for lower NCAA levels require that the university provide fewer scholarships and employ fewer staff (NCAA Manual, pp. 150-153). At the present time the Big Sky Conference has the minimum number of sports allowed by the NCAA to stay at Division I status. This number went from twelve to fourteen men's and women's sports in the 1993-1994 school year (The NCAA News, 1/16/91, p. 13). There is also an option to have six men's athletic teams and eight women's athletic teams in order for Division I universities to address gender equity (The NCAA News, 1/20/93, p. 14). NCAA Division II requires only eight sports be offered (NCAA Manual, p. 8). Thus, many people look toward dropping to a lower level of NCAA competition as a means to solve financial problems.

Philosophy comes into play when the question of eliminating athletic programs is discussed. Some may ask, if athletics does have a place in education, then why should a non-revenue sport be cut? Non-revenue athletic programs serve an educational function as much as the revenue programs. Questions like these are not answered in the NCAA purpose statement, or in the Big Sky Conference Handbook. The closest the NCAA purpose statement comes is to say that it wishes to have standards whereby programs can maintain high quality

(NCAA Manual, p. 1; Big Sky Handbook, p. 1). The NCAA does show a desire for universities to provide more athletic opportunities to students by providing incentives to universities to have more than the minimum number of athletic teams. Once again, they use money to encourage universities to have more athletic teams by giving financial subsidies. The greater the number of athletic teams a university provides, the greater the subsidy (The NCAA News, 12/19/91). The Big Sky Conference has not followed this idea to any degree having dropped wrestling in 1987 as a cost saving move, but has recently added women's golf as the seventh required athletic team. Golf has a much lower number of participants than wrestling, and has a maximum scholarship limit of five, as opposed to eleven in wrestling (NCAA Manual, p. 153). So the Big Sky Conference may not be quite as interested in providing the maximum number of students an opportunity to participate, but this Conference's regional economic base is far different than that found in most metropolitan areas. It seems that the NCAA, by providing subsidies, is tempting universities to add teams, but the more wealthy universities which already have the extra athletic teams may well be the big winners.

When talking about intercollegiate athletics as a part of higher education, people tend to think of major programs where athletic teams are bringing in considerable revenue to the university, perhaps even helping to build buildings. In fact,

only one percent of the NCAA financial goal for athletics is to earn dollars for non-athletic activities (Bergmann, p. 29). Raiborn's survey of 1981-1985 athletic department finances (Raiborn, p. 50) showed financial losses at 42% of the universities surveyed. The National Association of College and University Business Officers studied NCAA Division I universities' finances for the year 1989 and found 70% of the athletic programs were losing money. Less than 100 schools were actually showing a profit (The NCAA News, 12/22/93, p. 15).

This points out the irony of intercollegiate athletics. People think that there is a great deal of money available, yet the reality is much different. One group which has been making money steadily for ten years is the NCAA. It has shown revenue surpluses ranging from as low as \$200,000 to as high as \$13,000,000. The NCAA's total assets as of August 1990 were \$4,878,322 (The NCAA News, 1/2/91). Unfortunately, the NCAA's members are not doing quite as good a job at managing their money. This is not a new phenomenon to universities, although the fiscal problems seem to be getting worse with time. The average deficit for universities at the Division I level of NCAA competition in 1981 was \$120,000 (Begly, p. 293). Today, universities that sell out every football game still are running huge deficits. Michigan is the prime example. They showed a \$3.6 million deficit in their athletic department for 1988 (Sanoff & Schrof, p. 52).

Big Sky Conference universities, to no one's surprise, are also running up deficits. Montana State University Men's Athletic Department for fiscal year 1990-1991 was \$340,000 in debt (Chaney, p. 3). The debt was covered by the rest of the university. Yet, just the fact that it occurs at all causes questions and criticism. People perhaps do not understand how unpredictable the business climate is for athletics. In Bozeman, even a winning football or basketball team's ability to draw attendance can be hurt by poor weather. The risk of injury to a star athlete can also damage attendance. If the goal is to keep a positive public image and create opportunities for student athletes, then Montana State University may be on track. Of course, those who lose funding dollars to cover athletic departments' debts may not agree.

Because many variables go into what makes an athletic program successful, success could be viewed as a relative term. If making money is the goal, then there are not many universities succeeding. If winning without breaking NCAA rules and using steroids is success, then the list may also be small. These variables and more help form the picture in intercollegiate athletics today. Winning appears to still be the only bottom line. Coaches usually must provide won-lost records to help judge their self worth as no one is quantifying the other variables. Digger Phelps was pressured out as basketball coach at Notre Dame in 1991, yet he had graduated every athlete to go through his program (Taylor,

p. 48). Obviously, graduation rates were not looked on as the biggest factor in coaching basketball at Notre Dame. Phelps' case points to the need for emphasis on other aspects besides winning.

Not always are the examples as clear cut as in Phelps' case. For example, some universities consistently ask coaches to win, but never provide the funds to compete at the level they are asked to. So coaches get frustrated and leave, or don't win and are forced to leave. It can be a vicious circle. The issue is further complicated when coaches are forced out by rule violations or by boosters who are unhappy for reasons such as boring styles of play, unusual coaching methods, or personality conflicts. Disillusion with the issues and the politics which go along with intercollegiate athletics has caused people to vent frustration about the situation. University of Delaware Athletic Director David Nelson said, "The institutions of higher education of the country have been responsible for major discoveries in every discipline but have yet to solve satisfactorily governance problems of intercollegiate athletics" (Hart-Nibbrig & Cottingham, pp. 81, 82).

To further confuse the issue of winning and finances, alumni donations have not been shown to have a relationship with successful athletic teams (Sigelman & Carter, p. 219). Yet we have been given the impression that at Mississippi State athletic success plays a big role in alumni generosity

(Reed, p. 35). Intercollegiate athletics' justification for its financing seems to carry with it some very odd relationships. Perhaps this is because people sometimes contribute money for reasons they themselves do not understand. The unsubstantiated story about Florida State football coach Bobby Bowden's annual fund raising visit provides some feel for the status of finance in intercollegiate athletics. Bowden was in a room full of boosters and an almost evangelical atmosphere was being created as he called upon one person after another to shout out how much they were going to give to Florida State University. One man jumped up and shouted \$100,000. After a few months the money never came from the man and Florida State University took him to court to get the money. The next year Bowden is back in the same room, the same man jumps up and promises to give \$100,000, plus throw in the court costs (Fullerton).

If college athletics did not deal with young people, and if public money was not at stake, perhaps all of the problems could be laughed off. But the truth of the matter is, investigation is needed to determine the relationship between athletic finance and what we consider success in athletics. It is the thesis of this research that this is the first step toward making strides for both academic and athletic excellence in an atmosphere free from corruption and cheating.

Academic Achievement

The academic achievement of the student athlete is a highly controversial issue in the literature. There has not really been a definitive study as to whether athletic participation helps or hurts academics. Studies have shown athletes to be equal to the student population in some cases and worse in others (Messner & Groisser, p. 260). There have been studies about athletes' personality traits which have shown them to have more desirable traits and greater peer status than others (Underwood, p. 14). Yet some statistics cannot be overlooked, such as a study conducted on the graduation rates of those who become professional athletes after matriculating at various universities across the United States. This study found two of the top football programs in the country graduated only 17 out of 56 athletes they sent to the NFL between 1976 and 1980. The two universities were Alabama and Oklahoma. On the other hand, Penn State graduated 37 out of 41, and Michigan graduated 17 out of 20 (Underwood, p. 32). So there seems to be a great deal of variation around the country in athlete graduation rates, even among successful programs. But to draw conclusions from this information would be premature and there is a need for further study.

The issue of academic achievement is also clouded by the fact that some universities find ways to help inadequate students get by in school, thus graduating students who have learned almost nothing. Many intercollegiate programs have

been challenged by the NCAA for academic abuses: Oregon, Arizona State, and Southern California were all caught during the 1979-1980 school year for giving credit to students for classes in which they did not do the work (Underwood, p. XI). It is no surprise that students would be willing to risk suspension from school for this, since rules are broken just to get students into school in some cases. An example of this is transcript forgery, for which Oregon, New Mexico, and UCLA have been caught (Underwood, PP. XI, 83). There have even been accusations of people taking the ACT for athletes to help get them into school. This charge was brought against Kentucky when an incoming freshman basketball player suddenly scored a 23 on his ACT. The athlete's previous two attempts on the test had produced scores of three and seven. He had also failed to meet the required score of 700 on the SAT in two attempts (Wolff and Ketyian, p. 167). All of the wrongdoing and questionable activities make it hard to believe even the good statistics on academic success.

Questions about the mix of athletics and academics are not new. In 1929 the Carnegie Commission reported that inferior students were given preferential treatment if they were athletes (Guttman, p. 72). This did not get much attention because there was a bigger problem going on. At that time subsidizing athletes to attend a university was illegal under NCAA rules, but 81 of the 112 institutions reviewed in the study were subsidizing athletes (Lawrence,

p. 26). The problem of how much aid, if any, a student athlete should receive and what sort of recruiting practices should be allowed were the predominant issues dealt with by the NCAA up until 1957. That year the NCAA Council voted the full ride scholarship into place, and clearer recruiting rules were instituted (Lawrence, p. 60).

The Big Sky Conference has attempted to keep a slightly higher academic focus than that of the NCAA as a whole, such as setting grade point requirements for athletes which are higher than those the NCAA requires (Big Sky Handbook, p. 17). This can be somewhat deceiving to the outside observer, as universities vary in grading standards. Is a 2.0 GPA at Weber State the same as a 2.0 GPA at Stanford?

Measuring academic achievement in the form of graduation rates for basketball players at Big Sky Conference universities as well as at others was the subject of a USA Today study in 1991. Some interesting information came out of the study, as Big Sky women's perennial champion Montana had only graduated three of 18 players from 1980-1985 (Brown, USA Today, 6/21/91 p. 2C). The data was discredited in a press release two days after the USA Today article. The release pointed out that some of the girls had received their degrees from other universities, and that 14 of the 18 had now received their degrees (Chaney, The Bozeman Daily Chronicle, 6/23/91 p. 13). Of course, the fact still remains that all of

the universities in the survey faced the same problems, and University of Montana came out near the bottom.

Women athletes have enjoyed greater academic success than their male counterparts. In a survey of 257 Division I female basketball teams, a graduation rate of 60% was found. This compares with 48% graduation rates for the entire student body, and 46% graduation rates for male basketball players (Becker, USA Today, 6/20/91 p. 1C). Unfortunately, female athlete graduation rates are on the decline. Women's teams seem to be moving toward the men's graduation rates. The question is whether this is occurring because women's basketball is becoming more popular. The increased attention to women's basketball may bring with it more pressure to win and less emphasis on academics. Graduation rates for women's basketball players in the Big Eight, the Big Ten and the Southeast Conferences all have shown a decline between 1986 and 1990. The decline averages 14% across these conferences. Nine teams from these conferences were in the top 25 womens' programs in the United States for 1991. So it would seem that winning and academic success do not go hand in hand, as these top conference statistics seem to bear out (Coomes, USA Today, 6/20/91 p. 8C).

The USA Today findings on basketball seem to state the obvious: that winning in athletics and academics do not mix well. For years statements have been made by athletes which hint at this. Yet, if one were to say that athletes were

wasting university dollars and not helping themselves, there would be room for argument. One leading argument would be the fact that many of these athletes would not get any education if it were not for college athletics. Clifford Adelman of the U.S. Department of Education found, in surveying high school varsity athletes who went to college, that they had the highest rate of home ownership and the lowest rate of unemployment for any group in the study (Adelman, p. 17). However, if one looks at athletes in general, serious academic shortcomings can be found in athletes. Texas Ranger pitching coach Tom House feels that on the Rangers' 25-man roster only 10 athletes can balance their checking accounts. House, who has a doctorate in psychology, believes athletes learn sport specific skills, which help them very little off the playing field (Washington Post, 6/20/91 p. C3).

Another argument against the idea that university dollars are wasted on student athletes is that athletes are being used by universities to publicize their programs and gain low cost publicity. So the cost of education is very minor compared to what some athletes bring to a school. As the athlete is drawing in people to games, bringing in television money and licensing fees for the University, he/she is only getting a scholarship. From this perspective an athletic scholarship is viewed as a way to keep labor costs down and not as a means to get educated (Wolff and Ketyian, p. 152). Thus the scholarship dollars are not being wasted in the views of some.

In addition, the USA Today statistic indicating that male basketball players are very close to the student population in graduation rates and female basketball players are ahead of the student population serves to further demonstrate that the scholarships are not being wasted on athletes that have no intention of completing a degree.

Adelman also found athletes, to a greater degree than other students, to be taking classes some would consider easy (Adelman, p. vi). He had six categories for classifying students: varsity athletes in football and basketball, varsity athletes in other sports, students in performing arts, students in intramurals, nonathletes, and everybody else. What he found was that athletes in football and basketball took physical education activity classes and normal physical education classes at a rate of 6.4%. This compared with 4.4% for athletes on other athletic teams, 0% for non-athletes, and 2.5% for everyone else. Athletes also were able to receive credit for varsity athletics, which accounted for another 1.4% of football and basketball players' credits and 1% of the other athletes' (Adelman, p. 32). What do these figures mean? They would seem to add data to the argument that athletes should be making it academically; they take easier classes and get more help to pass those classes.

Adelman was able to come up with meaningful information in order to help paint a clearer picture of what is going on with athletes. Yet he really was more interested in what

happens with those athletes after they leave school. Because it is difficult to compare universities and classes, Adelman was most interested in whether they fulfilled the promises about higher education made when the athletes were recruited. Adelman felt that federal legislation was needed to force universities into letting student athletes know what sort of opportunity they had at succeeding academically at a university given the demands of being an athlete. Adelman felt this could be done by forcing universities to disclose records so that students -- particularly student athletes -- would know what their chances of graduation were (Adelman, p. 21). The bill is called the Student Right to Know Act, and it was passed into law in 1990. This law has forced the NCAA to get started on forcing programs to keep track of graduation rates (USA Today, 6/17/91 p. 2A).

Data on graduation rates will help student athletes in their college decision-making by helping them understand their chances of graduating at a particular university. This information could cause a dilemma for athletes if they have to choose between academics and athletics. Of course much depends on whether the student really cares about graduating. If parents and students do start to care, all the attention being focused on athletics and academics may force every university to reevaluate its activities and pay more attention to graduation rates, particularly if the universities with successful basketball teams start drawing attention to their

positive records in both wins and graduation rates. In the end there should be an overall improvement in graduation rates among athletes.

The Big Sky Conference has tried to emphasize academics with the Conference All-Academic Team for each sport, plus a Big Sky Scholar Athlete named for each school's top male and female scholar athlete. Some universities have had much more success in the area of producing members of the Conference All-Academic Team. For example, in football Montana State University has had 23% of the Football All-Academic members from 1978-1989, compared to the next best team Eastern Washington's 13% (Fenk, MSU 1990 Football Media Guide, p. 75). It is interesting to note that Montana State University's record of winning during this period has been 30% (Fenk, MSU 1990 Football Media Guide, p. 68). Montana State University's all-time won-lost percentage is .493% (Fenk, p. 70). So these figures seem to help substantiate the old belief that academics and athletics do not go well together.

NCAA Rule Violations

Many feel the NCAA has too many rules, and it in fact makes it impossible not to break some, just by accident. When a rule is broken the university itself is required to report it. Since the NCAA is a self-governing body, which means that the universities themselves are the NCAA, and they are expected to police themselves. Once in awhile accusations come forth from other NCAA universities or through the media

which cause the NCAA to investigate rather than to wait for a school to self report. These investigations do not have to follow the normal legal process in most states. The NCAA's justification for this is the fact that it is an organization of which the school being investigated chooses to be a part. The school is choosing to follow the rules by being in the organization (NCAA Manual, pp. 3, 4). States which have laws requiring the NCAA to follow due process when investigating are Nebraska, Florida and Nevada (Demak, p. 9).

