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THE EFFECTS OF POLICY ON  
INTERCOLLEGIATE FOOTBALL PROGRAMS:  
THE INTENDED AND UNINTENDED  
EFFECTS OF PROPOSITION 48

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## ABSTRACT

Numerous policies to make changes in educational practices in recent years have resulted from policymakers' perceptions that schools and universities were failing to give adequate attention to raising educational outcomes. Proposition 48 was implemented in 1986 to improve the academic preparedness of incoming freshmen student-athletes. It was a response to public outcry that athletic success and exorbitant financial profits were often at odds with the mission of higher education, and that students in "football factories" were not receiving adequate educations. Besides its intended goal, however, debate over Proposition 48 concerned how it might impact schools' abilities to attract skilled athletes.

The purposes of this study were 1) to investigate the intended effect of Proposition 48 on the graduation rates of student-athletes over time; and 2) to identify possible unintended effects that Proposition 48 had on the recruiting practices of Division I-A football programs. Institutional data between 1983 and 1991 were obtained from 112 Division I-A football programs. Latent Change Analysis (LCA) was utilized to investigate hypotheses about changes in trends of entering freshmen and freshman graduates before and after the introduction of Proposition 48, as well as to examine changes in the numbers of entering junior college transfer student-athletes and their graduation rates after its introduction.

Results indicated that Proposition 48 produced no significant increases in the graduation rates of freshmen or junior-college transfer student-athletes participating in

Division 1-A football. The results also suggested there was a significant decline in the number of freshmen recruited after the implementation of Proposition 48, and a corresponding increase in the number of junior college transfers recruited within Division I-A football programs. These results were mediated primarily by the institution's athletic prestige (i.e., on-field success), suggesting that coaches in less successful programs had to alter their recruiting strategies by recruiting greater numbers of junior-college transfers to fill their player rosters. In addition to its substantive findings, the study demonstrates the usefulness of LCA as a new methodological approach for investigating policy impact over time.

## TABLE OF CONTENTS

Abstract .....	iv
List of Tables .....	xi
List of Figures .....	xiii
Chapter I: OVERVIEW OF THE RESEARCH PROBLEM .....	1
Introduction .....	1
Organization Of The National Collegiate Athletic Association .....	4
The Context Of Proposition 48 .....	7
A Case Study: Intercollegiate Football .....	8
Statement Of The Problem .....	11
Purposes Of The Study .....	14
Theoretical Grounding Of The Study .....	16
Policy Frameworks .....	17
Analyzing Policies .....	19
Need And Significance Of The Study .....	22
Research Questions And Hypotheses .....	23
Hypotheses .....	24
Chapter II: REVIEW OF THE LITERATURE .....	26
Introduction .....	26
Historical Background .....	26
National Collegiate Athletic Association (NCAA) .....	26

Early Problematic Areas Within Collegiate Football .....	28
Freshmen Eligibility .....	29
Recruiting .....	30
New Problems Facing The NCAA And Collegiate Athletics .....	31
The Changing Finances Of Higher Education Athletics .....	33
Television .....	35
The Prestige Of The Institution Factor .....	35
Maintaining Competition Through The Obtaining Student-Athletes .....	37
Costs Of Obtaining A Student-Athlete: Recruiting .....	38
Athletic Dormitories .....	38
The Head Coach .....	39
Athletic Eligibility And Freshmen Entrance Requirements .....	42
Standardized Test Scores And Grade Point Averages .....	44
Graduation Rates .....	45
Policies To Govern Athletes' Achievement And Eligibility .....	46
Early Policies .....	47
Proposition 48 .....	47
Previous Research Examining The Effects Of Proposition 48 .....	50
Academics .....	51
Graduation Rates .....	52
Summary Of The Chapter .....	54
Chapter III: METHOD .....	56

Design .....	56
Potential Threats To Internal Validity In Time-Series Designs .....	57
Data Sources .....	59
Variables In The Policy Model .....	61
Outcome Measures .....	61
Graduation Rates .....	61
Entering Freshmen .....	62
Junior College Transfers .....	62
Covariates .....	64
Prestige Related To On-Field Success .....	64
Conference Affiliation .....	64
Financial Data .....	65
Size Of Institution .....	66
Public Or Private Institution .....	66
Data Analysis .....	66
Analysis Of Growth .....	66
Latent Change Analysis .....	68
Models .....	72
Adding Between-Institution Covariates .....	74
Chapter IV: RESULTS .....	75
Introduction .....	75
Latent Change Analysis .....	75

The Effect Of Proposition 48 On Graduation Rates .....	76
Comparison Of Means For Freshmen Graduation Rates .....	76
Are The Graduation Trends Equal Before And After The Policy Was Introduced? .....	78
Fit Indicies .....	78
Testing The Model .....	79
Comparing The Graduation Means For Junior College Transfers .....	82
Are The Means Equal Across Time? .....	84
Investigating Covariates That Might Affect Graduation Rates .....	86
Model For Freshmen Graduates .....	86
Model For Junior College Graduates .....	88
The Effects Of Proposition 48 On Recruiting Practices .....	90
Comparison Of Means For Entering Freshmen .....	90
Covariate Model For Entering Freshmen .....	94
Comparing The Means For Junior College Transfers .....	96
Covariate Model For Junior College Transfers .....	100
Supplementary Analysis On Covariates And Recruiting Trends .....	102
Summary Of Results .....	106
Chapter V: DISCUSSION, IMPLICATIONS AND CONCLUSION .....	108
Summary .....	108
Discussion .....	110
Did The Policy Affect The Graduation Rates Of Student-Athletes? .....	110



Did The Policy Affect The Recruiting Practices Of Student-Athletes? .....	112
Potential Variables That May Interact With The Identified Trends .....	115
Implications For Policy Practice .....	118
The Effects Of Proposition 48 On Upgrading Academic Standards .....	120
The Effects Of Proposition 48 On Recruiting Practices .....	121
Implications For Further Research .....	125
Conclusion .....	126
Appendix A: Proposition 48 .....	129
Appendix B: Proposition 16 .....	131
References .....	134

## LIST OF TABLES

<b><u>Table</u></b>		<b><u>Page</u></b>
4.1	Mean Rates Of Freshmen Graduates .....	77
4.2	Model Tests For Freshmen Graduates .....	80
4.3	Mean Rates Of Junior College Transfer Graduates .....	83
4.4	Tests Of The Equality Of Means For Junior College Transfer Graduates .....	85
4.5	Tests Of Model Fit For Freshmen Graduation Rates .....	86
4.6	Parameter Estimates For Freshmen Graduation Rates In Division I-A Football Programs .....	87
4.7	Tests Of Model Fit For Junior College Graduation Data .....	88
4.8	Effects Of Covariates On Junior College Transfer Graduation Trends .....	89
4.9	Mean Numbers Of Freshmen Entering Division I-A Football Programs .....	91
4.10	Model Tests For Freshmen Entering .....	92
4.11	Growth Means For Freshmen Entering .....	93
4.12	Tests Of Model Fit For Entering Freshmen .....	95
4.13	Parameter Estimates For Freshmen Entering Division I-A Football Programs .....	95
4.14	Mean Numbers Of Junior College Transfers To Division I-A Football Programs .....	97
4.15	Tests Of The Equality Of Means For Junior College Transfers .....	97

4.16	Comparing Model Tests For Junior College Transfers .....	98
4.17	Test Of Model Fit For Junior College Transfers .....	100
4.18	Effects Of Covariates On Junior College Transfer Trends .....	101
4.19	Descriptive Statistics Comparing High-Prestige Schools With Average Or Low-Prestige Schools.....	104

## LIST OF FIGURES

<b><u>FIGURE</u></b>		<b><u>PAGE</u></b>
4.1	Comparing Freshmen Graduation Trends Before And After Proposition 48 .....	81
4.2	Comparing Junior College Transfer Graduation Trends Since Proposition 48 .....	83
4.3	Comparing The Trends In Entering Freshmen Before And After Proposition 48 .....	94
4.4	Mean Transfer Rates Of Junior College Students Over Time .....	99
4.5	The Means Of High-Prestige Versus Average or Low-Prestige Entering Freshmen .....	105
4.6	The Means Of High-Prestige Versus Average or Low-Prestige Junior College Transfers .....	105
5.1	Freshmen And Junior College Transfer Graduates From Division I-A Football Programs .....	111
5.2	Entering Freshmen And Junior College Transfers In Division I-A Football Programs .....	114

**CHAPTER I**  
**OVERVIEW OF THE RESEARCH PROBLEM**

**Introduction**

As David Tyack (1991) has aptly noted, reforming education in the United States has long been a favorite mode of changing not just education, but the whole society. For over a century and a half, Americans have translated their hopes and anxieties into demands for educational changes. Reformers often tinkered with the educational system in an effort strengthen the nation and solve many of its ills. Some reform efforts dealt with improving students' preparation for college through unifying and centralizing academic practices between secondary and higher education (Tyack & Cuban, 1995). In the early 1900s, for example, presidents of elite universities met to determine a means of ranking colleges by the strength of their academic programs and student admissions requirements. As a result of these discussions, the Carnegie unit became a required means to regulate high school courses that would meet the admissions standards of leading universities through defining a unit as five periods weekly throughout the academic year.

Proposals to make changes in education reveal much about how problems are diagnosed and solutions crafted. Policies to reform institutional practices are often the result of some form of dissatisfaction with what is happening within the educational system. As Tyack (1991) argued, there is a complex relationship between policy talk, or the way politicians and reformers talk about changes, and actual institutional changes that

take place. Iannaccone (1977) and Wirt and Kirst (1989) suggested that larger social, political and economic trends can trigger changes in societal values, and these changing values play a role in policy development. Despite policy makers' intentions to solve problems through policy actions, however, the historical record suggests that actual changes in institutional practices often lag behind (or are unaffected by) the political demands surrounding reform in education (Tyack and Cuban, 1995).

Though policy talk can establish a framework, actual institutional change is more difficult to achieve. From a distance, policymakers are not always able to control the outcomes of the change (McLaughlin, 1990). This is because institutional practices are typically resistant to the mandates and directives of external policy makers (Firestone and Corbett, 1988). In education, this is particularly evident in attempting to implement policies that demand academic accountability and improvement. Despite ways that policy talk about change is often blunted by the norms, practices, and values of those within institutions, over time educational institutions do change (Tyack, 1991). Seen from a century-long perspective, some educational reforms in the United States were relatively easily incorporated, some were not, and some issues needed to be constantly renegotiated (Tyack, 1991). Complex relations lead to policy development, implementation, and impact.

One important mechanism for demonstrating accountability in higher education has been the raising of academic standards. The increase in competition for scarce resources and the decrease in the public's trust in higher education have resulted in demands for institutions to demonstrate their effectiveness in educating their students.

Within higher education, the eligibility of student-athletes has received considerable policy attention. For over a century, controversy has surrounded the eligibility of student-athletes within intercollegiate Division I-A football programs (National Collegiate Athletic Association, 1998; Smith and Helman, 1987). The core of the controversy involved issues such as the definition of collegiate versus professional, the competitive equity amongst teams, the financial solvency of programs, and the academic integrity within institutions (Smith and Helman, 1987).

Policymaking concerns the efforts of government and its agencies to resolve complex, consequential problems of a public nature according to some set of values through making a series of decisions. One goal of research on policies is to examine the *intended and unintended effects and changes that result from policy activity (Hess, 1999)*. Intended effects refer to the extent to which a policy reaches its goals or intended targets. In contrast, unintended effects are not related to the goals of the policy but, rather, appear as bi-products of the policy's implementation. Both may have consequences on future policy actions. Because policy activity takes time to be turned into legislation, implemented, and its effects realized, longitudinal approaches to its study are often preferred. Such studies emphasize the study of broad trends over time and permit an assessment of how these trends impact the structure of the system, help identify policy activity that has persisted, and focus attention on the outcomes of the policy process for particular targeted groups.

The focus of this dissertation is on the interplay between a National Collegiate Athletic Association (NCAA) policy designed to raise academic standards for athletics in

higher education and the unintended consequences on recruiting that occurred as institutions sought to comply with the policy. Proposition 48, a policy to raise the academic entrance requirements of student-athletes, came about as a response to public pressure and outcry that students in “football factories” were not receiving adequate educations. In the past, athletic programs and institutions often ignored the low academic performance and graduation rates of student-athletes. By raising the standards of entering student-athletes, the intent was that their graduation rates should also rise. Running a successful athletic program requires strong financial support, outstanding coaching, and the ability to recruit and retain good athletes. While the primary intent was to raise academic standards, the implementation of Proposition 48 may also have had unintended consequences; that is, institutions may have changed recruiting practices in order to build or maintain the status of their programs and remain competitive with other programs. The goals of this study are to determine whether such consequences occurred in relation to the policy and whether specific institutional characteristics help explain those consequences.

#### Organization Of The National Collegiate Athletic Association

The NCAA is a large institution that oversees collegiate athletics within higher educational institutions within the United States. Athletic contests between collegiate institutions were originally student governed. All facets of the sporting events including the administering, organizing and coaching were done by the students (Eitzen and Sage 1997). Over the years, collegiate athletics has grown into a program within higher education institutions that at the highest level of competition, (Division I-A), commands



average operating budgets of approximately \$12.5 million (Eitzen and Sage 1997). The average salaries of head football coaches in 1996-1997 were more than two times the average salary of a collegiate dean and more than four times the average salary of a full professor (Naughton 1997).

There has been a history of policy activity designed to govern athletic programs in higher education. During the fall of 1905, in a reaction to the numerous occurrences of violence, President Theodore Roosevelt argued as chief of the executive branch of government, that the game of collegiate football needed to be reformed or it would be outlawed (Haws 1999). As a result, the athletic rules committee made some changes, but without any formal governing organization, nothing of deep significance could be formulated (Haws 1999).

On December 9, 1905, thirteen football-playing collegiate institutions met in response to the high degree of violence that was occurring in collegiate football. Henry M. MacCracken, chancellor of New York University was the convener (Haws 1999). A second meeting occurred on December 28, with 62 institutions sending representatives. This group formed the Intercollegiate Athletic Association of the United States (IAAUS) on March 31, 1906 (Haws 1999). Together with the original rules committee, various rule changes and governing policies were formulated that led to a reform of collegiate football and the preservation of the sport (Haws 1999).

The primary purpose of the IAAUS was, "to regulate and supervise college athletics throughout the United States, in order that the athletic activities . . . may be maintained on an ethical plane in keeping with the dignity and high purpose of education"

(Haws 1999). As Haws notes, by 1909, the IAAUS had 67 members, and in 1910, became the National Collegiate Athletic Association (NCAA). The most prevailing concern that faced the NCAA and its predecessor the IAAUS was the issue of amateurism and eligibility (Haws 1999). As the membership in the NCAA grew to 170 institutions, other problems such as extravagant training tables and recruiting, scouting and student-athlete subsidization abuses began to become prevalent, but none of these were as critical as those surrounding amateurism and eligibility (Haws 1999).

Within the last three decades, the concern for academic integrity has also drawn attention. Recent media coverage is full of stories dealing with the academic successes and failures of collegiate athletes (Maloney and McCormick 1993). For example, a 1991 survey for the Knight Foundation Commission on Intercollegiate Athletics found that an overwhelming majority of college trustees, faculty, athletics representatives, administration, and legislators agreed that institutions with big-time athletic programs do not give priority to the academic mission over the athletic mission (Lederman, 1991). Smith and Helman (1987) found that academic integrity was often seen as shortchanged by the recruiting efforts of Division I-A programs trying to maintain competitive equity and financial solvency. Without any established guidelines prior to the early 1980s, head coaches could recruit athletically talented high school graduates regardless of their academic preparation and performance. Nonexistent entrance requirements and poor graduation rates for student-athletes within collegiate institutions became focal areas of concern (Smith and Helman, 1987). Criticism of this type of behavior provoked the proposal and implementation of various rules and policies to bolster academic integrity.

### The Context Of Proposition 48

Proposition 48 was developed in 1983 by an *ad hoc* committee of the American Council on Education. Briefly, (a full description of Proposition 48 can be found in the Appendix A), Proposition 48 requires prospective collegiate student-athletes to have at least a 700-SAT score and a 2.0 cumulative GPA in 11 core high school courses (National Center For Education Statistics, 1995). Proposition 48 was passed by the NCAA in 1983 and became effective in 1986 (Edwards, 1986; Funk, 1991; Simon, 1991). The intent of the proposition was to enhance the academic integrity of Division I-A intercollegiate athletics (Smith and Helman, 1987). The belief was that establishing minimum standards of eligibility for participation in Division I-A athletics would give greater priority to the academic mission by raising the graduation rates of incoming freshman student-athletes.

Subsequently, in 1992 the NCAA passed Proposition 16, a more stringent policy than Proposition 48 (see detailed description in the Appendix B). Proposition 16 went into full implementation in August of 1996 (National Center For Education Statistics 1995). Though this is the policy that is currently in effect, this study will focus on the effects of Proposition 48, as not enough graduation data are available on student-athletes under the requirements of Proposition 16.

NCAA rules state that a student-athlete has four years of eligibility to play his or her sport which must be completed within a five-year period. The five-year period begins upon the student athlete's first full-time higher educational enrollment. Proposition 48 established clear cut minimum eligibility requirements for the freshman student-athlete.

The setting of minimum standards required athletic programs to recruit better prepared freshman student-athletes for the academic rigors of higher education. This requirement directly affected the number of available freshman student-athletes. With the implementation of entrance requirements, the pool of eligible freshmen student-athletes decreased compared with the pre-Proposition 48 era (Farrell, 1996). The demand for freshman student-athletes remained the same, despite the decrease in the supply.

#### A Case Study: Intercollegiate Football

Haws (1999) suggests that the foundational purpose for the formulation of the NCAA was to reform collegiate football. Though the sports of basketball, track and field and baseball were also initial sports governed by the NCAA, football was the main catalyst for the formation of the Association (Haws 1999). Throughout the past, football has been the premiere sport within collegiate athletics. Therefore, this study will focus on the sport of football, more specifically Division I-A football, to examine the potential effects that Proposition 48 may have had on the operational functions of Division 1A football programs.

On November 6, 1869, a train load of students from Princeton University left for the College of Rutgers to participate in the first intercollegiate football contest (Rader, 1990; Smith, 1988). The game, played with rules similar to soccer, was won by the College of Rutgers, 6-4 (Rader, 1990; Smith, 1988). This was the birth of intercollegiate football, an activity that was initially student administered without any influence from faculty, administrators and alumni (Eitzen and Sage, 1997). By the 1890s, games played

between Princeton and Yale were attracting 40,000 spectators and generating more than \$25,000 (\$420,000 in 1998 dollars) in gate revenues (Zimbalist, 1999). The practice of depending upon gate receipts as a primary source of revenue was conceived during this time frame (Rader, 1990). The escalated efforts to acquire gate revenues led to a proliferation of commercialism within intercollegiate football, resulting in the transformation of intercollegiate football from an activity that was once student controlled to one spun out of control by administrators (Byers, 1995; Eitzen and Sage, 1997; Zimbalist, 1999).

The rapid growth of commercialism within intercollegiate football brought about many challenges (Byers, 1995; Eitzen and Sage, 1997; Zimbalist, 1999). In an effort to develop successful and profitable teams, collegiate athletic program administrators began to utilize controversial methods to attract quality athletes (Rader, 1990; Sigelman, 1995; Zimbalist, 1999). In the years prior to 1900, townspeople, faculty members and professional players were utilized as members of college teams (Rader, 1990). During this same time frame, some players sold their services to the highest bidder and played for more than one school during the same season (Rader, 1990). A 1929 Carnegie Commission Report found that 75 percent of all colleges were in violation of the *regulations of amateurism established by the National Collegiate Athletic Association (NCAA)* and many were materially compensating athletes (Zimbalist, 1999). Even by the 1980s, violations have remained a problem for the NCAA. During the decade, 49 out of 106 Division I-A institutions were cited for violations. Moreover, in 1989, 25 institutions were under NCAA sanctions for infractions such as improper recruiting and giving

improper benefits to athletes (Cullen, Latessa, and Byrne, 1990).

At the Division I-A level, success in football is largely a matter of economics. Economic supply and demand (Miller, 1991; Slavin, 1996) applied to intercollegiate athletics suggests that the decrease in the supply of freshmen student-athletes, in conjunction with the continued high demand, increased the cost of the freshman student-athlete. These increased costs include money spent on recruiting, state of the art training facilities, enhanced dormitories for athletes, academic support programs and larger and fancier stadiums (Zimbalist, 1999). At the Division I-A level, football programs were the most affected, as they are traditionally the greatest revenue-generating program in university athletics.

Though head football coaches command high financial pay packages and power, these are only available if their teams win. When the University of Notre Dame lost a recent game to the University of Southern California on the last weekend of the regular season due to a missed extra point, Notre Dame lost a chance to appear in a bowl game worth \$8 million. When Syracuse University lost to the University of Miami on the last weekend of the regular season, it lost the chance to appear in a bowl game worth about \$3.5 million (Chronicle of Higher Education, 1996). Institutional administrative powers and public supporters place a tremendous amount of pressure upon the coaches to win, and coaches of losing, unprofitable programs have been known to be fired (Cullen, Latessa and Byrne, 1990).

As a result of rising athletic costs, a 1998-99 report by Daniel L. Fulks of Transylvania University found that only 46 percent of Division I-A athletic programs

reported net profits, with the average being \$3.8 million (Suggs, 2000). The remaining Division I-A athletic programs had average losses of \$3.3 million (Suggs, 2000).

### **Statement Of The Problem**

Successfully recruiting highly talented freshman student-athletes has traditionally been a primary goal for Division I-A football programs. In the effort to recruit quality athletes, some athletic programs have compromised academic standards and recruited student-athletes with high athletic abilities and moderate to low scholastic abilities compared to their non-athlete counterparts (Asher, 1986; Brown, 1996; Eitzen and Sage, 1997; McMillan, 1992; Naughton, 1997; Simon 1991). In trying to remain competitive, athletic personnel can severely jeopardize the student-athletes' academic experiences and potential for academic success.

