A GEOGRAPHICAL ANALYSIS OF MAJOR COLLEGE FOOTBALL PROGRAMS: THE PARAMETERS OF SUCCESS 1952-1983

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PREFACE

This research effort examines the degree to which the relative location of a college football program influences the overall success of the team. Hopefully, the results of this study will further the understanding of the relationships between man and the cultural environment.

So many people have influenced me in a positive manner throughout the course of my graduate school experience and my overall education. I would like to express my sincerest thanks to all who have been there.

Most noteworthy of recent has been the presence of Dr. John F. Rooney, my major advisor. The quest for knowledge has grown considerably in me under his guidance. I express a special recognition of gratitude and thanks for his mentor role in my life. Without the ever present direction and confidence he gave me this project would not have been completed.

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The financial and moral support provided by my parents, Fred and Rogene Goudge and Rebecca's parents, Don and Frant Langren, is forever appreciated. Special recognition goes to my wife, Rebecca, for her friendship, understanding, encouragement and endless sacrifices throughout this endeavor. I would like to express my warmest thanks and gratitude to her for a job well done. Which brings to mind one of the greatest inspirations in my life. My son, Andrew, whose very presence makes it all worthwhile.

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CHAPTER I

INTRODUCTION

Sport has continued to expand its role in the American society. Whether it be from a participatory or spectator standpoint, little takes place in the daily routine of the average U.S. citizen that is not reflected in some fashion to sport or athletic endeavors.

Increases have been noted in nearly all facets of the sporting world. This includes participation (male & female), revenues, attendance, television viewing, clothing sales, salaries, food products and publications (26).

One of the few sporting activities that is uniquely American is college football (23). The game has been a major factor in the development of the participatory, and most noteworthy, spectator-centered sports that are so prevalent today.

The standardization of the game was important in developing its national appeal. Much of this standardization was achieved through the organized efforts of the NCAA, in a relatively short period of time. As Rader (27, p. 142-43) states: "Until the post-WWII era, the most important function of the NCAA was the creation of rules committees for college sports rather than regulation of the institution's athletic behavior." Most noteworthy were measures that legalized financial aid to athletes and the power to impose sanctions upon those institutions which violated the association's rules and regulations (27) (31). These occurred in 1952.

In the time period following, collegiate football witnessed an unprecedented growth in terms of interest and support--attendance, gate receipts, media coverage and television income (26) (27).

During this period a relatively small nucleus of college football programs have come to dominate the national rankings. The rankings are a general indication of success or the ability to win consistently. Rader (27) suggests there is more:

> Since 1950, only those teams at the top of the polls filled stadiums, received bowl invitations, appeared regularly on network television, and generated adequate revenues to finance their expensive athletic programs (p. 266).

Miller (23) indicates the desire to win at all costs has infiltrated college football since its earliest days. Rooney (31) agrees and also mentions that the costs have increased markedly in recent years. The major factor being recruiting, he notes:

> A successful athletic program is dependent on the effective recruiting of both players and coaches. Good recruiting does not guarantee a good team, but without it there is no hope (31, p. 8).

The geography of recruiting is addressed in detail in Rooney's work. He suggests a combination of geographical factors influence an institution's football success. These factors include: the University's relative location with regard to quality high school talent, live sports entertainment (pro competition, other major college football programs) population centers and television market areas. It also includes the entertainment role that the institution has assumed for its locality, state and region. The entertainment factor is partially expressed in attendance figures. Another factor to consider is tradition. It is a combination of past success and a number of intangibles. It can be measured in approximate terms by combining overall won-loss records, 'Top Twenty' rankings, and average attendance into a rank order scale.

Other factors that are closely related to tradition include: quality of competition, bowl appearances, television coverge, budget, alumni support network, the number of All-Americans and former players in professional football, management aspects like lengthy coaching stays and the ability to lure successful experienced coaches to the head position when it is open.

Tradition affects the ability of a university to recruit top-notch high school talent and thus perpetuates its winning ways (37). The absence of NCAA rule violations is also an indicator of the ability to successfully manage the combination of variables that make up a college football program. Often the winners are not hampered by violations.

Intercollegiate football involves a small number of students. It also garners a relatively insignificant segment of an institution's total budget. Yet, the attention teams and the athletic program in general receive from the media (most noteworthy is television) is far greater than their participation rates and budget imply. College football has taken on a very significant entertainment dimension. Successful teams gain most of the limelight. The public relations value to the institution is tremendous. This exposure helps generate additional support from alumni, friends and fans of the university.

More often than not the non-revenue sports are dependent upon football for financial support. This burden has increased with the inclusion of fully-funded women's programs. University leaders must decide to maximize their revenue potential by supporting successful programs or turning to alternative sources for help.

Study Objectives

The successful marketing of college football entertainment is a function of several factors. The location of a football program relative to talent sources, competition from similar types of entertainment and potential markets for its entertainment service should affect its long term performance. The purpose of this study is to investigate the relationship between a set of locational variables and the success of selected major-college (NCAA Div IA) football programs during the period 1952-83.

This study has four major objectives. The first one involves the classification of football programs into three categories of success. The second objective involves identifying a set of institutional location variables that have a meaningful impact on the decision making processes pertaining to the administration of Division IA programs. The third objective is to identify significant relationships between success and location. A potential fourth objective would be the utilization of locational knowledge for institutional decision making.

Developments During 1952-1983

Before discussing the methodology of the study, a review of the major developments relating to college football is in order. Factors that have had an impact on the increased popularity of college football and its related influence on American culture during this study period include: television, newswire polls, recruitment of players, ethical conduct, financial involvement or increasing fiscal demands, attendance or the entertainment dimension and the impact of the national governing bodies (primarily the NCAA).

Financial aid to college athletes was legalized in 1952. Subsidizing athletes while they represented the college had taken place prior to the turn of the century and reached abusive highs in 1904, 1929 and 1951 (23). Naturally, this legalization of aid in 1952 was a response to a vociferous outcry from concerned members of society. It was intended to put teams on an equal footing. The consolidation of 'elite' teams since legalized subsidation indicates there is more to fielding winning football teams than equal numbers of grant-in-aids.

Cultural developments of the 1950's had a tremendous impact on the sporting world. According to Noverr (26, p. 191), "Americans had more free time, more mobility, more money and a T.V. set." Television helped put the entire nation on the fifty yard line. It brought spectator sports together with the vast advertising and entertainment ventures. Prior to 1952, television coverage was unrestricted. This was the infant stage of viewing, in 1950 less than 10% of the households in the nation owned television sets (27). College teams in television viewing areas lost attendance while colleges in non television coverage areas gained during the same period. "Television is a real problem because it offers tremendous financial benefits to a very few schools while causing a great majority to suffer financial losses." (23, p. 122)

In the early 1950's a television committee was formed within the NCAA in response to dropping attendance rates. Restrictions were imposed on the number of telecasts. The question of possible violation of federal anti-trust laws has stirred controversey since the moratorium's inception. However, the change gave the NCAA added power and leverage to discipline member schools. Despite constant efforts by this organization to equalize competition an 'elite' cadre of teams appeared throughout the television era. Responsibility went to the broadcasters who consistently featured the big names of college football regardless of the overall consequence of the games.

The 1960's witnessed television coming into virtually everyone's home; 94% of American families owned one or more sets. American Broadcasting Company's coverage of college football under the direction of Roone P. Arledge revolutionized sports casting:

> To obtain more audience involvement, Arledge attempted to capture the full ambience of the game setting. He used cranes, blimps, and helicopters to furnish better views of the stadium, the campus, and the town; hand held cameras for close-up shots of cheerleaders, pretty coeds, band members, eccenctric spectators, and nervous coaches; and rifle-type microphones to pick up the roar of the crowd, the thud of a punt, or the crunch of a hard tackle (27, p. 247).

Television teamed with a phenomenon that had already captured the hearts of the 'middle-class' football fan. It has been referred to, since the mid 1960's, as the 'Top Twenty Poll'. The majority of teams are in pursuit of the elusive number one ranking. Jenkins (20) discusses this phenomenon and also notes that so very few teams realize such status. The weekly poll transcends space (location). Regardless of where and who a team plays on any given Saturday, that team can measure its performance (success) by noting their position or lack of such in the 'Top Twenty'. It is the binding force that helps make college football a national pasttime.

Rader (27) suggests the importance of the weekly ranking during the time period 1952-1983:

> By the 1960's, a college's standing in the weekly press polls was often more important to fans, players and coaches alike than the defeat of a traditional rival or a conference championship (p. 270).

Rooney (31) identified the 'elite' of college football by noting the frequency of appearance in the most proclaimed polls during the period 1945-1978. Other rewards tend to go along with regular Top Twenty ratings. These include bowl invitations, television dates, and increased media (newspaper) coverage. All of which contribute to increased spectator appeal.

The idea of a mythical champion is unique, for the most part, to college football. It provides a measuring stick to compare one place with another based solely on the on-field success of the given schools. Yet, the restrictions of such a device hardly limit the comparisons between one place and another. It adds fuel to the geographic phenomenon.

Recruiting is a geographic activity that has been given much attention by scholars and practioners of football alike. One of the more extensive works is <u>The</u>

Recruiting Game (31). This study suggests that big-time football institutions regard the nation as a source area for identifying and luring quality athletes to their programs.

Underwood (38) addresses some of the issues of recruiting. He believes that since football is big business, the people who run it demand that it be successful. Many coaches admit the key to success is getting good athletes to come to their school in the first place. Rooney (31) notes that coaching staffs consist of a diverse ethnic and geographical background to help accommodate the regional variance found within the U.S.

Prior to civil rights legislation, in the mid 60's, northern schools fielded more black players than southern schools. Duffy Daugherty was very successful in luring black athletes from the south to Michigan State University. However, this pipeline dried up by the end of the 60's (26). A recent study indicates a conscientious effort by southern schools to attract black players over the last decade. The percentage of blacks on the rosters of Southeastern Conference (SEC) institutions increased from 7.3% in 1973 to over 41% in 1983. The last of the SEC teams to initiate the use of black players was the University of Mississippi in 1973 (39).

This change in recruiting preferences has made it more difficult for northern schools such as the Big-Ten Conference members to corner the market on talent.

Recruiting is an example of the dynamic nature of spatial interaction over time.

Recruiting is concerned with location. Vare (40) discusses the virtues of a good location and the impact of a successful coach, Woody Hayes:

> Woody has the name and reputation. Woody's name and the Ohio State football tradition coupled with the desire of Ohio boys to play at Ohio State U. make recruiting a bit easier, even considering the ever stiffening competition from other universities (p. 82).