One of the reasons the NCAA has been the focus of federal and state legislation is the fact that many people feel it is unable to control its members. In fact, a Harris Poll survey in 1989 revealed that eight out of ten people feel college sports are out of control (Brown, USA Today, 6/21/91 p. 2C). There are many unsubstantiated examples of how out of control, but Wolff and Ketyian believe most major investigations into wrongdoing produce only small changes. For example, Nevada-Las Vegas had major accusations against its basketball program but, after the investigation, the only evidence of wrongdoing was the coach's wife buying team members' graduation caps and gowns (Wolff & Ketyian, p. 289). This obviously is not what the NCAA was looking for, but it was all they could find.

One measure taken by the NCAA to help get a better picture of what is going on among members is Operation Intercept. This program interviews 50-100 top high school athletes about how they were recruited. Although the athletes

might not mention the wrongdoing of the universities they had decided to attend, they might mention the wrongdoing of other universities (Underwood, p. 79). This program, along with another called the Big Brothers Program, provides a view for the NCAA of what is really taking place in recruitment. With the Big Brothers Program, 10-15 top recruits are identified and given briefings on recruiting rules. Then they are encouraged to stay in touch with the NCAA and report any questionable recruiting activities (Underwood, p. 79).

Prevention measures have not solved the rules violations yet, but the NCAA seems to be taking action to cause programs to lose revenue when rules are broken. Usually the right to appear in postseason tournaments or games is taken away, which causes universities to suffer financially. At other times the right to appear on television is revoked, or scholarships allowed to a university are reduced (Underwood, pp. 82, 83). Then there is the option for the NCAA to terminate the employment of coaches who violate rules (Lawrence, p. 137). The NCAA seldom follows through because the university dismisses the coach before the NCAA can follow through. One case in point is Texas-El Paso's firing of two assistant basketball coaches for possible rule violations. The NCAA levied 13 charges of wrongdoing against Texas-El Paso (USA Today, 7/2/91 p. 11C). By letting the coaches go, El Paso may have hoped the NCAA would decide the school's actions were enough and that there was no need for further penalties.

Sometimes people choose to fight termination of their jobs. Jerry Tarkanian (basketball coach of Nevada-Las Vegas) successfully fought his two-year suspension from coaching. In 1977 he was able to get a restraining order preventing his suspension. The case was to be finally settled in 1984, when the Nevada Supreme Court made the injunction stand until March 26, 1990. But Tarkanian was still in coaching, so the NCAA again moved against him (The NCAA News, 2/3/90 pp. 10, 11). He agreed to step down after the 1991-1992 season, so the NCAA was able to succeed after 15 years (Wulf, p. 21).

The Big Sky Conference has been free of major rules violation cases for many years. The most widely known case of accusations of wrongdoing in the Big Sky came in 1973, and it was known as the University of Montana work study scandal. This case involved accusations of work study money being paid to athletes for work never done. No penalties ever resulted from this case, as the parties were brought to trial by the federal government but were never convicted (Charles Johnson, p. 4). Another violation caused Montana to forfeit part of a basketball season's wins in 1977. This was the result of an ineligible player being used (Jeff Herman, p. 15).

Nationally and at the Big Sky Conference level the use of steroids is one very widely talked about rule violation. Testing for steroid use has been conducted by the NCAA for six years. The testing period had only been in the Fall, but in 1990 the program was expanded to be conducted throughout the

school year (The NCAA News, 5/22/91, p. 3). When comparing only Fall figures, the percentage of people caught using steroids has declined. In 1987 1.3% of the students tested were caught; in 1988 it was .8%; in 1989 it was .7%; and in 1990 the total students caught amounted to .4% (The NCAA News, 5/22/91, p. 3). This decline in numbers is a sign that when the NCAA decides to work on solving a problem it can be effective. However the number of students caught is a far lower percent than what studies indicate the rate of athlete steroid use to be. A 1989 study by the NCAA asked male and female college athletes about their steroid use within the past year. This study showed males have a 14.7% rate of use and females a 5.9% rate. These numbers are considered to be on the low end according to other researchers (The NCAA News, 12/19/90, p. 10).

Steroids tend to be a forgotten part of the unfair activities that go on in collegiate athletics. The same desire to be a winner, which is involved in other violations, is part of steroid use; however, unlike other forms of cheating there is a greater price to pay for steroid use. Athletes can lose their health through steroid use (The NCAA News, 12/19/90 p. 4). When an athlete or coach falsifies a transcript, accepts or pays money illegally, cheats on a standardized test, shaves points for money, accepts use of cars or plane tickets illegally, gets credit for classes never attended, or any other rule violation, the most they stand to

lose is not being able to participate. With steroid use the price can be much greater due to possible long-term health problems.

The relationship between NCAA rule violations and winning is not clearly defined. This is the case because universities are not always caught when rules are broken. In most cases rule violations are uncovered several years after they occur (The NCAA News, 12/3/90 p. 10). Nevada-Las Vegas is one program which was punished while they were still near the top. UNLV won the 1990 NCAA basketball championship but was banned from live television for the 1991-1992 school year, and was not allowed in the NCAA 1991-1992 basketball tournament (The NCAA News, 12/3/90, p. 11). In 1989, Kentucky's basketball program went through similar problems with the NCAA but received no sanctions. This was the case because two of the players involved in the violations left Kentucky and the coaching staff left (Wolff & Ketyian, pp. 178, 179). Thus, the team was dismantled enough that it would take time for the program to reach its former status. Although winning and rule violations do not have a clear relationship, the NCAA definitely tries to make it more difficult for those caught breaking the rules to win. So the NCAA sends universities such as UNLV and Kentucky back to the drawing board; yet so often those who actually committed the wrongdoing are not hurt. In Kentucky's case, one of the players involved in the wrongdoing went on to become an All-American player at

Arizona, and the Kentucky head coach went on to Oklahoma State to be head coach (Wolff & Ketyian, p. 302).

Quite often winning programs do end up with rule violations after they have a very successful season. Just as UNLV received sanctions after winning the 1990 NCAA Division I Basketball Title, so did Kansas after its 1987 title (NCAA Enforcement Summary, p. 30). In football, Clemson's program was put on probation after its 1981 National College Football Title (NCAA Enforcement Summary, p. 20). Miami received sanctions against its football program after winning the 1980 Football Title, and Georgia received sanctions after its 1984 Title (NCAA Enforcement Summary, pp. 20, 22). These championship programs receive more scrutiny after a title but, of course, not every program that wins a title gets caught for violating the rules. Some do not break the rules and are still successful; it is perhaps these programs which need to be looked at. Perhaps all NCAA athletic departments could learn from them how to run a successful program without cheating.

Georgetown is one successful basketball program which does not appear in the NCAA Enforcement Summary. The university is still recruiting top level athletes and apparently is doing so legally. On the other hand, powerhouse college programs fill up the NCAA Enforcement Summary. The most cases against any one school is seven; there are two universities with seven: Southern Methodist and Wichita

State. Arizona State has six cases, and 11 universities have five cases. Included in this group are Arizona, Florida State, Illinois, Kansas, Kentucky, North Carolina State, Oklahoma, and Texas A&M (NCAA Enforcement Summary, p. 39). When coaches look at the large number of universities which have broken the rules and realize they have to compete with these teams, a feeling of hopelessness could ensue. Thus, the temptation to also break the rules is fostered. One begins to feel that breaking the rules is the only way to be competitive (Wolff & Ketyian, pp. 150, 151, 297). Greater awareness of the universities that do not break the rules is an underlying reason that loss of television appearances is frequently part of the sanctions against universities. But the universities that win are the ones which get on television, and a coach may break the rules for years in order to win and gain exposure. Then, if the coach is caught their team might be banned from television for a couple of years. Apparently some believe the risk is worthwhile, as the NCAA Enforcement Summary has many cases of television restrictions placed on universities for violations (NCAA Enforcement Summary, pp. 4-38).

Attendance

High attendance figures for athletic events is an important factor to athletic departments. It serves as a revenue source, but it also shows potential athletes how the program is supported by the campus and surrounding community. Most universities look to basketball and football as the

primary revenue generating programs because of their viability as an entertainment industry. These athletic programs exist in a highly unpredictable atmosphere. In fact, the unpredictability of athletics is one factor which makes it entertaining (Snyder & Spreltzer, p. 16). Yet this unpredictability makes athletics a hard business to guarantee attendance and revenues. One factor which does tie into attendance is winning. Football attendance has been shown to have a .40 relationship to winning games (Koch, p. 120). This tie between attendance, winning, and revenue cannot be overlooked, because college athletics is a business to one degree or another (Sperber, p. 345).

For purposes of budgeting, many athletic departments use unusually high estimates for the coming year's attendance. This allows them to receive access to funds which otherwise would be kept from them (Sperber, p. 31). So optimistic attendance figures are projected, and funds are spent according to these projected incomes. Sperber likens college athletics finance to a lottery, and college athletic directors to addicted gamblers (Sperber, p. 15). Those comparisons may not be that unreasonable when looking at the issue of college athletic attendance. Counting on a 18-22 year old to stay academically eligible and healthy so that they can play is somewhat risky (Koch, p. 119). And weather can greatly affect attendance at events. For example, Montana State had a dramatic drop in attendance when a storm moved in for its 1989

home football game with Weber State. Attendance was 3,107, whereas the home average up to that point had been 9,707 (Fenk, p. 42).

Nationally, college football attendance has stopped increasing in recent years. It even declined in 1989, dropping 900,000 people in one year (Sperber, p. 30). Basketball has had a slow growth in attendance but has at least been on the increase (Sperber, p. 37). According to Sperber, television has played a role in the football attendance decline. As intercollegiate athletics are overexposed to the public (Sperber, p. 37), the result of all the football on television has been a decrease in the contract values for televising football.

In the Big Sky Conference, event attendance is closely related to winning. Nevada and Boise State, two of the most consistent winners in the conference, also lead the league in football attendance. Not surprisingly, they are also larger than average metropolitan areas by Big Sky Conference standards. Boise State has the highest winning percentage against Big Sky universities, with a .682% win rate. Reno was second with a .663% rate (Fink, p. 70). They have the two largest stadiums: Boise state with 22,600 seats; and Reno with 20,000 seats (Fink, pp. 51-56). Boise State averaged 20,000 people per game for attendance in 1990; Reno averaged 16,566. The Conference average was 10,357 (Big Sky Conference Football Media Guide, pp. 6, 9, 12, 15, 18, 21, 24, 27, 30). There are

many factors in attendance besides community size, weather and winning. Attendance can be affected by whether any area athletes are on the team, the athletic department's relationship with and perception in the campus and community, the style of play by a team, promotional ability of the athletic department, whether a team has a star to promote, and competition in the entertainment market (Bale, pp. 25, 26).

Winning

To separate winning from other variables is difficult since competition is at the center of college athletics. Finding ways to win within the rules should be at the heart of intercollegiate athletics. But does the pressure to win override ethics? The general premise is that winning draws in money from attendance, television revenue, tournament bonuses, and concessions. Then the money helps keep the team winning and boosts community spirit (Bale, pp. 25, 26). This premise seems to drive most university athletic programs. The opposite situation appears to reinforce the need to win at all costs. In this case revenue is down because attendance is down, along with the other factors. This is demonstrated in the Southwest Conference where, in football, Texas draws 65,000 fans a game, Texas A&M, Baylor and Texas Tech around 35,000, while Houston, Rice, SMU and TCU are more than 10,000 people per game behind the others (Curtis, p. 5). Houston is the only school of the last four teams which is able to win consistently. The others seem to be stuck in a losing cycle.

At the end of the regular season in 1990, the four poor attendance teams' combined record was 20 wins and 23 losses, while the other four teams had 27 wins, 15 losses and two ties (Missouliau, 11/26/90 p. D-5).

Winning in the Big Sky Conference carries with it similar benefits to those enjoyed by universities nationally. Comparisons of athletic programs in the Big Sky is easier than national comparison, due to the fact that the Conference has only six men's sports and six women's sports in which championships are contested (Big Sky Conference Handbook, p. 14). The NCAA conducts 31 championships at the Division I level when men's and women's championships are combined (NCAA Manual, p. 178), so most universities do not participate in all the sports offered. Thus it is difficult to compare athletic departments on a national basis. The Big Sky Conference gives an All-Sports trophy for the top men's and women's programs, as well as a combined award. For the 1990-1991 school year Nevada won the men's award, and Weber State won the women's, as well as the combined award (Big Sky Conference Release, p. 3). While this type of measure of success helps provide an overall picture for an entire department's athletic success; obviously it is not the only measure looked at.

The emphasis on winning can be more clearly demonstrated when common aims about intercollegiate athletic program purposes begin to be forgotten. One of these assumptions is

"to promote and develop educational leadership, physical fitness, athletics excellence and athletics participation as a recreational pursuit" (NCAA Manual, p. 1). The idea of developing well rounded athletes seems to be what this statement is all about, yet many programs abandon this idea in pursuit of more mature, fully developed athletes who may become professionals. Adding additional stature to the University. The most obvious example of this is in track and field, where foreign athletes have been brought in to help teams win. Often these foreign athletes are older, entering college on the average at an age of 19.85, as opposed to 18.25 for American track and field athletes (Bale, p. 118), so they require less work on skill development because they have been in the sport longer and have had more time to post good records, which enhances their status as prospects. For example, Filbert Bayi of Tanzania came to the University of Oklahoma in 1982 at the age of 29. This was eight years after he had set the world record in the mile (Bale, p. 118; Track & Field News, p. 23). The NCAA passed a rule in 1986 which placed limitations on the age an athlete can be to participate in intercollegiate athletics (Bale, p. 195; NCAA Manual, p. 106), but the rule has exemptions for time spent on church missions or military time, so many older foreign athletes still find their way into college programs. This is particularly true in NAIA and junior college programs, because they have no age limit rules (Bale, p. 193). However, at the

1991 NCAA Track and Field Championships, foreign athletes won 12 of 19 men's events and five of 17 women's events (USA Today, 6/3/91, p. 4C).

So it seems that the desire to win at any cost permeates many university athletic programs. But the rewards are still there for those who do win, so it is no surprise that problems still arise. Ways to lessen the emphasis on winning do get discussed (Bale, p. 194). In track and field, the idea of de-emphasizing team scoring has been brought up (Bale, p. 194). This would perhaps change the focus from bringing in foreign athletes to developing American athletes. In basketball the idea of more equal distribution of money from the NCAA tournament has been discussed (Wolff & Ketyian, pp. 294, 295). The problem faced there is that the NCAA can only push the major revenue producing universities to give up so much money, or they might rebel as, for example, when the major football universities formed the CFA in 1981 (Chronicle of High Education, 9/2/81 p. 6). They are still in the NCAA, but they formed an organization primarily for the purpose of gaining more revenue from television (Sperber, p. 50). So, the worry of keeping universities from forming other organizations does exist, and it keeps the NCAA at bay in regard to total distribution of revenue (Berg, p. 34). Thus, the cycle of winning goes on for some, and the cycle of losing continues for others.