High quality freshmen student-athletes can generate revenues for the university. A study done by Robert Brown (1996), an economist at the University of North Texas, found that a premier player generates about \$480,000 to \$650,000 in revenues a year for his college team. Brown also found that if an institution lowered its minimum grade point average (GPA) requirement for acceptance from 2.64 to 2.43, the institution could accept 1.69 more premier players, equating to \$814,000 to \$1.1 million in additional potential revenue income. Accepting a student-athlete with a 2.43 GPA would require an 860-SAT score, 40 points more than would be required for a student-athlete with a 2.64 GPA (Mallonee and Earle, 1996). High quality freshman student-athletes have the potential to

provide athletic programs with four years of this kind of revenue. Better performance over time leads to more wins, and more wins leads to championships and ultimately a higher level of profitability (Blumenstyk, 1995; Brown, 1996; Coughlin and Erekson, 1985; Dowling, 1999; McCormick and Tinsley, 1990; Suggs, 1999).

The ability to accept partial qualifiers (see the Appendix B) allows athletic programs to accept student-athletes who failed to meet the SAT score minimum requirement of Proposition 48. Partial qualifiers under Proposition 48 can receive athletic financial aid, but they can neither practice nor participate in actual games and are only allowed three years of competition. They must pass 24 credits with a 2.0 GPA or better in their freshman year to become eligible to practice and participate in their sophomore year. The effort to transform a partial qualifier into a qualifier usually requires additional money to be invested by the athletic department, as substantial special academic assistance is often needed.

In addition to the increased expenses, there are other financial risks in accepting a partial qualifier. Should the student athlete not attain his required academic standards, the program has wasted a full year of scholarship and academic support expenses. There is also the risk of injury. Since the partial qualifier is allowed to practice without competing, the student-athlete has no revenue generating capabilities. Should he be injured, all of the money invested is wasted along with all future revenue generating capabilities. Programs that have the financial resources and are willing to take the risk may opt for a partial qualifier. Because this partial qualifier may be a high athletic ability freshmen student-athlete, if coaches can secure him, they will have three years in which to derive service



and potential revenue from him. Though the initial outlay of finances will be large, the potential for future revenue may make the investment well worthwhile.

At the Division I-A level, this change in eligibility requirements affected football programs the most, as they are traditionally the greatest revenue-generating program in university athletics. Successfully recruiting highly talented freshman student-athletes has traditionally been a primary goal for Division I-A football programs. The more talented freshman student-athletes are generally understood to be more available to institutions that have more successful football programs and greater financial resources to support their football programs. Institutions with greater resources (e.g., training facilities, athletic dormitories, exposure to national audiences through television, high profile coaches) and stronger performances on the field are better able to bid for prime recruits in any given year. Wins and losses, championships and Top 25 poll finishes translate into institutional prestige (Brewer, Gates and Goldman, 2002). Having higher prestige likely translates into more productive recruiting (Brewer, Gates and Goldman, 2002). For example, in the competition for talented freshmen, a 1995 report found that of the top high school football All-Americans, 35 institutions signed 89 of them with 21 of these institutions signing 74 or 83.1 percent of these highly talented prospects (Byers, 1995). These institutions represent the elite intercollegiate programs, with strong financial support and established on-field performance.

This leaves institutions with fewer resources and less prestige at a distinct disadvantage in the market for prime freshman student-athletes. This reality greatly affects the ability of these institutions to remain competitive, which can result in poor

performances on the field and at the bank. With Proposition 48 likely reducing the number of available freshman student-athletes, and high prestige schools likely to have greater ability to attract top recruits, it is likely that the remaining schools had to alter their recruiting practices.

### **Purposes Of The Study**

The successful implementation of a policy is dependent upon a number of factors including the scope of the proposed change, its ability to be incorporated into existing practices, levels of funding, the degree of resistance or cooperation present within the institution, and the relative amount of support of the key people within the institution (Heck et al., 2001; McLaughlin, 1990; Tyack & Cuban, 1990). When institutional members feel that policies being forced on them are not appropriate, or they are resistant to the changes, the desired outcomes of the policy are likely to be hindered. Proposition 48 was mandated to raise academic standards. In the study of the effects of Proposition 48, the key people within the institution are the head coaches of the Division I-A football programs. Since the head coaches have the sole responsibility for recruiting, their recruiting strategies within the mandate of Proposition 48 would determine the future success of their programs and, consequently, the graduation rates of their incoming freshman and junior college student-athletes.

The first purpose of the study is to investigate the effect of Proposition 48 on the graduation rates of student-athletes. One of the intended goals of the proposition was to

raise institutional accountability. This will be accomplished by first examining the graduation trends of freshman student-athletes who entered the participating institutions from 1983 through 1991. If the policy was successful, we would expect that the graduation rates of incoming freshmen student-athletes should increase after its implementation.

It is uncertain what the effect of the policy might be on the transfer and graduation rates of junior college transfer student-athletes, but if there is a shift in recruiting practice, this would indicate an unintended consequence of the policy that deserves examination. The second purpose of this study is to investigate the effects that Proposition 48 had on the recruiting practices of Division I-A football programs. This will be done by examining the recruiting trends of freshman student-athletes both before and after the introduction of Proposition 48 (i.e., using data from 1983 through 1991) and the recruiting trends of junior college transfer student-athletes from Proposition 48's introduction in 1986 through 1991 (i.e., because data on junior college transfers are only available from 1986).

As the economic impact associated with intercollegiate football has increased immensely over the past decade or two (i.e., television revenues, appearance in bowl games, salary for top coaches), so has the corresponding political pressure from alumni associations and others to put a winning team on the field. Those programs that traditionally have both the prestige and resources are more likely to pursue the freshman player, due to the potential for increased financial revenue over a longer period of time. In contrast, with a smaller pool of freshman athletes available, it is likely that less successful

programs sought out alternative student-athletes in the attempt to remain competitive.

The likely alternative was the junior college student-athlete. It is likely that a good number of junior college student-athletes may possess the athletic skills to perform at a high level on the field, but as incoming freshmen, they may have failed to meet the eligibility requirements of Proposition 48. Junior college athletes are often more physically and emotionally mature than freshman student-athletes and, more importantly, are not currently bound to the Proposition 48 mandate. The only requirements for participation as a junior college athlete is an Associate of Arts Degree, a 2.0 grade point average, and at least 48 transferable credits (Witham,1995). The number of years that they could play at the Division I-A level would be dependent upon the number of years they played at the junior college level and the number of years it took them to earn their AA Degree.

After transferring, most junior college players would have only two years of athletic eligibility left at a four-year institution (as opposed to a freshman college player who would have four years). They still might provide an attractive alternative source of player talent. In terms of recruiting, however, the likelihood is that the competition among universities for junior college players is less intense, because their revenue-generating ability is less.

### **Theoretical Grounding Of The Study**

As Easton (1953) suggested, it is one thing to collect the facts, but they may not

explain or lead to the understanding of the actual event. What must be done, then, is to order the facts around a theory or conceptual framework which may explain, analyze, and predict the “confusion of reality (Marshall, Mitchell, & Wirt, 1989, p89). As Shapiro and McPherson (1987) argued, “Policy models may be understood as mechanisms for comprehending empirical situations with simplification” (p 61). Different conceptual approaches to the study of policy provide alternative ways through which to view the phenomena. These frameworks are important for they tend to emphasize different features and provide somewhat different explanations of events.

### Policy Frameworks

Sabatier (1999, p 6-7) identified several different theoretical frameworks for understanding public policymaking. Rational approaches (e.g., structural functionalism), which have tended to dominate previous research, to understanding institutions and their policies suggest that they are formal structures organized around the pursuit of goals. They tend to focus on events within a limited time frame (i.e., they view the system as more static) and ignore historical antecedents. Within this frame, policy has been seen as more incremental and policymakers as “muddling through.” Recently, however, numerous criticisms have been raised about rational (structural functional) approaches to understanding institutional change.

In contrast, process approaches focus more on the historical or temporal context and how this contributes to policy patterns that exist over time (Sabatier, 1999). They tend to focus on value conflicts, tensions, the dynamics of negotiation and coalition

building among actors, and the various environmental and institutional conditions that lead to changes. This investigation of Proposition 48 is informed by concepts drawn from two process frameworks. Institutional rational choice focuses on how institutional rules alter the “rational” behavior of individuals. It suggests that the behavior of individuals (such as football coaches) is motivated by self-interest. More specifically, the model suggests that changes in environmental conditions affect the action arenas where individuals are making operational decisions. An arena refers to the space where individuals interact, exchange goods and services, compete, and attempt to dominate one another (Ostrom, 1999). The focus is on the resources (e.g., finances, support, prestige) brought to bear on the situation, the valuation the actors assign to particular actions, the way actors acquire and use information, the processes used to select courses of action, and the costs and benefits assigned to outcomes.

From this perspective, observed changes in the operating procedures of Division 1-A football programs may be viewed as a function of both competition within the subsystem and events outside. Institutional arrangements need to be able to respond to ever-changing policy environments (Ostram, 1999). Program managers have to make operational decisions within the constraints of a changing set of rules. The choice of strategy in a particular situation depends on how the decision maker perceives and weighs the costs and benefits of various strategies and their likely outcomes. Trade-offs are often necessary in selecting from alternative arrangements (e.g., such as recruiting freshmen versus junior college students). In a relatively limited action situation, where participants *are motivated to select particular strategies or chains of actions, the analyst can often*

make strong inferences and specific predictions about likely patterns of behavior and outcomes (Ostram, 1999). From an analysis of the data, one may be able to identify decision strategies used before and after Proposition 48 was introduced.

The process approach to policy, represented in the institutional rational choice lens, therefore provides a useful way to understand the dynamics that led to Proposition 48, its intended goal to raise institutional accountability, as well as the actions of coaches to build and maintain competitive football programs after the policy's introduction. It is obvious that college football plays a significant role in the prestige of institutions of higher education. No Division I-A institution can ignore changes and trends occurring among similar institutions. Failure to keep pace with these peer institutions will likely be perceived to bring detrimental effects to the institution over time. The stated goal of Proposition 48 was to raise the academic standard required for athletes to participate within Division I-A intercollegiate football. Though it may have been successful in forcing football coaches to recruit more academically qualified freshman student-athletes, it may have been less successful in preventing academically unqualified student-athletes from entering the football programs through transferring from junior colleges.

### Analyzing Policies

Social scientists doing policy-oriented research have been criticized in the past for the lack of clarity and understanding of issues being addressed, the analytic techniques used and the narrow interpretation of findings (Majchrzak, 1984). A preliminary step is deciding on the type of impact desired from the study. As Majchrzak notes, this can vary

from more a technical perspective (i.e., establishing a relationship between the policy implementation and a desired outcome) to perspectives that are more organizational (mechanisms through which the policy is implemented) or political (i.e., the role of various stakeholders in developing or maintaining a policy). In this case, the emphasis is on a more technical perspective toward the problem of low academic integrity among football programs in Division I-A institutions. More specifically, the study attempts to establish an empirical relationship between the implementation of Proposition 48 and its *effects on recruiting practices and graduation rates*.

When policy analysts try to evaluate the impact of an existing policy in reaching its intended goal a number of concerns should be considered. Tyack (1991) has outlined several relevant issues. First, measuring changes in practice requires using statistics on important outcomes (e.g., graduation rates) as indicators of trends. This requires the use of time-series (longitudinal data). For example, researchers can examine changes in outcomes that took place over the course of the policy's implementation (Heck et al., 2001). It also involves phasing the change correctly (i.e., identifying its stages). One important sign that a reform has become legitimate, for example, is the collection of data about it (Tyack, 1991). Another issue to consider is the extent of impact that the policy may have on changing practices, as well as its possible differential impact on groups affected by the policy.

In the case of Proposition 48, examining the relevant policy outcomes involves first analyzing changes in trends regarding the recruiting of freshman and junior college student-athletes, as well as changes in the graduation rates of freshman student-athletes.



Since Proposition 48 elevated the standards for freshman eligibility, the expected trend is a decline in the number of recruited freshman student-athletes. With the increased standards, there should also be an increase in the trend of freshman graduation rates. After determining whether changes in these trends exist among Division I-A schools, the next step is to identify possible institutional variables (e.g., on-field success, revenues, size, conference affiliation, public versus private institution) that might be responsible for observed changes in the trends.

It is important to qualify the attempt to do this in a few important ways. The NCAA did not keep accurate statistics about junior college transfer student-athletes prior to the policy's implementation in 1986. While it would be desirable to have several years of baseline data on junior college transfer student-athletes prior to the implementation of Proposition 48 in 1986 to compare with data from years after implementation, unfortunately these data do not exist for the entire set of member schools. Therefore, 1986 is used as the baseline year for junior college transfer student-athlete trends, recognizing that this likely introduces some error into the establishing of baseline statistics about junior college transfer student-athletes. Therefore, the study represents a first step in examining the impact of several institutional variables on recruiting trends among Division I-A schools.

The NCAA did, however, keep accurate statistics about the number of entering freshman student-athletes and their corresponding graduation rates for the three years prior to the implementation of Proposition 48. Therefore, a reliable assessment of the trend both before and after the implementation of the policy can be determined. This

determination will help to minimize some of the error dealing with junior college transfer student-athletes in that if the number of entering freshman student-athletes were not significantly increasing, the likelihood is that the number of transfer student-athletes was also relatively constant.

### **Need And Significance Of The Study**

Policies may be analyzed in a number of ways. Sometimes the goal is to examine the process leading to legislation and implementation. On other occasions it is to examine the policy's intents and its impacts—both intended and unintended. In still other cases, it may be to examine how the local context may interact with the implementation or impact of a policy. In the case of Proposition 48, previous research has examined the legislative history and some of the effects that Proposition 48 has had on improving the academic integrity of Division I-A collegiate athletics (Benson, 1993; Blum, 1993, 1994, 1995; Lederman, 1991). Previous analyses, however, have been largely descriptive. Such studies have not controlled for possible contextual and institutional variables that may also affect graduation rates across Division 1-A schools.

No research has yet examined possible changes in the recruiting practices of Division I-A football programs that may have occurred in reaction to the policy. In the current environment of Division I-A football, the highest priority for the head coach is to produce winning teams. In order to do this, coaches need to bring in student-athletes of high athletic ability. This process was likely altered by the implementation of Proposition

48, which brought stronger academic eligibility requirements that schools were required to follow. One of the consequences of this policy would potentially be a reduced pool of available high athletic ability freshman student-athletes. Due to this reduction, it is likely that the highly successful, more prestigious programs would become more dominant in obtaining the available freshman athletes. Therefore, in order to remain somewhat competitive on the field and somewhat financially solvent, programs of lesser resources and acclaim would have to look to alternative student-athletes to recruit. Junior college transfer student-athletes would be one available recruiting alternative.

Changing recruiting practices may ultimately decrease the impact intended by the proposition; that is, fewer freshmen (i.e., those who entered directly into the 4-year Division IA school) and those who transferred as junior college students may end up graduating from Division I-A institutions. Moreover, researchers have not looked at how institutional features (e.g., its prestige, resources, public or private institutional status) may interact with the impact of the policy. This dissertation research will contribute to the policy research literature on athletics in higher education by examining whether Proposition 48 led to a change in the recruiting practices and graduation rates of Division I-A football programs and whether characteristics of institutions interacted with possible changes in these outcomes.

### **Research Questions And Hypotheses**

The study will investigate the extent to which the passage of Proposition 48 led to

a change in the recruiting practices and graduation rates of student-athletes participating in Division I-A football programs. The study focuses primarily on the following research questions:

- 1) Was the trend in graduation rates of freshman student-athletes before Proposition 48 the same as the trend in graduation rates after the implementation of Proposition 48?
- 2) What was the impact of Proposition 48 on the trend in junior college transfer student-athletes' graduation rates?
- 3) Was the trend in numbers of freshman student-athletes accepted into Division I-A football programs before Proposition 48 the same as the trend in numbers of freshman student-athletes accepted after Proposition 48?
- 4) What was the impact of Proposition 48 on the trend in numbers of junior college transfer student-athletes accepted into Division I-A football programs?
- 5) Are there institutional characteristics (e.g. prestige, resources, type of institution) that interacted with the changes observed among Division I-A football programs before and after the introduction of Proposition 48?

### Hypotheses

From the primary research questions, the following four hypotheses are proposed:

- 1) H1:  $SGF2 - SGF1 \geq 0$ , where  $SGF2$  = post-Proposition 48 trend and  $SGF1$  = pre-Proposition 48 trend.

H<sub>0</sub> = There is no change in trends in the percentage of freshmen student-athlete graduation rates after the introduction of Proposition 48 compared with the freshman student-athlete graduation rates before Proposition 48.

2) H<sub>1</sub>: SJCG ≥ 0, where SJCG = the trend in junior college transfer student-athletes' graduation rates after the introduction of Proposition 48

H<sub>0</sub> = There is no change in the trends in the percentages of junior college transfer student-athlete graduation rates after the introduction of Proposition 48.

3) H<sub>1</sub>: SF<sub>2</sub> - SF<sub>1</sub> ≤ 0, where SF<sub>2</sub> = post-Proposition 48 trend and SF<sub>1</sub> = pre-Proposition 48 trend.

H<sub>0</sub> = There is no change in the trends in numbers of freshmen student-athletes before and after the introduction of Proposition 48.

4) H<sub>1</sub> = SJCT ≥ 0, where SJCT = the trend in numbers of junior college transfer student-athletes' accepted into Division I-A football programs after the introduction of Proposition 48.

H<sub>0</sub> = There is no change in the trends in numbers of junior college transfer student-athletes after the introduction of Proposition 48.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Introduction**

The previous chapter outlined the background and purposes of this study. This chapter reviews the research related to factors that influenced the development and implementation of Proposition 48. It also summarizes previous research that has investigated the impact of Proposition 48 on raising the academic standards of student athletes and their graduation rates.

#### **Historical Background**

##### National Collegiate Athletic Association (NCAA)

Violent plays were utilized more frequently in collegiate football during the late 1800s and early 1900s. Plays such as “hurdle plays,” a “moving V,” or a “flying wedge” were designed to help to move the ball, but they also contributed to an increase in deaths and injuries (Haws 1999). The 1905 college football season produced 18 deaths and 149 serious injuries (Haws 1999). Critics demanded that something be done to alleviate this situation, leading to President Theodore Roosevelt calling representatives of Harvard, Yale and Princeton to the White House to discuss possible changes and reforms on October 9, 1905 (Haws 1999). The President made it clear that collegiate football needed

to be reformed or it will be outlawed (Haws 1999).

There was no national athletic association at the time that could mandate any types of reform. All that existed was a rules committee that had the ability to make some changes, but nothing of great significance (Haws 1999). Then, on December 9, 1905 in New York City, Henry M. MacCracken, chancellor of New York University got together thirteen representatives of football-playing institutions to discuss ways to reform the game. At the second meeting on December 28, 62 schools sent representatives (Haws 1999).

Under the suggestion of Captain Palmer E. Pierce of the U.S. Military Academy, a formal association was created called the Intercollegiate Athletic Association of the United States (IAAUS) (Haws 1999). The members developed a new rules committee which included members of the old rules committee. Rule changes were made and collegiate football was reformed. The IAAUS became a formal organization on March 31, 1906. The IAAUS's purpose was, "to regulate and supervise college athletics throughout the United States, in order that the athletic activities . . . may be maintained on an ethical plane in keeping with the dignity and high purpose of education" (Haws, 1999). Each institution was required to police itself (home rule), in order to maintain a high standard of personal honor, eligibility and fair play, and to remedy whatever abuses may exist (Haws, 1999).

The Association dealt with problems only within the sports of football, basketball, track and field and baseball. Types of problems that they dealt with were freshman eligibility for varsity teams; academic eligibility for both new and continuing student-

athletes; codes of ethics and improvement of sportsmanship; residency requirements; preseason training rules; training-table rules; contest limitations; the involvement of faculty in athletics; scholarship standards, including a 12-hour rule; amateurism and agents, especially as related to baseball; officiating; and record-keeping for statistical purposes (Haws 1999). By 1909, the Association had 67 members and in 1910 renamed itself the National Collegiate Athletic Association (NCAA) (Haws 1999).

### Early Problematic Areas Within Collegiate Football

The growth of intercollegiate football brought about an increased level of competitiveness for successful teams. Gate receipts were looked upon as a primary source of revenue to fund teams, with the amount of revenues dependent upon the number of games won (Rader, 1990). The quest for revenue therefore became another problematic area. Collegiate teams were initially financed through student fees and student athletic association fund-raising efforts (Rader, 1990). During this time frame, games played between Princeton University and Yale University were attracting 40,000 spectators and generating more than \$25,000 (\$420,000 in 1998 dollars) in gate revenues (In Zimbalist, 1999). In 1903, the highly successful Yale football program made more than \$105,000, a large sum of money for that time (Rader, 1983).

Quality athletes were needed, however, in order to have successful, money-earning teams. The more quality players a team had, the greater the skill level of the team would be, and thus, its ability to win games, gain exposure and increase revenue potential would be enhanced (Brown, 1996). In the years prior to 1900, people questioned the



eligibility, recruitment and subsidization of collegiate football players (Rader, 1990). Townspeople and faculty members in some parts of the south and west occasionally played on their college's team. One school accused another of employing two professional players (Rader, 1990). Some players sold their services to the highest bidder, often playing for more than one school within the same season (Rader, 1990). In 1896, Lafayette College enrolled West Virginia University student Fielding Yost. Yost, a tackle, was used to help Lafayette beat the University of Pennsylvania, a team that had a 36 game winning streak, 6 to 4. Yost was then sent back to West Virginia (Zimbalist, 1999).

In 1900, Pennsylvania State College became the first school to offer tuition, room and board to prospective athletes (Rader, 1990). In the early 1900's, it was reported that a renowned captain of the Yale football team received free tuition, a free suite in the swank Vanderbilt Hall, a \$100 scholarship, a 10-day vacation to Cuba paid for by the Yale Athletic Association and various other monetary compensations (Rader, 1990; Sigelman, 1995).