On the other end of the spectrum, Greg Mohns compared a less fortunate location (Okla State) with an apparently more favorable locale (Ariz State).

> It is easier to convince players to come to amentity- bathed Phoenix than it was to lure them to Stillwater, and that the pressures to cheat are far less than they were at O.S.U. (31, p. 65).

Attracting and keeping successful coaches is no small chore in the Division IA football market, either. Jackie Sherrill made national headlines for several days by accepting a million dollar plus offer to coach at Texas A & M in 1982. Auburn's Alumni Association purchased a $412,000 house as an added incentive for the football coach (Pat Dye) to stay at the university. The title will be turned over to Dye if he stays for 14 years (5). Michigan State payed $175,000 to the professional club, the Philadelphia Eagles, in order to settle a million dollar suit as a result of hiring the Eagle's coach while under contract with the NFL team (3).

The national scope of recruiting makes it expensive. Other facets of administering a big-time college football program make for seven-digit budget figures. It requires big budgets to cover the costs of equipment, travel, lodging, recruiting, staff, services and playing facilities (31). Medical costs alone averaged $1,437 per player at Penn State during the 1981 season (21). Other costs that were minor or non- existent in the past are sizeable today. The University of Oklahoma pays the individual in charge of weight training $30,000. It was but a small portion of the $ 2.5 million spent by the entire football program in 1983. Gate receipts alone brought in over twice the amount of expenses. When Head Coach, Barry Switzer, was questioned on the amount of his recruiting budget he stated he did not know: "We just spend what we need to get the players we want (19, p. 13)." Coach Switzer also has some 60 airplanes available for traveling purposes thanks to the generosity of private supporters.

Keeping on a par with the 'elites' have forced other schools to search for additional revenues. In 1963, Alabama completed a dormitory built exclusively for athletes. Many schools have followed suit (27). Coincidentally budgets increased astronomically during the 60's and inflation pushed them higher throughout the 70's.

The price of success is often high. Rutgers will try to raise 5 to 6 million dollars in 1984 to bolster its unsuccessful football program. An addition of 6,000 seats will be added to the stadium, artificial turf on the practice field and an all-weather field house to facilitate practice will be underwritten by the additional revenues. Improvements in facilities were needed to keep top New Jersey high-school players from attending institutions in other states (7). Stanford will end the 1984 fiscal year with a $1.25 million deficit, a result of inaccurate projections of income and expenditures by the athletic department. The department has an annual budget of $14 million including $3 million from the University (6). The University of Nevada at Las Vegas set out to build a national reputation in the early 70's. The price has been high. The athletic department has stayed within its budget once in the past fifteen years. Included was $500,000 worth of red ink in the 1983 fiscal year (4).

Financial resources are necessary to field Division IA football teams. The most common sources of funding generally include, gate receipts (attendance), television monies, and donor contributions. Thus the importance of offering a marketable product is essential to meet fiscal demands.

This is where football crosses from the collegiate setting into the entertainment world. Rooney (31, p. 29) speaking on the home of Ohio State University, Columbus, Ohio, "Here as in numerous other universities, collegiate football has become a substitute for professional sports entertainment". This dimension of college football is not recent by any measure. The large stadia building era was between 1910 and 1930. For the most part expansion, remodeling or new construction has been proportional to demand over the years. Some institutions build a stadium based on hoped for demand, however. Miller (23) labeled college football as big business in the early 50's:

> Football is a big business at Maryland. Coach Tatum and his seven assistants move their market- able commodities through the process that will result in the greatest purchasing appeal to the general public (p. 32).

This should come as no surprise. Noverr (26, p. 203) mentions, "of all the instrumentalities which universities have for entertaining the public, the most effective is athletics."

The same principles that apply to marketing other consumer products also apply to college football entertainment. Location, relative to potential fans or consumers of entertainment is a critical factor. Underwood (38) believes U.S.C. has an advantage over Arkansas or Nebraska due to the fact it is in a more densely populated area. The size (seating capacity) of the stadium is also instrumental in determining the entertainment potential of a particular collegiate football program. Minimum seating capacity criteria for Division IA, as set forth by the foremost national governing body , the National Collegiate Athletic Association (NCAA), is 30,000. Many schools voted to join Division IA when the existing Division I classification was split in 1977-78 (16). In order to do so they were committed to spending more to enlarge their stadium facilities. Money that had to be generated from outside resources or taken away from other projects within the university setting.

The importance of the NCAA as a governing body for collegiate football has grown in proportion to the increased popularity of the sport, the expansion of revenues and expenses, attendance and television contracts over the past three decades (26) (27).

CHAPTER II

LITERATURE REVIEW

This research endeavor is based upon earlier works in the subfield of sport geography. At the same time it ventures on to new ground relating man with his sporting environment.

Recorded history indicates the presence of sport among human activities from its earliest beginnings. Various disciplines have been engaged in sport research from time to time. Only in the last two decades have geographers been actively investigating the spatial aspects of sport.

The purpose of this literature review is three-fold: to examine the work of geographers in the realm of sport, and in locational analysis techniques that may have application to this investigation and to relate work in cognate subject areas that is implicitly geographical.

The great economic, cultural and social significance of football in the United States and many of its related spin-offs are essentially locational in nature. One of the early works that caught the attention of geographers in a professional journal was by Rooney (28) in 1969. A conceptual framework, for the topical study of sports geography, was later developed by Rooney (29).

The earlier geographical studies by Rooney dealt primarily with the origin and diffusion of sport phenomena over space and the degree of provision of various sports on the regional and national level (2). This provided a catalyst for similiar studies undertaken by Bale assessing the provision of British sports and expanding the theme to the international level (1).

Spatial Organization

Several studies in assorted disciplines have addressed the spatial organization of professional and amateur sport. Demmert (10) and Noll (25) are economists that have examined the spatial pattern of professional sport. They mention the size (population) of the city as being crucial to the success of the franchise. Most of the teams in the larger metropolitan centers have often experienced success.

Rooney (29) notes the 'classic' example of spatial organization provided by American football. All ages and levels of competition fall into a continuim from micro to macro scale spatial organization. Local neighborhood, school district, state, regional and national level leagues and conference alignments address basic geographical roles of distance and cultural variation within the given area.

The greatest expense among interscholastic athletic programs today is based on distance, the cost of transportation. Rooney notes college football conferences that include non-contiguous areas. Among these are the Western Athletic Conference (WAC), The Missouri Valley Conference and the Metro Conference which are examples of the grouping of far-flung locations (institutions) with similar program goals. These groupings often undergo realignment due to scheduling difficulties, transportation costs and lack of intense rivalries to create fan interest and support.

Bale (2) sites a paper by Sloane, "Sport in the Market":

> The larger the size of league in any given geographical area and the wider dispersion of population in the locations of the member clubs, the stronger the probability that some clubs will suffer financial losses (p. 7).

The college football teams in the western U.S. are in such a disadvantageous location and must overcome this drawback to achieve success.

Rivalry and fan interest are often spurred by geographical proximity. Rooney (29) cites several examples. He has also utilized a location allocation model to theoretically reorganize college football and professional sports franchises along more geographically sound principles.

Spatial Interaction and the Sport Region

College football generates a vast amount of spatial interaction. Academically speaking there is interaction on a micro-scale within the confines of the field of play. But, the profound influence of football on the local, regional and national scene can be witnessed by noting the media coverage or observing the sport landscape on a given autumn Saturday afternoon in America.

The degree to which the sports fan, institution, alumni, coaches, players and support staff are involved in this spatial interaction is evidenced first hand by attendance at a major college game. Local areas are impacted by traffic flow, utilization of space (parking), supply and demand of consumer goods, food and lodging.

Spatial interaction is the main emphasis of Rooney's study dealing with the recruitment patterns of colleges (31). The geographic mobility patterns of college football and basketball coaches have been surveyed by Sage and Loy (34). On the whole they note movement is more likely to be intra-regional rather than inter-regional.

The professional draft is another form of movement from place to place. The United States Football League has introduced a form of distance decay by delineating draft regions. At-large draft picks are combined with talent from colleges within a given team's area to provide regional interest. The movement of players throughout their careers and fan regions or catchment areas also deal with locational interaction.

Dow (11) utilized radio and television data to delineate fan regions. He states that people need not be in physical attendance at sporting events to become fans, 'rabid followers'. It is possible through some combination of media to attach one's self to a place (team). These fans are possible customers or contributors to the consumer orientation of the business marketing a related product. Thus, regular television appearances and the existence of a radio network are crucial to teams competing for a market area.

Doyle (12) attempted to assess the fan behavior, that is direct (attendance) and indirect (media) consumption of football games. They determined a relationship between place (team location) and interest or involvement with the team. The media played an integral role in this relationship or consumption of football. Previous sports participation also was influential in understanding and explaining fan behavior.

Rooney's early work and subsequent studies indicate criteria on which areas of high and low participation in a number of sports are identified. Consequently understanding spatial interaction and the development of sport regions is essential to further analysis of the relationship between location and success of college football teams.

Place and Sport

The effect of sport on place has been superficially examined from several perspectives, although, Rooney (30, p. 112) states that the "sports landscape has never been thoroughly examined." Community and 'the team' are often intertwined. A winning team can be a bonding agent between people and their places at the high school, college or professional level (32). It puts the small town on the map or is a measure of comparison for the present moment between two cities. Research by British scholars indicate an increase in industrial productivity and a reduction in crime relating to a championship team (2).

Sociologists link sport to generating a sense of place. Dunning (13) notes that identification with a sports team is one of the few occasions outside of war that allows functionally based complex, impersonal groups to unite on equal footing. The idea that sport may have provided something local to hold on to during the urbanization of American society is suggested by Hardy (18).

Major sporting events, generate much economic activity. The Super Bowl and the Olympics are examples of growth centers. Their influence on a place often results in the planning of local and regional development. Such is the case in Seoul, Korea and Calgary, Canada where massive development schemes are taking shape for the 1988 Summer and Winter Games, respectively.

Gottman (17) believes that 'collective ritual gatherings' help to define a city's centrality. Major sporting events are an integral facet of a lively city. According to Bale (2) relatively little is known from empirical studies of the net impact of sports events and facilities on surrounding communities. He cites the work of Rosentraub and Nunn (33) dealing with the impact of the Dallas Cowboys on two suburbs as an exception. Economic benefits tend to be regional as well as local.

The other side of the coin deals with the effect of place on sport. The home-field advantage is a well known cliche. Edwards (15) notes college and professional teams tend to win more at home than on the road. Practioners of sport often associate the poorer performance on the road with travel lag.

The physical geographical elements such as climate, topography and weather indicate that place affects sport in a number of ways. Technological measures to control environmental factors are becoming more common place. These include domed stadia, artificial turf and situation simulated training techniques.