Coaching Staff Turnover

Coaching staffs in intercollegiate athletics are under continual change. Unsuccessful coaches sometimes are asked to leave; other times they can see they will be asked to leave and resign. Then there are a great deal of coaching changes due to the desire to move up the ladder. In addition, coaches leave because of wrongdoing for which they have not yet been caught, so they leave while they still have a good reputation (Sperber, p. 158). The movement of coaches has an effect on the following areas, whatever their reason for leaving. The cost of running a national search for candidates to fill a position is obvious. In addition, if a coach is fired and has a long-term contract, a situation can result where two coaches are being paid (Sperber, p. 125). Other factors also come into play; for example, the transition to a new staff may result in a team winning even less at first, which could result in lower attendance (Sperber, p. 161). On the other hand, bringing in a new staff creates a feeling of hope and excitement in some cases, so attendance can sometimes be helped.

The idea of pressure from a variety of sources is what people think of most often when coaching turnover is discussed. Pressure can be exerted by boosters, faculty, administrators, students, parents, and media. But the biggest source of pressure is from the coaches themselves (Sperber, p. 154). The desire to win pushes coaches to try to better

their programs, sometimes through means which are not within the rules. Most often when this happens they blame pressures applied to them as the cause of the infractions (Sperber, p. 156). But the coaches' own competitiveness may well be the main problem.

The fact that large sums of money are connected to how a coach's team performs cannot be ignored. Funk feels that these "pots of gold" for athletic success are the root of all the problems with college athletics today (Funk, p. 140). Yet he also believes that coaches should be solely responsible for the direction their programs take. He points out that the coach can control his or her team by limiting playing time to only those athletes who are meeting high ethical and academic standards (Funk, p. 142). Coaches need to achieve the delicate balance between meeting the university, the community and their own standards of winning while meeting the ethical standards which are expected in higher education. This may seem like an impossible dilemma, so many coaches do change jobs from year to year. For example, in 1990, the Big Sky Conference football staffs experienced a 25.3% turnover rate in staff. This meant that 16 of the 63 available full-time football coaching positions experienced change. This occurred in a year when only one head football coach was removed. For the 1989 season the change was 33% (Alford, pp. 2-5, Cook, pp. 4-6, Cook, pp. 10-14, Corbett, pp. 10-15, Fenk, pp. 6-8 Guffy, pp. 6-8, Larsen, pp. 6-9, Smith, pp. 9-10, Stuart,

pp. 6-8). With this type of turnover rate one would begin to question the reasons for such shuffling of personnel. These rates would, of course, be even higher had graduate assistants been considered, since they are expected to move on after completion of their graduate work.

Perhaps pressure is the main reason for coaches moving on, but is it pressure related to money as Funk believes? Coaches seem continually to be trying for an edge; this edge often involves spending more money. For example, some universities make elaborate video productions to present to recruits (Sperber, p. 112). This practice has even resulted in NCAA regulations to limit the types of video tapes which can be presented to athletes (The NCAA News, 3/6/91 p. 18). Another elaborate practice now restricted by the NCAA is that of having a recruit connected by phone to a coach on the field during a game. This would allow the recruit to listen in on coaches calling plays and, if the game was on television, the recruit could see how the play worked (The NCAA News, 3/6/91 p. 18). These types of activities are just a small example of the kind of continual attempts to gain an upper hand on the competition. Of course, the more money a program has the more ways that program can work to impress an athlete. Coaches, being competitive people, are going to either want the money which allows them to run an impressive program, or they will look to move on to a program which will. So coaches leave

their jobs with great frequency, and often it is not because they are asked to leave.

Funding

According to Sperber, university athletics receives its funding from eight different categories. He lists them in two groups: earned revenue and unearned revenue. The earned revenue group has ticket sales, guarantees, payouts from bowl games and tournaments, television payouts, and a miscellaneous category which includes corporate sponsorships. In the unearned revenue group he lists booster club donations, student fees and assessments, and state or government support (Sperber, p. vii). These sources apparently are not enough for most athletic programs, as a 1986 survey by the American Association of State Colleges and Universities revealed. In surveying 65 Division IA universities they found nine universities to be making a profit, 25 programs which were able to support themselves, and 31 programs which were running deficits (Thelin & Wiseman, p. 2). Obviously, if university athletics were cut loose in the business world there would be little hope for survival. Even the universities that show a profit would be considered to be getting a poor return on their investments. For example, in 1988 Michigan had a \$20 million athletic department budget and showed a profit estimated at \$200,000-300,000 (Sperber, p. 19). Even if the larger figure were used, it would still only be a .0015% return on the investment.

Since university athletics doesn't seem to be doing very well financially, it is perhaps more appropriate to talk about expenses. Sperber categorizes expenses into seven groups, those being (1) salaries, (2) athletic scholarships, (3) travel and recruiting, (4) equipment, supplies, and medicine, (5) insurance, (6) legal, public relations, and office costs, and (7) capital expenditures, debt servicing and maintenance (Sperber, pp. vii, viii). All of these expense areas tend to be on a continual rise, and some are removed from athletic department control over them, such as the rising cost of medical insurance or the increased cost of supplies. Oklahoma paid \$107,000 in insurance in 1986 (Sperber, p. 126). Grants in aid, according to University of Southern California Athletic Director Mike McGee, are increasing at twice the rate of inflation. He points out that the U.S. Department of Education estimates tuition will rise at many colleges as much as 80% in the 1990s (Berg, p. 31).

There are, of course, other areas which can be controlled, such as the amount of staff, how much the staff is paid, how and where teams travel, how and where teams recruit athletes, how elaborate facilities need to be, and how extravagant the equipment needs to be (Sperber, pp. 106, 115, 131, 149). Coaches' salaries receive the most attention, and this may be the case because they are able to get athletes to work just for the cost of education, while they make a great deal of money for themselves (Funk, pp. 141, 142). For

example, Jerry Tarkanian had a total salary and bonus income estimated at \$600,000 a year (Wulf, p. 21). Salaries like Tarkanian's are not seen on the academic side at universities, so they are questioned. Donna Lupiano points out that profits from a product discovered by a professor in a university laboratory go to the university, not to the individual (Wolff, p. 76). Yet in athletics there seems to be less need to return money to the university; instead it goes back into the athletic department. Perhaps the lack of return on investments is linked to hard feelings on some campuses. For example, Barbara Bergmann, an economics professor at American University, wrote about Maryland's athletic department making \$1.5 million more than expected in 1986, but all of that money and then some was spent on athletics (Bergmann, p. 28).

The point seems clear that few athletic departments have money left at the end of each fiscal year, but there certainly is a difference between universities in what is spent during the course of a year. Texas spends \$12 million on its men's program and \$3.68 on its women's program (Wulf, p. 82). Virginia State spends \$1.2 to \$1.7 million a year on athletics, whereas the University of Southern California spends \$6.3 million a year on non-revenue sports alone (Berg, pp. 30, 31) and has a \$18.3 million budget (Rockne, C9). Washington has a \$15 million a year budget and a \$15.7 million reserve; UCLA has \$21.6 million in revenues, but spent \$22.2 million; Oregon State, has a \$9.2 million a year budget, but

spend \$9.4 million. Oregon spent its \$12.5 million budget; California spent its \$12 million budget (Rockne C4). These very different dollar figures further vary when the universities' income and expenses are examined. Some universities might not include the value of their state fee waivers in reporting revenues. Others might not include trade-outs for vehicles and airline tickets; some report academic scholarships in ways that make them appear to be athletic scholarships (Sperber, pp. 15, 16). Montana State's men's athletics shows set dollar figures on its budgets, then a number for the in-state and out-of-state fee waivers (Fullerton, 1986). So a calculation of the value for a fee waiver is needed to find out the true costs, and the value of a fee waiver generally goes up a little each year.

Budgets among institutions in the Pacific Ten Conference are closer to being balanced than most across America, but that may be because figures on their budgets are more available than in some conferences. It does not hurt that every university in the conference gets \$578,000 from the Rose Bowl (Rockne, p. C-4). But the haves and the have nots are clearly distinguished despite attempts at conference distribution of wealth. Stanford had the most revenues, at \$21.9 million, while Washington State's revenues were \$8.3 million. Oddly enough, Stanford showed a \$1.05 million deficit in 1990, while Washington State had a \$2,200 reserve (Rockney, p. C-3). Stanford offers 21 sports, while

Washington State has 18 (Women's College Directory, pp. 157, 169; Men's College Directory, pp. 288, 305). UCLA showed a \$3.2 million loss in athletics for 1990 so the school dropped three sports to help avoid future losses. The number of sports offered and the number of teams which make money all vary from school to school, so trying to specify what school is doing the best job overall is hard to ascertain. However, in economic hard times it would certainly be better to be in Washington's and Arizona State's shoes, each having multi-million dollar surpluses (Rockne, p. C-3).

Running a profitable athletic department is a goal of any Division IA university, but with so few able to achieve this, the question must be asked: what does it take to make money? If Washington were to answer, it would be simple -- win at football and do so for many years. In 1975 Washington was struggling to pay its bills, spending \$2.7 million that year while \$2.6 million was brought in (Rockne, p. C-3). In 1978 the Huskies won the Rose Bowl, and this started them in the direction of financial well-being (Rockne, p. C-3). Football for the 1989-1990 year made \$10.4 million in profits for the athletic department (Rockne, p. C-4). Being the only Division IA university in a large metropolitan area certainly should also be considered a factor. This not only helps attendance but also television rights fees. Washington football made \$4.3 million from its local television/radio agreement (Rockne, p. C-4). In the Los Angeles area there are many

universities at the highest level of NCAA competition -- UCLA, USC, Cal State Long Beach and UC Santa Barbara (College Directory, p. 167). In addition, the San Francisco Bay Area has several universities with IA programs trying to compete for attention. They are: California, Stanford, Cal State Fullerton and San Jose State (College Guide, p.). A lack of market competition may also be the reason for Arizona State's profits. It is in a large metropolitan area of over 1 million people (Rand McNally, pp. 119) and has a \$6 million reserve, whereas the University of Arizona, an athletic program more successful in its major revenue sports the past few years, showed only a \$702,000 reserve. The University of Arizona is located in Tucson, Arizona, a community of 395,000 people (Rand McNally, p. 119).

Students on campus may be a plus for Washington and Arizona State as well. Washington has 34,000 students and Arizona State has 41,450. The average campus size for the Pacific 10 is 26,734 (College Directory, pp. 150, 166, 167, 284, 257, 258, 288, 305). Having a large, ready-made audience certainly does not hurt these universities' ability to generate a profit from student fees, attendance, and concessions. Perhaps the cycle of winning and revenue has with it some factors which are hard to change overnight since the size of the university and surrounding community cannot change quickly. In fact, they are beyond the control of a

coach or even an athletic director. Yet, the demands by all parties seem to be the same: win and make money.

Type of Funding

Demands placed on coaches and administrators have a common ring, but how loudly these demands are heard could vary with who is talking, meaning that supporters who give more money perhaps have more influence with the athletic department. This is the entire premise behind priority seating for athletic events. People pay large amounts of money for choice seats, but it is tax deductible, so the randomness is taken out of seating based upon the ability to pay. At the University of Louisville, priority seating is now in place for all but the students, faculty and staff. So, for seating at Freedom Hall a donation to the University is required from anyone outside the University who wishes even the worst seats (Sperber, p. 34). At Washington, priority seating raises \$4.5 million for football. When high prices are paid for seating, it creates more of a demand for success. People tend to wish to get their money's worth, even though they are paying unrealistically high prices for their tickets (Sperber, p. 32).

If seating can be influenced by donations, the question of what else can be influenced could be asked. The case of Mississippi State's firing of Rocky Felker in favor of Jackie Sherrill due to the threat of money being withheld by boosters partially answers the question (Reed, p. 35). Money comes

into play on other athletic related questions as well, such as when Dennis Washington agreed to donate \$1 million labor and equipment to the University of Montana. In return, he got the bid to build their football stadium. When the state of Montana provides nearly \$1 million each year for the Montana Athletic Department, no favors like those of Mr. Washington are asked by the state (Sperber, p. 88). The money must be accounted for, but there are probably very few taxpayers who even know the money is given to the department, so they don't feel a need to be in on decision making. However, private individuals can receive bids for their company by promising to donate to the athletic department.

Students on many campuses are assessed an athletic fee, but students are seldom the ones with a voice in the athletic department (Sperber, p. 84). At William & Mary College the athletic fee for 1987 was \$500. This amount for a college student to be assessed is certainly exorbitant, and it is not tax deductible for the student. Also, students' interests are not mentioned when athletic department decisions are revealed.

If corporate sponsors are giving money to have their names associated with an athletic department or an athletic event, then they are looking for a return on their money. It is likely these sponsors would also be tempted to want input into how the athletic department is run (Sperber, p. 63). The pressure to win would seem to be increased due to the danger of losing corporate sponsors because they wish to be

associated with winners. There is also some opposition to the idea of giving companies the right to an exclusive market -- the college student. Ethical questions come into play when an alcoholic beverage company is given the rights to advertise on campus. This is, of course, happening across the country; as colleges need revenue, they look to more and more questionable sources (Sperber, pp. 64, 65). San Diego State even had a horse race track for a corporate sponsor (Verstedt, p. 22). Allowing a gambling interest to be a corporate sponsor while cases such as the Boston College point shaving scandal exist seems questionable (Wulf, p. 21). The tobacco and alcohol companies are particularly interested in being associated with athletics (McGregor, p. 54).

There is even some concern that universities generally have good names, and those names can be hurt by associating with the wrong type of company. Unfortunately, it appears that athletic departments are less particular about the source of money than corporate sponsors are about giving it out. Consequently, there are cases such as that at San Diego State. Montana State University has a beer company for a corporate sponsor, and the Big Sky Conference had a beer company as a sponsor of the Big Sky basketball tournament (Parker). Who can blame the individual conference members when even their conference office is seeking sponsors of a questionable nature? The public generally expects universities to have high academic integrity and to set high standards. The

potential for questioning a university's judgment would certainly seem to exist when the athletic department is selling the university to companies. Rozenzweig writes of needing to bring back the confidence of the public in universities, while he warns against pursuing money (Rozenzweig, p. A44). He feels that credibility is no longer a given with universities, whether it is in research or athletics.

Choosing what type of sources a university wishes to pursue in order to raise money does make a difference. Kansas has a stadium named after a man in prison for oil field fraud. He donated a great deal of money to Kansas and was a former athlete there, yet this is the type of situation administrators fear (Nicholson, 8/16/91). As college sports continue to need more money, the sources might become more and more questionable. The belief is already present that athletics receive too much emphasis, thus playing a negative and detractive role in the educational objectives of the universities (Berg, p. 25). Berg feels that the revenue sports should be moved to realistic limits on scholarships and expectations at universities, while the non-revenue sports should be moved into physical education or recreation (Berg, p. 27). The goal is for everyone to be at a level they can afford to support without looking for funding sources which tarnish a school's image.

Fund raising's role in the athletic department has grown to the point where it is a must for an athletic director to have ability in the areas of marketing, salesmanship and promotion. Often, however, former coaches step into the athletic director position without these necessary skills (Sperber, p. 21). The result can be severe budget deficits, such as when Ray Perkins was Athletic Director at Alabama, or severe scandals, such as when Jim Valvano was Athletic Director at North Carolina State (Sperber, pp. 18, 21). Athletic departments need people with business skills and sports knowledge, but also with the ethical feeling of obligation toward the public, students and faculty. Fundraising is one area where there are obvious examples of this obligation not being felt. But, how far these ethical miscalculations are felt remains an area that needs to be investigated.

CHAPTER III

RESEARCH METHODOLOGY

This study's general design was rationalistic, which used causal-comparative methods to explain relationships between variables when the effect on these variables has already taken place (Gay, 1987, pp. 12, 13). In this study, membership in one of two groups was described. These groups were separated based upon the actual data, with one group having the greatest amount of a particular variable and the second group having the lowest amount of that particular variable. This data was compiled for a four year period, fiscal years 1978-1988, 1988-1989, 1989-1990, and 1990-1991. Groups were formed for each variable in which an adequate amount of data was available. There were seven possible research questions, which could have resulted in 15 possible analyses being performed. This is the case because the variable type of funding was a combination of football and basketball, and is the percentage of unearned funding based on the entire athletic department's budget, thus it is not distinguished as just football or basketball.