Freshmen Eligibility. A key issue in the effort to bring about competitive equality within intercollegiate athletics was freshmen ineligibility. The issue of freshmen ineligibility has been a longstanding one. The central dilemma was to develop eligibility regulations that would not give any institution an unfair competitive advantage over another (Smith and Helman, 1987). From as early as 1889, President Charles Eliot of Harvard tried to prohibit freshmen participation in intercollegiate sports (Smith and Helman, 1987). It was not until 1903 that Harvard became the first of the prominent collegiate institutions to ban freshmen participation (Smith and Helman, 1987). By the

1920's, most of the conferences that contained the nation's prominent institutions banned freshmen participation (Smith and Helman, 1987). Smaller colleges desired freshmen eligibility as they had smaller male enrollments and it gave them an advantage over the more prominent institutions in recruiting as they could offer an additional year of participation (Smith and Helman, 1987).

Support for freshmen ineligibility wavered during World War II and the Korean War (Smith and Helman, 1987). Due to these two wars, many institutions were experiencing low male enrollments. Thus, freshmen eligibility was necessary in-order to maintain competitiveness. Most schools restored the banning of freshmen participation upon the completion of the Korean War (Smith and Helman, 1987).

Recruiting. Athletic departments were also known to use unethical tactics in recruiting quality athletes to their institutions (Edwards, 1986; Simon, 1991). For example, a 1929 Carnegie Commission Report found that 75 percent of all colleges were in violation of the regulations of amateurism established by the NCAA and many were materially compensating athletes (Zimbalist, 1999). Hugh McElhenny, a heavily recruited 1940s halfback allegedly followed a trail of \$50 bills toward his choice of the University of Washington (In Zimbalist, 1999). These type of unethical tactics became more evident in 1948 when the NCAA enacted the Sanity Code.

The Sanity Code essentially forbid a full athletic scholarship. The Code stated that a student-athlete could only receive compensation for tuition and fees providing that the student-athlete could demonstrate financial need and met the normal admissions standards of the institution that they were desiring to enroll in (Zimbalist, 1999). Critics

of the Code complained that it further enhanced the advantage that the more elite schools had in getting the better students (Zimbalist, 1999).

### **New Problems Facing The NCAA And Collegiate Athletics**

Today, the NCAA oversees approximately 1, 200 institutions. The basic purposes of the NCAA as found on the NCAA website ([www.ncaa.org/about/purposes.html](http://www.ncaa.org/about/purposes.html)) are as follows:

- To initiate, stimulate and improve intercollegiate athletics programs for student-athletes and to promote and develop educational leadership physical fitness, athletics excellence and athletics participation as a recreational pursuit
- To uphold the principle of institutional control of, and responsibility for, all intercollegiate sports in conformity with the constitution and bylaws of the Association
- To encourage its members to adopt eligibility rules to comply with satisfactory standards of scholarship, sportsmanship and amateurism
- To formulate, copyright and publish rules of play governing intercollegiate athletics
- To preserve intercollegiate athletics records
- To supervise the conduct of, and to establish eligibility standards for, regional and national athletics events under the auspices of the Association

- To legislate, through bylaws or by resolutions of a Convention, upon any subject of general concern to the members related to the administration of intercollegiate athletics
- To study in general all phases of competitive intercollegiate athletics and establish standards whereby the colleges and universities of the United States can maintain their athletics programs on a high level

Despite this broad mandate to supervise college athletics, the high profile nature of Division 1-A sports such as football and basketball have brought a host of new and recurring problems to the NCAA. One study (Cullen, Latessa and Byrne, 1990), for example, found that in the early part of 1989, twenty-five institutions were under NCAA sanctions for infractions such as improper recruiting and improper benefits to athletes. During the 1980's, 49 out of the 106 Division I-A schools were cited for violations, with Arizona State being cited four times and Southern Methodist University three times, one so severe that it led to a one year suspension (Lederman, 1989). A 1989 survey of professional football players revealed that 31 percent of the respondents accepted illegal payments while in college and 48 percent knew of players who were receiving payments (e.g., see Zimbalist, 1999). Of the twenty-three institutions under NCAA probation during the 1996-97 season, 18 of them were involved in violations dealing with excess compensation to athletes (Zimbalist, 1999).

A number of problems have led to this new era in college athletics. Major problems include the changing finances in college athletics. College athletics is "big

business” that must compete with professional sports. There are expanded options for athletes to play professionally. Many leave school early to take advantage of these lucrative opportunities.

This financial aspect creates a prime area of concern for football programs in their efforts to recruit and retain quality athletes. It has led to increased violations by programs (e.g., cash payments to college athletes, athletes signing with agents) as they attempt to sway a quality athlete to both join and remain in their program for the full term of their eligibility. *In an effort to curb some of these illegal practices, the NCAA has increased the sanctions for violations.*

Public perceptions that sports on college campuses was failing to deliver an education to student athletes has also created a problem. The central theme of the criticisms was that the primary concern of the football program was the quality of the athlete, not the quality of the student. In response to the public criticisms, the NCAA has implemented policies to attempt to raise the academic standards for college athletes.

### The Changing Finances Of Higher Education Athletics

Many programs began experiencing financial difficulties in the late 1960's and early 1970's that were attributed to freshmen ineligibility. In 1972, freshmen eligibility was restored (Smith and Helman, 1987). Though the majority of the collegiate institutions favored this decision for economic reasons, the institutions that were experiencing financial stability due to television revenues and large gate receipts were displeased with this change (Smith and Helman, 1987).

The financial picture among colleges and universities has changed over the past two decades. Due to a number of reasons (e.g., expanded media interest, competition with professional sports, escalating coaches' salaries), costs in college athletics have dramatically increased. In 1997, profitable Division I-A collegiate institutions showed an average profit of \$1,700,000.00 for all sports excluding institutional support (Fulks, 1998). The biggest sources of revenue, (excluding institutional support) for Division I-A intercollegiate athletic programs are ticket sales, post-season compensation<sup>1</sup>, contributions from alumni and corporate organizations, student activity fees, and radio and television payments (Davidson 1983; Eitzen and Sage, 1997; Fulks, 1996; Thelin and Wiseman, 1990). In 1997, average revenues of the Division I-A institutions that responded to a study done by the NCAA were ticket sales; \$4,999,000, post-season compensation; \$591,000, contributions from alumni and organizations; \$2,832,000, student activity fees; \$1,183,000, and radio and television payments; \$1,150,000 (Fulks, 1998). Most of the revenue of Division I-A collegiate athletic programs is derived by the football program. In 1997, football generated 66 percent of the total revenue of all men's sports (Fulks, 1998). Seventy-one percent of the Division I-A football programs reported a profit, with the average profit being \$4,972,000 (Fulks, 1998). For example, each participant team in the 1995 Rose Bowl received \$6.5 million and each participant team in the Orange Bowl received \$4.2 million. The total amount paid to participants of all of the post season bowl games in 1995 exceeded \$68 million dollars (Eitzen and Sage,

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<sup>1</sup> Money received for participation in or belonging to a conference that had a member participate in a post-season bowl game

1997). In 1996, each participating team in the Rose Bowl received \$8.25 million. Each team that participated in the Orange and Sugar Bowls received \$8.2 million and the participants that received the largest amount of money were those in the Tostito Fiesta Bowl, receiving between \$8.6 million and \$13 million (Zimbalist, 1999).

Television. Television is another source of skyrocketing revenues. In 1983, Division I-A institutions were receiving about \$550,000 for a nationally televised game and \$300,000 for a regionally televised game (Davidson, 1983). Today, this is a multimillion dollar industry. In the early part of 1990, Notre Dame signed a contract with the National Broadcast Corporation (NBC) for \$40 million over five years to televise its home football games (Lederman 1990). In 1994, the Southeastern Conference (SEC) acquired a deal with the Columbia Broadcast System (CBS) for \$85 - \$100 million which took effect with the 1996 season. Within a week, the Atlantic Coast Conference (ACC) signed a deal with the American Broadcast Corporation (ABC) and the Entertainment Sports Network (ESPN) for \$70 million, the Big East signed a deal with CBS for \$65 million and the Big 8 signed a deal with ABC and Liberty Sports (In Zimbalist, 1999). In 1997, the Bowl Alliance, comprising the ACC, the Big East, Big Twelve and the SEC signed a seven-year contract with ABC for an estimated \$700,000,000 (Naughton, 1997).

#### The Prestige Of The Institution Factor

These large sums of revenues are usually available only to the teams that are successful. Success of athletic programs is usually measured by win-loss record, conference and national championships, and presence in national rankings. The teams

with the best win-loss record are usually the conference champions within their respective conferences and are usually the teams ranked within the top 25. All conference champions end up being post-season bowl participants. The remainder of the participants are usually chosen from the remaining teams within the top 25.

These perennially successful teams earn a tremendous amount of revenue for their programs and the conferences to which they belong. Total money won by the participants in post-season bowls games is shared by the participating school and all of the members of the conference that they represent. Corporate businesses offer lucrative contract deals to programs that have a great amount of media exposure. Media exposure usually comes to programs that are successful (Blum, 1995; Blumenstyk, 1995). In 1996, Adidas, Champion, Starter and Nike received more than \$1 million each in television exposure as the athletes participating in the Orange and Fiesta Bowls wore their complimentary equipment. Nike generated the most exposure, approximately \$2.6 million (Zimbalist, 1999). The television payout from the 1998 post-season bowl games amounted to \$141.2 million (Suggs, 1999). The top ten schools that received the biggest portion of the \$141.2 million were from the Atlantic Coast, Big East, Big Ten, Pacific Ten and Southeastern Conferences (Suggs, 1999).

The successes of the football program also help to provide economic benefits for both the athletic program and the overall institution that they represent. Studies have found that the success of the football program contributed to an increase in charitable contributions to the athletic program (Coughlin and Erekson, 1985; McCormick and Tinsley 1990). Baade and Sundberg (1996) found that alumni giving was positively



influenced by bowl appearances for both public and private institutions. Further, McCormick and Tinsley (1990) found that the success of the football program also contributed to an increase in charitable contributions to the academic areas of the institution. Toma and Cross (1998) reported that winning the NCAA Division I national championship in football had a positive effect on the quantity of undergraduate admission applicants in the year immediately after the championship season. In fact, this trend continued positively for three years after the championship season.

These types of pressures, however, that go with competing against highly successful teams, or maintaining a presence among them, increases the pressure for strong NCAA oversight of college athletics. Financial aspects of college athletics has created a *prime area of concern for football programs in their efforts to recruit and retain quality athletes*. The advantages some universities have in terms of financial resources, prestige, and support have led to increased violations by programs (e.g., cash payments to college athletes, athletes signing with agents) in an effort to compete, as they attempt to sway a quality athlete to both join and remain in their program for the full term of their eligibility. It has also led to increased efforts to equalize the playing field (e.g., limiting the number of scholarships, regulating practice time) to maintain competition and a sense of equity. In an effort to curb some of these illegal practices, the NCAA has also increased the sanctions for violations.

#### Maintaining Competition Through Obtaining Student-Athletes

Of course, one key to on-field success, and all of the benefits that accrue to the

university as a result, is the recruitment and retainment of quality athletes from high schools and junior colleges.

Costs Of Obtaining A Student-Athlete: Recruiting. Intercollegiate athletic programs spend a lot of money (costs) toward obtaining student-athletes (inputs). These costs are not only what a program spends directly to the athlete, but also to providing supplemental benefits and inducements that will influence the decision of the prospective athlete. Many highly recruited prospects claim that the things that influence their decision are recruiting salesmanship, the success of the athletic program, personalities and “the deal” (Byers, 1995). The costs that the program incurs to provide the influences that affect the decision of the prospective recruit are distributed into various categories.

The cost of recruiting a prospective student-athlete is high. These costs include the expenses necessary for the coaches to travel to evaluate prospective student-athletes and to bring in prospective student-athletes for campus visitations. There is quite a disparity between what athletic programs spend on recruiting. A 1997 report by the Kansas City Star reported that in the 1995-96 academic year, some schools like Georgia Tech University and the University of Georgia spent in excess of \$500,000 toward their male sports recruiting. This is in contrast to Eastern Michigan University, Arkansas State University and the University of Central Florida which spent less than \$75,000 ( Kansas City Star, 1997).

Athletic Dormitories. In the 1950's, Texas A&M built an athletic dormitory complete with television sets and a swimming pool (Byers, 1995). In 1965, Coach Bear Bryant of the University of Alabama was responsible for the building of “The Bear”

which was similar to a Hilton Hotel (In Zimbalist, 1999). In 1987, the University of Georgia opened the \$12 million Heritage Hall and the University of Tennessee soon developed a \$10 million dormitory of its own complete with an ultramodern weight room, indoor practice field, medical facilities and carpeted suites with private bathrooms, cable television and electronic surveillance (Zimbalist, 1999).

Complaints arose over these type of practices as many felt that it gave these schools an unfair advantage (Byers, 1995). Based upon the recruiting success of Coach Bryant, almost all of the southeast programs opened their own football exclusive dorm (In Zimbalist, 1999). In 1991, the NCAA Convention voted to abolish athletic only dormitories by 1996. However, athletes can still reside in special dormitories so long as 50 percent plus one of the residents are non-athletes (Zimbalist, 1999).

The Head Coach. Head Coaches are also the ones that are ultimately responsible for ensuring that the student-athletes are academically qualified and remain academically qualified. Likewise, they should also be responsible for ensuring that the student-athlete does not only remain academically qualified to continue athletic participation, but that they are making suitable progress toward a particular degree. At many institutions, head coaches are the highest paid employee.

Almost a century ago, in 1905, Harvard hired Bill Reid as their football coach. His pay package of \$7,000 was nearly twice the average salary of a Harvard professor (Rader 1990). A study by the athletic department of the University of Texas at Austin discovered that in 1996-1997, football coaches were receiving a median compensation of \$268,000 while the athletic directors were receiving \$158,000. Twelve football coaches in the

study received \$500,000 or more (Naughton, 1997). Steve Spurrier, head football coach at the University of Florida has a contract that is in excess of \$1 million a year. Bobby Bowden of Florida State University and Lou Holtz of the University of Notre Dame each earn \$975,000 a year (Naughton, 1996). A 1996-1997 survey conducted by the College and University Personnel Association shows that the average salary of a dean was \$115,000, full professor \$60,587, associate professor \$47,467 and an assistant professor \$39,148 (about \$1,100 less than an average athletic ticket manager) (Naughton, 1997).

Critics feel that head coaches have too much power because of the amount of money that they are receiving. Dr. John DiBiaggio left the presidency of Michigan State University after its Board of Trustees twice overruled his occupational decisions regarding head football coach George Perles (Naughton, 1996). DiBiaggio did not want Perles' contract to be extended nor have him become interim athletic director (Naughton, 1996). Trustees are often protective of head coaches because of the enormous amounts of money they can generate for the institution (Naughton 1996). Jeremy N. Foley, athletic director of the University of Florida states that his department has contributed \$9 million to the university's general fund since 1986 (Naughton, 1996).

Though head coaches command high financial pay packages and power, these derivatives are only available if their teams win. When the University of Notre Dame lost to the University of Southern California, (USC) on the last weekend of the regular season due to a missed extra point, Notre Dame lost a chance to appear in a bowl game worth \$8 million. When Syracuse University lost to the University of Miami on the last weekend of the regular season, the institution lost out on a chance to appear in a bowl game worth

about \$3.5 million (Chronicle of Higher Education, 1996). As Drehs (2000) speculated, a win for Notre Dame in the November 25, 2000 game against USC would have enabled them to play in one of the major Bowl Alliance games in January of 2001. The appearance would have been worth between \$11-13 million. In contrast, a loss would have resulted in a Gator Bowl appearance worth about \$1 million, a difference of about \$10-12 million. Institutional administrative powers and public supporters place a tremendous amount of pressure upon the coaches to win, and coaches of losing, unprofitable programs are likely to be fired (Cullen, Latessa and Byrne, 1990).

Coaches also have their contracts tied to their team's performance on the field. The strains of the pressure to win often cause coaches to resort to controversial, unethical and illegal practices which often conflict with the educational attainment and the overall jurisdictional boundaries of their sport. During the 1980's, 49 out of 106 Division I-A institutions were cited for violations. When surveyed, coaches believed that nearly a third of Division I football programs cheat on a regular basis and almost half of the programs had committed one serious violation in the past five years (Cullen, Latessa, and Byrne, 1990). What was even more disturbing is the fact that more than 70 percent of the respondents stated that coaches know that the cheating is occurring, but choose to ignore it. The basis for this reaction is the intense pressure to win (Cullen, Latessa and Byrne, 1990).

The key input to the athletic program success is the quality of the athlete. The higher the skill quality of the athlete, the better the performance. Better performance leads to more wins and more wins leads to championships and ultimately a higher degree of

success and a higher level of profitability (Brown, 1996; Blumenstyk, 1995; Coughlin and Ereksen, 1985; Dowling, 1999; McCormick and Tinsley, 1990; Suggs 1999). A major problem in the head coach's recruiting efforts arises, however, when the ultimate priority of profitability and success comes into conflict with academic success. In the effort to recruit quality athletes, some athletic programs will compromise academic standards and recruit student-athletes with high athletic abilities and moderate to low scholastic abilities compared to their non-athlete counterparts (Asher, 1986; Brown, 1996; Eitzen and Sage, 1997; McMillan, 1992; Naughton, 1997; Simon, 1991 ). In this process, students' potential for academic success and their academic experiences may be severely jeopardized.

The controversy surrounding some of these practices created public perceptions that football programs on college campuses were failing to deliver an education to student athletes. The central theme of the criticisms was that the primary concern of the football program was the quality of the athlete, not the quality of the student. In response to the public criticisms, the NCAA has implemented policies to attempt to raise the academic standards for college athletes.

#### Athletic Eligibility And Freshmen Entrance Requirements

The changing climate of college athletics has led to an increasing concern over the eligibility of athletes and entrance requirements. The most extensive study of freshman eligibility was conducted by Ronald A. Smith and Jay W. Helman in 1987. This study was made possible through a research grant from the NCAA. They found that the major

areas of concern in regards to freshman eligibility were the desire for competitive equity or fairness among competing institutions; the need to maintain financial solvency in intercollegiate athletics; and the pressure to preserve academic integrity within higher education

Smith and Helman (1987) reported that intercollegiate athletics initially came into existence as an extracurricular activity for students. Slowly, athletic pursuits grew in popularity, putting a strain on educational pursuits. Early on, the conflict between sports and academics was recognized . In 1889, Harvard President Charles Eliot acted to prohibit freshmen participation in order to preserve academic integrity at the institution. By the 1930s, most athletic conferences prohibited freshman participation. This prohibition was only interrupted for short periods of time during World War II and the Korean War due to a lack of athletic participants, as most were called off to war.

Smith and Helman (1987) found that the concern for financial solvency and its relationship to the decisions of freshmen eligibility became prominent only after athletic scholarships became a regular part of athletic programs and after athletic “grants-in-aid” were allowed by the NCAA after World War II. Smith and Helman also indicated that the major thrust behind allowing freshmen participation was financial from the 1960s on. The sports that generated the majority of concern were the primary revenue generating sports of football and men’s basketball. They discovered that many athletic programs were financed almost entirely from revenue generated by the sports of the program rather than from the institution’s budget. Therefore, athletic success became an utmost priority with educational performance becoming secondary.

In 1972, legislation was passed by the NCAA to once again allow freshman participation in all varsity intercollegiate sports. Much of the pressure to pass this legislation came from institutions suffering economic hardships by not being allowed freshman athlete participation. Though the large institutions could continue to function with freshman ineligibility, many of the smaller schools could not competitively compete. Smith and Helman (1987) found that successful athletic programs benefit the institution and thus many institutions may ignore educational concerns. However, the concern for academic quality continues to circulate amongst those outside of the institutions. Therefore, the striving for academic integrity may continue well into the future as institutions of higher learning, intercollegiate athletic programs, and “significant others” *outside of the institution decide whether student-athletes should be required to reach and maintain the same academic standards required of other students.*

Standardized Test Scores And Grade Point Averages. Astin (1993), McArdle and Hamagami (1994), and Pascarella and Terenzini (1991) found that the two best predictors of academic achievement and the potential to graduate from college were the Scholastic Aptitude Test (SAT) and students’ grade point average (GPA). McArdle and Hamagami (1994) reported that SAT scores were slightly better predictors than high school GPAs, but both variables together were considered better predictors than either alone for predicting graduation from college within five years.

Controversy has surrounded SAT scores and GPAs of collegiate student-athletes. Purdy, Eitzen and Hufnagel (1982) reported that a 10-year study at Colorado State University showed that grade point averages for all students was 2.74 as compared to 2.30



for football athletes. Eitzen and Sage (1997) reported that in 1985, entering University of Tulane athletes in revenue-generating sports had average SAT scores that were 484 points less than the average for all other freshmen. The president of the University of Georgia, Fred Davision, admitted that football players were theoretically eligible for scholarships and school admittance, even if they did not answer a single question properly on their SAT test (Nack, 1986). Mayo (1986) found that male athletes in non-revenue generating sports (i.e., sports that produced no revenue for the athletic department) had higher grade point averages than male athletes in revenue-generating sports (athletes that participated in sports that produced revenue for the athletic department).

### Graduation Rates

Over the past decade or so, policymakers have searched for ways to hold higher education more accountable for educational productivity. Student graduation rates are one way in which productivity in higher education is commonly assessed. Schools that graduate more of their entering students are making more efficient use of overall resources. Graduation rates of collegiate athletes have always been an area of concern. Asher (1986), for example, reports that the graduation rates for the entering freshman classes of 1976, 1977 and 1978 of North Carolina State's football program was 15 percent. Lederman (1989) reported that a survey conducted by the General Accounting Office for the Senate Labor and Human Resources Committee found that of the Fall 1982 entering class, about half of the 103 Division I-A football programs graduated fewer than 40 percent of their athletes within a 5-year period. Lederman (1991) noted that a survey of

Division I-A athletes that entered school in the Fall of 1984, conducted by the *Chronicle of Higher Education*, found that only 42 percent of football players graduated within 5 years. The same survey also reported that 21 of the 96 responding institutions graduated a third or fewer of their athletes within a 5-year period. Lederman (1992) reported on another survey conducted by the *Chronicle of Higher Education* that examined the graduation rates of African-American male athletes in Division I-A football who began their collegiate careers in 1983 and 1984. The percentage of graduates were 23.3 percent in the Big Eight (now the Big 12) Conference, 15.7 percent in the Big West Conference and 23.2 percent in the Western Athletic Conference. The same survey also discovered that two of the 46 African-American athletes who entered Lamar University, seven of the 62 African-American athletes at Northwestern State University of Louisiana and six of the 48 black African-American athletes at Arkansas State University who entered in their respective institutions in 1983 and 1984 graduated within six years.