Summary

Literature on the subject of football abounds. Yet, specific work dealing with the subject's locational nature is limited. That which is available displays the impact sport has on place and place on sport and the surrounding sport landscape.

This paper examines the relationship between success and location and is intended to add breadth and depth to the study of sport and place.

CHAPTER III

SUCCESS AND LOCATION

Success is counted sweetest
By those who ne'er succeed.
Emily Dickinson-Success

Measuring Success

Success is dependent upon the criteria selected for its measure. Success associated with educationally oriented endeavors is based upon the institution's mission or purpose. For the most part the purpose of education relates to the enhancement of the individual and the people that one comes in contact with throughout the course of a lifetime. A similar goal of education involves the progressive development of the individual as a productive member of society.

Assessment of the individual's progress toward these goals is difficult on a day-to-day or for that matter a month-to-month basis during the course of the formal schooling process. True measure may be delayed until the individual has completed several years as an adult member or perhaps an entire lifetime.

There are several variables or intangibles involved with measurement of progessive development attributed to the formal educational endeavor. It is by no means a controlled environment. Again, success is measured by the criteria selected for its evaluation.

Common measures of success and its impact on the individual are: income, service to community and others, test results, and overall grade point average. Given the assumption that college football within the educational setting has similar goals, progress could be assessed by how much the program has contributed to the socialization process.

Sport sociologists tend to think team sports such as football are essential to the socialization process in America. Others stress the value of committment and responsibility of oneself to the rigors and demands of the sport. Division IA football programs often require student-athletes to spend 5-8 hours per day in addition to 2-3 day road trips that occur five or more times during the fall semester. At the same time the player must compete in the classroom with his contemporaries.

Success of a football program, if evaluated by means similar to other educational objectives, would involve the measure of the number graduated, overall grades, quality of job placement, amount of community service or quality of skills (pro players). Success would generally reflect the enhancement of the individual involved.

The utilization of the above items for measuring success must still deal with outside factors. Genetics, prior coaching, support systems, and environmental background are examples.

There is little doubt as to the public relations value of a college-football team. No other single event brings thousands onto the campus for Homecoming or the clash with an intra-state rival or conference foe.

The more common measures of a football program's success are tied to how well the team performs on the field. These measures include win-loss records, Top-Twenty rankings, attendance figures, television appearances, bowl-game invitations , the number of All-Americans and the number of former players that have gone on to the professional ranks. Win-loss records are the cornerstone of defining the success of a program. They also correlate with the other above mentioned criteria.

The Study Group

This study intends to measure the success of the 105 Division IA along with the eight Ivy-league schools that chose to step down from big-time college football during the last decade. Figure 1 is a map of the teams studied. The relative locations of the team will be investigated to determine if and what their impact has in relation to on-field success.

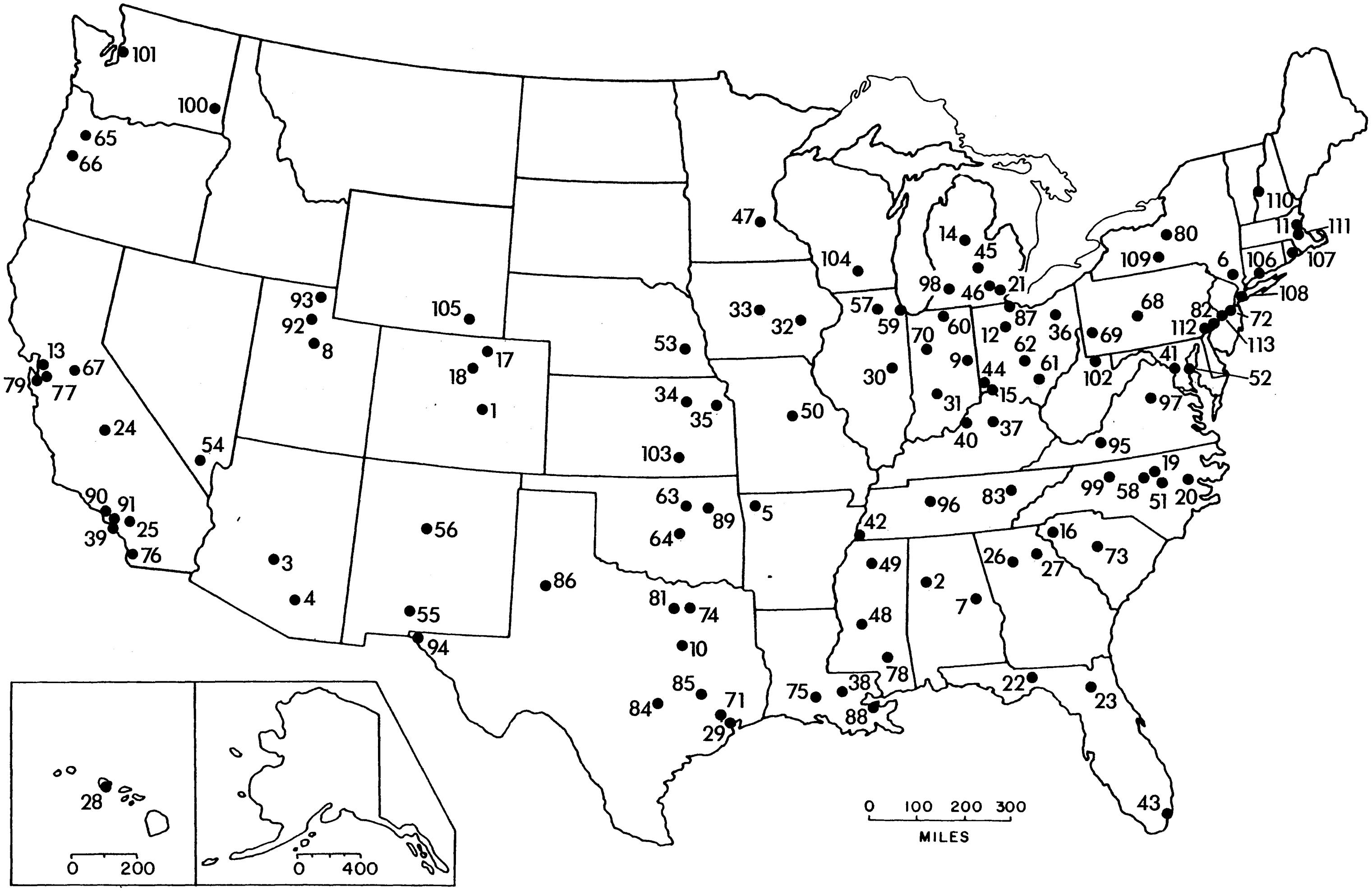

Figure 1. College Football Institutions in the Study

MAP LEGEND

1	AIR FORCE	58	NORTH CAROLINA
2	ALABAMA	59	NORTHWESTERN
3	ARIZ STATE	60	NOTRE DAME
4	ARIZONA	61	OHIO
5	ARKANSAS	62	OHIO STATE
6	ARMY	63	OKLAHOMA STATE
7	AUBURN	64	OKLAHOMA
8	B.Y.U.	65	OREGON
9	BALL STATE	66	OREGON STATE
10	BAYLOR	67	PACIFIC
11	BOSTON COLLEGE	68	PENN STATE
12	BOWLING GREEN	69	PITTSBURGH
13	CALIFORNIA	70	PURDUE
14	CENT MICH	71	RICE
15	CINCINNATI	72	RUTGERS
16	CLEMSON	73	S.CAROLINA
17	CO. STATE	74	S.M.U.
18	COLORADO	75	S.W. LOUISIANA
19	DUKE	76	SAN DIEGO STATE
20	E.CAROLINA	77	SAN JOSE STATE
21	EAST.MICH	78	SOUTHERN MISSISSIPPI
22	FL. STATE	79	STANFORD
23	FLORIDA	80	SYRACUSE
24	FRESNO ST	81	T.C.U.
25	FULLERTON ST	82	TEMPLE
26	GEORGIA TECH	83	TENNESSEE
27	GEORGIA	84	TEXAS
28	HAWAII	85	TEXAS A&M
29	HOUSTON	86	TEXAS TECH
30	ILLINOIS	87	TOLEDO
31	INDIANA	88	TULANE
32	IOWA	89	TULSA
33	IOWA STATE	90	U.S.C.
34	K-STATE	91	UCLA
35	KANSAS	92	UTAH
36	KENT STATE	93	UTAH STATE
37	KENTUCKY	94	UTEP
38	L.S.U.	95	VIRGINIA TECH
39	LONG BEACH	96	VANDERBILT
40	LOUISVILLE	97	VIRGINIA
41	MARYLAND	98	W.MICHIGAN
42	MEMPHIS ST	99	WAKE FOREST
43	MIAMI	100	WASHINGTON STATE
44	MIAMI (O)	101	WASHINGTON
45	MICH.STATE	102	WEST VIRGINIA
46	MICHIGAN	103	WICHITA STATE
47	MINNESOTA	104	WISCONSIN
48	MISS STATE	105	WYOMING
49	MISSISSIPPI	106	YALE
50	MISSOURI	107	BROWN
51	N.C.STATE	108	COLUMBIA
52	NAVY	109	CORNELL
53	NEBRASKA	110	DARTMOUTH
54	NEVADA-LV	111	HARVARD
55	NEW MEX ST	112	PENN
56	NEW MEXICO	113	PRINCETON
57	NORTHERN ILLINOIS		

Figure 1. (continued)

Winning and Losing

> In this game a team must
> either be anvil or hammer.
> taken from Longfellow - Hyperion

Winning and success are synonymous in American society. A 'successful' person is often called a winner. The coaching philosophies of Vince Lombardi and George Allen 'Winning is Everything', have been espoused at all levels of participation throughout the time period (1952-1983) of this study.

The total win-loss record and winning percentage of NCAA Division IA and Ivy League schools are listed in rank order in Table X in the Appendix. Figure 2 is a map of the three categories of winning percentage. The data were gathered from the NCAA Football 1953-1983. This publication was formerly referred to as the Official Football Guide. The data were complete with the exception of the 1983 win-loss records and institutions that were small college status in previous years. The incomplete records were obtained from newspaper accounts and school press guides.