The multivariant technique of discriminant analysis was used in this study. Discriminant analysis is a means to

classify individuals (Isaac & Michael, 1981, p. 49). In this study the subjects were actual universities, and based on the analysis of the variables the universities were placed into groups which may or may not match those groups that were designated before the analysis. These groups were given names describing them, and these descriptions indicated what the analyst discovered about the relationships between groups and within groups.

Discriminant analysis predicts membership in groups using discriminating variables (Isaac & Michael, 1981, p. 200). Each of the seven discriminating variables each had their own research question; in their particular hypothesis they served as the grouping variable. The other variables served as predictor variables when they were not being used as a grouping variable. From this analysis a body of information was formed which served to help place Big Sky Conference universities into groups which were distinguishable as the athletic teams with the largest amount of a particular variable (Group 1), and the athletic teams with the smallest amount of a particular variable (Group 2). Cases falling in the boundary area between these two groups were not included in the analysis. This was done to prevent differences between groups from being lost due to there being too much shared variance between the two groups.

The paradigm for this study required data to be collected from two sources: Big Sky Conference University Presidents

and the Big Sky Conference Office. The presidents were asked to supply the NCAA Audits for fiscal years 1987, 1988, 1989, and 1990. The Big Sky Office supplied statistics in regard to athletes' academic achievement, game attendance, NCAA rules violations, team won-lost records, and coaching staff turnover. Although NCAA rules violations is an important variable, it had to be dropped as a variable before the data analysis was conducted because in this conference there had not been enough violations for it to be a significant variable for this study.

There was a great deal of difficulty in gaining the audits of the university athletic departments for this study. Because the audits were conducted by an outside firm, but were for the university presidents, letters of request were initially written to the presidents. In none of the cases did they bring a response.

The researcher followed this up with another letter, which did bring inquiries as to a need for this information. These came from the Directors of Information Services at several schools. The study's purpose was further explained to them, and eventually the data from three universities was obtained.

For the remaining schools, names of the auditors at those schools were obtained from Montana State University Treasurer, Tom Gibson. Auditors were written, then a follow-up phone

call brought the needed response. This provided the data for five more universities.

The final university was not willing to cooperate at first due to some concerns about their past incomplete audits. They had, in fact, been out of compliance with the NCAA by not conducting some of their audits in the recommended way. But their Director of Information Services eventually provided the data.

The researcher had been warned by Tom Gibson as to the possible difficulties in collecting this data, but felt that because this was public information it should not require great efforts. Perhaps in the future universities will be more willing to come forth with this type of data as the taxpayers' desires to know where their money goes becomes more evident. In addition, universities know that they must become more accountable to their students and the general public.

Threats to this study's external and internal validity were minimal. For external validity, the question of generalization was a problem. The actual prediction into groups was limited to Big Sky Conference universities, due to the uniqueness of the Conference. For example, the Big Sky Conference requires a 2.0 grade point average after an athlete's junior year. This is not an NCAA rule; it is only a Big Sky Rule (Big Sky Conference Handbook, 1991, p. 17). So, there are certain people able to compete in other conferences who could not compete in the Big Sky. University

size and community size are other factors which make direct application of these findings to other conferences less useful. While the methods applied in this study could be meaningful to other conferences, inter-conference comparison would be the most accurate application. Which was why the major purpose of this study was to describe the relationship of selected variables within the Big Sky Conference.

For internal validity, the question must be asked whether this study measured what it is meant to measure, not the effects of some other variable (Gay, 1987, p. 545). Because hard data was used in this study, the two major threats to internal validity, history and maturation (Gay, 1987, p. 297) were not a problem. The variables were easily controlled in the sense that they are not changing and the study was able to measure what it is intended to. Thus, there were no problems with internal validity.

Another possible threat to validity was the use of a small population with the statistic discriminant analysis. However, Spearing and Woehlke studied discriminant analysis and found correct classification of samples to not be influenced by the number of variables or sample size (Spearing and Woehlke, 1989, pp. 7, 8). Their study helps validate the use of this technique in a study which has a limited population.

Population

The population for this study was all of the Big Sky Conference universities from 1987-1992. The universities in this conference at that time were Boise State, Eastern Washington, Idaho, Idaho State, Montana, Montana State, Nevada-Reno, Northern Arizona, and Weber State. Big Sky Conference universities compete under basically the same guidelines, are aided or hindered by very similar geographical and economic situations, and have relatively close student body population sizes (Big Sky Conference, 1990 Indoor Track Media Guide, 1990, pp. 10-26). The Big Sky Conference universities compete against each other directly, and every conference university competes against all the teams in the conference each season.

Some conferences are so large that they do not play every member each season. This is the case in the Southeast Conference, where they have 12 members but play only 8 conference football games (Missouliau, 1990, 0-5). A conference like the Southeast also has universities with very different outlooks on the importance of academics. An institution like Vanderbilt requires 15 college prep credits; of those, four have to be math classes, including what is usually the highest level math at most high schools--trigonometry (Vanderbilt, 1990, p. 49). In the same conference, Alabama and Tennessee require 12 credits of college prep work. This difference may not seem great until

one looks at Alabama requiring geometry as the highest level math (Alabama, 1990, p. 45; Tennessee, 1990, p. 29). Then it becomes clear that a much greater proportion of the average student population can attend Alabama as opposed to Vanderbilt which is more selective.

There are not large academic differences in the Big Sky Conference, and there are no private universities in the Conference so equal accessibility for student athletes is less of a problem. This is the case because the cost of attending Big Sky Conference universities is not greatly different, and they have similar academic prerequisites. Homogeneity among the conference universities allowed differences among the selected variables a fair chance of being determined, as opposed to outside differences between conference members playing a big role in increasing the error.

Reliability and Validity of the Data

Reliability is looked upon as the degree to which an instrument consistently measures something time and again (Gay, 1987, p. 135). If the instrument is consistent in its measurements then more confidence can be placed in it. The key to reliability in this study was in the data collection. Because the results of an audit from an agency outside the universities were used for the financial information, the data was very accurate. All the other forms of data are official statistics from the Big Sky Conference office.

Instrument validity is the extent to which an instrument measures what it is meant to measure (Gay, 1987, p. 553). Is it obtaining the information it is intended to? This study was valid for Big Sky Conference universities, but is limited to those universities. Predictive validity was one of the key forms of validity in this study. This was checked by comparing how the groups were formed by the actual data, and how the discriminant analysis classified the athletic teams into groups. Content validity was another key part of this study. Content validity must be based on a solid foundation of research into possible significant variables within an athletic department. This is why a pilot study was conducted, to determine the validity of the selected variables. A part of content validity is item validity, which is whether test items measure what they are intended to measure (Gay, 1987, p. 553). Through a complete literature review and a pilot study, content validity was assured.

Pilot Study

A pilot study was conducted to examine variables being considered for the study. Normal pilot studies involve conducting the entire study only with fewer subjects (Gay, 1987, p. 90). This pilot study did not involve that kind of procedure. Instead it was a survey of coaches and administrators to help validate this study's variables. Its purpose was to help assure that an adequate picture of the Big

Sky Conference universities' situation would be drawn, thus improving the study's content validity.

The researcher randomly selected 10 Big Sky Conference coaches or administrators and presented them with a cover letter explaining the study. A list of selected variables for the study with definitions was enclosed. The participants were then asked three yes or no questions as to the importance of the variables of academic achievement, NCAA rules violations, attendance, winning, coaching staff turnover, funding, and type of funding. This was followed by two questions asking whether they would remove or suggest adding any variables.

Six of the ten questionnaires were returned. Those surveyed were asked to circle yes if they felt the described variables were valid items to study. Of the three yes-no questions asked, 14 were answered yes, three responded no, and one failed to answer. These yes answers showed clear support for the selected variables as a whole. This group of experienced people in the field of intercollegiate athletics indicated their approval of the selected variables; however, there were some suggestions when the coaches and administrators were asked what specific variables they would add or remove. One person felt coaching staff turnover was not an important factor, two people did not understand the need for knowing the type of funding, and one felt that certain universities were academically different than others

so using a grade point measure was not fair for academic success. Because there was so little disagreement on the selected variables, none of them were removed from the study. Type of funding was the only variable that was mentioned twice, and in both cases the people only questioned what it meant and were not saying why it should not be in the study.

Suggestions for variables to be added to the study were limited to suggesting the study consider geographic locations, recreational opportunities, community make-up, university make-up, administrative support, whether academic progress slips when coaching staffs turn over, and whether a coach pushes athletes toward being more academic. None of these suggestions were made by more than one of the participants so they were not added to the study. Thus, the internal validity of the study was strengthened by the support of practitioners for the variables included in the study.

Statistical Overview

This study's methodology sought to describe relationships between the selected variables for football and basketball programs at Big Sky Conference Universities over a four-year period and to categorize these teams according to their similarities. The universities with the greatest amounts in each variable were analyzed relative to the universities with the lowest amounts of that particular variable. If any differences distinguished these schools, they were then described.

The relatively small number of universities used in this study would have been of more concern if it was not an entire conference population. Since it is a discreet population, little could be done about the numbers. However, caution was taken toward the risk of a Type II error due to the small population size. Cautions involve accurate data collection and using a stepwise comparison of the variables. Discriminant analysis is a statistical technique that can be used with small groups, and the method of stepwise comparison was the Wilks-lambda stepwise comparison of variables. This distinguished the most powerful variables for the discriminate function (Klecka, 1980, p. 53). Then, variables which are found not to be related to the study were removed.

The raw data was entered into the computer program dBase III and was classified by year and variable for organizational purposes. The data was then analyzed using the Statistical Package for the Social Sciences computer program. The first step in discriminant analysis is to initially examine the pooled within-groups correlation matrix, which is produced by averaging the separate covariance matrices for all groups and then computing the correlation matrix (Norusis, 1988, p. B-5). The pooled within-groups correlation matrix serves to estimate how strong the correlation is between the pairs of variables within the groups (Klecka, 1980, pp. 19-20). From this the variables which share high amounts of variance can be identified, and if high correlations exist, they can be

removed from the analysis. Following removal of any sets, a Wilks-lambda stepwise comparison can be run. This method determines those variables which contributed most to the discrimination between Groups 1 and 2 (Klecka, 1980, p. 54). Those variables which are found by the Wilks-lambda analysis to contribute the most are named in the Wilks-lambda summary table and served as the coefficients for a discriminant function formula. These coefficients are used in the next aspect of the discriminant analysis, the canonical discriminant functions. This function produces eigenvalues, Chi square information, and the canonical correlation. When squared, the canonical correlation indicates the amount of variance which is accounted for by the discriminant function. It is also an important indicator of the ability of the discriminant analysis to explain group differences (Klecka, 1980, pp. 37-38).

The function of the discriminant analysis which is perhaps most important for providing information is the structure matrix. It provides correlations which demonstrate how each variable correlates with the total discriminant function (Klecka, 1980, pp. 31-34) and helps name the discriminant function. Two other important aspects to a discriminant analysis which come at the end of the analysis are the group centroids and the classification table. Group centroids serve to distinguish between groups using discriminant functions that are evaluated at group means.

(Klecka, 1980, pp. 27-28). They can provide a visual method for examining differences between groups. The classification table also serves to show that the groups were indeed different, but this is done by simply comparing the cases which were correctly classified by the study (Klecka, 1980, p. 50). In this study the table indicated how well the actual data classified Groups 1 and 2 and how well the analysis placed the universities into groups.

By comparing the actual data for each variable, the universities were separated for analysis as to whether they were in the high group or low group on each variable. Using the actual data to establish a relationship added justification for classifying the universities into groups. Since discriminant analysis is a method of classifying to known groups, there had to be some way of making these groups known, and using the actual data was the best method.

Instrument

Discriminant analysis has two purposes: to predict group membership and to describe the way groups vary (Huberty & Barton, 1989, p. 158). Klecka describes discriminant analysis as "a statistical technique which allows the researcher to study the differences between two or more groups of objects with respect to several variables simultaneously" (Klecka, 1980, p. 7). So, by using discriminant analysis in this study, it was possible to analyze the data in a way which

considers how the variables related to each other as a whole rather than considering variables alone.

Discriminant analysis served a valuable function as a statistical technique for this study in several ways. The first was that it allowed the researcher to place the athletic teams into groups. This allowed for an emphasis on certain grouping variables with the primary variables in this study being the won-lost record and the level of funding. These two areas stand out above the others to some degree with wins and losses currently the main focus of attention for the general public and with funding level a constant concern for administrators. So by using the discriminant analysis method, the obvious is less likely to be overlooked. At the same time, other variables are not overlooked.

Discriminant analysis can also serve to discriminate the ways these predictor groups are formed and to predict future cases through the use of a formula (Klecka, 1980, p. 42). This allows a clear understanding to be drawn from the variables and a useful method of predicting outcomes for athletic teams in the future to be derived. This, in turn, provides administrators with a further understanding of the variables which interplay within an athletic department and what can be expected as a result. Most importantly, this discriminant analysis addresses real variables within Big Sky Conference Athletic Departments, which can be looked to for a

further understanding of the factors which influence athletic departments.

Research Hypothesis

Hypothesis 1: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with the high academic success from the teams with low academic success in the conference based on the variables NCAA rules violations, attendance, winning, coaching staff turnover, funding, and type of funding for the years July 1, 1987 to July 1, 1991.

Hypothesis 2: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with high attendance from the teams with low attendance based on the variables academic success, NCAA rules violations, winning, coaching staff turnover, funding, and type of funding for the years July 1, 1897 to July 1, 1991.

Hypothesis 3: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with the highest finishes in the conference won-lost standings from those teams with the lowest finishes based on the variables academic success, NCAA rules violations, attendance, coaching staff turnover, funding, and type of funding for the years July 1, 1987 to July 1, 1991.

Hypothesis 4: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with the highest coaching staff turnover from the

teams with the lowest coaching staff turnover based on the variables academic success, NCAA rules violations, attendance, winning, funding, and type of funding for the years July 1, 1987 to July 1, 1991.

Hypothesis 5: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with the highest levels of funding from the teams with the lowest levels of funding based on the variables academic success, NCAA rules violations, attendance, winning, coaching staff turnover, and type of funding for the years July 1, 1987 to July 1, 1991.

Hypothesis 6: Among Big Sky Conference football and basketball teams it is possible to statistically discriminate the teams with the highest levels of unearned funding from the teams with the lowest levels of unearned funding based on the variables academic success, NCAA rules violations, attendance, winning, coaching staff turnover, and funding for the years July 1, 1987 to July 1, 1991.

CHAPTER IV

RESULTS AND FINDINGS

Introduction

The six hypotheses were tested for the possibility of a discriminant function which would distinguish between Group 1 and Group 2 for each hypothesis. The variables academic achievement, attendance, won-lost records, coaching staff turnover, funding, and type of funding for both football and basketball were the variables used in the analysis. Variables which met the criteria of .3 in the structure matrix were used to name the discriminant function. Those variables were also put in tables next to their means for Group 1 and Group 2 in order to further demonstrate the findings.

Discriminant Analysis With Football Academic Achievement

Hypothesis 1 tested for the possibility of a discriminant function with the ability of discriminating between the football teams with academic success and those who did not demonstrate academic success. For the discriminant analysis, two groups were classified based on the number of athletes over a 3.0 grade point average, with Group 1 having a high rate of student athletes over 3.0, and Group 2 having a low

rate of athletes over 3.0 during the four-year period from 1987-1990. In this analysis the predictor variables were attendance, win-lose records, coaching staff turnover, funding, and type of funding.