### **Policies To Govern Athletes' Achievement And Eligibility**

Reported problems with collegiate athletes' graduation rates, GPAs, SAT scores, as well as the bending of and outright violations of the rules governing schools' behavior, have led the public to have a low confidence in the legitimacy of collegiate athletics. As early as 1889, concern was expressed about the participation of freshmen in intercollegiate athletic competition (National Collegiate Athletic Association, 1998).

### Early Policies

Despite the concern regarding freshmen eligibility, there was no formal NCAA policy except for a 1939 rule that excluded freshmen from participating in national championships (Zimbalist, 1999). Rule 1.6, which was passed in 1964 and enacted in 1965, became the first system-wide NCAA policy. This policy stated that in order for freshmen to receive athletic scholarships, they would need a high school GPA, class rank, and a standardized test score that would predict (based on statistical correlation for a sample of 40,900 students at 80 colleges) a college GPA of 1.6 (Zimbalist 1999). Though this was a relatively low standard (i.e., representing an accumulation of C and D grades), it was still better than having no standard at all (Zimbalist, 1999)

With some standard in place, in 1968, all freshmen except for those participating in football and basketball were declared eligible to compete. By 1972, football and basketball participants were allowed to compete (Zimbalist, 1999). At the same time, Rule 1.6 was replaced with a slightly different academic policy for entering students. The 2.0 Rule required a high-school GPA for entering freshmen athletes of 2.0, but it did not have any requirements for courses taken, class rank, and performance on the SAT or ACT exam (Zimbalist, 1999).

### Proposition 48

In 1982, the American Council on Education's (ACE) Ad Hoc Committee on Athletics, consisting of 37 chief executives of Division I institutions proposed Proposition 48 (Humphries 1983; Smith and Helman, 1987). It was directed at restoring

some integrity within the academic realm of collegiate athletics. Proposition 48 required that all incoming freshman athletes would need a 2.0 grade point average in at least 11 academic core courses including at least three in English, two in mathematics, two in social science and two in natural or physical science (including at least one laboratory class if offered by the high school), an overall 2.00 grade point average and at least a 700 SAT or 15 composite ACT score in order to be eligible to play intercollegiate sports in their freshman year. The desire of these standards were to improve the academic preparedness of freshman student-athletes (Humphries, 1983; Smith and Helman, 1987). Proposition 48 was adopted at the 1983 NCAA Convention and went into effect in the Fall of 1986 (Humphries, 1983; Smith and Helman, 1987).

Controversy, however, surrounded Proposition 48 from its earliest beginnings. Foremost, was the accusation that the minimum SAT score requirement of Proposition 48 was racially discriminatory, and thus would prevent many minorities from attending college. For example, Joseph B. Johnson, president of Grambling State University, Jesse N. Stone Jr., president of Southern University and Edward B. Fort, chancellor of North Carolina A&T led a *contingent of African-American representatives that strongly* opposed the passage of Proposition 48. They felt that SAT and ACT testing was culturally biased in favor of upper-class whites (Zingg, 1983). Jesudason (1989) reported that a survey conducted by the NCAA in 1987 found that of the 424 potential collegiate athletes that failed to meet the required SAT scores, 299 were African-American. Farrell, (1996) reported that Ursula Walsh, director of research for the NCAA noted that there were 3,723 blacks who entered collegiate athletics and received athletic scholarships in

1985. Walsh goes on to note that In 1989, that number was reduced to 3,491. Blum (1993) found that the 1993 graduation report furnished by the NCAA indicated 600 fewer Division I African-American athletes had enrolled in 1986 (the first year of the policy's implementation) than in 1983, 1984 and 1985.

Other preliminary reports echoed these findings. For example, Blum (1994) noted that the 1994 graduation rates report furnished by the NCAA found that 500 fewer Division I African-American athletes had enrolled in 1987 than in 1983, 1984 and 1985. The report also found that in 1987, African-Americans accounted for 23.4 percent of first-year athletes, as compared to 27.1 percent for the years 1983-1985. Similarly, the 1995 graduation rates report furnished by the NCAA found that in 1988, Division I African-American comprised 23.2 percent of first-year athletes, as compared to 27.1 percent for the years 1983-1985 (Blum, 1995). Reisberg (1998) noted that the average verbal SAT score as reported by the *College Board* was 526 for whites as compared to 426 for African-Americans. Chenoweth (1998) and Reisberg (1998) also noted that the *College Board* found that those from urban or rural schools had average SAT scores that were between nine and 17 points below the average.

Importantly, in the debate on the legal implications of these types of policies, on March 8, 1999 District Court Judge Ronald Buckwalter concluded that requiring students to have a minimum score on the SAT or ACT exams in order to participate in intercollegiate athletic programs or to receive athletic financial aid during their freshman year was in violation of Title VI of the Civil Rights Act of 1964 (Fair Test Examiner, Winter 1996-1997; Haworth, 1999). The opinion of the judge was based upon a suit filed

by four African-American student-athletes; Tai Kwan Cureton, Leatrice Shaw, Andrea Gardner and Alexander Wesby (Suggs, 1999). The ruling by Judge Buckwalter was stayed pending an appeal by the NCAA (Fair Test Examiner, Spring 1999; Lederman, 1999; Suggs, 1999). During the latter part of 1999, a federal appeals panel reversed the decision rendered by Judge Buckwalter, thus the eligibility requirements of Proposition 16 are currently being enforced as intended (Fair Test Examiner, Winter 1999-2000). The plaintiffs in the case are still contemplating making an appeal to the U.S. Supreme Court (Fair Test Examiner, Winter 1999-2000).

#### **Previous Research Examining The Effects Of Proposition 48**

Policy analysis is a type of analysis concerned with basis for why policies were adopted and the effects of these policies once they were implemented (Majchrzak, 1984). The effects of the policies deal with the direct impact of the implemented policy or the direct or indirect activities that develop due to the implementation of the policy (Gill and Saunders, 1992). Despite the development of policies in response to the demands and pressures of society to improve public educational practices, evidence suggests that organizational and educational practices are often resistant to any changes that external policy makers desire (Firestone and Corbett, 1988). For example, McLaughlin (1990) concluded that it is difficult to evoke change upon individual educational institutions since much of what is going on within these institutions cannot be controlled by the governing educational agency.

A number of studies have examined aspects of Proposition 48 with respect to its impact on raising institutions' academic standards and students' graduation rates. It is important to note that most of this research has been descriptive or simple types of statistical analyses (comparisons of means between groups, comparisons of means for groups before and after Proposition 48). These types of preliminary analysis raise questions about the accuracy of the findings, since they do not necessarily control for measurement error and have not used methods that are optimal in comparing trends. For example, these previous studies have not approached the impact from a growth modeling perspective, nor have they typically included controls (e.g., institutional size, prestige, public/private setting, financial information) that might influence outcomes of interest such as academic standards or graduation rates.

Academics. With the inception of Proposition 48 in 1986, minimum standards were established for SAT scores and GPAs. A minimum of 700 on the SAT and a 2.00 GPA on the required core classes were necessary in order to be able to participate in an athletic program at the collegiate level. Some preliminary research compared groups of non-athletes with athletes. In one descriptive study, for example, Lederman (1991) reported that in the Fall of 1989, 27 percent of football players admitted to universities in Division I-A received special admissions, as compared to only 4 percent of the non-athlete population. Lederman also noted that of the 98 Division I-A schools that replied to the *Chronicle of Higher Education's* survey, 73 made exceptions in admissions, 13 of them at a rate 10 times greater for athletes to non-athletes and 35 of them at a rate of five times greater.

Sigelman (1995) found that of the 99 institutions studied, the majority of the scholarship football players' SAT scores were significantly lower than their non-athlete counterparts. Sigelman stated that the SAT mean for scholarship football recruits was 852 while the mean for all incoming students was 1017. Naughton (1997) reported that the entering GPAs and SAT scores of teams that finished in the top 25 in 1996-97 in football were below the non-athlete population. Naughton also reported that all of the reported SAT scores of the student-athletes were below the lowest range of the reported middle 50 percent of the non-athlete freshman class. Pascarella, Bohr, Nora and Terenzini (1995) found that by the end of the freshman year, football players were significantly deficient in standardized testing of reading comprehension and mathematics compared to male non-athletes and male athletes in other sports. Maloney and McCormick (1993) found that college athletes, due to their weaker high school academic preparation, had lower GPAs compared with their non-athlete counterparts, with football players' GPAs being lower than other athletes.

Graduation Rates. Some preliminary studies have examined graduation rates before and after the implementation of Proposition 48. For example, descriptive data supplied from the NCAA shows that since the initiation of Proposition 48 in 1986, graduation rates have risen six percentage points (Ethier, 1997). However, only 52 percent of football players who entered college in 1990 graduated within six years. This compared to 56 percent of non-athlete students (Ethier, 1997). Of those athletes who entered college in 1991, 50 percent of football players graduated within 6 years compared to 56 percent of non-athletes (NCAA, 1998). Benson (1993) reported that the overall



graduation rate of Division I student-athletes improved after the implementation of Proposition 48. The 1984-85 cohort group graduated 48.2 percent of their student-athletes while the 1986 cohort group graduated 56.5 percent of their student-athletes. A weakness of this study, however, was that it only looked at the group immediately before and after the proposition was implemented. In another early study of graduation rates, Blum (1993) reported that 57 percent of Division I student-athletes who entered in 1986 (the year Proposition 48 was implemented) as freshman graduated, as compared to an average of 51 percent for the years 1983-84, 1984-85 and 1985-86. In the same report, Blum also noted that 41 percent of the 1986 African-American male student-athletes (which included football and basketball players) graduated, as opposed to 33 percent for the years 1983-84, 1984-85 and 1985-86. The graduation rates for white student-athletes also rose from 55 to 57 percent. Blum (1994) also reported that 57 percent of Division I student-athletes who entered in 1987 as freshman graduated. Blum (1995) reported that 58 percent of Division I student-athletes who entered in 1988 as freshman graduated.

When the previous reports mentioned above are examined for the revenue producing sports only, the findings are more mixed. Benson, (1993) found that the increase in graduation rates of entering 1986 student-athlete freshmen over 1985 student-athlete freshmen was consistent for all sport groups, except for the revenue-sport groups where graduation rates stayed the same or dropped slightly. Blum, (1995) reported that of the African-American football players who entered in 1988, 42 percent graduated, as compared to 44 percent from 1987 and 43 percent from 1986.

In the mid-1990s, however, reports began note that graduation rates were in

decline. For example, Ethier (1997) noted that the graduation rate of Division I football players in 1996 fell nearly six percentage points from the previous year. Haworth, (1998) ? reported that the Division I football players' graduation rate dropped two more percentage points in 1997, as compared to 1996. Suggs (1999) reported that the graduation rate of football players again fell to their lowest level in seven years.

Though the NCAA graduation rates reports indicate an overall increase in graduation rates of student-athletes since the implementation of Proposition 48, deeper study of the research results discovers some conflicting and disturbing findings. Though the NCAA reported that 57 percent of student-athletes who entered in 1987 graduated in six years, Blum, (1994) stated that 12 of the reporting colleges had graduation rates below 30 percent. When the graduation rates of black male athletes were examined, about 36 institutions reported rates below 30 percent. Blum also noted that many more institutions had graduation rates below 30 percent for the black male athletes, but only institutions that enrolled at least six black male athletes were included in the study.

### **Summary Of The Chapter**

The NCAA has faced a number of new and recurring challenges regarding its supervision of collegiate athletics. Proposition 48 was developed to raise academic standards and improve graduation rates of student-athletes. Previous studies on the impact of Proposition 48 have reported conflicting results within the area of graduation rates. Though it may be true that overall graduation rates of Division I student-athletes

improved with the implementation of Proposition 48, researchers noted that when just the revenue generating sports were examined, the same trend was not evident. Other researchers examining the graduation rates of Division I football players found that the graduation rates either stayed the same or declined after the implementation of Proposition 48. Other studies reviewed in this chapter focused on the entrance credentials of Division I freshmen student-athletes and how the raising the standards of entering freshmen student athletes may have affected educational attainment.

There are several limitations of previous research examining the impact of Proposition 48. First, the studies tended to be primarily descriptive and, therefore, did not make full use of the trend data available. Second, because limited analytic techniques were used to examine the impact, other variables that might have interacted with efforts to raise academic standards were not identified. Third, most studies have focused on freshmen data. Fourth, other unintended outcomes resulting from the implementation of Proposition 48 have not been investigated (e.g., changes in recruiting behavior).

## CHAPTER III

### METHOD

#### DESIGN

The essence of a time-series design is the presence of periodic measurements and the introduction of an experimental change into this time series of measurements. The results are indicated by a discontinuity in the measurements recorded in the time series (Campbell & Stanley, 1963). It may be diagrammed as follows:

$$O_1 O_2 O_3 X O_4 O_5 O_6 O_7 O_8 O_9$$

where the three O's preceding the X represent a yearly trend of practices prior to the introduction of the treatment. In this case, the X represents the year that Proposition 48 was implemented, and the O's following the X represent the yearly trend that occurred after the implementation of the policy.

In this case, the O's preceding the X represent the outcome data on freshman entrance rates for the years 1983, 1984 and 1985, the X represents the point at which Proposition 48 was officially implemented in 1986, and the O's following the X represent the year-end data on freshman entrance rates for 1986, 1987, 1988, 1989, 1990, and 1991. For this study, the data on freshman transfers and the data on freshman graduates before and after Proposition 48 was implemented are examined in this manner. The analysis involves comparing the shape of the trend before Proposition 48 was implemented ( $O_1$ - $O_3$ ) against the shape of the trend after Proposition 48 was implemented ( $O_4$ - $O_9$ ). More

specifically, compared to the pre-Proposition 48 trends, it is believed that freshman entrance rates will decline more rapidly and that graduation rates of freshman students will increase more rapidly.

The data on junior college transfers are examined in a slightly different way. As noted, the NCAA did not keep records on junior college transfers prior to the implementation of Proposition 48. Because of this, the baseline (or initial status) year is considered to be 1986, the year the proposition was first implemented. Therefore, the junior college transfer data are analyzed as one trend beginning with the year 1986 and extending through 1991. The subsequent junior college transfer graduation rates cover the years 1992-1997. These trends can be represented as follows:

$$X \ 0_1 \ 0_2 \ 0_3 \ 0_4 \ 0_5 \ 0_6$$

The analysis involves examining the extent to which the scores remained constant over the period of the analysis for junior college transfers (i.e., 1986 to 1991 or 1992 to 1997). The null hypothesis in both cases is that there is no difference between the scores from  $0_1$  to  $0_6$ . The research hypotheses are that the trends in junior college transfers and subsequent junior college transfer graduations increased over the period of the study.

#### Potential Threats To Internal Validity In Time-Series Designs

The time-series design set forth with measures taken before and after the introduction of the treatment is a sound quasi-experimental design, provided certain

threats to internal validity can be successfully argued away (Campbell & Stanley, 1963). Basically, the problem of internal validity reduces to the question of plausible competing hypotheses that offer likely alternate explanations for any shift in the time series other than the introduction of the policy (Campbell & Stanley, 1963). The major threats to the internal validity of the time series analysis are instrumentation, testing, and history. Instrumentation and testing are not problems in this study; however, as data were collected utilizing the same variables, and no repeated testing was done (as might be the case if the data were collected from individuals participating in a treatment). The determination of change will be determined solely upon the fluctuations in the institutional data over the years prior (when available) to Proposition 48 and following its implementation.

Threats due to history, however, could be a potential problem. Something other than Proposition 48 might account for the observed changes in the years following its implementation. These could reasonably include, for example, changes in the institutional norms within the set of schools (that may or may not correspond to the treatment) or perhaps cyclical events. The observational series can be arranged to hold these types of cycles relatively constant (e.g., data are collected at the same time and over a relatively-long period of time). This lessens the possibility that some other corresponding extraneous event would produce the expected trends other than the implementation of Proposition 48.

To deal with history as a rival explanation, it is important for the researcher to specify in advance the expected relationship between the introduction of the treatment

and the manifestation of an effect (Campbell & Stanley, 1963); that is, how soon the effect would be seen. As the time between implementation and resultant effect increases, the effects of extraneous events become more plausible. To examine the trend in an optimal manner, it is important to have sufficient data to examine the trend before the policy is introduced, as well as data at several time points after the policy is introduced. For the data on freshmen students, there were ample data before and after to establish the two necessary trends. In the case of junior college transfers, however, because data are only available from the time the policy was introduced, the comparison of trends before and after the policy was introduced is precluded. In this case, only an omnibus hypothesis can be tested regarding the equality of means across the trend. If the means are unequal, the shape of the trend (e.g., linear, quadratic) can be compared against the hypothesized trend.

### Data Sources

A number of different sources were used to compile the data set on Division 1-A football programs from the years 1983 through 1991. Proposition 48 was implemented beginning in 1986. First, institutional data were gathered from 112 Division I-A football programs for the years 1983-1991. This period was used in order to provide an adequate sampling of data that would indicate tendencies that occurred three years prior to and four years after the initiation of Proposition 48. Of these 112 programs, complete data sets are available for 76 programs. The conferences that these programs belonged to between the years of 1983-1991 were the Big East, the Big 8, the Big 10, the Pacific 10 (PAC 10), the

Southeastern Conference (SEC), the Southwest Conference (SWC), the Atlantic Coast Conference (ACC), the Middle Atlantic Conference (MAC), the major independents (INDEP), the Western Athletic Conference (WAC), and Conference USA.

Second, the NCAA Division I Graduation-Rate Reports of 1990 through 1998 provided data regarding the incoming classes of 1983 through 1991. The reports provide information about student-athletes who received athletic aid in one or more of eight sports categories. These categories are football, men's basketball, baseball, men's track and field/cross country, men's other sports and mixed sports, women's basketball, women's track and field/cross country, and women's other sports. The graduation percentages are based upon a comparison of the number of students who entered a college or university and the number that graduated within a six-year period. The freshmen graduation percentage indicates the number of freshmen who entered within the given year and graduated within a six-year period (i.e., the 1995 Graduation-Rates Report provides the graduation rates of the student-athletes receiving financial aid who entered the program in the 1988-89 academic year). Thus, if the graduation rate given were 60 percent, this would indicate that of the 100 student-athletes who entered the program during the 1988-1989 academic year, 60 graduated within the 6-year period). Similarly, the transfer graduation rate indicates the number of transfer student-athletes who graduated within a six-year period. Their year of entry will correspond to the year that they would have been assigned had they entered the institution during their freshman year. Thus, the 1992 transfer student-athlete graduation rates would reflect those student-athletes who would have been entering freshmen in 1986. The transfer student-athletes



are the junior college transfers.

### **Variables In The Policy Model**

The purpose for the formulation and the implementation of Proposition 48 was to improve or strengthen the academic standards of incoming freshmen student-athletes (National Collegiate Athletic Association, 1998) ?. To examine the impact of this policy on academic performance and possible changes in recruiting behavior, a number of impact measures were developed. Over time, the increase in academic standards for eligibility would be expected to bring a corresponding improvement in student-athletes' academic performance while in the institution. Commonly-used measures of student performance in higher education include persistence to the degree (often measured as the percent of students who graduate within a 6-year period) and students' grade-point averages.

#### Outcome Measures

Graduation Rates. One way to determine improvement in institutional academic performance is to examine changes in graduation rates over time. Graduation rates seem to be the standard for which most programs are evaluated on in terms of academic success. If academic performance is improving, one would expect to see a higher percentage of graduates since the inception of Proposition 48. The advantage of using these data is that they are a commonly-accepted measure of productivity in higher

education.

Some caution is warranted, however. Graduation rates of student-athletes may be influenced to some extent by various support programs provided by the university. These can include the presence of tutors or academic support personnel writing papers, taking tests or doing homework and assignments for the student-athlete, faculty passing student-athletes from courses who do sub-par work and the receiving of credit for taking “phantom” courses (i.e., courses that were never attended). To the extent that the presence of these influences vary across institutions, they may introduce some bias into the data. Data on the graduation rates were obtained from the 1990 through 1998 NCAA Division I Graduation-Rates Report which provides information pertaining to the entering freshman classes of 1983-1984 through 1991-1992. The graduation data for student athletes are reported as the percentage of graduates at the end of a six-year period from the student’s freshman entrance class.

Entering Freshmen. The implementation of Proposition 48 in 1986 imposed minimum academic entrance requirements on the prospective freshman student-athlete. The imposing of these standards is likely to have had an effect on the number of eligible prospective freshman student-athletes. Data on the number of freshman student-athletes that entered Division I-A football programs between 1983-1984 through 1991-1992 were compiled from the 1990 through 1998 NCAA Division I Graduation Rates Report and from Maria DeJulio, a researcher for the NCAA (personal correspondence, November, 1999).

Junior College Transfers. Since Proposition 48 imposed minimum academic

entrance requirements on the prospective freshman student-athletes, the number of junior college transfer students might be expected to increase. Student-athletes attending junior college institutions are not required to meet the minimum requirements of Proposition 48. *Once they have obtained an Associates of Arts Degree, they can transfer into a Division I-A institution and play two years at this level.* Data on the number of junior college transfers were obtained from the 1990 through 1998 NCAA Division I Graduation-Rates Report and from Maria DeJulio, a researcher for the NCAA (personal correspondence, November, 1999).

Institutional data on freshman and junior college transfers were reported in the following categorical ranges: 1-5, 6-10, 11-15, 16-20, and greater than 20. Following Ferguson (1976), these categories were converted to interval data by entering the midpoint of each category, with the exception being the last category (entered as 21).