Ten teams won no fewer than an average of seven times per every ten outings during this 32 year time period. Nine of the ten are considered among the 'elite' of college football today. Miami of Ohio is the lone exception. All of the ten except Nebraska have displayed success throughout the entire time period of this study. The

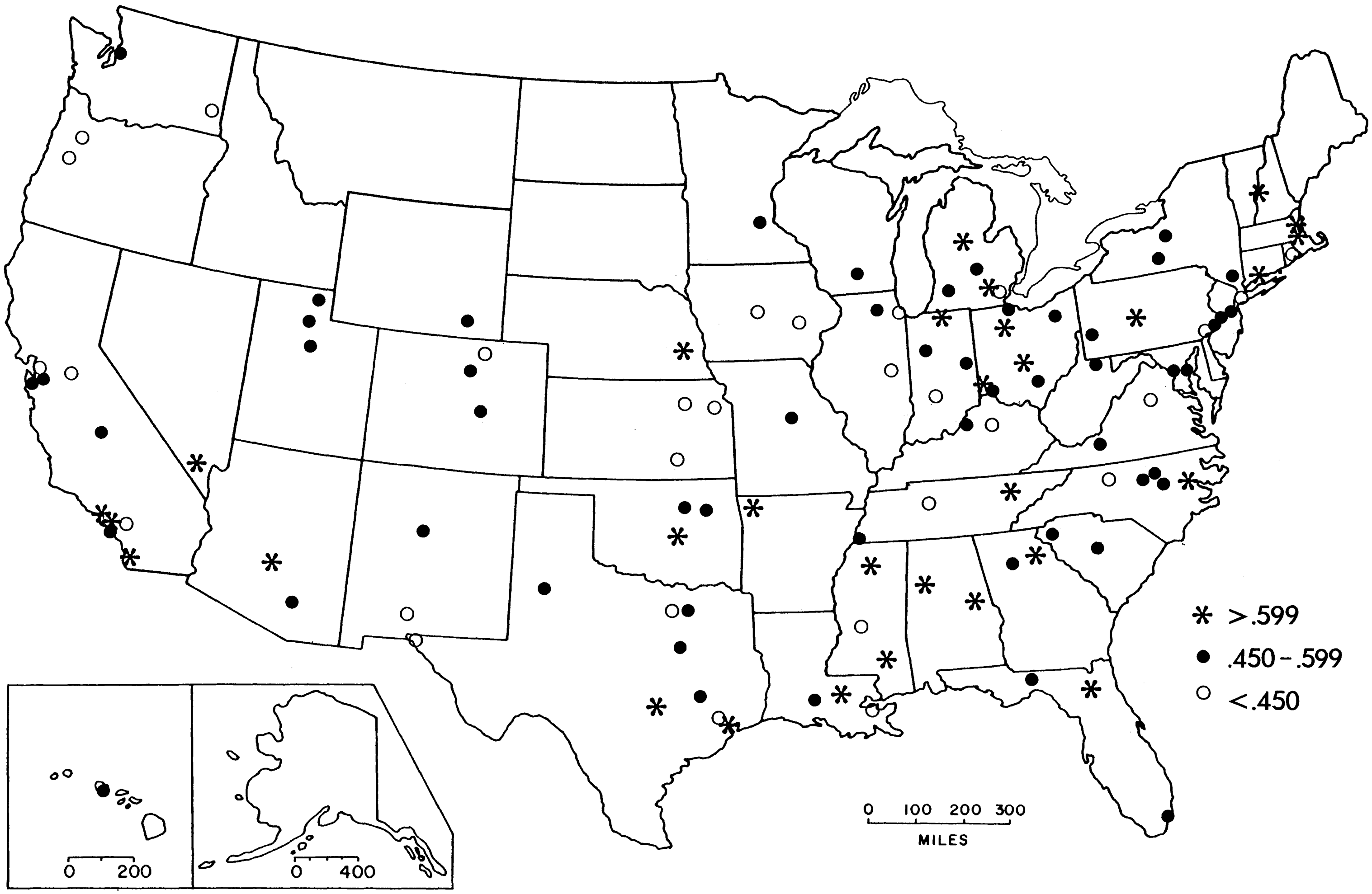

Figure 2. College Football Win-Loss Percentage 1952-1983

Cornhuskers of Nebraska displayed a dismal .395 winning percentage during the 1952-61 time period. Their program has experienced a phenomenal turnaround witnessed by a .840 winning percentage since 1962.

The large majority of schools, #11 Notre Dame thru #98 Oregon State, exhibit winning percentages ranging between .699 and .400. The remaining fifteen teams failed to win less than four of every ten games played. Eight of the bottom fifteen had minimal success throughout the study period. Four of the remaining seven cellar dwellers dropped considerably during the last twenty year period (Wichita St.-.326, T.C.U.-.299, Rice-.281, UTEP-.276). The other three had always experienced life in the collegiate football basement.

Over the 32 year period the teams have experienced various combinations of winning and losing seasons. The more successful tend to have winning records year in and year out (Table X). Using overall win-loss records as the single criterion to define success would not take into account such aspects as the quality of competition and margin of victory. Other measures are needed to further define success relating to college football during the 1980's.

Poll Watching

Following the Top Twenty Rankings is considered a viable national pasttime for some football fans. As is the case with win-loss records, poll watching is no fool-proof measure of success (31). However, the frequency of occurrence and the height a team scales to in the rankings year in and year out indicate a certain degree of excellence. A great deal of national prominence is also associated with Top Twenty recognition.

The Associated Press (AP), a writer's poll, and United Press International (UPI), a coach's poll, were utilized to construct the overall ranking list (Table XI, Appendix). A team was awarded points proportional to their placement in each of the annual final AP & UPI polls. For example, #1 - 20 points thru #20 - 1 point. Consequently, a team that finished atop both polls would receive 40 points for that year. Using both polls serves to standardize the views of writers and coaches. Weight is also given to higher placings which tend to reflect the importance of a top ten finish in the polls.

Seventeen teams have compiled a total of 300 points or more, a number indicating an average ranking within the top 15 nationwide from 1952-1983. One year atop the polls could offset several years without appearances in the rankings. Michigan State and Mississippi are the only high rankers not considered among today's elite.

Consistency of appearances is a measure of the successful tradition of a given institution over the time period. The teams with the most Top Twenty appearances since 1952 and since 1962 respectively are: U.S.C. 26

years out of the last 32 and 21 years out of the last 22; Alabama 25,21; Ohio State 25,17; Oklahoma 25,17; Michigan 23,18; Notre Dame 23,16; Texas 23,17; Nebraska 19,19; Penn State 19,16; Arkansas 18,14; and UCLA 18,10.

Thirty-nine teams have 100 points or more. Twenty-seven college football programs have not been in the final Top Twenty Poll (Figure 3). This amounts to one fourth of the teams that aspire to field big-time football programs.

The rank order lists of winning percentages and poll appearances are by no means identical. Successful win-loss records at former small college programs that are now in Division IA are exemplary (Table X, Appendix).

Attendance

The fact that college football is big-business is common knowledge. Figure 4 displays average attendance by school for the study period. The importance of revenues is closely tied to gate receipts. The more people in attendance, the larger the gate receipts. Success in business is tied to profit making. The same holds true for big-time football. Therefore, the larger the attendance the more successful the football program. is likely to be.

Attendance data were collected from available NCAA publications and through correspondence with Jim Van Valkenburg in charge of attendance statistics at the NCAA office.