In order to examine the interdependence of variables which often exists in multivariant analysis, the pooled within-groups correlation matrix of predictor variables was evaluated initially (Norusis, 1988, p. B-5). It served to estimate how strong the correlation was between the pairs of variables within the groups (Klecka, 1980, pp. 19-20). Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed from the analysis before the Wilks-lambda step-wise analysis was to be run. The criteria for removing variables was that if half of the coefficients for a variable were .7 or greater, that variable would be removed. This meant that 50% of the variability was being absorbed by that variable, so by removing that variable more information can be found.

The canonical correlation coefficient serves to define the relationship between the groups and the discriminant function (Klecka, 1980, p. 37). In this examination the canonical correlation was .996 which means that 99 percent of the variance in the discriminant function was explained by the groups. The discriminant function formula was

$$D = 4.08 (\text{football turnover 1988}) + 3.05 (\text{football wins 1990}) - 1.15 (\text{football wins 1988}) - 21.81.$$

For this study, the strong relationship between the groups and the discriminant function indicates that the discriminant function produced by the analysis is useful in defining differences between groups. This can be based both on the high number of variables which exceeded the criteria of .3 in the structure matrix, by the high canonical correlation coefficient, and the 100 percent accuracy rate in placing the football teams in their original groups (Klecka, 1980, p. 49).

Naming the discriminant function is done by examining the structure matrix. Those variables in the structure matrix with the highest coefficients indicate the closest relationship to the discriminant function, so they are used to name the discriminant function. For this analysis, Football Coaching Staff Turnover in 1987 had a coefficient of .771, Football Attendance in 1987 had a coefficient of -.712, Unearned Funding in 1988 had a coefficient of .680, Football Coaching Staff Turnover of 1989 had a coefficient of .670, Unearned Funding in 1989 had a coefficient of .529, Unearned Funding in 1991 had a coefficient of .506, Football Attendance in 1988 had a coefficient of -.489, Football Coaching Staff Turnover in 1990 had a coefficient of -.355, Football Wins in 1989 had a coefficient of .330, and Football Losses in 1989 had a coefficient of -.330. These variables led to the determination that the discriminant function would be named Commitment to the Student Athlete.

Commitment to the Student Athlete was chosen because those universities with the greater academic success showed a high percentage of financial support towards their teams (based on the percentage of unearned funding) despite the fact that these teams did not have great attendance. Those teams also had stable coaching staffs with no turnover in 1988 and 1989. This, too, is an indication of the university being willing to support a stable environment which is not full of excess pressure on the staff and athletes. These facts are evidenced in Table 1.

Table 1. Variables in structure matrix for football academic achievement, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Football Staff Turnover 1987	.771	0	.333
Football Attendance	-.712	6275	11,000
Unearned Funding 1988	.680	.661	.494
Football Staff Turnover 1989	.670	0	2
Unearned Funding 1989	.529	.642	.541
Unearned Funding 1991	.506	.590	.562
Football Attendance 1988	-.489	7084	10,000
Football Staff Turnover 1990	-.355	1.414	.577
Football Wins 1989	.330	5.500	4.666
Football Losses 1989	-.330	2.500	3.333
Criteria (.3)			

Note: Commitment to the Student athlete was named as the discriminant function title for football academic achievement. This title was given due to the fact that Group 1 had a high percentage of unearned funding and low coaching staff turnover. When considered with their high academic achievement these variables point toward a commitment to the student on the part of the university and the coaching staff.

Discriminant Analysis With
Basketball Academic Achievement

Hypothesis 1 also tested for the possibility of a discriminant function with the ability of discriminating between the basketball teams with academic success from those who have not had academic success. The two groups were classified based on the number of athletes over a 3.0 grade point average, with Group 1 having a high rate of 3.0 student/athletes and Group 2 having a low rate during the 4-year period from 1987-1991. The predictor variables were attendance, winning, coaching staff turnover, funding, and type of funding.

The interdependence of the variables was examined by the pooled within-groups correlation matrix (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed. The analysis revealed a canonical correlation coefficient of .9999, which meant that 99.98% of the variance in the discriminant function was explained by the groups. With 12 variables having exceeded the criteria of .3 in the structure matrix and the high canonical correlation, the discriminant function produced by

the analysis was useful in defining differences between the two groups. The discriminant function also had a 100% accuracy rate in classifying the teams in their original groups. The discriminant function formula was

$$D = .053 (\text{basketball attendance 1988}) - .000024 (\text{basketball funding 1990}) + 292.83 (\text{unearned funding 1988}) - 381.29.$$

The variables which met the criteria of .3 in the structure matrix were basketball turnover in 1987 (.957), in 1989 (-.842), in 1990 (.738), and in 1988 (-.492); basketball losses in 1989 (-.838), in 1990 (-.620), and in 1987 (.459); basketball wins in 1989 (.838), in 1990 (.620), in 1987 (-.459), and in 1988 (-.457); and attendance in 1990 (.317). The universities with greater academic achievement were clearly different from those with less academic achievement. Table 2 points out these differences in the means of the two groups. Teams in Group 1 lost a great deal more than the universities in Group 2, and they also tended to have more coaching staff turnover, which is most likely a result of the teams not winning. Attendance being lower for those with higher academic success is also more a result of not winning. What this inverse relationship between academic achievement, winning, and fan support indicates is perhaps an emphasis on winning at the expense of academics. This discriminant function was named Lack of Commitment to the Student Athlete.

Table 2. Variables in structure matrix for basketball academic achievement, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Staff Turnover 1987	.957	1.5	0
Basketball Staff Turnover 1989	-.842	.500	.333
Basketball Losses 1989	-.838	9	6.333
Basketball Wins 1989	.838	7	9.666
Basketball Staff Turnover 1990	.738	2	1.666
Basketball Wins 1990	.620	3	8
Basketball Losses 1990	-.620	13	8
Basketball Staff Turnover 1988	-.492	1.500	2
Basketball Wins 1987	-.459	4.500	9
Basketball Losses 1987	.459	11.500	7
Basketball Wins 1988	.457	3	9.333
Basketball Losses 1988	-.457	13	6.666
Basketball Attendance 1990	.317	1307	4729
Criteria (.3)			

Note: Lack of Commitment to the Student Athlete was named as the discriminant function title for Basketball Academic Achievement. This title was given due to the fact that those in Group 1 had a high rate of coaching staff turnover and low attendance, despite being successful academically.

Discriminant Analysis With Football Attendance

Hypothesis 2 tested for the possibility of a discriminant function with the ability of discriminating the football teams with high attendance in the Big Sky Conference from those conference teams with low attendance. The two groups were classified based on attendance figures during the four-year period from 1987-1991. The two teams with the highest attendance were Group 1, and the three teams with the lowest attendance were Group 2. The predictor variables were

academic achievement, winning, coaching staff turnover, funding, and type of funding.

In order to examine the interdependence of the variables which often exist in multivariant analysis, the pooled within-group correlation matrix of predictor variables was evaluated initially (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed. The analysis revealed a canonical correlation of .998 which meant that 99% of the variance in the discriminant function was explained by the groups. With 13 variables having exceeded the criteria of .3 in the structure matrix, the high canonical correlation and the discriminant functions 100% accuracy rate at classifying the cases into predicted groups, the discriminant function was useful in classifying differences between the two groups.

The discriminant function formula was

$$D = 3.08 (\text{football losses 1990}) + .00000809 (\text{football funding 1991}) + 41.831 (\text{unearned funding 1991}) - 43.898.$$

The variables which met the criteria of .3 in the structure matrix were football funding in 1990 (.921), in 1988 (.903),

and in 1989 (.902); football wins in 1989 (.728), in 1989 (-.697), and in 1988 (.512); football losses in 1989 (-.728), in 1989 (.697), and in 1988 (-.612); coaching staff turnover in 1990 (.690), and in 1987 (.623); unearned funding in 1988 (-.487), and in 1990 (-.320); football academics in 1987 (-.422).

The structure matrix showed a pattern of variables which indicated that winning, high attendance, and high funding levels at football go together with low unearned funding levels, and low academic achievement. This can be evidenced in Table 3 by comparing the means for Group 1 and 2. The unearned funding level being low is partially a reflection of the high attendance levels bringing in extra money and with large overall budgets found in the football programs with high attendance. These programs with more money may not be putting much of that extra money into helping their athletes with academics. This tie between attendance and low academic achievement in football appeared only once in the structure matrix, not enough to affect the title of the discriminant function. The discriminant function for this variable was titled Fan Support for Winning.

Despite greater resources than other schools in the conference, those schools with better attendance do not do as well academically. In addition, the low turnover rates at the schools in this group some years and a high turnover rate other years points towards a high emphasis on winning and

moving on to better jobs on the part of the coaching staff rather than staying at a school and being loyal to that university. Of course, the university could also be to blame for coaches leaving if the university puts too much emphasis on winning. However, the fans generally support only those who win.

Table 3. Variables in structure matrix for football attendance, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Football Funding 1990	.921	986,465	837,004
Football Funding 1988	.903	849,516	767,315
Football Funding 1989	.902	946,989	803,919
Football Losses 1987	-.728	4	4
Football Wins 1987	.728	4	4
Football Wins 1989	-.697	5	2.333
Football Losses 1989	.697	3	5.666
Football Staff Turnover 1990	.690	0	.333
Football Staff Turnover 1987	.623	4.500	.666
Football Losses 1988	-.612	3.500	6
Football Wins 1988	.612	4.500	2
Unearned Funding 1988	-.487	.338	.745
Football Academic Success 1987	-.422	2	4.6
Criteria (.3)			

Note: Fan Support for Winning was named as the discriminant function title for Football Attendance. This title was given due to the fact that those high attendance football teams in Group 1 had good won-lost records and high funding.

Discriminant Analysis With Basketball Attendance

Hypothesis 2 also tested for the possibility of a discriminant function with the ability of discriminating the basketball teams based on the level of attendance. The two

groups were classified based on attendance figures during the four-year period from 1987-1991. The two teams with the highest attendance were Group 1, and the three teams with the lowest attendance were Group 2. The predictor variables were academic achievement, winning, coaching staff turnover, funding, and type of funding.

The interdependence of the variables was examined by the pooled within-groups correlation matrix (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed. The analysis revealed a canonical correlation of 1.0, which meant that 100% of the variance in the discriminant function was explained by the groups. With 12 variables having exceeded the criteria of .3 in the structure matrix, the high canonical correlation, and the discriminant functions 100% accuracy rate of classifying the cases into predicted groups, the discriminant function was useful in classifying differences between the two groups. The discriminant function formula was

$$D = - 8.38 (\text{basketball wins 1988}) + 21.77 (\text{basketball academic achievement 1990}) + .000081 (\text{basketball funding 1991}) - 24.70.$$

The variables which met the criteria of .3 in the structure matrix were basketball academic achievement in 1987 (1.0), and in 1989 (-.878); basketball games lost in 1990 (-.801); basketball games won in 1990 (.801); basketball funding in 1990 (.733), and in 1989 (-.49); basketball staff turnover rates in 1988 (-.653), in 1989 (-.393), and in 1987 (-.3); and unearned funding in 1991 (-.526), in 1989 (-.421), and in 1990 (-.393).

Academic achievement produced the highest correlation although it appeared to not show a clear pattern. In one case it appeared as a positive correlation and in the other as a negative correlation but the means, as evidenced in Table 4, clearly indicated less academic success for Group 1.

The correlations of losing with low attendance and winning with high attendance follow a logical pattern that is demonstrated in the means of Table 4. Higher funding levels for the basketball teams with greater attendance records also fits this pattern and is evidenced in Table 4. It is logical that the programs with greater attendance show a lower coaching staff turnover as the coaches would be receiving greater fan and internal institutional support, thus being less inclined to leave. The negative relationship between unearned funding and attendance is reasonable to assume since programs with greater attendance tend to generate more earned revenue and are thus less dependent on unearned revenue.

The variables indicated show a tie between attendance and success. This success is reflected in not only wins but is perhaps tied to the low coaching staff turnover. Perhaps the coaching staff's connection to the university and fans, as well as the team's connection to university and fans plays a role in attendance. Winning is obviously a big part of attendance, but perhaps the overall feeling within a community between the team and coaching staff plays a role. This discriminant function was named Conflicting Support for Student Athlete and Staff.

Table 4. Variables in structure matrix for basketball attendance, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Academic Success 1987	1.0	.500	3.333
Basketball Academic Success 1989	-.878	1.500	3.0
Basketball Losses 1990	-.801	7.500	10.333
Basketball Wins 1990	.801	11.500	4.333
Basketball Staff Turnover 1988	-.653	0	1
Unearned Funding 1991	-.526	.386	.727
Basketball Funding 1989	-.498	538,278	306,212
Basketball Funding 1990	-.458	583,231	332,458
Unearned Funding 1989	-.421	.409	.728
Unearned Funding 1990	-.393	.441	.757
Basketball Staff Turnover 1989	-.377	0	.333
Basketball Staff Turnover 1987	-.377	0	1
Criteria (.3)			

Note: Conflicting Support for Student Athletes and Staff was named as the discriminant function title for basketball attendance due to academic achievement being high in Group 2, the low attendance group, but Group 1, the high attendance group, had more financial support.

Discriminant Analysis With Football Won-lost Standings

Hypothesis 3 tested for the possibility of a discriminant function with the ability of discriminating between the top Big Sky Conference football teams and the bottom teams. The two groups were classified based on their conference won-lost records over the four-year period 1987-1990. The universities with the best record formed Group 1 and the three schools with the poorest records formed Group 2. The conference won-lost records were then removed as a predictor variable leaving

academic achievement, attendance, coaching staff turnover, funding level, and type of funding as the predictor variables.

In order to examine the interdependence of variables which often exists in multivariant analysis, the pooled within-groups correlation matrix of predictor variables was evaluated (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

The canonical correlation coefficient serves to define the relationship between the groups and the discriminant function (Klecka, 1980, p. 37). In this examination, the canonical correlation coefficient was .987 meaning that 97.4% of the variance in the discriminant function was explained by the groups. The discriminant function formula was

$$D = .48 \text{ (football turnover 1987)} - 5.3 \text{ (football turnover 1990)} + .000006 \text{ (football funding 1988)} - .97.$$

For this study, the strong relationship between the groups and the discriminant function indicates that the discriminant function produced by the analysis is useful in defining differences between groups. This can be based both on the

high number of variables which exceeded the criteria of .3 in the within-groups correlation matrix and by the high canonical correlation coefficient. In addition, the discriminant function had 100% accuracy in placing the football teams in their original groups. This is a further indication of the separation between the two groups (Klecka, 1980, p. 49).

Naming the discriminant function is done by examining the structure matrix. Those variables in the structure matrix with the highest coefficients indicate the closest relationship to the discriminant function, so they are used to name the discriminant function. For this hypothesis, the variables which exceeded the .3 criteria were football academic achievement in 1987 (-.81400), football coaching staff turnover in 1988 (.7683), football attendance in 1987 (.5187), unearned funding in 1990 (-.45789), football funding in 1989 (.36558), and football funding in 1991 (.31880), so they serve to name this function. Because the two groups were divided based on the two teams which had the best won-lost records and the three schools with the poorest won-lost records, the differences between the groups were readily defined. It was clear from the negative relationship between academic achievement and winning that the discriminant function's name should focus somewhat on that area, but open examination of all the variables over a .3 correlation show a common bond existing among all six. The two universities which won the most had lower academic achievement, higher

coaching staff turnover, greater attendance, lower unearned funding, but higher overall funding as can be evidenced in Table 5. In Table 5 it can also be seen that the schools which lost the most had higher academic achievement, lower coaching staff turnover, lower attendance, higher unearned funding, and lower overall funding. Based on these variables, the discriminant function was named Conflicting Commitment to the Student Athlete. This was based on the evidence that the universities which did not win had more successful students, the coaching staff stayed at the university despite losing, and the university was willing to commit a higher percentage of unearned funds to the athletic program despite limited resources.