One important limitation is that there were no institutional data available for the yearly trends of junior college transfers prior to the implementation of Proposition 48 (i.e., records were not kept). The inaugural NCAA Division I Graduation-Rates Report began in 1990 and contained the data for 1983-84 entering freshman student-athletes and their graduation rates. They did not however, contain any data for junior college transfers. This data became only available with the 1993 NCAA Division I Graduation-Rates Report, relating to the 1986-87 junior college transfers, the year Proposition 48 went into effect. Therefore, for the junior college transfers, 1986-87 will be the baseline for all comparative analyses.

## Covariates

Several institutional variables were also examined as possible covariates in the analysis. These were variables that were thought might have an impact on the trends observed before or after Proposition 48 was introduced.

Prestige Related To On-Field Success. Studies have shown that the on-field success of an institution's football programs contributes greatly to its overall revenue-generating capabilities. On-field success is highly dependent on the athletic quality of the student-athletes; therefore, in order to maintain a high degree of on-field success, a program would need to recruit a larger number of student-athletes with high athletic ability.

A number of variables were used to define on-field success. These included institutions' won-lost records, number of post-season bowl appearances, number of conference championships, number of national championships, and number of appearances among the top 25 teams in the nation. The database of these group of factors between the years 1983-1991 were obtained from each institution's web site (<http://couponsurfer.infofplease.com>) and through electronic mail correspondence.

Conference Affiliation. Conference quality varies across the nation. Within the years of 1983-1998, certain divisional conferences had representatives that had a strong likelihood of finishing within the top 5 of the Associated Press Final Division I-A Football Poll. Data were compiled from web sites (<http://couponsurfer.infofplease.com>). The Big 8 (currently the Big 12) Conference (Big 8) had a team representative in 11 of the 16 years, the Big East Conference (Big East) in 9 of the 16 years, the Big Ten

Conference (Big 10) in 9 of the 16 years, the Southeastern Conference (SEC) in 13 of the 16 years, the Pacific 10 Conference (PAC 10) in 7 of the 16 years and the Atlantic Coast Conference (ACC) in 12 of the 16 years. Every conference except the PAC 10 had a team finish number one within this 16-year time frame.

Moreover, during the 1995-96 season, the top 10 most profitable programs in Division I-A football belonged to the Pac-10, SEC, Big 10, and the Big 12. Only number 8 Notre Dame did not belong to any of these conferences (Kansas City Star, 1997).

To examine the impact of conference affiliation, the conferences were rank ordered according to prestige factors (e.g., top five finishes, most profitable). The Pac 10, the Big 12, the ACC, the SEC, the Big 10, the Western Athletic Conference (WAC), USA Conference (USA), Big West Conference (Big West), Mid-American Conference (MAC), Independent Conference (INDEP), and the Southwestern Conference (SWC) were the conferences of the schools included in this study.

Financial Data. The revenues and expenses of each institution were obtained for the fiscal-years of 1995-1996 and 1996-1997. The 1995-1996 data was obtained from the Kansas City Star ([www2.kansascity.com/cgi-bin/php/ncaa/search.php](http://www2.kansascity.com/cgi-bin/php/ncaa/search.php)) and the 1996-1997 data was obtained from The Chronicle of Higher Education Facts and Figures: Institutions: NCAA Athletics ([www.chronicle.com/che-data/info...dir/factfile.dir/ncaa/98/ncaa1.htm](http://www.chronicle.com/che-data/info...dir/factfile.dir/ncaa/98/ncaa1.htm)).

These were the only two years for which fiscal data could be obtained. Though they are reflective of fiscal years after the existing data set of entering freshmen and junior college transfers, they will be included in the analysis to determine if there is a

relationship.

Size Of Institution. The undergraduate student population of each institution was obtained in order to determine if the size of the student population is related to the predicted trends of junior college transfers, freshman and graduation rates.

Public Or Private Institution. Whether an institution is public or private is also examined to see if it a relationship to graduation rates and recruiting practices. This was coded 0 = private and 1 = public.

### **Data Analysis**

The requirements of Proposition 48 should increase the number of academically qualified student-athletes within Division I-A football programs. It would be expected that the more academically qualified the student-athlete is, the greater the potential for graduation. Therefore, if Proposition 48 were functioning as intended, there should be a significant increase in the graduation rates of Division I-A scholarship football student-athletes after the implementation of the policy. The implementation of Proposition 48 may also lead to changes in recruiting behavior—that is, the number of freshman versus junior college student-athletes recruited over time.

### Analysis Of Growth

Often researchers are interested in the change within individuals over time. Repeated measures analysis refers to measuring the same variable on several occasions

for each unit. Initial hypothesis tests can be conducted to determine whether the means of the variables measured at different time points are equal. The approach is useful in determining whether there have been any significant changes in the outcome variables (i.e., number of junior college transfer student-athletes, the number of entering freshmen student-athletes, and the graduation rates of entering freshmen student-athletes) over the years of 1983 through 1991.

How to examine individual change has challenged researchers for many years. There have been inadequacies in the conceptualization, measurement, and design of change studies. Traditionally, analysis of variance (ANOVA) has been used to examine changes in individuals across time. Unfortunately, some of the assumptions of the method are often not tenable when used in real situations (Raykov & Marcoulides, 2000). Some of the shortcomings concern the normality of the data across between-subject factors and the equality of the covariance matrices across measurements.

In recent years, there have been increased options for examining changes over time, however. These options allow greater flexibility in how the change is modeled and for determining how other variables may affect changes across time. *Multilevel modeling* techniques take into consideration “random” effects; that is, they provide a means of examining variation, or change among individuals (e.g., see Bryk & Raudenbush, 1992). For example, unlike “fixed” effect models, where everyone in a group may be assigned one effect parameter (e.g., such as regression slope describing the effect for males versus females), an important point to consider is that *multilevel, or random-coefficients, models* allow the parameters (such as a slope) to vary across individuals in the study. In the

growth modeling formulation of random-coefficients models, the random variability concerns individual differences in the growth curves or trajectories.

With the presence of valid measurements over multiple points in time, the various approaches to growth modeling have become the preferable means for studying change (Bryk and Raudenbush 1992). For example, rather than conceiving the change as an interaction of repeated occurrences (e.g., an interaction between a between-subject factor such as gender and time), growth modeling allows the successive measurements of individual change to be represented as a growth curve that summarizes the individual's initial status and the subsequent change. Importantly, in these new approaches, the repeated observations are thought of as unique to each subject, rather than general for all subjects.

### Latent Change Analysis

Another way to investigate change across time is using structural equation modeling (SEM). Using SEM, the general formulation, called latent change analysis (LCA) is very similar to confirmatory factor analysis, where an underlying (latent) construct is said to be measured by a set of observed variables. In the SEM growth model, the change is captured as a latent variable which is measured by the observed time indicators. In this formulation, the latent factor may be interpreted as a time factor that is responsible for the pattern of individual measurements that are observed over time (Rakov & Marcoulides, 2000). The time factor can also be interpreted as an initial true status (i.e., where the subject starts at the beginning of the trend) of the underlying



outcome that is being measured. The loadings of the repeated measures on the factor can then be interpreted as rates of mean change in the outcome over time.

The changes in individuals may also be captured in a type of two-factor model consisting of a latent intercept factor (which takes into consideration the levels of observed variable means) and a latent shape factor which takes into consideration the shape of the growth (e.g., linear, quadratic). This is a more refined model than the one-factor model, as it allows one to consider both the levels of the growth or decline over time as well as the steepness of the trend. This becomes important when one wishes to study various predictors of the growth or decline, as opposed to merely determining the shape of the growth or decline. This latter formulation is closer to growth curve analysis, in contrast to the older repeated measures analysis of variance (ANOVA) where growth is not directly modeled, but rather appears in the interaction of repeated measures by subjects and other between-subject factors (Bryk & Raudenbush, 1992).

A general example of the growth model can be used to illustrate the technique. Let the random variables  $\eta_{0i}$  and  $\eta_{1i}$  represent an intercept factor and a linear slope factor, respectively. In this general example, these might be parameters indicating the level of freshman graduation and the shape of the change in graduation over time. These are coefficients in the regression of the outcome on time, and the fact that they vary across individuals gives rise to the term “random coefficients.” The model might also include a randomly-varying slope that varies within individual institutions’ football programs (e.g., such as the level of financial support within the program each year), as well as a fixed between-institution variable (e.g., size of the institution) that might modify the latent

intercept and slope factors. The model can be represented as:

$$y_{it} = \eta_{0i} + \eta_{1i}(a_t - a) + k_t \chi_{it} + \varepsilon_{it}, \quad (1)$$

$$\eta_{0i} = \alpha_0 + \gamma_0 \chi_{i0} + \zeta_{0i}, \quad (2)$$

$$\eta_{1i} = \alpha_1 + \gamma_1 \chi_{i0} + \zeta_{1i}, \quad (3)$$

where  $a_t$  is a time related variable,  $a$  is a centering constant,  $k$  is a randomly-varying slope,  $\chi_t$  is a time-varying covariate (e.g., program financial support), and  $\chi_0$  is a time-invariant covariate (e.g., institutional size). The errors in equations are denoted by  $\varepsilon_{it}$  and  $\zeta_{it}$ . In this case, the substantive meaning would be that financial support is a time-varying factor within individual institutions that over time affects their freshman football players' graduation rates, and institutional size is a fixed variable that affects the level of institutions' graduation rates and their graduation growth trajectory.

Besides the increased flexibility offered by newer approaches, an important difference between LCA and earlier ANOVA repeated measure analyses is that with LCA the means of observed variables can be taken into account. The observed variable means are added as the last row and column to the covariance matrix resulting in a covariance-mean matrix (Raykov & Marcoulides, 2000). This addition allows for more data points to be obtained, resulting in a more effective examination of growth, decline, growth followed by decline, and decline followed by growth (Raykov & Marcoulides, 2000).

These more flexible modeling options are important for examining time-series

data in policy analysis such as the data used in this study. They provide a variety of ways to test statistically whether a set of means are the same (i.e., suggesting that no growth or decline has taken place over the trend) or for comparing whether two trends are the same. For example, tests of significance for time series analyses involve departures of time points after the policy has been implemented from the series of observations taken before the policy is introduced (Campbell & Stanley, 1963; Freund & Littell, 1991). One way to do this is to examine whether there is a “jump” in the time series at X (or some specified point after X is introduced). In such a case, it is likely that both an intercept change (i.e., changes in the mean levels of the outcomes) and shape change would be affected by the introduction of X—that is, for example, the mean number of freshman students recruited might decrease, as well as the slope describing the shape of the trend.

These types of models that compare the shapes of two trends have been referred to in the past as “spline” regression models (Freund & Littell, 1991). The idea is to fit one linear model segment to the data before the introduction of the policy (or shortly after its introduction) and another linear model segment to the point where the plotted behavior changes abruptly. The two separate trends may then be compared against each other. While linear spline models are one relatively easy way to examine changes over time, they have been criticized because the abrupt change in trend going from one segment to the next does not represent what would naturally occur (Freund & Littell, 1991). For example, it may be that there is a lag effect where a change does not take place immediately. Visual inspection of the overall trend as well as the before and during trends can aid in making some of these determinations.

Where there is only one trend available, for example, in the case where the policy is being examined against a baseline year (instead of a baseline trend consisting of several years), the initial status can be compared against the subsequent growth. The initial hypothesis would be that there is no change in initial status over the period covered by the analysis. If this hypothesis is rejected, then the analyst can examine the shape and amount of growth from year to year. For example, a trend might show a continuous upward movement from the beginning of the time series through the end.

If the trends are found to, in fact, differ over time, then we can next determine whether the trend is linear, quadratic, or some other shape. In this case, we can conduct the analysis as a growth analysis and can examine the relevant parameters associated with the key time points in the growth model (e.g., before or after the policy is introduced). Moreover, covariates (e.g., conference affiliation, institutional prestige) may also be added to the model to help refine the examination of the trends.

### Models

Four preliminary models were developed. The first two models address the possible changes in graduation rates for freshman and junior college student-athletes resulting from Proposition 48. The first model involves examining the shape of the trends that occurred before and after Proposition 48 was implemented for freshman student-athlete graduation rates. The hypothesis test requires setting the two growth parameters to be equal and then testing for the difference in chi-square between the restricted model (i.e., with growth parameters set to be equal) against the unrestricted model where both

growth parameters are free to be estimated. If the change in chi-square is non significant (i.e., chi-square is less than 3.84, 1df @  $p = .05$ ), it suggests that the two trends before and during Proposition 48 are not different. It is expected that the two trends will not be the same. More specifically, for model one:

*H1: The trend in freshman graduation rates will increase after the implementation of Proposition 48, relative to the pre-Proposition 48 trend.*

The second model involves examining whether the junior college transfer graduation rates increased over time. In this case, since there are no pre-Proposition 48 data, the analysis involves determining whether the mean levels of the graduation rates are the same over time. If the means are not the same, then the following is expected:

*H2: The trend in junior college graduation rates will be positive after the implementation of Proposition 48.*

The third and fourth models focus on possible changes in recruiting practices that occurred after the introduction of Proposition 48. The third model will examine the changes that have occurred in the graduation rates of freshmen student-athletes. This model is constructed similarly to the first model; that is, the analysis involves testing the trend for freshman entrance rates before Proposition 48 against the trend after Proposition 48 was introduced. If the chi-square coefficient for the restricted model is non significant

(i.e., less than 3.84, 1df @  $p = .05$ ), it suggests the trends are not different.

*H3: The trend in numbers of entering freshman student-athletes will decline after the implementation of Proposition 48 relative to pre-Proposition 48 levels.*

The fourth model will investigate whether the number of junior college transfers changed after the introduction of Proposition 48. The analysis involves first determining whether the mean levels of transferring student-athletes are the same after the policy was introduced. If they are not the same, then the following is expected:

*H4: The trend in numbers of transferring junior college student-athletes will be positive after the implementation of Proposition 48.*

#### Adding Between-Institution Covariates

After the preliminary trends were examined, the institutional characteristics were added to the models as covariates to help explain the trends. These variables include conference affiliation, prestige (i.e., won-loss records, championships won, post-season bowl appearances top 20 finishes), size of institution and public or private status. This analysis will help to determine whether any of the above-mentioned institutional characteristics affect any of the outcome trends and will help to determine whether other types of variables interact with the observed changes before and after Proposition 48 was implemented.

## CHAPTER IV

### RESULTS

#### Introduction

This chapter presents the results of the study. In the first part, several models are presented to determine the impact of Proposition 48 on graduation rates for freshman and transferring junior college student-athletes. In the second part, a series of models is presented to examine the change in recruiting practices that occurred after the implementation of the policy.

#### Latent Change Analysis

Latent change analysis (LCA) is a general term used to describe models that can be used in repeated measurement studies. They are applicable when one is interested in studying growth or decline, even those with more complex patterns of change such as growth followed by decline or vice versa (Raykof & Marcoulides, 2000). LCA allows researchers to investigate both the covariance matrixes of the repeated measures as well as the observed variable means. In this manner, changes in the levels of means across time, as well as the shape of the change across time (e.g., linear, quadratic), may be investigated. Change in the means of variables under investigation is of special importance, since the interest is in what happened to levels of the outcomes after the policy was introduced.

Muthen and Muthen (2001) have outlined several useful steps in fitting latent change, or growth, models. This strategy was used in the investigation of changes in recruiting practices and graduation rates associated with Proposition 48:

1. Preliminary statistics are used to describe the means, variances, correlations, bivariate distributions and possible outliers.
2. The shapes of the growth curves are determined from theory and the data.
3. Models are fit without covariates using fixed time scores in a linear (i.e., 0, 1, 2, 3, 4) or quadratic (0, 1, 4, 9, 19) fashion.
4. Models may be modified as needed to capture linear, quadratic or nonlinear elements.
5. Covariates (or variables that might modify the growth curve) may be added to the model.

Each of the four models investigated (i.e., freshman graduation rates, junior college graduation rates, entering numbers of freshman student-athletes, numbers of junior college transfer student-athletes,) will be examined based upon the steps suggested by Muthen and Muthen (2001).

### **The Effect Of Proposition 48 On Graduation Rates**

#### **Comparison Of Means For Freshman Graduation Rates**

Table 4.1 presents descriptive information on freshmen graduation rates over



time. The graduation rate means are varied in the three-year period (i.e., 1983 to 1985) prior to the implementation of Proposition 48 (i.e., the corresponding graduation six-year periods are between 1989-1991). The table suggests there was a steady increase over the three years after the implementation of the proposition. Then, in the last three years of the data set, there was a steady decline in the observed means. The mean of the graduating class of 1997 was about the same as the last graduating classes before Proposition 48 was introduced.

Table 4.1

Mean Rates Of Freshman Graduates

	N	Minimum	Maximum	Mean	Std. Deviation
GRADR89	76	7.00	88.00	44.0658	18.31454
GRADR90	76	.00	86.00	47.1579	16.74838
GRADR91	76	4.00	87.00	46.4211	17.46025
GRADR92	76	8.00	100.00	49.9605	17.92684
GRADR93	76	11.00	95.00	51.8553	15.45376
GRADR94	76	19.00	91.00	54.5921	15.83513
GRADR95	76	8.00	100.00	52.3947	18.54370
GRADR96	76	18.00	86.00	48.4605	16.69446
GRADR97	76	11.00	93.00	46.8553	18.35335
Valid N (listwise)	76				

### Are The Graduation Trends Equal Before And After The Policy Was Introduced?

The first step in an analysis of growth is often to determine whether the means differ across the different time steps. For example, observed means may be examined to determine if there are changes in the levels of the means over time. If there is no change in means, there is no existing trend (i.e., there would be no change from the initial point where the proposition was introduced). In this case, since there are at least three years comprising a trend, it is possible to compare the shape of the trend before and after Proposition 48 was introduced.

In LCA, relationships between the actual data and the proposed model (e.g., comparing trends) may be determined by comparing the fit of the proposed model against the actual data. In fitting latent change models, the researcher attempts to impose a hypothesized structure on the actual data and then makes a determination about how closely the data fit the proposed model. While a perfect fit would be desired, the reality is that it is highly unlikely that the data will fit the proposed model perfectly. Various statistical and practical criteria are used to determine how well the proposed model fits the data (Heck, 1998). Each index defines model fit in a slightly different manner, or has been constructed to provide a particular correction. Most are concerned with the discrepancy between the observed and implied covariance matrices and mean structures. Others, define goodness of fit in terms of model complexity.

Fit Indices. The best-known index is the chi-square statistic because of its widespread use in hypothesis testing. An unfortunate property of chi-square, however, is that it is affected by *multivariate normality and sample size, making its sole use often*

problematic. In using this statistic, one wishes to accept the null hypothesis that there is no difference between the proposed model and the actual data (i.e., an insignificant chi-square for the degrees of freedom in the model). Another alternative index is the root mean square error of approximation (RMSEA). This index makes an adjustment for the “exact” fit of the chi-square statistic, and its relationship to sample size. The RMSEA index allows for a discrepancy of fit per degree of freedom, which provides a bit more room for acceptance of the model than does the chi-square alone. After making this adjustment, it has the desirable property of still providing a statistical test that provides a region for rejecting ill-fitting models on statistical grounds. Both the RMSEA and the standardized root mean squared residual (SRMR) are measures of the average unexplained variances and covariances in the model. These indices should be close to zero for a good-fitting model. Another useful index is the comparative fit index (CFI), which is a measure of the relative amount of variance and covariance in the data accounted for by the proposed model (compared against a baseline model). A model that fit the data well would provide a coefficient of 1.0. Values above .90 are often considered indicative of a good-fitting model. In addition to using the previous indices in comparing a series of models with single parameter modification, one may also look at the change in chi-square. For one degree of freedom, an increase in chi-square more than 3.84 would be considered statistically significant ( $p < .05$ ).

Testing The Model. The analysis involves comparing the shapes of the trends before and after the policy was introduced. A first model may be fit that indicates that the shape of the two trends are the same before and after the proposition was introduced. A

second model is then fit that suggests there are two separate trends—one before the policy was introduced and one after the policy was introduced. Judging which model best describes the data can be evaluated by examining the various fit indices and comparing the difference in chi-square for the second model against the first model. These results are summarized in Table 4.2.

Table 4.2

Model Tests For Freshman Graduates

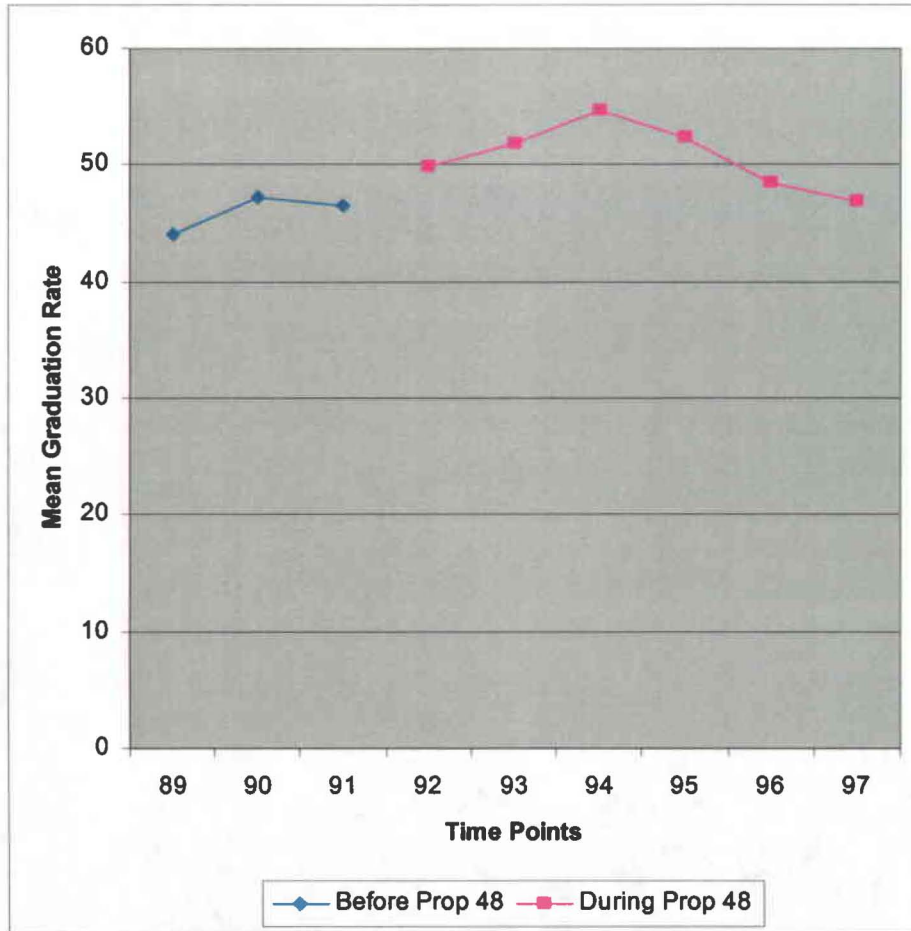
	$\chi^2$	df	p	RMSEA	p	SRMR	CFI	$\Delta\chi^2$	df
1. Equal Trends	65.31	37	.003	.100	.028	.100	.885		
2. Separate Trends Before and During	54.77	36	.023	.083	.120	.088	.924	10.54*	1

Note: For  $\Delta\chi^2$  p < .01

The first model test in Table 4.2 is based on the assumption that there was one rate of change before and after Proposition 48 was introduced. The second test suggests there were two separate trends. The table suggests the second model fit the data better, confirming the existence of separate trends before and after Proposition 48 was introduced. The shapes of the trends are summarized in Figure 4.1.