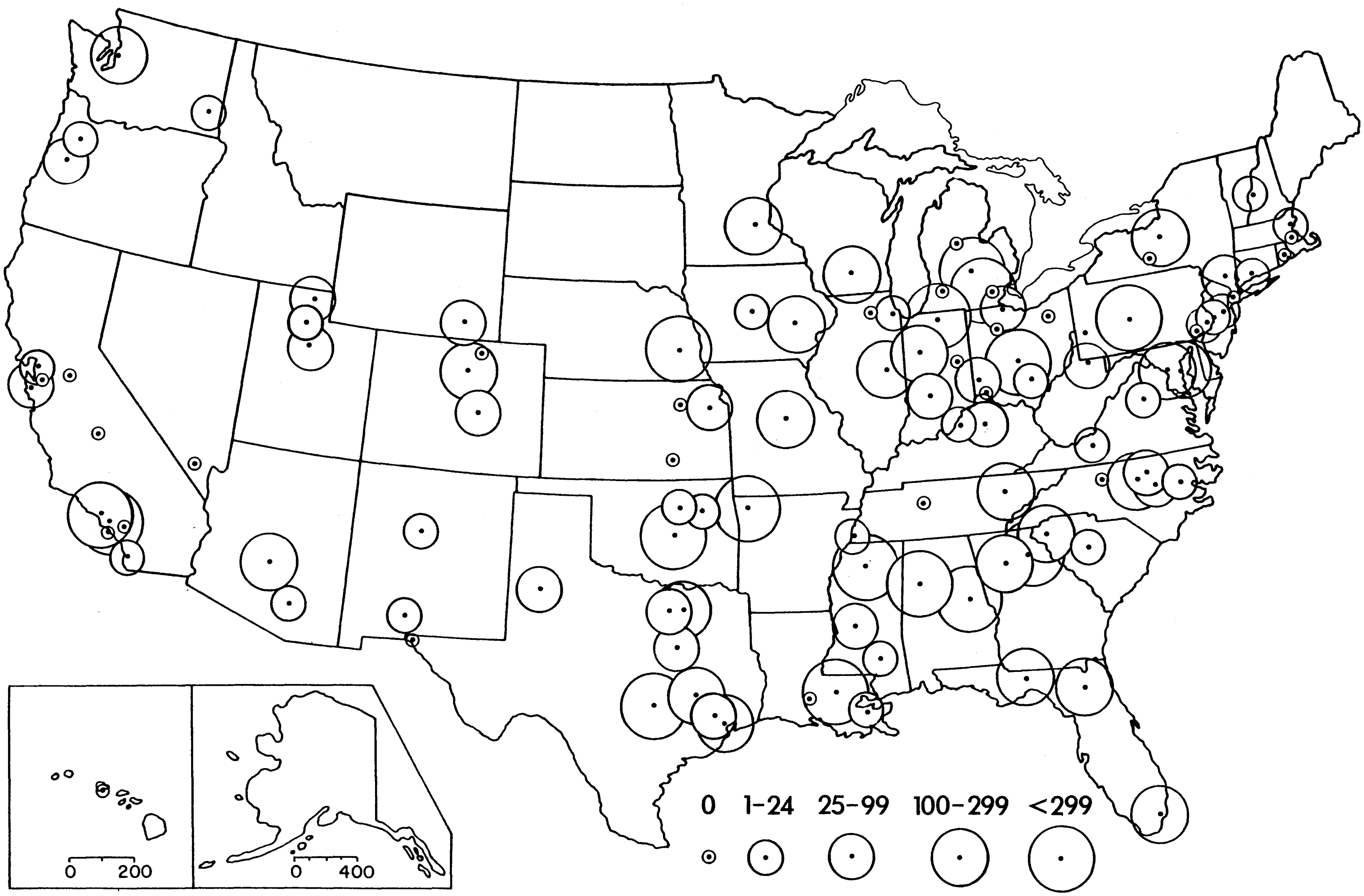

Figure 3. Top Twenty Rankings 1952-1983

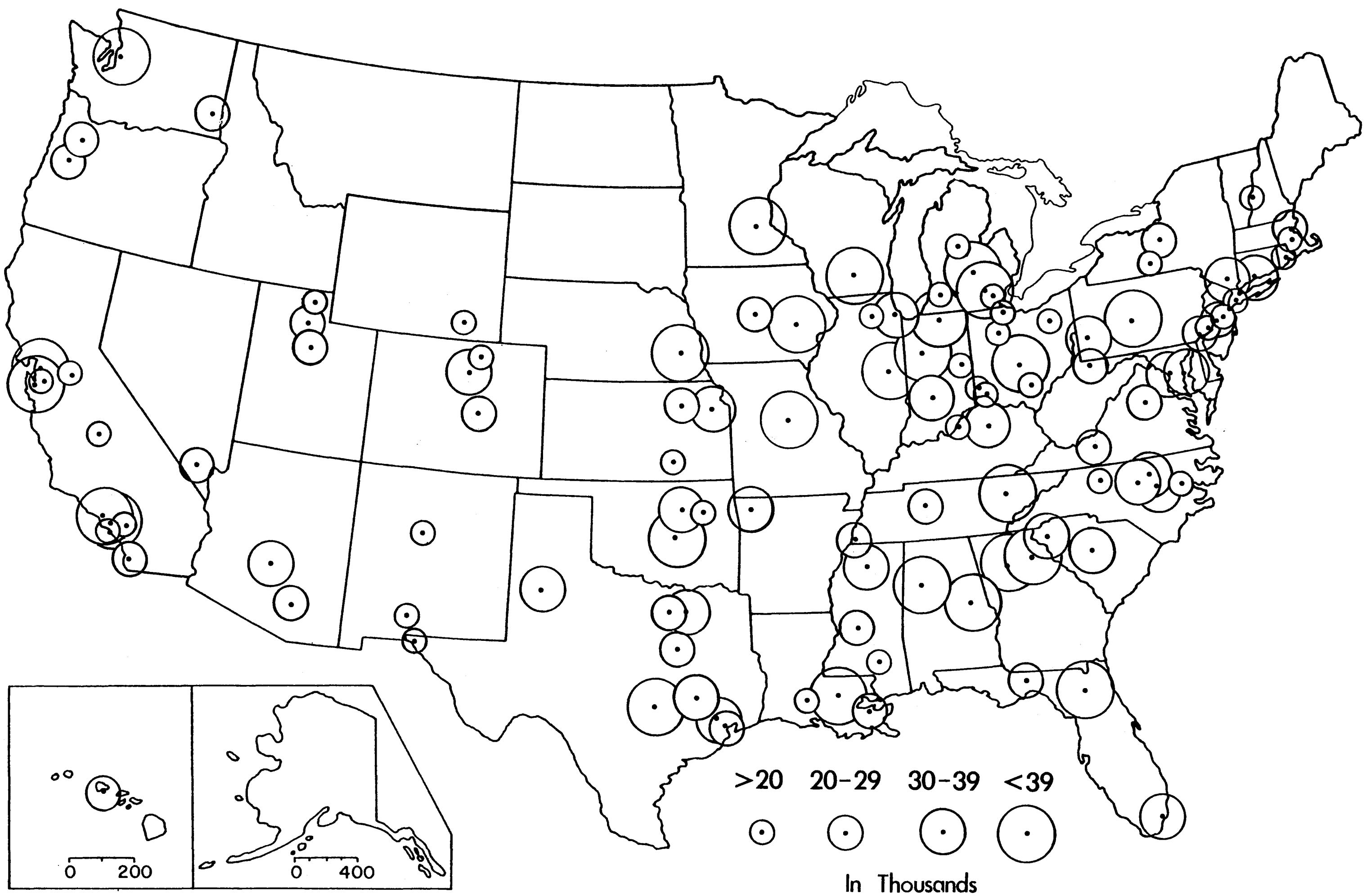

Figure 4. Average Attendance 1952-1983

Twenty teams averaged over 48,000 for the 32 year study period (Table XII, Appendix). Of these twenty nine were not among the top twenty with regard to win-loss records over the same period. In fact, four: Iowa, Illinois, Minnesota and Wisconsin were in the lower 40% of overall winning percentage.

Attendance increased remarkably throughout the time period 1952-83. From 1952-1961 ten teams averaged 50,000 plus while 27 teams averaged those figures from 1972-1983. The total attendance for all schools in the study increased from 1,000,000 in 1952 to 3,000,000 in 1983.

Television Appearances

National television exposure has been limited to a select cadre of Division IA teams (Figure 5). The NCAA has been the sole negotiator for college football viewing since 1952. Less that twelve percent of the teams have had twenty or more national television appearances during this time. Twenty one percent have aired ten or more times. The majority (54 %) have experienced the limelight once or less during the 32 year span. Thirty six percent have failed to appear nationally. Thus, a select few have monopolized national television exposure.

The advantages of high visibility are obvious from a marketing standpoint. The interest of talented recruits from across the country and the increased support from

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1 A 1984 U.S. Supreme court ruling ended that position.

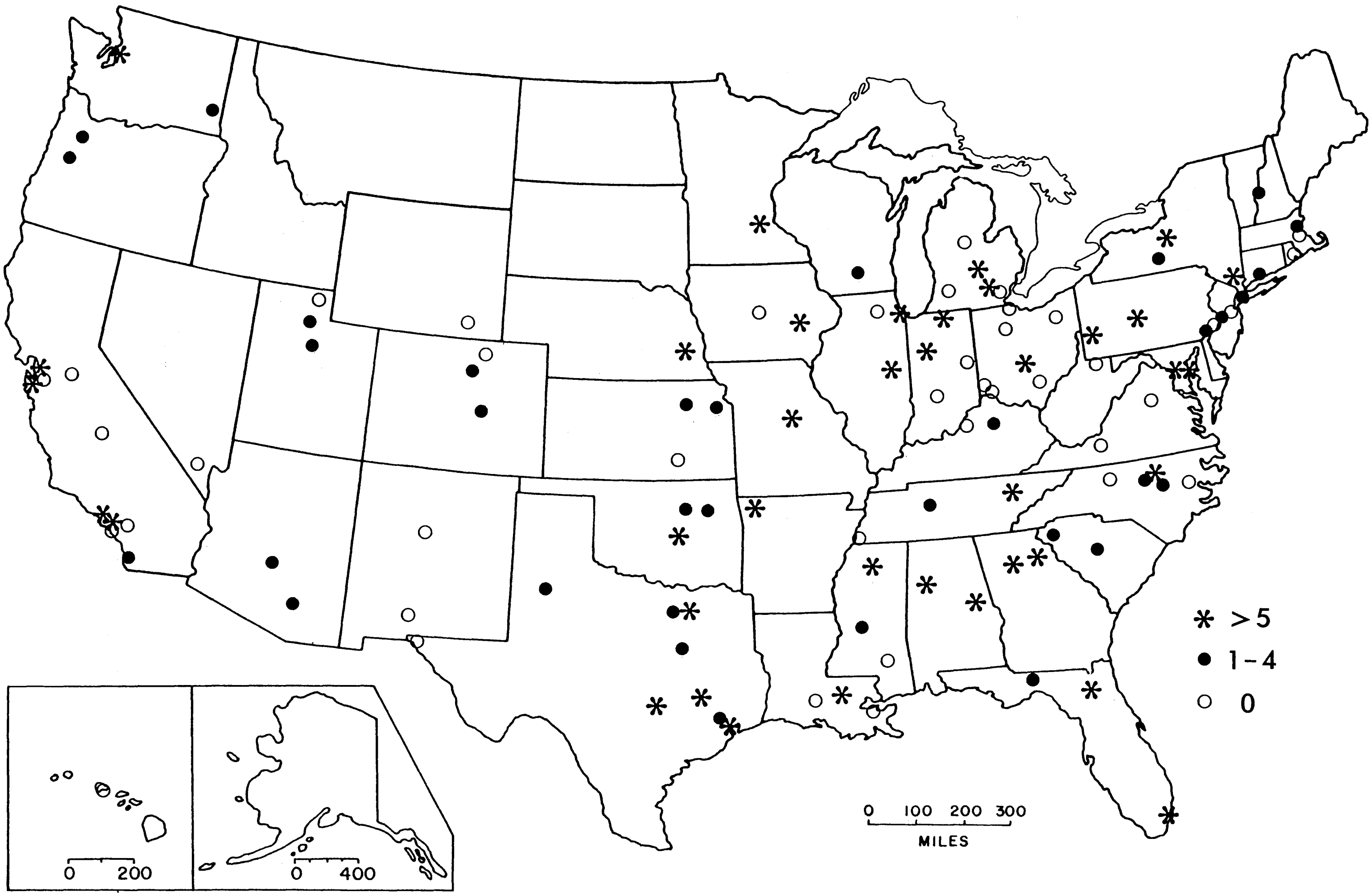


Figure 5. National Television Appearances 1952-1983

alumni are key ingredients toward development of a successful football program. This marketing tool controlled through the NCAA has led to a possible 'elitist' system. Traditionally teams with the greatest viewer appeal have been selected for national exposure. A marriage has formed between the profit oriented television business and the institutionally sponsored football programs.

The relationship between Top Twenty poll rankings and national television appearances is very strong (r=.87 @ .0001 significance). Another factor of success that correlates with top rankings is post-season bowl appearances.

Bowl Appearances

> "Bowling with the Tomcats,
> A successful tradition!"

The above statement is typical of the average major college football press guide. Several of the most celebrated events associated with a program revolve around the post-season bowl game. The quest, the anticipation, the excitement of a possible bowl invitation mounts as the regular season reaches its climax. Once an invitation is accepted by a school the media hype builds over the interim period (3-6 weeks) prior to the actual game. This includes coverage of the early preparation, the trip and fan followings. It culminates on the day of the big game. National exposure is awarded to the bowl participants (institutions) and generates immense fan interest, support and enthusiasm on behalf of everyone remotely assoicated with the program.

Those teams not selected to appear in a post-season bowl try to get a jump on the bowl teams by hitting the recruiting trail immediately following the regular season. But it is more often than not an uphill struggle due to the fact that a successful tradition attracts the biggest share of 'blue-chip' high school football players (37), thus perpetuating their successful ways.