Table 5. Variables in structure matrix for football won-lost standings, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Football Academic Success 1987	-.814	4	5.333
Football Staff Turnover 1988	.760	3	2.666
Football Attendance 1987	.518	9945	7046
Unearned Funding 1990	-.457	.535	.661
Football Funding 1989	.365	975,866	832,649
Football Funding 1991	.318	1,227,294	925,444
Criteria (.3)			

Note: Conflicting Commitment to the Student Athlete was named as the discriminant function title for football won-lost standings. This title was given due to the fact that football programs in Group 2 had higher academic success despite having lower attendance, and funding. Those in Group 1 were more successful in the won-lost standings but their academic support was questionable.

Discriminant Analysis With
Basketball Won-lost Standings

Hypothesis 3 also tested for the possibility of a discriminant function with the ability of discriminating the basketball teams at the top of the Big Sky Conference won-lost standings from those teams at the bottom. The two groups were classified based on their conference won-lost records over the four-year period from 1987-1991. The two universities with the best records were Group 1 and the three with the worst records were Group 2. The predictor variables were academic achievement, attendance, coaching staff turnover, funding, and type of funding.

The interdependence of the variables was examined by the pooled within-groups correlation matrix (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

The analysis revealed a canonical correlation of .997, which meant that 99% of the variance in the discriminant function was explained by the groups. With 11 variables having exceeded the criteria of .3 in the structure matrix, the high canonical correlation, and the discriminant

function's 100% accuracy rate at classifying the cases into predicted groups, the discriminant function was useful in classifying differences between the two groups.

The discriminant function formula was

$$D = 8.971 (\text{basketball turnover 1987}) - 2.3 (\text{basketball turnover 1990}) + .00022 (\text{basketball funding 1990}) - 112.159.$$

The variables which exceeded the criteria of .3 in the structure matrix were basketball academic success in 1989 (.948), in 1991 (.817), in 1990 (-.572), and in 1988 (.417); unearned funding in 1991 (.874), in 1989 (.805), in 1988 (.756), and in 1990 (.730); basketball coaching staff turnover in 1989 (.825); and basketball attendance in 1990 (-.748), and in 1989 (-.315).

From examining the means, it was clear that Group 1 and Group 2 were distinguished from each other by Group 1 having lower academic achievement, lower unearned funding percentages, lower coaching staff turnover, and higher attendance. These differences can be evidenced by examining the means of Groups 1 and 2 in Table 6. This evidence points toward an emphasis on winning at the expense of academics, and this is further supported in Table 6 by the low percentage of unearned funding for the universities which win. This could be the case because those schools who win are tied to a need for high attendance in order to financial support their sport which in turn creates a pressure situation for athletes. The pressure on coaches was not reflected in the data because

Group 1 was composed of winning programs, so coaches are not pressured to leave winning programs. They may have pressure, but as long as they win and attendance is good, they keep their job. The student athlete differences between Group 1 and Group 2 are clear, and for this reason the discriminant function was named Conflicting Commitment to the Student Athlete.

Table 6. Variables in structure matrix for basketball won-lost standings, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Academic Success 1989	.948	2	3
Unearned Funding 1991	.874	.480	.727
Basketball Staff Turnover 1989	.825	0	.333
Basketball Academic Success 1987	-.817	0	3.333
Unearned Funding 1989	-.805	.468	.728
Unearned Funding 1988	.756	.452	.727
Basketball Attendance 1990	-.748	6561	2318
Unearned Funding 1990	.730	.480	.757
Basketball Academic Success 1990	-.572	1.5	2
Basketball Academic Success 1988	.417	.5	3.333
Basketball Attendance 1989	-.315	7012	2846
Criteria (.3)			

Note: Conflicting Commitment to the Student Athlete was named as the discriminant function title for basketball won-lost standings. This title was given due to the fact that the programs in Group 1, which has good won-lost records, showed low academic achievement.

Discriminant Analysis With Football Turnover

Hypothesis 4 tested for the possibility of a discriminant function with the ability of discriminating between the

football teams with high coaching staff turnover from those with low coaching staff turnover rates. The two groups were classified based on the number of coaches who left the universities during the four-year period 1987 to 1990. The three institutions which lost the most coaches were Group 1 and the three schools which lost the fewest coaches were Group 2. The predictor variables were academic achievement, attendance, winning, funding, and type of funding.

The interdependence of the variables was examined by the pooled within-groups correlation matrix (Norusis, 1988, p. B-5). In this examination, relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

Following the step-wise analysis, the canonical correlation coefficient was calculated to be .9992, meaning that 99.84% of the variance in the discriminant function was explained by the groups. With 14 variables having exceeded the criteria of .3 in the structure matrix, a high canonical correlation, and a 100% accuracy rate in classifying the teams in their original groups, the discriminant analysis was useful.

The variables which exceeded the .3 criteria were football funding in 1990 (.572), football wins in 1987 (.500), football wins in 1988 (.421), football wins in 1990 (-.407), football losses in 1987 (-.500), football losses in 1988 (-.421), football losses in 1990 (.407), football academic achievement in 1988 (-.431), unearned funding in 1988 (.411), unearned funding in 1989 (.366), unearned funding in 1991 (.357), unearned funding in 1990 (.316), and attendance in 1989 (-.369) and in 1990 (-.333). The mean funding level for Group 1 in 1990 was \$711,250.66, and Group 2 was \$925,584.66. So coaches with the smaller budgets tended to leave. The coaches who lost tended to have a greater departure rate. Surprisingly, the programs which had the highest turnover rates had greater attendance than those with the lower turnover rate as is evidenced in Table 7. This could indicate a greater than average local fan interest, which may create greater pressure for changes if a program is not successful. Table 7 also points out that the unearned funding level was high for the programs with greater turnover and the academic achievement was also high. Thus, overall funding and the number of losses were the primary variables in distinguishing those programs. The discriminant function formula was

$$D = 3.18 (\text{football wins 1990}) + 1.15 (\text{football academic achievement 1990}) + .000080 (\text{football funding 1991}) - .000183 (\text{football funding 1989}) + 47.86.$$

The variables indicated that Pressure to Win on the Coaching Staff was the proper title for the discriminant function.

Table 7. Variables in structure matrix for football coaching staff turnover, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Football Wins 1987	.500	2.666	3.666
Football Losses 1987	-.500	5.333	4.333
Football Academic Success 1988	-.431	9.666	9.333
Football Losses 1988	-.421	3.666	4
Football Wins 1988	.421	4.333	4
Unearned Funding 1988	.411	.513	.544
Football Losses 1990	-.407	4	3.333
Football Wins 1990	.407	4	4.666
Football Attendance 1989	-.369	12,361	9,786
Unearned Funding 1989	.366	.544	.533
Unearned Funding 1991	.357	.586	.501
Football Attendance 1990	-.333	12,037	11,099
Unearned Funding 1990	-.316	.563	.568
Criteria (.3)			

Note: Pressure to Win on the Coaching Staff was named as the discriminant function title for football coaching staff turnover. This was due to the fact that attendance was good for those high staff turnover programs in Group 1, which meant when the program was not winning there were more people aware of the problem.

Discriminant Analysis With Basketball Turnover

Hypothesis 4 also tested for the possibility of a discriminant function with the ability of discriminating the basketball teams with high coaching staff turnover from those with low coach staff turnover rates. The two groups were classified based on the number of coaches who left the schools during the four-year period 1987 to 1991. The three teams which lost the most coaches were in Group 1 and the four teams which lost the fewest coaches were in Group 2. The predictor

variables were academic achievement, attendance, winning, funding, and type of funding.

In order to examine the interdependence of the variables which often exist in multivariant analysis, the pooled within-group correlation matrix of predictor variables was evaluated initially (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

Following this step-wise analysis, the canonical correlation coefficient was calculated to be .9976, meaning that 99.5% of the variance in the discriminant function was explained by the groups. With 10 variables having exceeded the criteria of .3 in the structure matrix and the high canonical correlation, the discriminant function produced by the analysis was useful in defining differences between the two groups. The discriminant function also had a 100% accuracy rate in classifying the teams in their original groups. The variables with the highest coefficients in the structure matrix were basketball funding in 1989 (.740) and in 1991 (.492); basketball games won in 1987 (.565); basketball

games lost in 1987 (-.565); unearned funding in 1990 (-.494), in 1989 (-.454), in 1988 (-.420), and in 1991 (-.349); and basketball academics in 1990 (-.474) and in 1987 (.325). The groups were separated with Group 1 having the most coaches leaving and Group 2 the least coaches leaving. The differences between the groups was tied to the lower funding levels for those teams which had the higher turnover rates. The mean funding level for Group 1 in 1989 was \$355,266 and for Group 2 was \$592,444 as is evidenced in Table 8. So coaches who had the smaller budgets tended to leave. In Table 8 it can also be noted that coaches who lost had a positive relationship with leaving, and those who won showed a positive relationship with not leaving. In addition, programs which had a high turnover rate tended to have a higher percentage of unearned funding, which should have indicated good university support, but their lower funding overall was the reason for the high percentage of unearned funding. So there was a positive relationship between higher unearned funding and higher turnover rates. The other significant variable was basketball academics and coaching staff turnover. However, in 1990 there was a negative relationship, and in 1987 there was a positive relationship. So this variable should be viewed skeptically. Based on these variables, the discriminant function was named Inadequate Support for Coaching Staff. The programs which had the larger budgets tended to retain

coaches, compared to those with lower funding levels. The discriminant function formula was

$$D = 1.33 (\text{basketball wins 1990}) - 1.75 (\text{basketball academic achievement 1988}) - .011 (\text{basketball attendance 1988}) + .02 (\text{basketball attendance 1989}) - 57.63.$$

Table 8. Variables in structure matrix for basketball coaching staff turnover, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Funding 1990	.740	384,791	646,704
Basketball Funding 1989	.631	355,266	592,444
Basketball Losses 1987	-.565	10.666	5.75
Basketball Wins 1987	.565	5.333	10.250
Basketball Funding 1988	.515	400,534	485,131
Unearned Funding 1990	-.494	.655	.491
Basketball Funding 1991	.492	475,571	643,351
Basketball Academic Success 1990	-.474	2	1.750
Unearned Funding 1989	-.454	.616	.473
Unearned Funding 1988	-.420	.576	.458
Unearned Funding 1991	-.349	.613	.488
Basketball Academic Success 1987	.325	2.333	.5
Criteria (.3)			

Note: Inadequate Support for Coaching Staff was named as the discriminant function title for basketball coaching staff turnover. This was due to the fact that the basketball programs in Group 1 with the high coaching staff turnover also had low funding levels, which made it difficult for the coach to win, thus it caused them to leave.

Discriminant Analysis With Football Funding Levels

Hypothesis 5 tested for the possibility of a discriminant function with the ability of discriminating between the football teams with high funding levels and those with low funding levels. For the discriminant analysis, the two teams

with the highest funding during the four-year period from 1987-1990 were Group 1 and the three teams with the lowest funding level for this same four-year period were Group 2. In this analysis the predictor variables were academic success, win-loss records, coaching staff turnover, and type of funding.

In order to examine the interdependence of the variables which often exist in multivariate analysis, the pooled within-group correlation matrix of predictor variables was evaluated initially (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-group correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

The canonical correlation was .999, meaning that 99% of the variance in the discriminant function was explained by the groups. Fifteen variables exceeded the criteria of .3 in the structure matrix, and the discriminant function classified the cases into their predictor groups with a 100% accuracy rate. These findings indicate that the discriminant function was useful in classifying differences between the two groups.

$$D = -.00725 \text{ (football attendance 1988)} + .01971 \text{ (football attendance 1990)} + 1.10889 \text{ (football academic success 1989)} - 96.93734.$$

The variables which met the criteria .3 in the structure matrix were unearned funding in 1988 (.999), in 1989 (.977), in 1990 (.957), and in 1991 (.830); football wins in 1990 (.930), in 1988 (.847), in 1989 (.681), and in 1987 (.471); football losses in 1990 (-.930), in 1988 (-.847), in 1989 (-.681), and in 1987 (-.471); football staff turnover in 1987 (-.681), in 1988 (-.317), and in 1990 (.310).

These variables led to the determination that the discriminant function would be named Commitment to Higher Financial Status. This title was chosen based not only on the correlation and means dealing with the variables relative to the athletic departments but also the variable coaching staff turnover, which is an indicator of individual coaches' actions. The universities with the highest funding levels had the lower percentage of unearned funding, and unearned funding was by far the greatest indicator of differences between Group 1 and Group 2 as can be evidenced in Table 9. This indicates that those schools with higher funding levels have been able to obtain more money than the lower funded schools by going to sources other than state funds, and student fees. These sources of revenue include corporate sponsorships, guarantees from playing games, ticket sales, and booster donations. Because the second greatest indicator of differences between Groups 1 and 2 is that Group 1 wins more and loses less than

Group 2, it cannot be overlooked that winning may make it possible to increase revenue and lower the dependence on unearned funding for Group 1. This cycle of winning to keep funding levels up creates a dependence on winning, which can lead to more pressure in some cases. This in turn may lead to those universities in Group 1 needing to obtain coaches who can function well under the pressure of a university with a financial dependence on winning. These coaches may be able to win, but the correlations and means indicate that they leave at a higher rate also. They may buy into the commitment to financial gain, but this also may mean they are willing to move on to other schools for personal financial gain. The high turnover rate does not always mean that the coaching staff is always leaving for better paying jobs, but the fact that these schools are winning may indicate that they have that option. It could be said that to coach at those schools in Group 1 it is helpful to have a Commitment to Higher Financial Status for the university and yourself.

Table 9. Variables in structure matrix for football funding, correlations (.3 matrix) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Unearned Funding 1988	.999	.498	.727
Unearned Funding 1989	.977	.537	.728
Unearned Funding 1990	.957	.540	.757
Football Wins 1990	.930	4.500	2.333
Football Losses 1990	-.930	3.5	5.666
Football Losses 1988	-.847	2.5	6
Football Wins 1988	.847	5.5	2
Unearned Funding 1991	.830	.590	.727
Football Losses 1989	-.681	3	5.333
Football Wins 1989	.681	5	2.666
Football Staff Turnover 1987	-.681	4	1.333
Football Win 1987	.471	3.500	.3
Football Losses 1987	-.471	4.500	5
Football Staff Turnover 1988	-.317	3.500	1.333
Football Staff Turnover 1990	.310	1	.666
Criteria (.3)			

Note: Commitment to High Financial Status was named as the discriminant function title for football funding level. This was due to the fact that the football programs in Group 1 distinguished themselves from Group 2 by having a low percentage of unearned funding, meaning they were receiving their funding from sources other than the state. To have more money than the other schools requires a commitment to bring in that income.

Discriminant Analysis With Basketball Funding Levels

Hypothesis 5 also tested for the possibility of a discriminant function with the ability to discriminate between the basketball teams with the high funding levels and those with low funding levels. For the discriminant analysis, the two teams with the highest funding level during the four-year period from 1987-1990 were Group 1, and the three teams with

the lowest funding level for this same four-year period were Group 2. In this analysis the predictor variables were academic success, attendance, win-loss records, coaching staff turnover, and type of funding.