Figure 4.1

Comparing Freshmen Graduation Trends Before And After Proposition 48



From the figure, one can see that the trend before Proposition 48 was introduced was linear and positive. After Proposition 48 was introduced, the graduation rates continued to climb for a three-year period. In later years, however, the graduation rates declined. The shape of the trend after Proposition 48 was introduced was actually curvilinear. Hypothesis #1 proposed that the trend of freshman graduation rates would

increase after the introduction of Proposition 48. This hypothesis is not supported by the data.

#### Comparing The Graduation Means For Junior College Transfers

For junior college transfer students, data were only available from the first year that Proposition 48 was implemented. The observed means are from 1986 to 1991. Unfortunately, this limits the extent to which the impact of the policy can be determined, since one cannot compare the trend prior to the implementation of the policy with the trend after the policy was introduced. In Table 4.3, the observed and estimated means of the junior college transfers showed a steady decrease from the graduating class of 1992 through 1994. By 1992 (covering the six-year period from their freshman year when Proposition 48 was first introduced), more than 47 percent of the junior college transfer students admitted to Division IA football programs had graduated. From the graduating class of 1994 through 1997, there was a small increase in the means. However, the means for 1997 were still almost 4 points below the first post-Proposition 48 graduating class of 1992

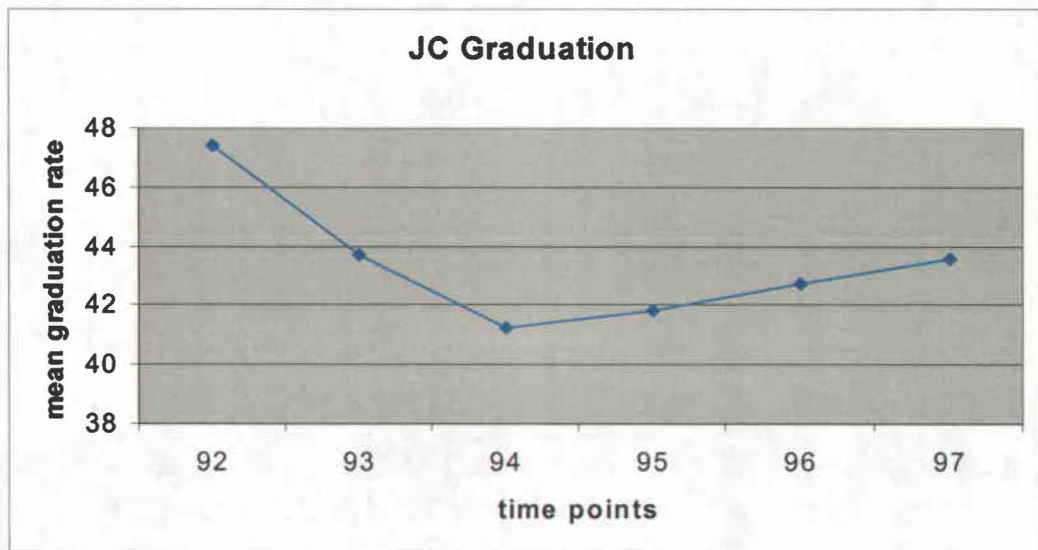
Table 4.3

Mean Rates Of Junior College Transfer Graduates

	N	Minimum	Maximum	Mean	Std. Deviation
JCGR92	76	.00	100.00	47.4342	34.81392
JCGR93	76	.00	100.00	43.7105	28.01848
JCGR94	76	.00	100.00	41.2632	24.44606
JCGR95	76	.00	100.00	41.8026	22.24291
JCGR96	76	.00	100.00	42.7368	20.98912
JCGR97	76	.00	100.00	43.5526	19.89800
Valid N (listwise)	76				

Figure 4.2

Comparing Junior College Transfer Graduation Trends Since Proposition 48



### Are The Means Equal Across Time?

In the case where there is no comparison between before and after trends, a simple test can be conducted to see if there is a difference in means. As suggested, if there were no change in means observed, there would be no existing trend (i.e., there would be no change from the initial point where the proposition was introduced through subsequent years). In this type of LCA, a simple one-factor latent variable model can be used. The latent factor may be interpreted as a time factor that governs the intra-individual latent change curves (Raykov & Marcoulides, 2000). As Raykov and Marcoulides (2000) suggest, the analysis is typically structured such that the loadings of the repeated measures on the time factor can be interpreted as rates of mean change in the outcome studied. In addition to this investigation of the covariance matrix comprising the repeated measures, the variable means and their development over time can also be taken into account. The mean is reproduced as a product of the latent factor mean and the measure's factor loading. Analyzing the mean structure thus allows one to determine what the pattern of change is over time (e.g., *increase over time*, *decrease over time*, *increase followed by decrease*).

To determine whether the means are the same or different across time, two models are compared. The first model is a restricted model where the means are constrained to be equal across time. This is accomplished by imposing an equality constraint on the model (Raykov & Marcoulides, 2000). This is compared to a less restricted model where the means are freely estimated (means allowed to differ across time points). If the means are different across time, we would expect the second model (with freely estimated means) to



fit the actual data better than the restricted model. The results for the comparative model tests are summarized in Table 4.4.

Table 4.4

Tests Of The Equality Of Means For Junior College Transfer Graduates

	Freely-Estimated Model	Restricted Model (means are equal )
Chi-square Value	32.216	36.986
Degrees of Freedom	7	12
P-Value	0.000	0.000
CFI	0.945	0.945
RMSEA Estimate	0.218	0.166
Probability RMSEA <= .05	0.000	0.002
SRMR	0.069	0.075

Delta chi-square (5df) = 4.770, p > .05

The results suggest that the freely-estimated model does not fit the data significantly better than the restricted model (delta chi-square = 4.770, p > .05). Moreover, the RMSEA is worse for the freely-estimated model compared with the restricted model (.218 versus .166, respectively). We can conclude from this analysis that there was no significant difference in the means of junior college transfer graduates across time. Hypothesis #2 proposed that Proposition 48 would lead to an increase in the trend of junior college graduation rates. This hypothesis is not supported by the study's results.

### Investigating Covariates That Might Affect Graduation Rates

At the last step of a growth analysis, Muthen and Muthen (2001) suggest that covariates (or variables that might interact with the growth curve) may be added to the model. A number of covariates were investigated preliminarily. For example, revenue data were investigated, but this variable was strongly correlated with institutional prestige ( $r = .72$ ). More specifically, schools that had won more national and conference championships and had stronger won-loss records, tended to spend more money on football. Because the revenue variable produced multicollinearity in these models, it was eventually dropped from the analysis. Therefore, the final covariate models investigated concerned whether the school setting (i.e., public or private) and the program's prestige (e.g., won-loss record, conference championships, top 25 finishes) would affect the shape of the graduation trends.

Model For Freshman Graduates. Table 4.5 provides the results of the model test of prestige and school type on graduating freshman student-athletes.

Table 4.5

Tests Of Model Fit For Freshman Graduation Rates

Chi Square	Df	P	CFI	RMSEA	P	SRMR
38.585	41	0.5785	1.000	.000	.832	.062

Table 4.5 suggests that the model fits the data quite well. The relevant model parameters are summarized in Table 4.6.

Table 4.6

## Parameter Estimates For Freshmen Graduation Rates In Division I-A Football Programs

	Estimates	S.E.	t-ratio	Standardized
<b>Initial Status</b>				
PRESTIGE	-0.023	2.008	-0.011	-0.002
PRIVATE	5.504	6.185	0.890	0.132
<b>Trend Before Prop 48</b>				
PRESTIGE	-1.017	0.968	-1.051	-0.278
PRIVATE	4.498	2.980	1.509	0.399
<b>Trend After Prop 48</b>				
PRESTIGE	0.326	1.035	0.315	0.069
PRIVATE	1.766	3.189	0.554	0.122

The results of this analysis show little or no relationship between institutional prestige and institutional type on the graduation of freshmen at the initial status (beginning) of the data collection. For the trend prior to the introduction of Proposition 48, private schools graduated more freshman students (standardized beta = .399) on average than public schools. For the same period, institutional prestige was negatively related to freshman graduation (standardized beta = -.278). More specifically, schools with stronger prestige factors (i.e., conference championships, top 25 rankings) graduated fewer freshman student-athletes in football. After Proposition 48 was introduced, school prestige shows a slight positive relationship with graduating more freshmen (standardized beta = .069). Private schools were still graduating more freshman students than public schools (standardized beta = .122), but dropped quite a bit relative to the trend before

Proposition 48 was introduced. Prestige and school type accounted for 1.7% of the variance in initial status, about 19.4% of the variance in the trend before proposition 48 was introduced, but only about 3% of the variance after the proposition was introduced.

Model For Junior College Graduates. Although there was no difference in means observed in junior college graduation rates, it was decided to examine whether university setting (e.g., prestige, public versus private university) might have accounted for variance in the curvilinear shape of the junior college graduate trend. The data are summarized in Table 4.7.

Table 4.7

Tests Of Model Fit For Junior College Graduation Data

Chi Square	Df	P	CFI	RMSEA	P	SRMR
46.902	19	0.004	0.939	.139	.003	.064

Because the data fit the model well, we can next examine the impact of prestige and institution type on the initial status and shape factors in Table 4.8.

Table 4.8

## Effects Of Covariates On Junior College Transfer Graduation Trends

	Estimate	SE	t-ratio	Standardized
Initial Status				
PRESTIGE	-7.024	3.522	-1.994	-0.241
PRIVATE	28.568	10.848	2.633	0.318
Linear Trend				
PRESTIGE	-0.318	1.649	-0.193	-0.030
PRIVATE	-4.990	5.079	-0.982	-0.151
Quadratic Trend				
PRESTIGE	0.324	0.290	1.114	0.155
PRIVATE	0.186	0.895	0.207	0.029

The data in the table suggest that institutional prestige was negatively related to graduating junior college transfer graduation for the initial class when Proposition 48 was introduced. More specifically, higher prestige schools graduated fewer junior college transfer students (standardized beta = -.241). Moreover, private schools graduated higher numbers of junior college students than public schools (standardized beta = .318).

After Proposition 48 was introduced, however, the relationship between prestige and graduating junior college students became much weaker on the linear shape factor (as well as the quadratic trend factor). Private schools seemed to drop in graduating transfer students too. Overall, prestige and institutional type accounted for 13% of the variance in initial status and about 3% of the variance in the shape of the trend (not tabled).

## **The Effects of Proposition 48 On Recruiting Practices**

### Comparison Of Means For Entering Freshman

The descriptive data on entering freshman student-athletes are summarized in Table 4.9. Overall, the data suggest that entering freshmen rates were declining throughout the data collection period. For example, the mean number of entering freshmen in 1983 through 1985 (the years immediately preceding the implementation of the proposition) declined from 22.2763 to 21.6316. After the implementation of Proposition 48 in 1986, the mean number of entering freshmen was 20.211. Except for 1988, there was a continuing steady decline in means, culminating with an observed mean of 17.145 in 1991.

Table 4.9

## Mean Numbers Of Freshmen Entering Division 1-A Football Programs

	N	Minimum	Maximum	Mean	Std. Deviation
FRESH83	76	9.00	34.00	22.2763	4.59739
FRESH84	76	6.00	33.00	21.9211	5.18912
FRESH85	76	7.00	31.00	21.6316	5.11427
FRESH86	76	4.00	38.00	20.2105	5.54332
FRESH87	76	8.00	28.00	19.8947	5.16289
FRESH88	76	8.00	29.00	20.4868	4.80137
FRESH89	76	6.00	29.00	19.0658	3.97772
FRESH90	76	7.00	27.00	18.1447	4.16238
FRESH91	76	3.00	25.00	17.1447	4.17198
Valid N (listwise)	76				

Next, a series of models was fit that compared the shape factor before the proposition was introduced to the shape factor after the proposition was introduced. Because the means in general were declining, this test can be useful in determining whether the decline in numbers was the same or greater after Proposition 48 was introduced. The first model in Table 4.10 tests the hypothesis that the shape of the trends was the same before and after Proposition 48 was introduced. The second model suggests that the trends were different before and after the proposition was introduced.

Table 4.10

## Model Tests For Freshman Entering

Model	$\chi^2$	df	p	RMSEA	p	SRMR	CFI	$\Delta\chi^2$	df
1. Trends Are Equal	52.96	32	.011	.093	.067	.115	.752		
2. Separate Trends Before And After	43.67	31	.065	.073	.220	.104	.850	9.10*	1

Note: For  $\Delta\chi^2$   $p < .01$

The data summarized in Table 4.10 suggest the second model (separate trends before and after) fit the data better (e.g., chi square = 43.67,  $p > .05$ ). Moreover, the drop in chi-square associated with 1 degree of freedom was also significant ( $\Delta\chi^2 = 9.10$ ,  $p < .01$ ). This provides a statistical test that suggests this model fits the data significantly better than the first model. We can conclude, therefore, that there were separate linear trends before and after Proposition 48 was introduced.



Table 4.11

Growth Means For Freshman Entering

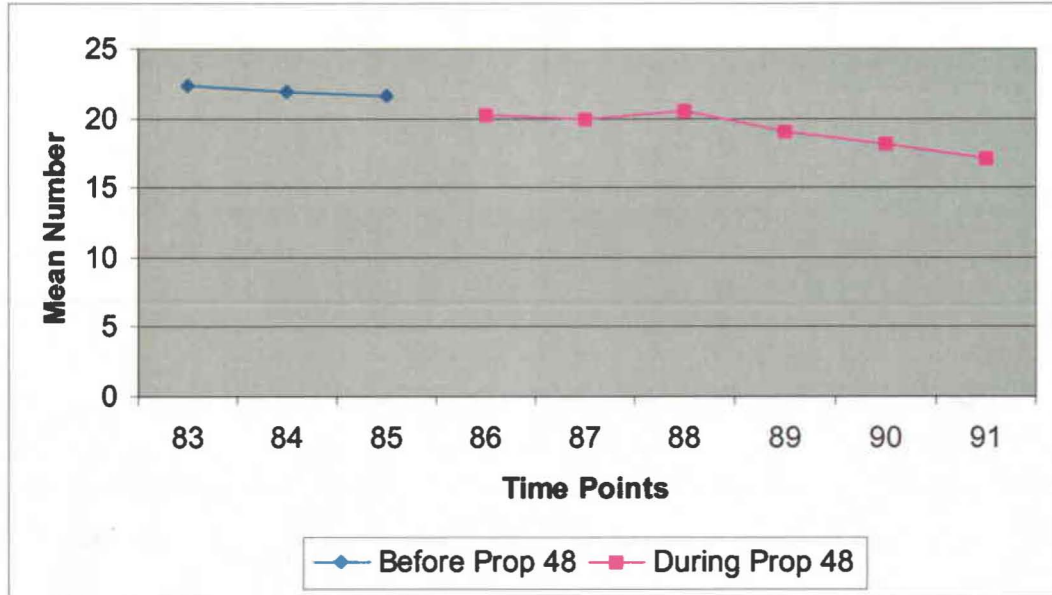
	Initial Status	Mean Change
Entering Freshmen		
Before Prop 48	22.233	-1.022
During Prop 48		-3.963

Table 4.11 summarizes the slope coefficients associated with the trend before the introduction of Proposition 48 and the one after the introduction of the proposition. The trend prior to the introduction of the proposition was downward, with a mean change of -1.022 over the trend. The trend after the introduction of the proposition was steeper, with a mean change of -3.963 over the trend. Therefore, the downward change in entering freshmen was much greater after the introduction of the policy.

The data summarized in Figure 4.3 shows that the means of entering freshmen were changing over time, with the rate of change being much greater after the proposition was introduced than before.

Figure 4.3:

Comparing The Trends In Entering Freshmen Before And After Proposition 48



Hypothesis #3 proposed that the introduction of Proposition 48 would lead to a decline in the trend in the numbers of freshman students being admitted to universities that participated in Division 1A football programs. Because the slope coefficient is significantly steeper (in decline) after the introduction of Proposition 48, we can conclude that this hypothesis is supported by the data.

#### Covariate Model for Entering Freshmen

The next model examines the relationship of prestige and school type to numbers of freshman entering Division 1-A football programs. The results of model fit are summarized in Table 4.12.

Table 4.12

## Tests Of Model Fit For Entering Freshmen

Chi Square	Df	P	CFI	RMSEA	P	SRMR
60.465	43	0.041	.806	.073	.191	.096

The results suggest the model fits the data well. The relevant parameter estimates are summarized in Table 4.13.

Table 4.13

## Parameter Estimates For Freshmen Entering Division I-A Football Programs

	Estimates	S.E.	t-ratio	Standardized
<b>Initial Status</b>				
PRESTIGE	0.756	0.524	1.442	0.194
PRIVATE	-0.439	1.615	-0.272	-0.037
<b>Trend Before Prop. 48</b>				
PRESTIGE	0.232	0.513	0.452	0.090
PRIVATE	0.016	1.578	0.010	0.002
<b>Trend After Prop. 48</b>				
PRESTIGE	-0.879	0.478	-1.840	-0.537
PRIVATE	2.288	1.469	1.558	0.453

The results suggest higher institutional prestige was related to entering more freshmen at the initial status of the model, although the effect was not significant. Schools

higher in institutional prestige were more likely to enter more freshmen during the 3-year trend before Proposition 48 (standardized beta = .09). This effect, however, was very small.

After Proposition 48 was introduced, institutional prestige was moderately, but negatively, related to entering freshmen (standardized beta = -.53). This would be expected, since fewer freshmen student-athletes were available. Private schools entered greater numbers of freshman students (standardized beta = .45). This would be likely, since they had greater latitude over admission policies.

Prestige and school type accounted for 3.6% of the variance in initial status and only 1% of the variance in the trend before Prop. 48 was introduced (results not tabled). Interestingly, however, they accounted for 40% of the variance after Proposition 48 was introduced (not tabled). This provides considerable evidence that there was a relationship between these two institutional variables and the shape of the trend after the policy was introduced.

#### Comparing The Means For Junior College Transfers

For junior college transfer students, data were only available from the first year that Proposition 48 was implemented (1986). Table 4.14 presents a summary of the mean number of junior college students accepted across the Division 1A football programs. As shown in the table, after the initial implementation of Proposition 48 in 1986, there was a sizable increase in the observed means (rising more than 8 points) over the next few years. After 1989 however, the means seem to level off at about 12.8.

Table 4.14

Mean Numbers Of Junior College Transfers To Division 1-A Football Programs

	N	Mean	Std. Deviation	Variance
JCT86	76	4.3158	2.75299	7.579
JCT87	76	7.1184	4.77484	22.799
JCT88	76	10.3026	6.28441	39.494
JCT89	76	12.8421	6.42091	41.228
JCT90	76	12.7500	6.80808	46.350
JCT91	76	12.7105	7.07826	50.102
Valid N (listwise)	76			

Table 4.15

Tests Of The Equality Of Means For Junior College Transfers

	Freely-Estimated Model	Restricted Model (means are equal)
Chi-square Value	40.153	143.858
Degrees of Freedom	7	12
P-Value	0.000	0.000
CFI	0.933	0.733
RMSEA Estimate	0.250	0.380
Probability RMSEA <= .05	0.000	0.000
SRMR	0.066	1.218
delta chi-square (5df) = 103.705, p < .05		

Table 4.15 suggests that the freely-estimated model where the means are allowed to differ across time does fit the data much better than the model in which the means were constrained to be equal. For example, the chi-square is smaller for the baseline model compared with the restricted model (40.153 for 7 degrees of freedom versus 143.858 for 12 degrees of freedom, respectively). Similarly, the change in chi-square is significant (133.705,  $p < .05$ ). This suggests that allowing the means for the time scores to differ results in a statistically significant increase in model fit over the restricted model.

Because the means are not equal across time, the next step is to determine the shape of the change. A second type of factor model in LCA includes both the level (i.e., means) and the shape (e.g., linear, quadratic) of the trend. This allows researchers to examine not only differences in the mean levels of the measures over time, but also the shape of the increase or decrease in the set of measurements (the shape factor). The changes in means across time are often either linear or quadratic in shape. The results of the shape tests are presented in Table 4.16.