It is no surprize that the greater number of bowl appearances (Figure 6) is associated with most of the 'elite' teams. Fewer than one-fourth of the teams involved in the study made ten or more bowl games. Less than half accumulated at least five trips. The remaining colleges had only token appearances (Table XIII, Appendix). An elusive prize indeed, yet one that is most important to generating enthusiasm, support and a large following from which to build and maintain a successful footbal program.

The correlation matrix (Table I, Chapter IV) suggests that winning bowl games is not significantly related to success but getting to bowl games is.

Defining Success

In order to facilitate obtaining a common measure of success, several of the individual components have been combined. The first was a simple method which involved

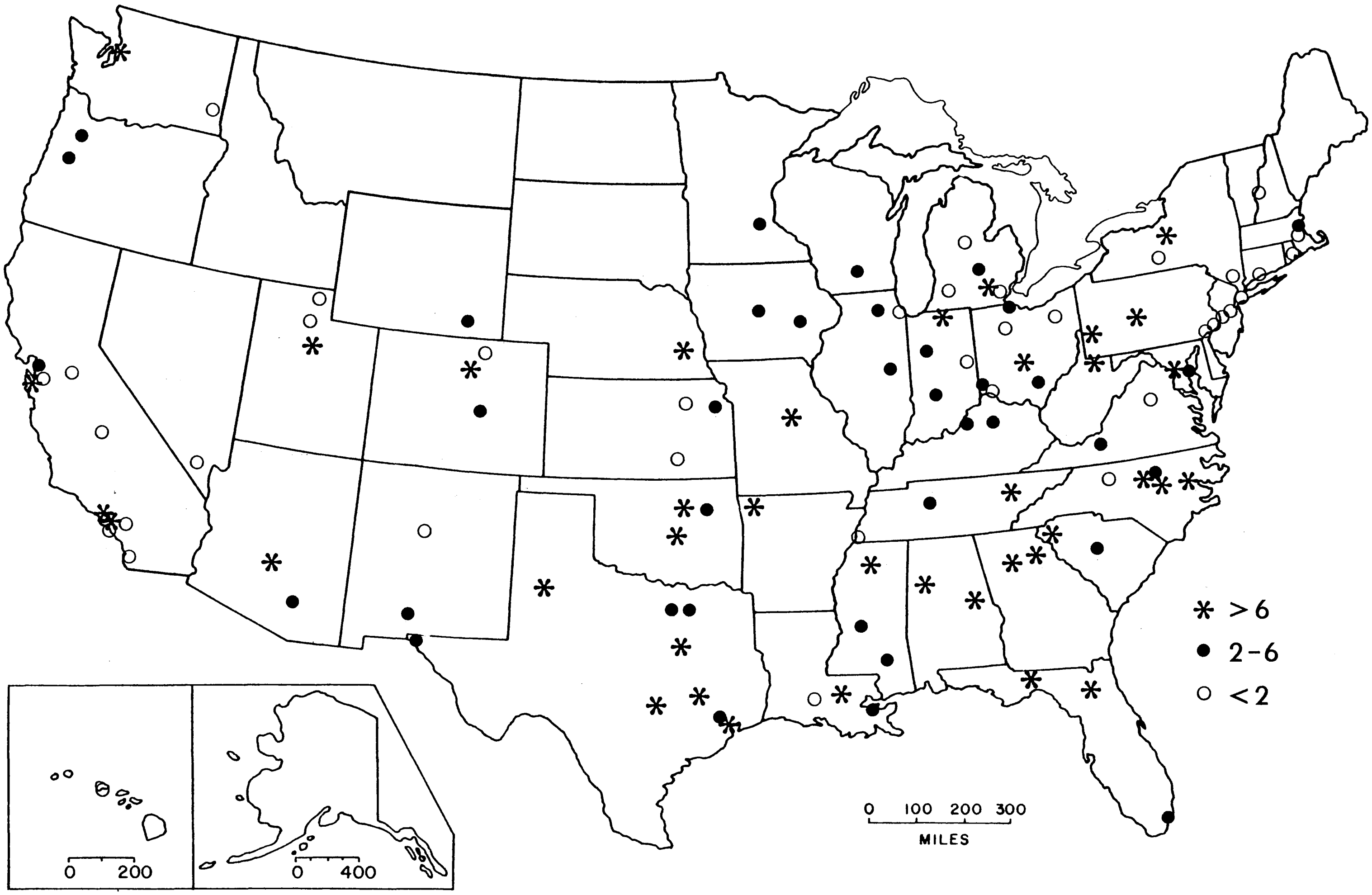


Figure 6. Number of Bowl Games 1952-1983

rank ordering the success components of winning percentage, average attendance and poll appearances. The rank orders were summed for each school then divided by three (# of components). The resulting number was labeled a composite total which in turn was ranked in descending order. Figure 7 depicts the composite measure of success grouped into three categories; high, middle, and low.

Teams that were ranked high in one of the individual components but middle to low in the other two were relegated to lower status (i.e. Miami of Ohio) than teams displaying average to above average rankings in all three categories, such as Colorado, Clemson, North Carolina and Wisconsin.

Second, a more sophisticated measure of success was based upon a principal components factor analysis of five components of success. The factor loadings for the five variables were: winning percentage (.59), average attendance (.90), poll rankings (.96), national television exposure (.90) and bowl games (.86). This success index differs from the previous one with regard to weighting of the variables. Instead of equal weighting this factored success index is weighted heavily on four of the five variables. The win-loss variable is much less related. This helps account for the fact that some teams may have good won-loss records but do not acquire television coverage, large attendance, or weekly poll rankings due to the quality of competition they play. On the other hand,

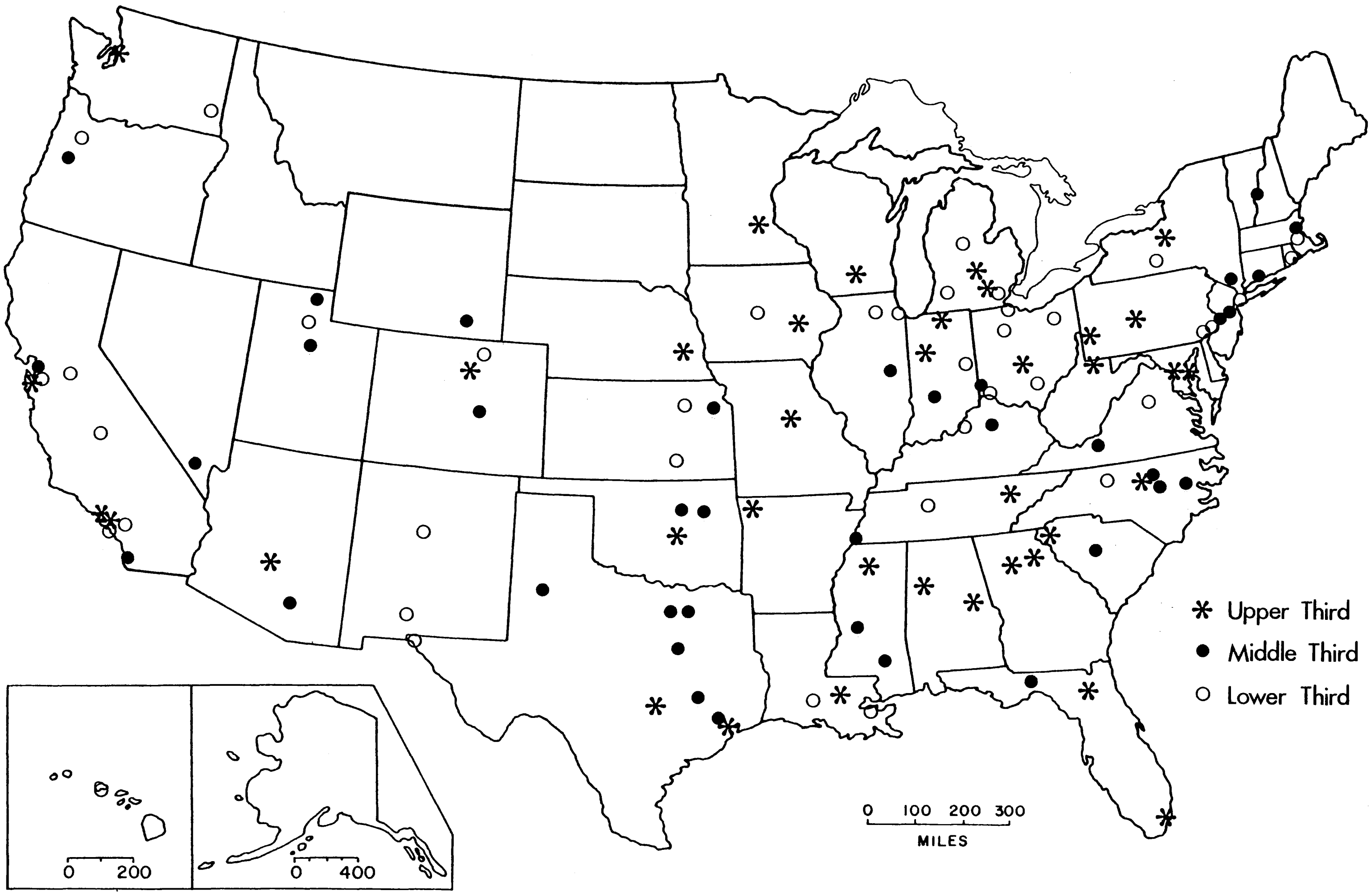


Figure 7. Composite Success 1952-1983

teams with several losses may find themselves in the 'Top Twenty' because they lost to higher ranked teams. Three groups of equal size, based on the factor analysis method, are depicted in Figure 8.

It was mentioned previously that certain factors may have led to an 'elitist' group of football powers. In order to investigate the possible relationship it was necessary to measure recent success. The factor scoring method was utilized for the 1972-1983 time period to construct a measure of recent or late success. Factor loadings for this index were: winning percentage (.81), average attendance (.85), poll rankings (.94). This index is more senstive to the poll rankings and somewhat less to attendance and won-loss records. This follows the logic mentioned in the previous index discussion. A large portion of the losses of 'Top Twenty' teams are to other 'Top Twenty' teams. Also, a poor team that hosts a top team tends to draw a large crowd. The results are mapped in Figure 9. The high success group includes traditional winners along with a few newcomers; B.Y.U., Arizona and Clemson. Former college football powers; Mississippi, Georgia Tech, Army and Syracuse dropped from the 'elite'.

As a result of measuring several variables relating to success, two success indices have been formulated. One, an overall success, 1952-1983, and two, recent success, 1972-1983. These two indices will be utilized to assess the relationship between the location of college football teams and the success of their programs.