In order to examine the interdependence of the variables which often exist in multivariant analysis, the pooled within-group correlation matrix of predictor variables was evaluated initially (Norusis, 1988, p. B-5). In this examination relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-groups correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

The canonical correlation was .999, which meant that 99% of the variance in the discriminant function was explained by the groups. Twelve variables exceeded the criteria of .3 in the structure matrix, and the discriminant function classified the cases into their predictor groups with a 100% accuracy rate. These findings indicate that the discriminant function was useful in classifying differences between the two groups.

The discriminant function formula was

$$D = -1.180 (\text{basketball wins 1987}) + 14.112 (\text{basketball academic success 1987}) + 6.490 (\text{basketball academic success 1989}) - 35.424.$$

The variables which met the criteria of .3 in the structure matrix were basketball attendance in 1989 (-.957), in 1987 (-.839), in 1988 (-.810), and in 1990 (-.747); basketball staff turnover in 1988 (.695), and in 1990 (.668); unearned funding in 1991 (.657), and in 1989 (.538); basketball academic success in 1990 (-.646), and in 1988 (-.516); basketball wins in 1989 (.301); and basketball losses in 1989 (-.301). These variables led to the determination that the discriminant function would be named Commitment to High Income and Spending Levels. This title was based on the high attendance levels, low unearned funding levels, low academic success, and the fact that these schools had the most money to spend.

Upon examining the means, the most evident aspect was the huge attendance difference between Group 1 and Group 2 as can be evidenced in Table 10. There is also some indication that Group 1 wins more, which may account for part of the attendance difference of 4,799 people per game but probably not for all of it. Those schools which draw the larger numbers may do so partially through promotion and sales, and they may do this in order to keep the revenues up. By keeping the revenues high they can spend more, which may allow them to run what appears to be a better program.

Table 10. Variables in funding structure matrix for basketball funding, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Attendance 1989	-.957	7012	2846
Basketball Attendance 1987	-.839	7142	2030
Basketball Attendance 1988	-.810	7845	2169
Basketball Attendance 1990	-.747	6561	2318
Basketball Staff Turnover 1988	.695	1	1
Basketball Staff Turnover 1990	.668	1.5	2
Unearned Funding 1991	.657	.480	.727
Basketball Academic Success 1990	-.646	1.5	2
Unearned Funding 1989	.538	.468	.728
Basketball Academic Success 1988	-.516	.500	3.333
Basketball Wins 1989	.301	10.500	4.333
Basketball Losses 1989	-.301	5.500	11.666
Criteria (.3)			

Note: Commitment to High Income and Spending was named as the discriminant function title for basketball funding level. This title was given due to the fact that the higher funded basketball programs in Group 1 had high attendance and the lower funded programs in Group 2 had low attendance. This high attendance is what helps keep the Group 1 programs revenue high so these institutions are committed to continuing the high attendance so they will have more money to spend.

Discriminant Analysis With Type of Funding Levels

Hypothesis 6 tested for the possibility of a discriminant function with the ability of discriminating between the universities with high levels of unearned funding and those with low levels of unearned funding. Unearned funding is money provided to the athletic department from state funds or from student fees. For the discriminant analysis, the two teams with the highest unearned funding levels were Group 1 and the three teams with the lowest levels were Group 2. This

was based on the four-year period from 1987 to 1990. In this analysis the predictor variables were academic success, attendance, win-lose records, coaching staff turnover, and funding levels.

In order to examine the interdependence of the variables which often exist in multivariant analysis, the post within-groups correlation matrix of predictor variables was initially examined (Norusis, 1988, p. B-5). In this examination, relationships were found to exist within the groups on the discriminating variables, so further analysis was needed. Based on the coefficients for the sets of variables in the pooled within-group correlation matrix, a determination was made as to which variables should be removed before the Wilks-lambda step-wise analysis was to be run. Upon removing those variables which exceeded the criteria, the analysis was completed.

The canonical correlation was 1.0, meaning that 100% of the variance in the discriminant function was explained by the groups. Twenty-seven variables exceeded the criteria of .3 in the structure matrix, and the discriminant function classified the cases into their predictor groups with a 100% accuracy rate. These findings indicate that the discriminant function was useful in classifying differences between the two groups.

The discriminant function formula was

$$D = .464 (\text{football attendance 1987}) + .848 (\text{football funding 1988}) - 14.195 (\text{basketball losses 1990}) - 8.181.$$

The variables which met the criteria of .3 in the structure matrix were basketball academic success in 1988 (-.968), in 1990 (.777), and in 1987 (-.754); basketball wins in 1988 (.944); basketball losses in 1988 (-.944); football funding in 1991 (-.917); football academic success in 1988 (.867), in 1989 (.557), and in 1990 (.493); basketball attendance in 1990 (.841), in 1989 (.807), in 1988 (.804), and in 1987 (.741); basketball staff turnover in 1988 (-.813), in 1989 (-.553), and in 1990 (.377); basketball funding in 1988 (-.703), in 1990 (.529), and in 1989 (.503); football turnover in 1987 (.682), in 1988 (-.551), in 1989 (-.518), and in 1990 (-.516); football losses in 1987 (.581); football wins in 1987 (-.381); and football attendance in 1989 (.446), and in 1990 (.347). These variables lead to the determination that the discriminant function would be named Positive Commitment to the Student Athlete. This was based on the higher academic success rate for student athletes in Group 1, despite the fact that these student athletes were in programs which received lower actual dollars in their budget and less support in terms of attendance at their games. The means which indicate this can be evidenced in Table 11, and are basketball academic success 1988, 1990, 1987; and football academic success 1988, 1989, 1990.

The means for the variables in the structure matrix point toward schools with high unearned funding having less wins, less attendance, less money, and more academic success. The

question remains, is it possible to have it all -- high funding, high attendance, winning, and academic success?

Table 11. Variables in structure matrix for type of funding, correlations (.3 criteria) and means.

	<u>Correlations</u>	<u>Group 1</u>	<u>Group 2</u>
Basketball Academic Success 1988	-.968	3.500	1.666
Basketball Wins 1988	.944	3	11.333
Basketball Losses 1988	-.944	13	4.666
Football Funding 1991	-.917	838,111	1,240,850
Football Academic Success 1988	.867	9.500	8.666
Basketball Attendance 1990	.841	1307	6861
Basketball Staff Turnover 1988	-.813	1.500	.333
Basketball Attendance 1989	.807	2837	6732
Basketball Attendance 1988	.804	1469	8045
Basketball Academic Success 1990	.777	2	1.666
Basketball Academic Success 1987	-.754	3	1.333
Basketball Attendance 1987	.741	1350	7306
Basketball Funding 1988	-.703	266,524	416,641
Football Turnover 1987	.682	1	3
Football Losses 1987	.581	5	3.666
Football Wins 1987	-.581	3	4.333
Football Academic Success 1989	.557	8.500	8.666
Basketball Staff Turnover 1989	-.553	.5	0
Football Staff Turnover 1988	-.551	2	2
Basketball Funding 1990	.529	315,069	555,375
Football Turnover 1989	-.518	4	.666
Football Turnover 1990	-.516	1	.666
Basketball Funding 1989	.503	290,514	507,499
Football Academic Success 1990	.493	14.5	10.666
Football Attendance 1989	.446	6162	14,940
Basketball Staff Turnover 1990	.377	2	.333
Football Attendance 1990	.347	5831	16,231
Criteria (.3)			

Note: Positive Commitment to the Student Athlete was named as the discriminant function title for unearned funding level. This title was given because the universities in Group 1, which had the higher level of unearned funding, also showed greater academic achievement. This indicated that when state money is used to a greater extent as a revenue source it may encourage athletic programs to emphasize academics more.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The purpose of this study was to examine the interaction between selected variables which affect and shape athletic programs in the Big Sky Conference. The goal of this research was to provide information to administrators which would enable them to better evaluate their athletic programs and make informed judgements regarding those programs and the personnel they employ.

Data for this study was collected from the Big Sky Athletic Conference members and the Big Sky Athletic Conference Commissioner's office. Using the data university football, and basketball programs were placed in groups for each variable, and the overall athletic departments were placed in groups for one variable. The high and low groups were then analyzed using the multi-variant statistic discriminant analysis.

In order to discriminate between groups five discriminant analysis were performed on football programs in the Big Sky Athletic Conference. When the programs were grouped for each

variable a discriminant function title was determined based on the findings in the resulting structure matrix. The variables and titles were as follows: for academic achievement -- Commitment to the Student Athlete, for attendance -- Fan Support for Winning, for won-lost records -- Conflicting Commitment to the Student Athlete, for coaching staff turnover -- Pressure to Win on the Coaching Staff, and for funding level -- Commitment to High Financial Status.

In order to discriminate between groups five discriminant analysis were performed on basketball programs in the Big Sky Athletic Conference. When the programs were grouped for each variable a discriminant function title was determined based on the findings in the resulting structure matrix. The variables and titles were as follows: for academic achievement -- Lack of Commitment to the Student Athlete, for attendance -- Conflicting Support for the Student Athlete, for won-lost records -- Conflicting Commitment to the Student Athlete, for coaching staff turnover -- Inadequate Support for Coaching Staff, and for funding level -- Commitment to High Income and Spending Levels.

One discriminant analysis was performed on the type of funding used by athletic departments in the Big Sky Conference. When athletic departments were grouped between for level of unearned funding a discriminant function titled Positive Commitment to the Student Athlete was found which discriminated between the groups.

Conclusions

Conclusions Concerning Football Programs

1. Football programs who's athletes showed high academic achievement had low coaching staff turnover and high unearned funding levels. This may be an indication that having a stable coaching staff and receiving a higher percentage of the athletic budget from the institution results in a more academically successful football program.

2. Football programs with high attendance also had successful won-lost records and high funding levels, indicating that these three variables are closely related, thus it may be difficult to have one without the others.

3. Football programs with successful won-lost records showed lower academic success for their athletes, even though they had higher funding levels. This indicates an emphasis on winning over academics, as the football staff was either not recruiting academically strong student athletes or not emphasizing academics once the athletes were on campus.

4. Football programs with high football coaching staff turnover appear to be under great pressure to win. This is indicated by programs with a high turnover rate being funded at a higher level and having greater attendance at their games than the programs with a lower turnover. They have an average of \$99,820 more in their budget and an average of 2,576 more people in attendance at their games. Pressure these individuals put on themselves or receive from outside sources

could well be a factor in high turnover since they were only losing an average of nine-tenths of a game more in conference play.

5. Football programs with poor won-lost records had a lower coaching staff turnover rate than those who won more. These institutions also had a higher level of unearned funding. This indicates that these institutions may be following the Knight Commission's suggestion for a greater tolerance for losing (The NCAA News, 3/20/91, pp. 1,3).

6. Football programs with high funding levels won an average of 2.49 more conference football games while spending an average of \$280,725 more dollars on their football program. Whether this extra money is considered well spent is a matter of opinion and may vary with each institution.

7. Football programs that are not among the highly funded group need to re-educate their fans and supporters to adjust their expectation for winning.

Conclusions Concerning Basketball Programs

1. Basketball programs who's athletes have high academic achievement do not maintain coaching staff or receive strong fan support, indicating winning is more important in the eyes of the fans than athletes having high academic achievement. This puts great pressure on the coaches.

2. Basketball programs with high attendance have not been able to produce many academically successful athletes,

even though they have budgets over \$200,000 more than academically successful programs with stable coaching staffs.

3. Basketball programs in the Big Sky Conference are NCAA Division I level programs while football is at the lower NCAA Division IAA level. This may account for why basketball coaches in successful programs stay at Big Sky Conference Universities and football coaches in successful programs tend to move up a rank.

4. Basketball programs which have high levels of staff turnover are funded \$187,867 less than those who do not have high staff turnover. This indicates that coaches may not have the financial support required to be successful so they depart for other positions.

5. Basketball programs that were in the low funded group had 32% as much attendance at their games as the highly funded group. These same Universities were funded at 46% of the highly funded group. Considering their attendance they may not be in a good position to request increased funding.

General Conclusions

1. Football and basketball programs in the Big Sky Conference with high levels of unearned funding had higher academic achievement. This would seem to indicate that those programs receiving a greater percentage of their funding from the university budget feel a greater obligation toward academics. If this is the case, then these findings may

indicate that those institution with high unearned funding levels do have greater institutional control.

Institutional control was emphasized in the Knight Commission Report as being important (The NCAA News, 3/20/91, pp. 1-3). The commission indicated that universities needed to assert these institutional controls over athletic departments. This study points toward greater levels of unearned funding as a way to provide greater institutional control.

2. The Knight Commission's belief in more institutional funding as a means to reduce pressure on coaching staffs (The NCAA News, 3/20/91, pp. 1-3) was not supported in this study. Staff turnover rates for institutions with high unearned funding levels were high. This is the opposite of what the Knight Commission report predicted.

3. In the case of Big Sky Conference Universities the Knight Commission's recommendation for increased unearned funding to help increase institutional control (NCAA News, 3/20/91, pp. 1-3) might be better addressed with conference revenue sharing or caps on how much money can be spent. This conclusion is based on the large funding differences among the conference institutions and the limited dollar resources available to meet the commission's suggestions.

4. This study demonstrates that scientific research can be applied to university athletic issues and meaningful results can be determined.

5. The data collection problems encountered by this study indicate the sensitive nature of funding issues for intercollegiate athletics and serve as a reminder that athletic funding is a very political issue.

Recommendations

Recommendations Concerning Football Programs

1. The variable academic achievement in football's discriminant function was titled Commitment to the Student Athlete. Further research is needed in this area as academic success was based on the number of students with a GPA over 3.0 because this information is reported to the commissioners office and was therefore available. Future research should be based on graduation rates for athletes. Graduation rates may be an area where the schools with more funding but low academic success could close the gap. They would have more money to help fund athletes in summer school and their fifth year of school should these athletes use up their eligibility in four years.

2. Making an effort to maintain a stable coaching staff is a positive move to help student athletes academically. Administrators may want to take this into consideration when looking at who they hire as coaches. Bringing in a coach who is not likely to stay long may not be good for a football program's academic success.

3. The variable attendance at football games was closely related to both winning and funding. This is logical since the schools which have greater attendance earn more income. The discriminant function was titled Fan Support for Winning. This study brings the winning, attendance and funding relationship into focus by showing administrators that there are certain geographic areas where there can never be as many fans due to low population. Administrators will perhaps adjust their expectations for winning teams in those areas with limited attendance potential. Further investigation needs to be conducted looking at the relationship between winning, attendance and funding and whether one can exist without the others.

4. Further investigation is needed as to why the highly funded programs that win do not retain their coaches very long. Highly funded programs appear to be concerned with won-lost records first and seem to hire coaches with similar views. Perhaps the schools in Group 2 have made a philosophical decision to run their programs in a different way, and they are, in fact, winners in that they choose to put an emphasis on a stable program where academic success is emphasized over athletics. Administrators at the universities with better won-lost records can look to improve their program overall by enhancing academic support to their student athletes.

5. The mean amount of funding for institutions in Group 1 who had high football staff turnover was compared to the mean amount of funding for Group 2 the low turnover group. There was a clear difference between the groups. The high turnover group averaged \$99,820 more in their budget than the low turnover group. Thus, the schools with higher funding were losing coaches at a greater rate than those with lower funding. In addition, these coaches were not very far behind in the won-lost column from those who were staying. The difference in wins was only nine-tenths of a game between coaches in Group 1 and coaches in Group 2. Perhaps it is a bad situation for a school to have more money and not win against lesser-funded opponents. In addition, those coaches in Group 1 averaged 2,576 more fans in attendance at their games than those in Group 2.