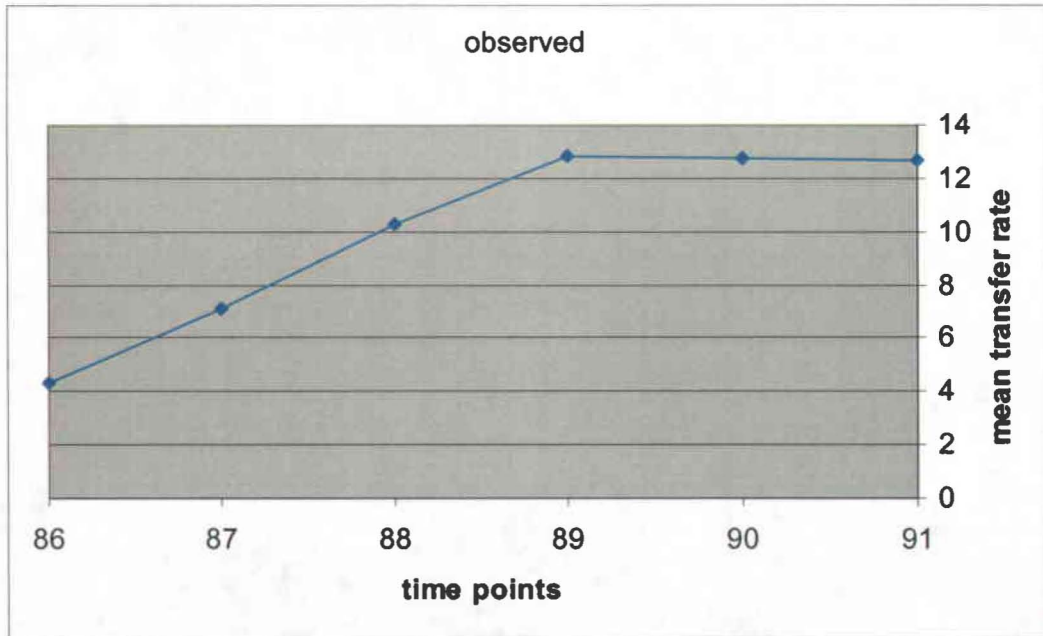
Table 4.16  
Comparing Model Tests For Junior College Transfers

Model	Chi-Square	df	p	RMSEA	p	SRMR	CFI
Linear	160.10	16	.000	.344	.000	.245	.708
Quadratic	35.75	12	.001	.161	.002	.080	.952

The fit indices summarized in Table 4.16 suggest that the changes in means over time after Proposition 48 was introduced fit a quadratic trend more closely than a linear trend. The quadratic shape of the trend is shown visually in Figure 4.3. Fitting the implied model to the data to determine the shape of the trend produces a set of model-estimated means that may be compared against the actual set of observed means. The closer these two sets of means, the better the implied model fits the actual data.

Figure 4.4

Mean Transfer Rates Of Junior College Students Over Time



As summarized in the figure, for several years after the introduction of Proposition 48 in 1986, as predicted, the number of junior college transfer students

increased. These numbers appeared to level off, however, by 1990 (time point 5).

Hypothesis #4 proposed that Proposition 48 would lead to increased trends in numbers of junior college transfers being admitted into Division 1A football programs. This hypothesis is generally supported by the results in the study.

Covariate Model For Junior College Transfers

Table 4.17 presents a summary of the public/private and prestige covariates on the junior college transfer model. As the table shows, the model fit the data well.

Table 4.17

Test Of Model Fit For Junior College Transfers

---

Chi Square	Df	P	CFI	RMSEA	P	SRMR
45.746	18	0.0003	.945	.142	.003	.066

---

Because the model fit the data well, we can examine the impact of parameter estimates of these two covariates on the shape and initial status trends. This information is summarized in Table 4.18.



Table 4.18

## Effects Of Covariates On Junior College Transfer Trends

	Estimate	SE	t-ratio	Standardized
<b>Initial Status Factor</b>				
PRESTIGE	-0.650	0.311	-2.091	-0.237
PRIVATE	-0.473	0.958	-0.494	-0.056
<b>Linear Shape Trend</b>				
PRESTIGE	-0.575	0.382	-1.507	-0.185
PRIVATE	-1.650	1.175	-1.404	-0.172
<b>Quadratic Shape Trend</b>				
PRESTIGE	0.094	0.070	1.347	0.185
PRIVATE	0.224	0.215	1.043	0.143

The model parameter estimates are interpreted slightly differently. The level factor is set up as an initial status factor by fixing the loadings of the time scores to 1.0. The factor then becomes a baseline level of the outcome (i.e., numbers of junior college transfers) under examination. The first shape factor is considered to be linear, while the second captures the additional quadratic (curved) part of the trend. The data summarized in the table suggest that prestige was negatively related to the number of junior college transfers at the beginning of the trend study (standardized beta = -.237). Since the data represent a population of Division 1A schools, no significance levels are reported for the parameter estimates. The negative estimate suggests that more prestigious schools entered fewer junior college transfer students at the beginning of the study. Private schools took slightly fewer junior college transfers, but the effect was small (standardized parameter = -.056).

After Proposition 48 was introduced, however, the trend suggests a weak negative relationship between both prestige (-.185) and private school status (-.172). One interpretation of this is that less prestigious schools and public schools entered slightly more junior college transfers. This provides some support for the belief that schools with weaker on field performance (i.e., fewer championships, top 25 finishes, more losses) were somewhat more likely to turn to junior college players in an effort to upgrade their programs. The variance accounted for in the initial status and shape latent factors, however, was small. Prestige and private/public status accounted for only about 6.4% of the variance in initial status and about 7% of the variance in the shape of the trend (results not tabled).

#### Supplementary Analysis On Covariates And Recruiting Trends

Regarding the impact of covariates on entering freshmen, the direction of the effect for institutional prestige (i.e., the negative standardized coefficient) in Table 4.13 was at first puzzling. It was expected that higher prestige schools would continue to enter more freshmen student-athletes than average or below-average schools after the proposition was introduced. This result, therefore, was further investigated by examining differences between high prestige schools and others in the sample. To gain some understanding of the meaning of the negative coefficient, the top 22 percent in prestige was examined against the rest of the sample (i.e., schools that were  $> .5$  of a standard deviation above the mean in prestige).

Table 4.19 summarizes the recruiting trends for high prestige versus other

institutions from the implementation of Proposition 48. As the table suggests, high prestige schools recruited more freshmen student-athletes than their counterparts over the course of the trend (Figure 4.5). Similarly, they also recruited fewer junior college transfer student-athletes relative to other schools (Figure 4.6). It should also be noted, however, that relative to the beginning of implementation, they entered fewer freshmen (from 22.06 in 1986 to 18.50 in 1991) and more junior college transfer students (from 3.31 to 8.81). Interestingly, both high prestige and other schools entered almost the same numbers of junior college transfer students at the beginning of the trend (3.31 to 4.58, respectively). By the end of the trend, however, high prestige schools were accepting 8.81 transfer students, while other schools were accepting 13.75 (a considerably larger difference).

Table 4.19

Descriptive Statistics Comparing High-Prestige Schools With Average Or Low-Prestige Schools

Prestige	JC Transfers		N	Freshmen Entered		
	Mean	Std. Dev		Mean	Standard Dev.	
1986	0 <sup>a</sup>	4.58	2.98	60	19.72	5.66
	1 <sup>b</sup>	3.31	1.25	16	22.06	4.81
	Total	4.32	2.75	76	20.21	5.54
1987	0	7.88	4.99	60	19.30	5.21
	1	4.25	2.24	16	22.13	4.44
	Total	7.12	4.78	76	19.89	5.16
1988	0	11.42	6.46	60	20.00	5.07
	1	6.13	3.10	16	22.31	3.09
	Total	10.30	6.28	76	20.49	4.80
1989	0	13.88	6.47	60	18.60	4.06
	1	8.94	4.55	16	20.81	3.19
	Total	12.84	6.42	76	19.07	3.98
1990	0	13.55	6.95	60	18.27	4.33
	1	9.75	5.45	16	17.69	3.55
	Total	12.75	6.81	76	18.14	4.16
1991	0	13.75	7.12	60	16.78	4.49
	1	8.81	5.53	16	18.50	2.28
	Total	12.7	7.08	76	17.14	4.17

Note: a = average and below-average prestige schools.  
b = high-prestige schools.

Figure 4.5

The Means Of High-Prestige Versus Average Or Low-Prestige Entering Freshmen

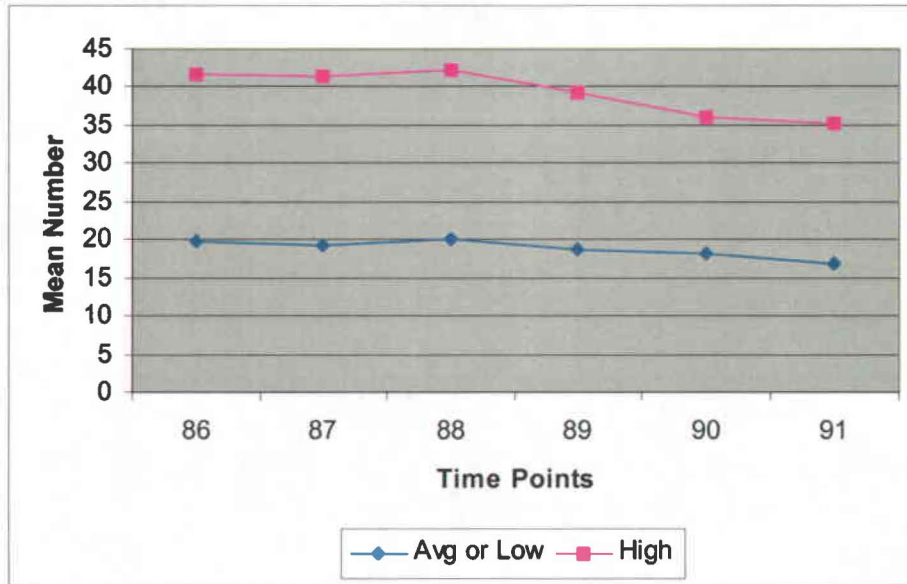
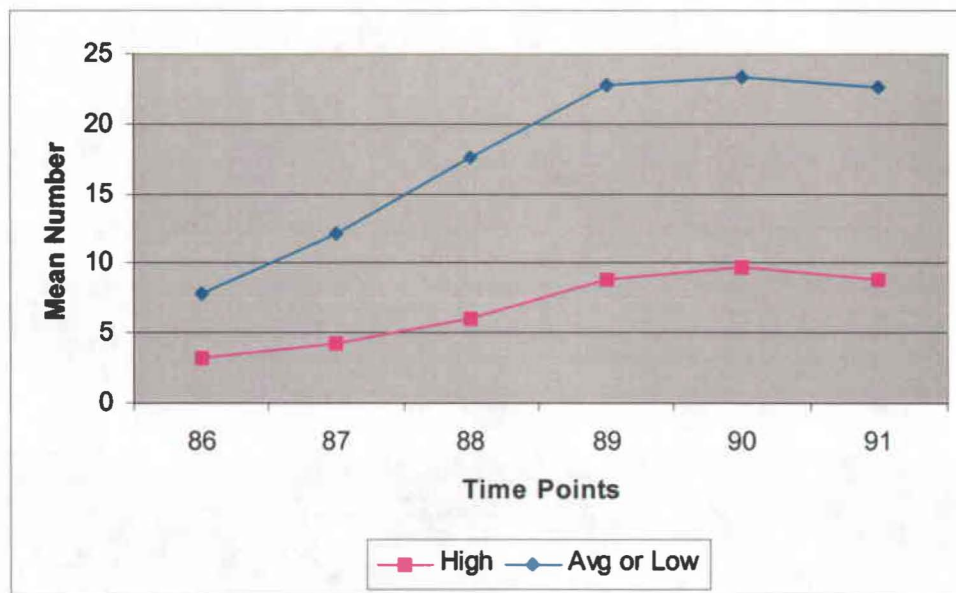


Figure 4.6

The Means Of High-Prestige Versus Average Or Low-Prestige Junior College Transfers



## Summary Of Results

Often policy studies are directed at the political process through which policy debates become law and their subsequent level of implementation. At other times, the focus is on the intents and impacts, both intended and unintended. This study focused on the intent and impact of Proposition 48, which was primarily designed to raise academic standards for athletics in Division I-A schools. The study also focused on an unintended impact of the policy; that is, possible changes in recruiting practices resulting from its implementation. Moreover, the study examined preliminarily possible institutional contextual variables that may have interacted with the impact of the policy on these particular outcomes.

Relative to the effects that Proposition 48 had on the recruiting practices of student-athletes in Division I-A football programs, the findings suggested that junior college transfer students increased over the time after the implementation of Proposition 48. Freshman entrance rates were already declining, but the findings suggested that they declined at an even sharper rate after the introduction of Proposition 48. Concerning the effects of Proposition 48 on the graduation rates of Division I-A football players, the results suggested that junior college graduation rates were largely unaffected by the policy's introduction. Similarly, while freshman graduation rates rose during the short term after the policy's introduction, they then declined rather sharply over the last several years.

Finally, the study examined a number of institutional variables that might have

affected the implementation and impact of the policy. The results suggested that institutional characteristics (i.e., prestige, type of institution) accounted for small proportions of variance in the trends after Proposition 48 was introduced. As expected, schools that were less prestigious in terms of institutional prestige recruited more junior college transfers than higher-prestige schools after the policy was introduced. Moreover, institutional prestige also appeared to influence the numbers of freshman entering Division 1-A football programs. More specifically, even though numbers of entering freshmen were declining across the Division 1-A schools, programs higher in institutional prestige continued to enter greater numbers of freshmen after Proposition 48 was introduced.

## CHAPTER V

### DISCUSSION, IMPLICATIONS, AND CONCLUSION

#### Summary

This study examined the interplay between national intercollegiate policy (i.e., Proposition 48) designed to raise academic standards for athletics and the context of the local institution in determining how Division I-A schools pursue the recruiting process needed to build or maintain the status of their football programs relative to other programs. One purpose of the analysis was to examine the extent to which the policy reached one of its intended aims—the increasing of institutional academic outcomes, measured through graduation rates of freshman student-athletes who entered the institution from 1983 through 1991 and junior college transfer student-athletes who entered the institution from 1986 (the year the policy was introduced). Since the primary intent of Proposition 48 was to elevate the academic integrity of Division I collegiate athletics, one would expect the *graduation rates of both the freshmen student-athletes and the junior college transfer student-athletes to increase.*

Because policies often lead to changes in behavior, a second purpose was to see whether the policy changed the way football programs recruited student-athletes. Because the policy reduced the number of freshmen student-athletes available, it is likely that *programs adopted different recruiting strategies in dealing with this changing condition in the environment of college athletics.* The policy framework used to investigate the



possible changes in behavior on the part of coaches was institutional rational choice. This framework suggests that changes in environmental conditions affect the action arenas where individuals are making operational decisions. An arena refers to the space where individuals interact, exchange goods and services, compete, and attempt to dominate one another (Ostrom, 1999). The focus is on the resources (e.g., finances, support, prestige) brought to bear on the situation, the valuation the actors assign to particular actions, the way actors acquire and use information, the processes used to select courses of action, and the costs and benefits assigned to outcomes. The analysis explores the likely behavior of people within such a structure, such as a decision about which types of student-athletes to recruit in order to maximize the likelihood of on-field success. This investigation was done by examining the recruiting trends of freshman student-athletes both before and after the introduction of Proposition 48 (1983-1991) and the recruiting trends of junior college transfer student-athletes from the year of introduction of Proposition 48 (1986) through 1991.

If there were any changes in the recruiting practices and graduation rates of Division I-A football student-athletes, the third purpose of the study was to examine the extent to which institutional characteristics (e.g., prestige, resources, type of institution) may have interacted with the various types of changes observed.

## Discussion

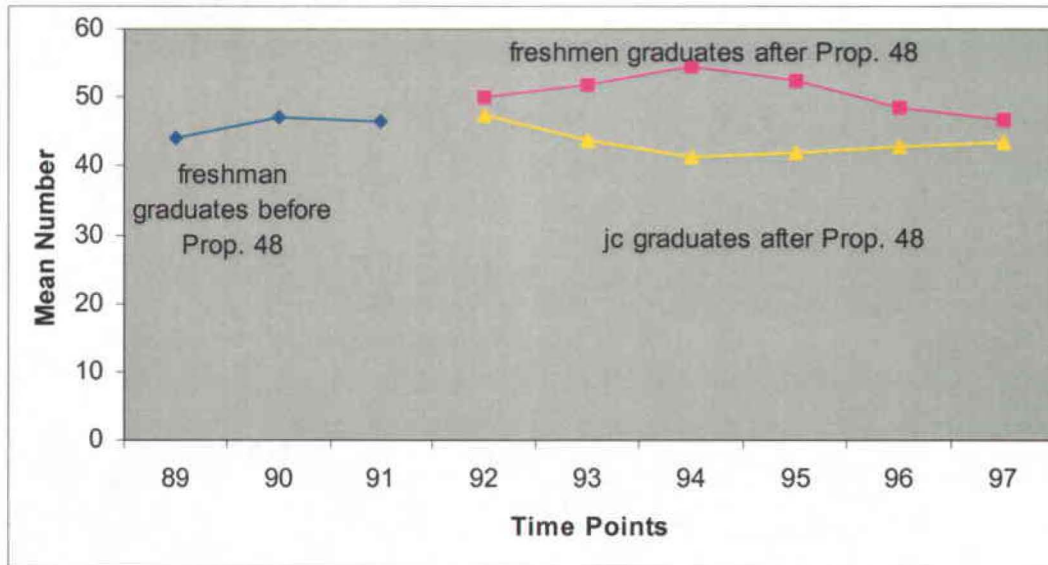
### Did The Policy Affect The Graduation Rates Of Student-Athletes?

Before Proposition 48, the 6-year period graduation rates of freshman student-athletes were a bit less than 50 percent (i.e., 44%, 47%, 46%), covering the years 1989 to 1991. Over the first three years the policy was introduced, the graduation rates rose steadily, reaching their peak at about 54.5 percent in 1994. In the three years following, the rates declined steadily to about their pre-Proposition levels (46%) in 1997. While the policy seemed to have a short-term effect on freshman student-athlete graduation rates, this positive trend was negated by a subsequent decline in graduation rates.

The first year that data were available for graduation rates of junior college transfer student-athletes was 1992. The average rate for this class was about 47 percent. In contrast to the freshman student-athlete rates, the next two subsequent years after 1992 showed a decline, bottoming out at 41% in 1994. After this, however, in each of the three subsequent years the rates rose. The 1997 average, however, was still considerably below the 1992 graduating average. These trends in freshman and junior college graduation rates can be seen more graphically in Figure 5.1.

Figure 5.1

Freshmen And Junior College Transfer Graduates From Division I-A Football Programs



The purpose for introducing Proposition 48 was to improve academic integrity within intercollegiate athletics. One way to demonstrate this improvement is through improved graduation rates over time. The data indicate that for both entering freshmen and entering junior college transfer student-athletes, this was not accomplished. In 1997, the last year of data collection in the study, freshmen student-athletes were not graduating at a significantly higher rate than they were prior to the implementation of the policy. For junior college transfer student-athletes, the graduating rate average was considerably lower than the year that the policy was implemented. For Division 1-A football at least, the data indicate that the policy was not effective in accomplishing its primary goal.

## Did The Policy Affect The Recruiting Practices Of Student-Athletes?

As a lens to analyze policy activity, institutional rational choice focuses on identifying structures and processes that affect decision making at various levels of a policy subsystem. *Institutions refer to many different entities, including both organizations and the rules used to structure patterns of interaction within and across institutions (Ostrom, 1999).* One such decision is a operational decision (such as recruiting athletes). A common set of variables can be identified describing the structure. These include the participants, the set of allowable actions and their linkage to outcomes, the level of control individuals have over choice, the information available to them about the action process, and the costs and benefits (i.e., incentives and deterrents) assigned to actions and outcomes. These are the common elements used to construct the structure within which recruiting decisions are made.

Quality athletes are needed in order to have successful, money-earning teams (Covell & Barr, 2001). The more quality players a team has, the greater the skill level of the team will be, and thus, its ability to win games, gain exposure, and increase revenue potential will be enhanced (Brown, 1996). From as early as the late 1890's, people questioned the eligibility, recruitment, and subsidization of collegiate football players (Rader, 1990). One of the concerns expressed by university presidents during the debates before Proposition 48 was passed and implemented was over its likely effects on institutions' abilities to continue to attract quality athletes (Covell & Barr, 2001).

The person ultimately responsible for the recruiting of high quality athletes is the head coach. Head Coaches are ultimately responsible for ensuring that the student-

athletes that are recruited are academically qualified. A major problem in the head coach's recruiting efforts arises, however, when the ultimate priority of profitability and success comes into conflict with academic success. Institutions are placed in the position of trying to link athletics to the higher education mission, but at the same time, they need to maintain or increase the prestige of their athletic programs (Covell & Barr, 2001).

In the context of Proposition 48, the descriptive data revealed that the number of freshmen student-athletes being recruited into football across Division 1-A schools in the three years prior to the implementation of Proposition 48 had been declining slightly. For example, in the years prior, the average number of entering freshmen student-athletes recruited dropped from about 22 students to about 21.5. After Proposition 48 was implemented, the number of entering freshmen student-athletes recruited tended to decline, culminating with an average of 17 during the last year that the data was collected. Thus, about 4.5 fewer freshmen student-athletes were recruited in 1991 as opposed to 1985, the last year before the implementation of the policy.

In contrast, during the initial year of the implementation of the policy (1986), about four junior college transfer student-athletes were recruited on average. This number steadily rose over the data collection years, reaching a peak average of about 12 junior college transfer students, and increase of about eight transfer student-athletes over the course of the trend. These contrasting trends in freshmen and junior college student-athletes are summarized visually in Figure 5.2.