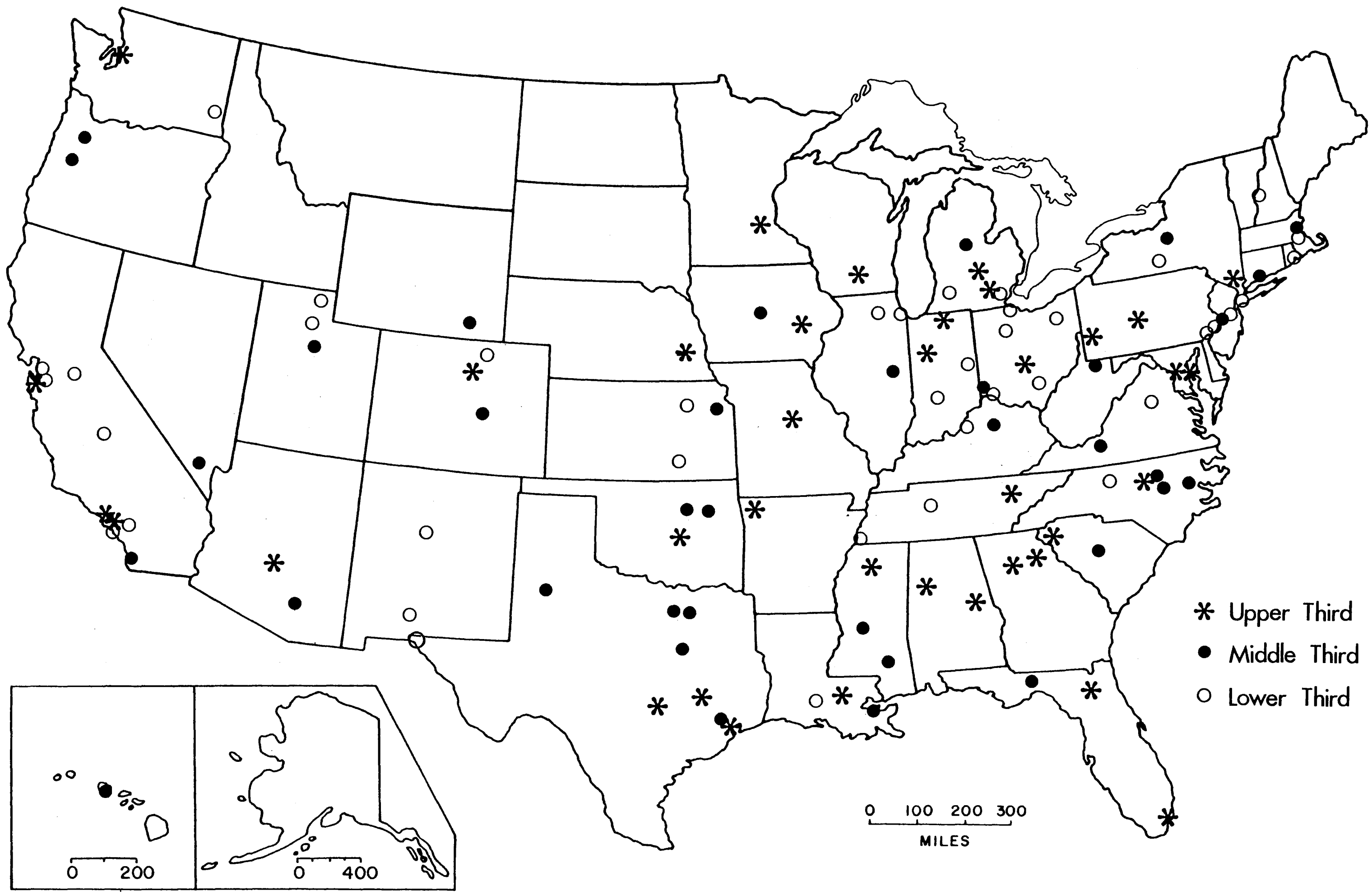


Figure 8. Overall Success (factored) 1952-1983

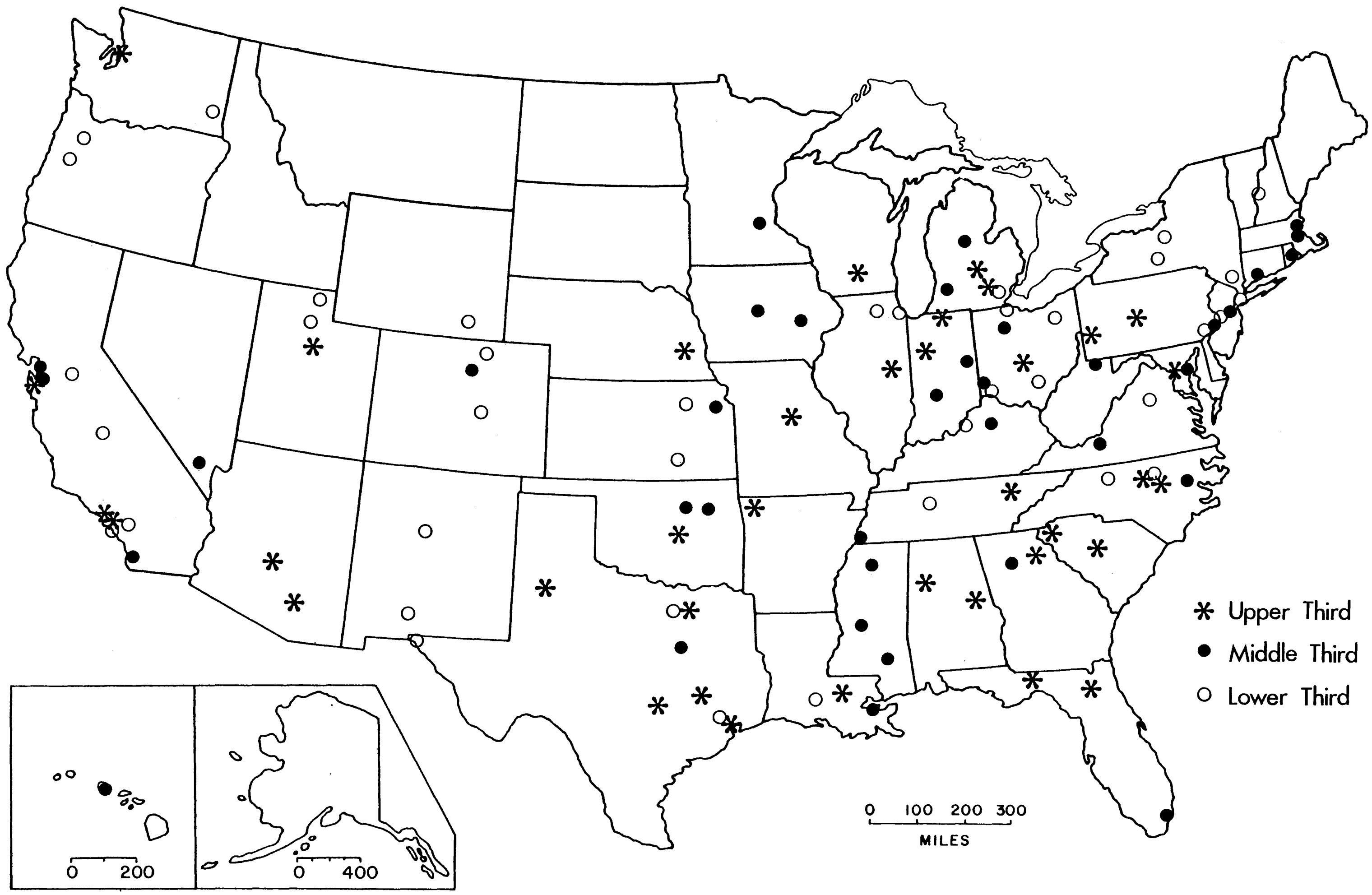


Figure 9. Recent Success (factored) 1952-1983

Measuring Location

A geographical approach recognizes that just as sports evolved over time, they also diffused over space. As different social groups vary in sport participation intensity, so different places are identified with different football involvement. Just as the development of industry is based upon supply and demand so is the business of college football. It is this basic geographical foundation that allows assessment of place (location) in relation to factors pertaining to college football programs.

Rooney (31) identified regions of varying football intensity. These regions were based upon per capita production of major college football players. The location of college football teams with regard to talent (production of quality high school players) was measured by two methods: One, the total production of quality football players, for the years 1971-1980, by county within a 250 mile radius of the institution; Two, the unique production of talent within the same radius. The unique production took into account the number of schools within 250 miles of a given county who competed for its athletes. If county X produced 200 players, and had five college teams within 250 miles, each college would receive a unique production of forty. These unique production figures by county were then summed within the radius of a given institution.

The total production within a school's radius was grouped into three equal frequency categories and mapped (Figure 10). Unique production is depicted in Figure 11. Total and unique production numbers by school are listed in Tables XIV & XV in the Appendix.

The total population (1980 census) and unique population of counties within the same radius of a given team were constructed using a similar procedure. These location measures were considered to be important with regard to potential fan regions and media fan regions. The results were grouped into three equal frequency categories and mapped in Figures 12 and 13. Specific data are listed in Tables XIV & XV.