Further investigation into the relationship between the variables attendance, funding, wins-losses, and coaching staff turnover would be worthwhile, particularly if the study was conducted over a longer time span, perhaps five years. This would be helpful because coaches depart institutions for various reasons. Sometimes they move up to better jobs. Other times they move down, retire, or realize they can make more in other professions and so they leave. A study over a longer period of time, combined with actually following up on what the coaches did when they left would provide insight into this variable.

6. Administrators with high coaching staff turnover need to consider ways to help their coaches handle the pressures put on them. Something as simple as advising coaches to consult experts in the employee wellness program may be beneficial. One way to possibly lessen pressure which may be more to the coaches liking would be a long term contract. Administrators also need to know where a program ranks in the conference funding and how strong a program is in academic achievement. They can then bring forth a different picture to the public. For example, the team may only be winning 50% of their games but they are doing it with half the funding of the other universities and their athletes are performing better in the classroom.

7. If more money is a sign of success and winning is a sign of success, then those teams in Group 1 of the variable football funding levels appear to be doing well. They won an average of 2.49 more Big Sky Conference games a year than the lower funded teams. But were those wins worth the extra \$280,725 in cost, particularly when these winning universities students were less academically successful? Winning, attendance, and funding are closely related. In fact, a university may need to have all three in order to have one of them. Winning brings more attendance, which brings more money, which allows for more spending. If a program is not winning, then the answer is perhaps to increase funding, if possible. The money to do this has to come from somewhere, if

a team is losing, it will not come from people attending the games. In this situation the programs would need to go to the state for funding. This would result in a higher proportion of unearned funding for the football program. This would reinforce the Knight Commission's suggestions to increase state funding to allow for a more stable athletic program (The NCAA News, 3/20/91, pp. 1-3). However, it is hard to say that when an institution does increase unearned funding levels there is a greater tolerance for losing, as was also suggested by the Knight Commission.

The two football programs in the conference which had the highest funding levels were able to get their funding from a balance between earned and unearned funding. They were not among the leaders in attendance, and they were also not among the schools with low percentages of unearned funding. Furthermore, they were not among the schools with higher percentages of unearned funding. They fell in the middle range of percentage of unearned funding, yet they were spending nearly as many actual state dollars as the universities in the high percentage of unearned funding group.

They were, in fact, receiving just \$149,426 less from unearned funding than those in the high unearned funding group. Their approach appears to be to maximize every source of revenue, which is something the Knight Commission never addressed, but university presidents at those institutions should feel every right to exert institutional controls over

those programs since they are very dependent on unearned funding to maintain their success.

8. Those institutions which cannot fund at a high enough level to have a successful won-lost record may need to educate their fans to understand that they are doing well considering their funding. This is difficult for a football program to do publicly because if everyone, including their opponents, knew they had less money that fact could be used against them when recruiting athletes to play for them.

Recommendations Concerning Basketball Programs

1. The variable academic achievement in basketball was titled in the discriminant analysis Lack of Commitment to the Student Athlete. Those institutions who were not in the high academic achievement group should take a hard look at where they are in their academic support of student athletes. When one considers that Lack of Commitment to the Student Athlete was the title given to discriminate the high academic achievement group from the low academic achievement group it brings home the point that basketball academic achievement in the Big Sky Conference is not particularly good in either group.

The need to look further into this problem area using graduation rates is clear, as basketball is a sport with a small number of athletes who travel a great deal. These student athletes may have been unable to reach a 3.0 GPA, but the schools may well see that they graduate. The low

attendance at home games for the academically successful teams also shows a lack of support from the community and student body, which is often the case when a team isn't winning. The high coaching staff turnover for the academically successful programs points to a lack of support for the athletes as well. However, one would have to know why these coaches left before it was determined whether the coach would be at fault for not staying with their team or whether the administration would be at fault for encouraging a coach with an academically successful team to depart.

For administrators the key point is that if coaches with academically successful athletes are being pressured to leave then something may be wrong. Particularly since those universities with the higher academic achievement are funded \$ 225,880 less than the low academic achievement group. The coaches at the high academic achievement universities may have been doing very well considering their funding level. Further research into the specific reasons why these coaches depart is recommended.

2. The variable attendance in basketball appeared to have different variability in the structure matrix than football attendance. Instead of funding being at the top of the list it was academic success, with those schools which had low attendance showing greater academic success. This low academic success for Group 1 occurred despite the fact that there was no turnover in the coaching staff and funding levels

for those universities in Group 1 was over \$200,000 higher than those in Group 2. This led to the discriminant function being named Conflicting Support for the Student Athlete and Staff.

There is a clear need to establish a greater understanding of the relationship between academic achievement, and running a stable athletic program. This means having a program which has a steady support system for the athlete from coaching staff, tutors, academic advisors, and administrators. From this study it appears that a stable staff does not help academics, but further investigation is needed as to why this is so. Administrators at those institutions with low academic achievement but high funding may wish to investigate ways to direct some of this program funding to academic support.

3. The variable basketball won-lost records discriminant function was titled Conflicting Commitment to the Student Athlete. Basketball coaches with winning programs tended to stay with the program, unlike the football coaches. This could have to do with the fact that basketball is at the Division I level, which is the highest level for that sport.

Football in the Big Sky Conference is at the Division IAA level, which is the second highest level for that sport. So the football coaches could tend to look toward moving up a level more so than basketball coaches. In addition, there are

more football coaches on a staff, so there are normally more jobs available (1994-1995 NCAA Manual, pp. 63-63).

The means indicated that the winning programs have less success academically. This is despite good support in terms of attendance, and low coaching staff turnover. The universities with losing records had unearned funding percentages 26% greater than that of the winning programs. They also had a 34% higher rate of academic success based on the means of those variables which exceeded the criteria of .3 correlation in the structure matrix. This relationship between high percentages of unearned funding and academic success deserves further investigation. Because the average funding level for basketball teams in Group 1 was \$682,127 and the average funding level for basketball teams in Group 2 was \$317,501, one would expect there to be more academic support for those teams in Group 1, thus better students. This, of course, is not the case; the schools with less money and poorer winning percentages had a greater academic success rate. Why this happens could be based upon a philosophy within a program. It should not be affected by teams in Group 1 practicing more than Group 2, thus less study time, because the NCAA has a limit of 20 practice hours a week for all teams (1994-1995 NCAA Manual, p. 232). Further investigation into the interaction between these variables would be useful. Athletic administrators at institutions with good won-lost records may wish to also study their athletes academic

records. Should the academic records not be satisfactory perhaps the transfer of basketball money toward academic enhancement of their players should take place.

4. Findings for the variable basketball coaching staff turnover brought forth the need for further investigation into the differences between football coaching staff turnover and basketball coaching staff turnover. A study involving interviews of football and basketball coaches asking about the nature of their departure would be helpful. Less than adequate funding distinguishes the basketball coaches in Group 1 from the football coaches in Group 1. However, without follow-up studies as to exactly why coaches in Group 1 departed, it is difficult to definitely say that they were not treated fairly. Administrators at those universities which are funding at a low level may want to make sure they have adequate information before they encourage a coach to leave, as the coach may be doing very well considering the funding level of their program.

5. The variable basketball funding level's discriminant function was titled Commitment to High Income and Spending Levels. This title was given not so much because of what Group 1 was doing, but what Group 2 was not doing. These two groups had funding differences (see Table 12) and it is possible to say that given the same resources the coaches in Group 2 would have been able to match Group 1 in wins. So it

does not seem proper to focus on winning in the discriminant function when there were such big differences.

Table 12. Comparison of means for Group 1 and Group 2 basketball programs.

<u>Variable</u>	<u>Group 1</u>	<u>Group 2</u>
Attendance	7140	2340
Funding	682,127	317,501
Wins	11.375	4.749
Losses	4.625	11.249

Note: The variables indicated above demonstrate the tremendous differences between Group 1 and Group 2 for these variables and raise the question of whether it is fair to compare Group 1 basketball programs against Group 2 programs.

When examining the budgets of various conference programs it is hard to realize that these are all state supported universities in the same part of the United States. This research would tend to say that those schools which are funding their basketball teams at less than half that of the top teams in the conference cannot expect to win. Of course, one could argue that since attendance is also less than half that of the teams in Group 1, those teams in Group 2 should not expect to be funded any higher. The question for an athletic director must be, is it worth risking the initial money to try and develop a winning team, which would increase attendance and income? Further research into this area could be very useful to administrators in the future. With these funding differences as evidence coaches or administrators in low funded basketball universities have the data to push for

greater funding. They also have the evidence to justify decisions to maintain staff even if they are not winning, as according to this investigation those coaches are not funded at the level it takes to win.

Recommendations Concerning Type of Funding

1. The variable type of funding's discriminant function was titled Positive Commitment to the Student Athlete. This was based on a high percentage of unearned funding support for those universities in Group 1 and low percentage for those in Group 2. The actual average dollar difference was \$641,928 between Group 1 and Group 2. This higher level of state funding may have played a role in the differences between these universities in the other variables. The most notable was academic success. It could be that universities in Group 1 emphasize academics more than athletics. However, there certainly must be some expectation to win at a higher rate than half the wins of those in Group 2 (see Table 13).

Table 13. Comparison of high and low unearned funded groups.

<u>Variable</u>	<u>Group 1</u>	<u>Group 2</u>
Staff Turnover Average	3.375	2.082
Academic Success Average	12.500	9.332
Average Combined Wins	3.687	7.707
Average Combined Attendance	4,121	11,027
Average Unearned Funding Money	2,142,849	1,500,921

Note: The means indicate that those institutions with high unearned income are not retaining staff at as high a rate as those with low unearned income. They are also not doing well in attendance or wins. The table makes it clear that those institutions with high unearned funding levels do not have a very good won-lost record with the funding they received.

Those universities in Group 2 have low unearned funding levels in part due to the high attendance compared to those in Group 1. Attendance receipts are money that was earned by the university, so they feel a need to put it back into the athletic programs to help insure that they continue to win. When making money, athletic departments, of course, do not repay the state for all of the money they have received. What is evidenced from the data is a cycle of losing on the part of the schools with high unearned funding levels, and winning for those with low unearned funding levels. Those with high unearned funding levels have not been able to take their unearned funding and make more money with it, but they have shown a commitment to the student athlete.

Administrators need to find a middle ground where those well funded institutions who win improve their academic

achievement and those institutions who are not winning find ways to win or adjust their expectations. This middle ground would be more easily reached by those who have the funding to start with, as university administrators can make more of an effort to exert institutional control over their athletic programs. Administrators can require funding to be spent on academic enhancement for athletes. Those programs who wish to win but do not have the funding to do so have a more difficult situation. One approach is to take a chance that they will eventually start winning by going into debt to increase funding, which many universities would not allow. A better approach would be to push for more revenue sharing within the conference or push for spending caps on how much money conference members can spend on athletics.

General Recommendations

1. Further research into identifying differences among institutions in the conference for academics, funding, and type of funding would be worthwhile. University presidents are perhaps in the best position to act on these differences. They can exert institutional control by directing funds to athletes academic support programs, seeing that coaches are recruiting solid student athletes, pushing at the conference level for revenue sharing or spending caps, and pushing for more funding at the state level when needed. Once measures are implemented to help make an athletic department more

competitive the president needs to follow up making sure funding is going to the needed areas.

2. University presidents and athletic directors at institutions with high unearned funding and low overall funding must keep in mind the Knight Commissions recommendation for a greater tolerance for losing (The NCAA News, 3/20/91, 1-3). Based on the data those institutions have not shown tolerance in the past.

3. With large differences in funding and seemingly different academic philosophies, there appears to be many potential conflicts. On the surface it would appear that total revenue sharing would be the way to balance these differences. States may view this idea as giving away their money to another state. The other option is spending caps, this idea may not be that far fetched when examined more closely as there are already scholarship caps. Spending caps would be a quick way to reduce funding inequities. Universities might argue that caps or revenue sharing would limit their ability to compete at the national level. On the other hand, a revenue sharing program might bring the entire conference to a higher level.

4. This study demonstrated that scientific research applied to athletic issues can provide meaningful suggestions and data for athletic administrators, coaches, and university administrators. The guarded approach athletic departments take toward providing funding data makes research in this area

difficult. Future researchers should be aware of how difficult it is to obtain the athletic department audits used in this study. These audits were conducted by an outside agency and are required annually by the NCAA. Internal audits conducted by the university for the state are a matter of public record and would be more readily obtained. There is no way of knowing which audit would be more accurate. The political nature of athletic funding makes using the internal audits much easier. One does not have to be around university athletics long to know how important adequate funding is to athletic departments and how strongly they feel about funding, so avoiding confrontation and using proper channels would be advised for future researchers in this area.

5. For the Big Sky Conference Commissioner this information will bring forth some clear problems and perhaps be useful in heading off the further loss of teams from the conference. Three teams in this study will be out of the Big Sky Conference by 1996 (The Bozeman Daily Chronicle, 12/23/94, p. 15). This study could be useful in examining underlying differences between those institutions that departed and the rest of the conference. Perhaps financial and philosophical differences need to be considered when adding conference members.

The data from this study can help explain why three institutions which were consistently in Group 1 in the winning and funding variables left or are leaving the conference.

Nothing can be done to stop those universities at this point, but a question remains, what can be done to improve the conference so others won't leave? An additional question might be: are those schools that want to come in the conference likely to be Group 1 or Group 2 institutions? How does their data compare to the Big Sky Conference universities? Perhaps institutions that wish to be members of the Big Sky Conference can be profiled into a group based on past academics, attendance, won-lost records, staff turnover, funding, and type of funding. The researcher believes administrators and coaches need to take an informed look at the data presented in this study and look at current data before they make decisions about adding conference members.

6. This study's view of the conference also gives administrators a chance to redefine success among teams in the conference. Some universities have more wins and more money, but do they have as many good students? Are they getting their money's worth for those wins, or are they spending so much to get those wins that they're not really coming out ahead? Administrators need to clarify what they want their programs to emphasize and what they want the Big Sky Conference to represent.

Closing Statement

Because this research provides unique and useful information about those institutions which were part of the study, copies of this dissertation will be sent to each

athletic director in the Big Sky Conference as well as the Conference Commissioner. In the eleven discriminant analysis that were conducted there is a wealth of data. However, for purposes of remaining anonymous no names are provided for the various institutions in the groups. To help each school know where they stand, an accompanying letter will indicate that if they wish to know which group they were in for each variable it will be provided at their request.

The findings in this study point toward possible philosophical differences between the universities in the Big Sky Conference. Some institutions subscribe to the philosophy that winning is a must, but they will not fund the programs like those who win. Others fund to win, and expect to win or else. Still others know they do not fund enough and just try to do as well as possible. Hopefully, this study can help clarify where institutions are, and where they are headed.

At the very least, this information can be used as a reference point for where each university athletic program was during the years of this study and findings can be compared to where they are today. Universities wishing to do a follow-up study could compare whether their current program is better off now than it was during the four-year period of this study.

When an athletic director is being told by fans that a program is going downhill, this study may be a better reference point for knowing if that is true and on what basis the claim can be made.

Aside from the statistics, the discriminant analysis titles can serve to affect the administrators' or coaches' outlook toward their programs. For example, if you are a head football coach for a team in this study and you find that your team is categorized into a group whose discriminate function is titled Conflicting Commitment to the Student Athlete, that should get your attention, and perhaps you will act to improve the situation.

The Big Sky Conference existed in a state of what on the surface appeared to be equilibrium during the period of this study, by taking this more in depth look it would appear that this was not the case. This study attempted to deal with hard data and by doing so was able to reveal what was actually happening in the conference during the period of this study. The chances of achieving a well balanced conference capable of turning out a greater number of superior student athletes could be increased by using a similar data base for making decisions.

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