Figure 5.2

Entering Freshmen And Junior College Transfers In Division I-A Football Programs

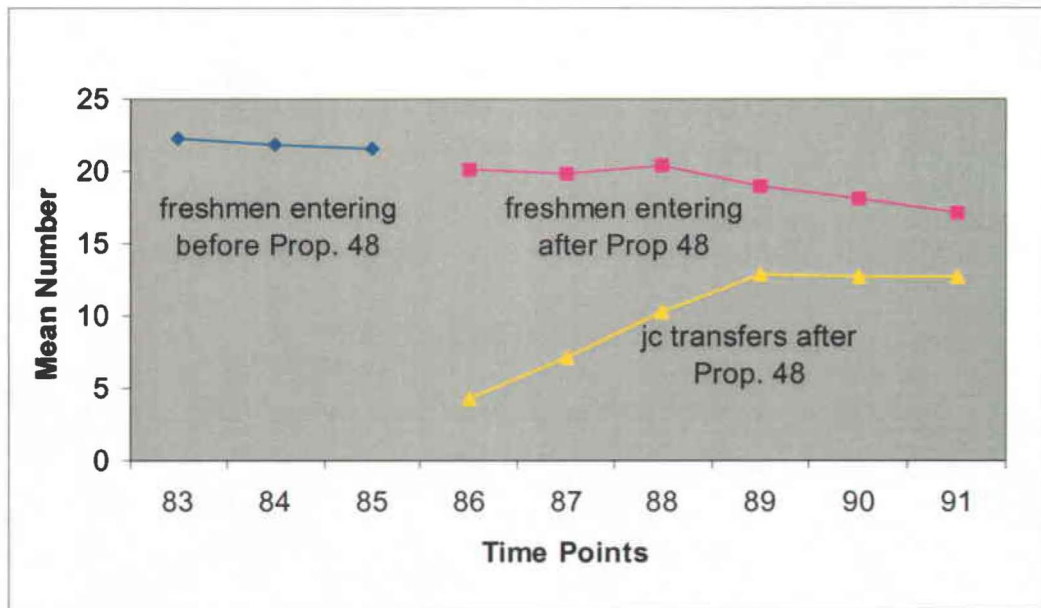


Figure 5.2 suggests that during the first three years of implementation (i.e., 1986, 1987 and 1988) there is a large gap between numbers of freshmen entered and numbers of junior college players entered into Division 1-A football programs (e.g., four junior college transfers and 20 freshmen). One interpretation of this pattern is that the fluctuations experienced during the first three years of the policy could be attributed to transition to the new environment. As the actors became more familiar with all of the intricacies of the policy, they were better able to adjust their recruiting practices to meet their needs. By the end of the trend (1990 and 1991), the recruitment patterns of junior college transfers and entering freshmen were on average much closer (i.e., 12 junior

college transfers and 17 freshmen).

Based upon the results of the study, it is clear that there was a considerable decrease in the number of freshmen student-athletes that were recruited corresponding with a substantial increase in the number of junior college transfer student-athletes that were recruited after the implementation of the policy. In a changing environment surrounding recruiting, therefore, football programs had to draw on a different source of potential players to make up for the shrinking pool of freshmen. Institutional rational choice suggests that actors will make choices based on the set of allowable actions and their perceived linkages to outcomes, the level of control they have over their choices, and the perceived benefits or costs associated with their actions and outcomes. Coaches had little control over the shrinking pool of available freshmen, but they had greater control over the choice to recruit junior college players.

#### Potential Variables That May Interact With The Identified Trends

Several variables were examined that might affect trends in graduation rates and recruiting practices. One variable examined was institutional type (i.e., public or private). The variable was found to have some effect on graduation rates. For example, private schools graduated a slightly higher percentage of freshman student-athletes than public schools (i.e., about 4.5% more) before Proposition 48 was introduced. After Proposition 48 was introduced, this number dropped substantially (to about 1.7% more). Private schools graduated more junior college transfers than public schools the year Proposition 48 was implemented. However, over time, private schools graduated fewer junior college

transfer student-athletes than public schools.

Regarding recruitment practices, institutional rational choice suggests that individuals such as Division 1-A football coaches will differentiate their actions based on the set of allowable actions and their perceived desired outcomes, the level of control they have over their choices, and the costs and benefits associated with their actions and outcomes. The key input to the athletic program success is the quality of the athlete. The higher the skill quality of the athlete, the better the performance. Better performance leads to more wins and more wins leads to championships and ultimately a higher degree of success and a higher level of profitability (Brown, 1996; Blumenstyk, 1995; Coughlin & Ereksion, 1984; Dowling, 1999; McCormick & Tinsley, 1990; Suggs, 1999). Successfully recruiting highly talented freshman student-athletes has traditionally been a primary goal for intercollegiate sport programs. Recruiting freshman student-athletes is therefore more desirable in terms of benefits to the program as opposed to costs

Public and private institutions entered about the same number of freshman student-athletes in the three-year period before Proposition 48. After the introduction of Proposition 48, however, private schools entered an average of two more freshmen student-athletes than public schools over the course of the trend. Similarly, private schools accepted fewer junior college student-athletes at the beginning of Proposition 48, and over subsequent years, they continued to accept fewer junior college transfer students (about 1.5 fewer on average).

The other variable examined was institutional prestige. Brewer and colleagues (2002) suggested that variables such as conference affiliation, national and conference



championships, and financial resources are indicators of institutions' athletic prestige. For these analyses, these variables associated with on-field success were combined into one institutional prestige variable. Prestige had a small effect on freshman graduation rates; that is, before Proposition 48 higher prestige schools graduated fewer freshman student athletes. After Proposition 48 was introduced, higher prestige schools actually graduated slightly more freshman student-athletes. With respect to junior college transfer graduation rates, higher prestige was associated with slightly lower rates after the introduction of Proposition 48.

Regarding recruiting practices, it was hypothesized that higher prestige schools could likely maintain their same recruiting course of action—that is, continuing to exploit their advantage in getting their share of the shrinking numbers of freshman student-athletes, while largely ignoring the junior college transfers. In contrast, lower-prestige schools would likely have a more difficult time successfully recruiting freshmen and, therefore, would have to make an increased effort to recruit junior college transfers. This hypothesis was supported in the study. As expected, with the implementation of Proposition 48, the pool of eligible freshmen student-athletes was reduced. In the first few years after the proposition's implementation, high prestige schools continued to enroll an average of 22 freshman student-athletes. At the same time, average or low prestige schools enrolled between 19 and 20 freshman student-athletes. Over the last three years of the trend, the numbers of freshmen students entering high prestige programs dropped somewhat (to about 18.5 students), yet they continued to maintain a two-student advantage compared with average and lower prestige schools.

Similarly, at the beginning of the trend (in 1986) high prestige schools were entering about 3 junior college transfer students on average, compared with about 4.5 junior college transfers for average and low prestige schools. Substantively, this gap (1.5 students) was very small. By the end of the trend, however, this gap had grown considerably. In 1991, for example, average or below average prestige schools were entering almost 14 junior college transfers, compared with about 9 for the high prestige schools. Therefore, even though high prestige schools had to enter more junior college transfers, these numbers were substantially lower than the numbers of junior college student athletes their colleagues in average or lower prestige schools had to enter. In contrast, average and lower prestige schools had to considerably increase the numbers of junior college transfer students they recruited (i.e., from about 4.5 in 1986 to about 14 in 1991).

### **Implications For Policy Practice**

The study has implications for understanding the behavior of policy actors within changing environments resulting from policy action. Sabatier (1999) concludes that the development and implementation of policies is an extremely complex set of interacting elements that occur over time. The process usually involves time spans of a decade or more—from emergence of a problem, through development of a policy action, implementation, and determination of impact. Institutional rational choice focuses on how institutional rules alter the behavior of individuals motivated by self-interest (Sabatier,

1999). It suggests that the analysis should focus on actors within institutional settings who have formal decision authority, their relative control over the decision choices available to them, the intended ends (promoting self-interest), and their assessments the potential costs and benefits of their choices.

In the case of Proposition 48, these interactions were between the involved actors (e.g., coaches, athletic directors, NCAA administrators, the media, special interest groups) and the various environmental and institutional conditions (public demands, increasing revenues from college athletics, media coverage) that are happening around them. Value conflicts and tensions (e.g., equity versus quality, charges of racism and bias) are some of the factors that play a part in this process. While the study did not interview coaches directly, some of their actions in dealing with the implementation of Proposition 48 can be inferred from an examination of the recruiting choices that they made.

Though policies establish a framework for change, they are not always able to control the outcomes of the change (McLaughlin, 1990). Research examining the implementation of policies suggests that institutional practices are typically resistant to the mandates and directives of external policy makers (Firestone & Corbett, 1988). Studies have indicated that the implementation of policies to create change within education have been more successful when personnel within the affected institutions are in agreement with the intent of the policies and participate in their implementation (Heck, et al., 2001).

From as early as 1889, concern was expressed about the participation of freshmen in intercollegiate athletic competition (National Collegiate Athletic Association,

December 3, 1998). Policies such as the 1939 rule, Rule 1.6 and the 2.0 rule were all attempts by the NCAA to deal with the issues of freshman eligibility and academic integrity (Zimbalist, 1999). All of these policies experienced various opposition from those involved, meeting only moderate success during their time, and all are no longer in effect. As Covell and Barr (2001) suggest, cutting freshman eligibility was never considered as a viable option.

#### The Effects Of Proposition 48 On Upgrading Academic Standards

Due to public outcries and pressure, the NCAA developed and implemented Proposition 48 as a step toward improving the academic integrity of intercollegiate athletics. The desire behind the proposition was that by establishing minimum academic eligibility requirements, more academically prepared freshmen student-athletes would be entering collegiate institutions. *Freshmen entrance requirements were established with the desire that these standards would improve the academic preparedness of freshmen student-athletes (Humphries, 1983; Smith & Helman, 1987).* These changes were supposed to lead to higher graduation rates, which would be likely to reduce pressure on the NCAA to police the practices of institutions dealing with their athletes. In the effort to recruit quality freshman athletes, many athletic programs compromised academic standards and recruit student-athletes with high athletic abilities and moderate to low scholastic abilities (Asher, 1986; Brown, 1996; Eitzen & Sage, 1997; McMillan, 1992; Naughton, 1997; Simon, 1991).

With the implementation of Proposition 48, the ability of intercollegiate sport

programs to compromise academic standards for the sake of obtaining high athletic ability freshmen was partially restricted. No longer would high ability athletes be able to participate in intercollegiate sports as freshmen with below standard SAT scores and GPAs. Despite the effort to implement the policy, however, the study suggested that with regard to Division I-A football, the success of Proposition 48 in raising academic standards was negligible. Though the graduation rates of freshmen student-athletes showed an initial improvement, those figures steadily declined almost back to the pre-policy level.

#### The Effects Of Proposition 48 On Recruiting Practices

One indicator of a policy's impact is changes in approaches that take place across institutions. Another is its differential impact on groups. Controversy was present about Proposition 48 from its earliest beginnings. Repeated criticisms focused on newly established guidelines that were disproportionately penalizing African Americans and other minority groups (Covell & Barr, 2001). More specifically, accusations that the minimum SAT score requirement of Proposition 48 prevented many minorities from attending college were being expressed by presidents of several collegiate institutions (Zingg, 1983). For example, a 1989 study by the American Institutes for Research noted that although only 4 percent of students enrolled in Division I schools were African American, 37 percent of football players, 56 percent of men's basketball players and 33 percent of women's basketball players were African American (NCAA News, 1989). A survey conducted by the NCAA in 1987 found that of the 424 potential collegiate athletes

who failed to meet the required SAT scores, 299 were black (Jesudason, 1989). Similarly, Blum (1993, 1994) reported that enrollments of African American athletes declined in the years after the proposition was introduced.

The concerns raised about differential impact by ethnicity, coupled with the fact that the elite football players were recruited by the top performing programs, lend credence to the study's premise that less successful programs pursued alternative recruiting practices in order to remain competitive on the field. This study utilized Division I-A football programs to help to examine the effects that Proposition 48 had on recruiting practices. Division I-A football programs were chosen due to the tremendous influence they have over intercollegiate athletic programs. Division I-A football programs have traditionally been the greatest revenue generating program within intercollegiate athletics generating revenues in excess of 60 percent of the total revenue accrued by the entire men's athletic program (Fulks, 1998).

Recruiting practices were altered as a result of the implementation of Proposition 48. The expanded source of athletes was junior college transfers. The passage of Proposition 48 reduced the number of eligible freshmen student-athletes available to play football. Moreover, the more talented freshman athletes available were recruited by the perennially successful programs. For example, a 1995 report found that of the top high school football All-Americans, 35 institutions recruited 89 of them, with 21 of these institutions recruiting 74 (or 83.1%) of these highly talented prospects (Byers, 1995).

Because coaches are dependent upon recruiting for the providing of highly talented athletes, any policy that restricts this ability will not be well received. They will

still need to recruit highly talented athletes in order to develop or maintain winning programs, especially since their livelihood depends upon it. Given these types of conditions, Ostrom (1999) suggested that policy actors will reevaluate existing operational practices in light of the new policy. Thus, if a policy is restricting coaches' abilities to accomplish their tasks, following in the thinking of Ostrom, they will devise new approaches to deal with the policy and still accomplish their desired goals and outcomes. With the top freshmen prospects attending a relatively small number of schools, remaining schools likely altered their recruiting practices in order to continue to remain somewhat competitive on the field. Since the proposition set only minimal stipulations upon junior college transfers, they became the alternative recruiting source. The results indicated that since the implementation of the policy, the number of junior college transfer student-athletes increased dramatically among average and low prestige schools. This was a seemingly unintended consequence of the policy which had positive implications for the community college pipeline to four-year institutions.

Eitzen and Sage (1997) define three levels of sport: informal, organized, and corporate. Intercollegiate athletics, as it was initially intended, would be classified within the organized level, one in which the driving force is to compete for enjoyment and the sport of the activity. Over time, however, intercollegiate athletics has developed to where it would now be classified as corporate, the same level as professional sports would be categorized. *Intercollegiate athletics* have developed into an institution that is heavily influenced and controlled by money, politics, alumni and boosters, and the media. It has developed into an institution where the driving force is money and winning is the ultimate

way of obtaining it. It has developed into an institution that is highly similar to professional sports. The primary differences are salary and education.

Unlike the professional realm, collegiate head coaches cannot offer large sums of money to persuade an athlete to join their program. Unlike the professional realm, collegiate head coaches must be concerned with the educational component because despite the corporate aspect, intercollegiate athletics is still being played under the guise of an educational institution. It is this educational component that has challenged intercollegiate athletics for decades.

Within the “real world”, when coaches are hired to do a job, their duty is to do the job to the best of their ability. Head coaches are hired with the intent to produce winning teams. In order for them to do their best to accomplish this intent, they must recruit the most highly athletic athletes they possibly can. This task for the most part was easier to accomplish prior to Proposition 48 as there were no stringent academic restrictions. With the implementation of Proposition 48, a formal set of academic restrictions were now in place. Recruiting by head coaches now became more difficult and thus alternative recruiting strategies needed to be explored.

*Because football provides more than 60 percent of the total revenues for most athletic departments, the pressure to produce winning teams becomes immense. When the continuation of head coach’s employment is dependent upon the team’s success, he may utilize whatever means possible to accomplish that success. Though education should be the primary focus, the reality is that it becomes secondary to the quest for athletic performance perfection. If a head coach had the choice of recruiting a freshman player*



who barely met the minimum eligibility requirements of Proposition 48 but possessed high athletic ability as compared to one that met the minimum entrance requirements of the institution for all students but possessed average athletic ability, with all other things being equal, the coach would likely recruit the lesser academically prepared more athletically able freshman player.

### **Implications For Further Research**

This study also has a variety of research implications. First, this study provided an approach, or tool (Latent Change Analysis), that is promising for examining the impact of policies on organizations over time. Policy is dynamic and constantly being shaped and negotiated, as opposed to static. Its impact, therefore, becomes more apparent with the passage of time. Latent Change Analysis (LCA) provides a convenient way of comparing trends before and after a policy has been introduced. Importantly, it allows observed variables to be corrected for measurement error, which provides a more accurate assessment of the policy's impact over time. LCA provides a means for determining the level of means at successive intervals and the shape of the trends (*i.e.*, growth or decline) over time. Moreover, LCA also allowed an examination of the potential variables that might help explain the level and shape of identified trends.

Second, although this study focused on Division I-A football programs, it provided a base that could be utilized to investigate other major Division I-A sports (*i.e.* men's basketball and baseball), to see if similar trends and results will be obtained.

Further research should examine trends in academic standards and recruiting across other sports in the years prior to, and after, Proposition 48 was introduced.

Third, though much research has been conducted concerning the intended effects of Proposition 48 (improvement of academic performance), this was the first study that examined the unintended effect (changes in recruiting practices) in relation to Division I-A football programs. With respect to examining recruiting practices, this study provides a successful application of institutional rational choice. Institutional rational choice provides an alternative lens for understanding how policies affect behavior in other arenas. Personnel will respond to a new policy that is imposed upon them according to how they are affected by it. If it hinders their ability to achieve their desired outcomes, they will develop new strategies that will help them to maintain their desired outcomes while staying within the mandates of the policy.

Policy researchers have called for more developed theoretical models and methods to use in understanding policy activity and the impact of policies over time (e.g., Marshall, Mitchell, & Wirt, 1989; Sabatier, 1999). Further research may profit from applying the theoretical lens and longitudinal approach to determining policy impact used in this study.

### **Conclusion**

The examination of the intended and unintended consequences of policy activity is an important focus of policy analysis (Zahariadis, 1999). In the case of Proposition 48,

the primary intended policy outcomes was an improvement in the academic integrity of intercollegiate athletics through improved graduation rates. One conclusion drawn from the study is that this intended outcome was largely unrealized; that is, graduation rates among participants in Division 1-A football were unaffected by the policy. Interestingly, however, one of the unintended outcomes was the reduction in the pool of high athletic ability freshman players and, thus, a change in the recruiting strategies of Division I-A football programs.

Institutional rational choice suggests that decision makers will adapt to environmental changes by acting in ways that maximize their benefits and minimize costs. The first step in such an analysis is to identify the action arena used to analyze and explain behavior within the NCAA Division 1-A institutional arrangement (Ostrom, 1999). By changing the rules regarding freshman entrance to the university, a second conclusion is that Proposition 48 led to a change in recruiting strategies (i.e., the regularized plans that individuals make within the structure of incentives provided by rules, norms, and expectations of likely behavior of others) among many Division 1-A coaches). For example, because the pool of available freshmen was decreased, other sources of athletic talent needed to be found.

A final step in the analysis is to dig deeper into the factors that affect the structure of the action arena. At this level, the analyst attempts to understand the conditions under which individuals apply particular strategies in making decisions (Ostrom, 1999). These conditions affect the scope, legality, and payoff of particular strategies that can be applied in making decisions. In this case, it was found that institutional type and institutional

prestige were variables that affected the strategies coaches adopted after the implementation of Proposition 48. While in general, programs altered their recruiting strategies to some extent, a third conclusion of the study was that higher prestige schools were less affected by the policy than average or lower prestige schools in terms of their recruiting strategies. Although the lessons learned from this analysis of Division 1-A football may not apply across all sports affected by Proposition 48, they should prove useful to future intercollegiate policy analysis attempting to examine intended and unintended consequences of policy actions intended to improve the academic integrity of college athletics.

**APPENDIX A**  
**PROPOSITION 48**

Effective August 1, 1986, in order to be eligible for practice, participation in regular season competition and athletically related financial aid during the first academic year in residence, a student entering a Division I NCAA member institution directly out of high school must have:

(i) Graduated from high school with a minimum grade-point average of 2.000 (based on a maximum of 4.000) in a core curriculum of at least 11 academic full-year courses, including at least three in English, two in mathematics, two in social science and two in natural or physical science (including at least one laboratory class, if offered by the high school) as well as a 700 combined score on the SAT verbal and math sections or a 15 composite score on the ACT, or:

(ii) Presented more than the minimum standard set forth in the preceding paragraph for either the core-curriculum grade-point average or required test score, in which case eligibility may be established during the specified time periods on the basis of the following eligibility indices:

For those freshmen entering subsequent to August 1, 1986, and prior to August 1,

1987:

GPA	SAT	ACT
2.200-above	660	13
2.100-2.199	680	14
2.000-2.099	700	15
1.900-1.999	720	16
1.800-1.899	740	17

For the freshmen entering subsequent to August 1, 1987, and prior to August 1,

1988:

GPA	SAT	ACT
2.100-above	680	14
2.000-2.099	700	15
1.900-1.999	720	16

SOURCE: "NCAA Guide for the College-Bound Student-Athlete". NACADA Journal

Mar 1986

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**APPENDIX B**  
**PROPOSTION 16**

Effective August 1, 1996, in order to be eligible for practice, participation in regular season competition and athletically related financial aid during the first academic year in residence, a student entering a Division I NCAA member institution directly out of high school must have:

- Graduated from high school

- Successfully complete a core curriculum of at least 13 academic courses [this core curriculum includes at least four years in English, two in math, one year of algebra and one year of geometry (or one year of a higher-level math course for which geometry is a prerequisite), two in social science, two in natural or physical science (including at least one laboratory class, if offered by your high school); one additional course in English, math or natural or physical science; and two additional academic courses (which may be taken from the already-mentioned categories, e.g. foreign language, computer science, philosophy)]
- Have a grade-point average (based on a maximum of 4.000) and a combined score on the SAT verbal and math sections or a sum score on the ACT based on the following qualifier index scale.

## QUALIFIER INDEX

CORE GPA	ACT (New: sum of scores)	SAT (old (scoring system) before April 1, 1995	SAT (new (scoring system) on or after April 1, 1995
2.500 & above	68	700	820
2.475	69	710	830
2.450	70	720	840-850
2.425	70	730	860
2.400	71	740	860
2.375	72	750	870
2.350	73	760	880
2.325	74	770	890
2.300	75	780	900
2.275	76	790	910
2.250	77	800	920
2.225	78	810	930
2.200	79	820	940
2.175	80	830	950
2.150	80	840	960
2.125	81	850	960
2.100	82	860	970
2.075	83	870	980
2.050	84	880	990
2.025	85	890	1000
2.000	86	900	1010

SOURCE: 1996-97 NCAA Guide for the College-Bound Student-Athlete: NCAA

### PARTIAL QUALIFIER:

A partial qualifier is someone who has not met the requirements for a qualifier but graduated from high school and had a grade point average and a combined score on the SAT verbal and math sections or a sum score on the ACT based on the following partial qualifier index scale.



### PARTIAL QUALIFIER INDEX

(new CORE GPA system)	ACT (new: sum of scores)	SAT (old scoring system)	SAT scoring
2.750 and above	59	600	720
2.725	59	610	730
2.700	60	620	730
2.675	61	630	740-
750			
2.650	62	640	760
2.625	63	650	770
2.600	64	660	780
2.575	65	670	790
2.550	66	680	800
2.525	67	690	810

A partial qualifier is eligible to practice with a team at its home facility and receive an athletics scholarship during his or her first year at a Division I school

(SOURCE: 1997-97 NCAA Guide for the College-Bound Student-Athlete: NCAA)

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