Other Variables

Another form of relative location includes the perceived statewide interest in football as measured by per-capita participation at the high school level. College enrollment in 1963 was utilized as a measure of alumni numbers and thus potential program supporters. Location with regard to competition from other Division IA schools was assessed along with National Football League franchises within the given radius. The number of in-state Division IA rivals per school was also given consideration since all compete for possible fan interest and support. Managing the business of college football is another

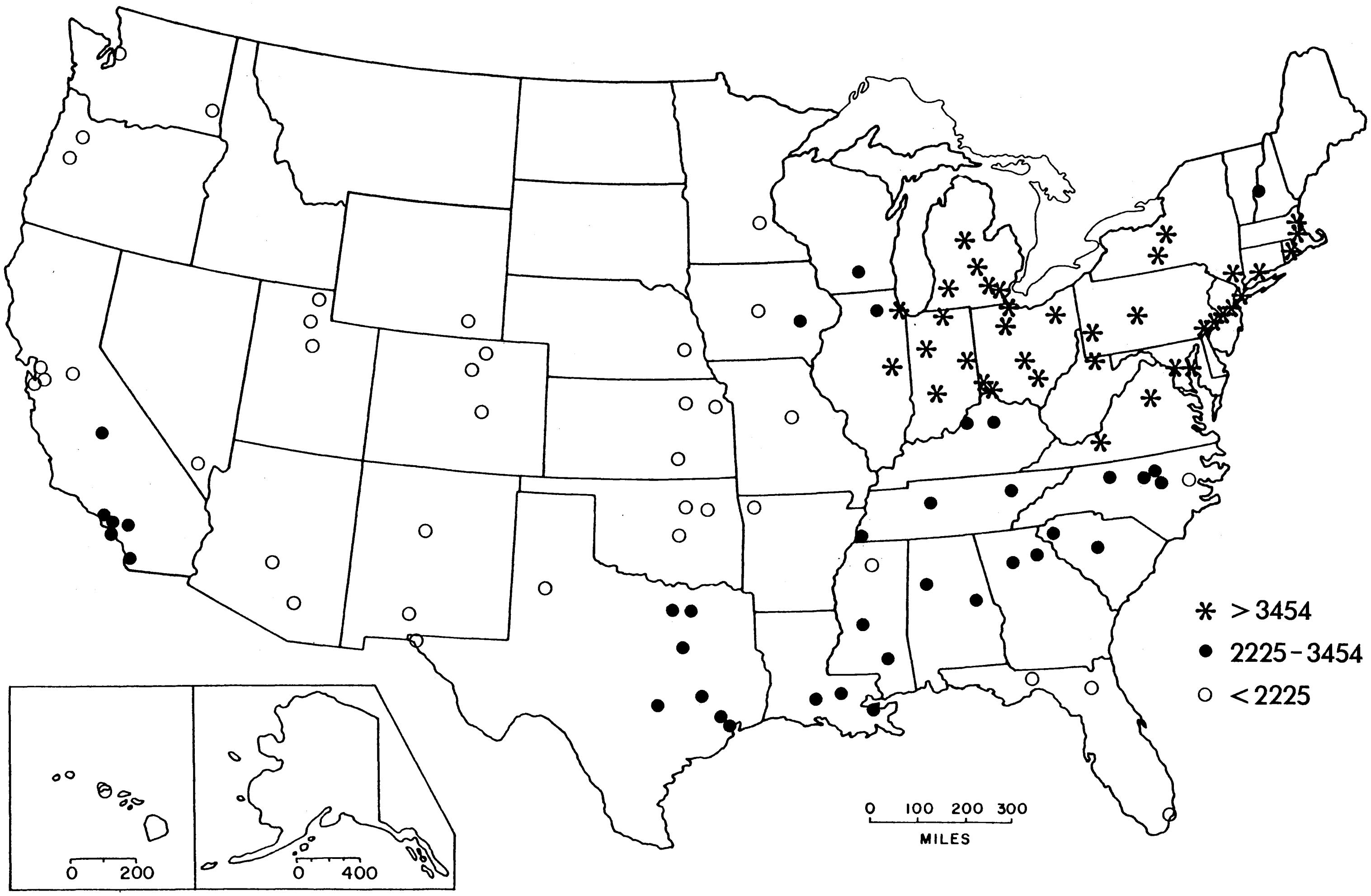


Figure 10. Total Production of Talent within a 250 Mile Radius

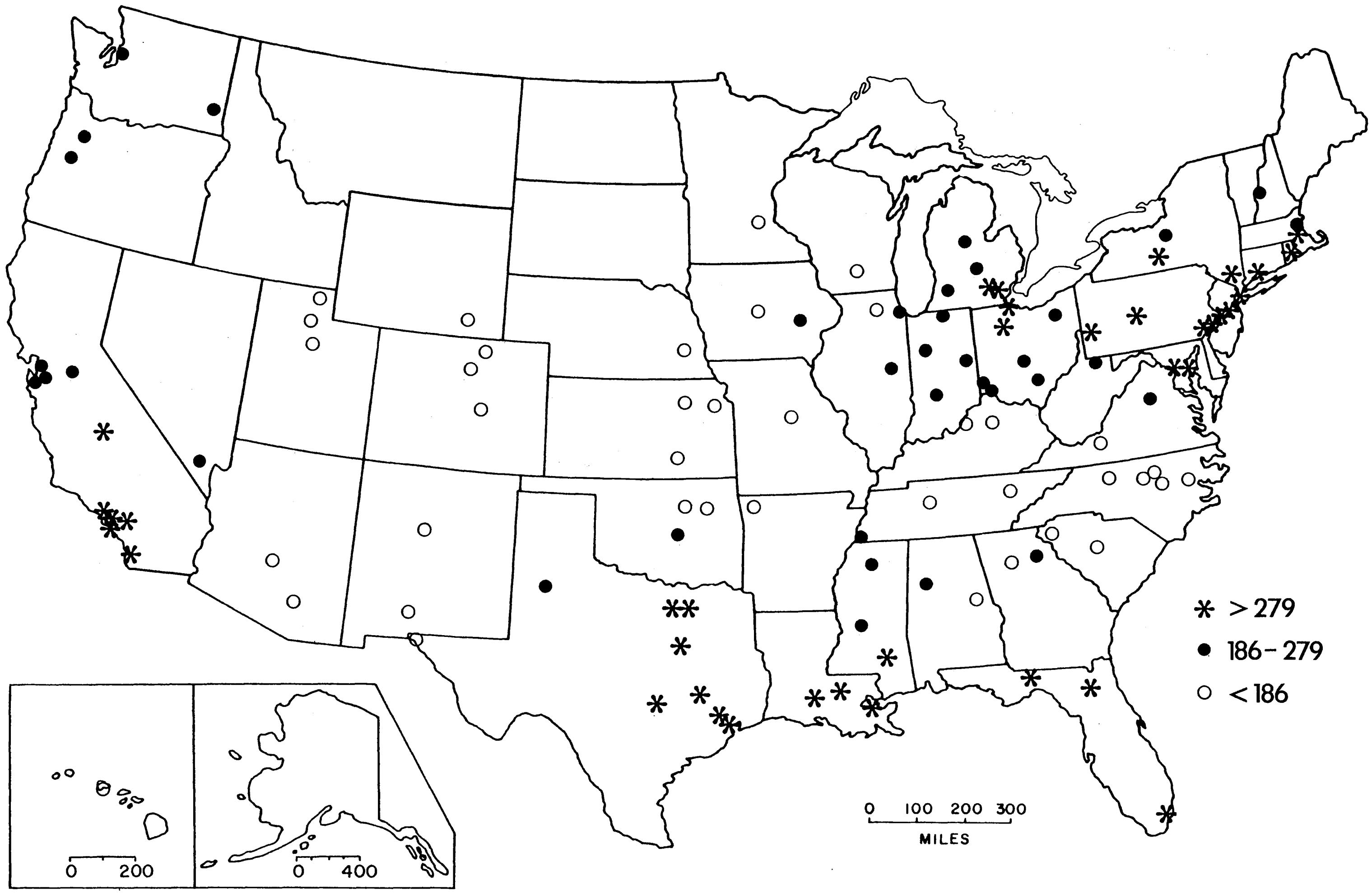


Figure 11. Unique Production of Football Talent

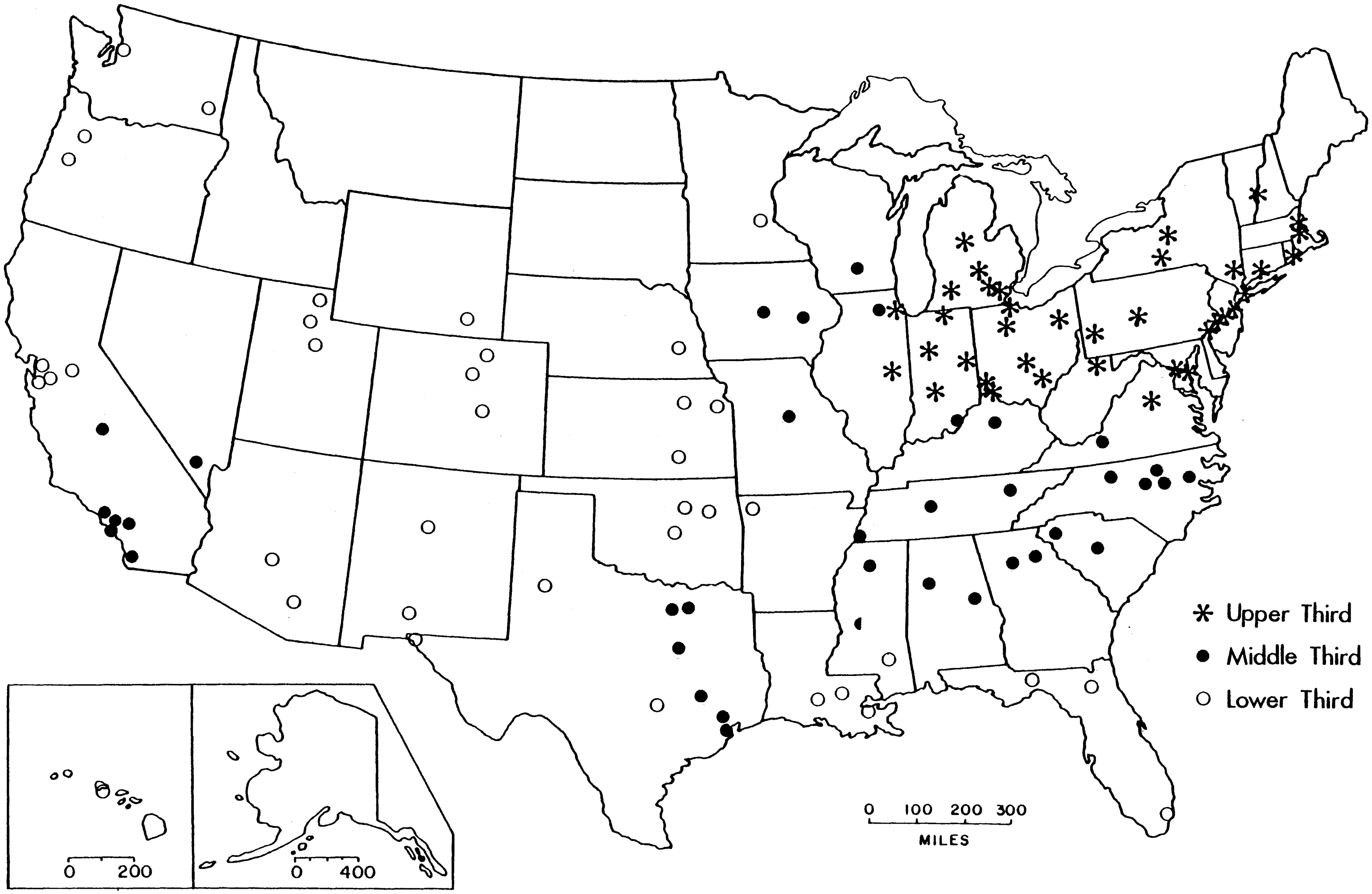


Figure 12. Total Population within a 250 Mile Radius

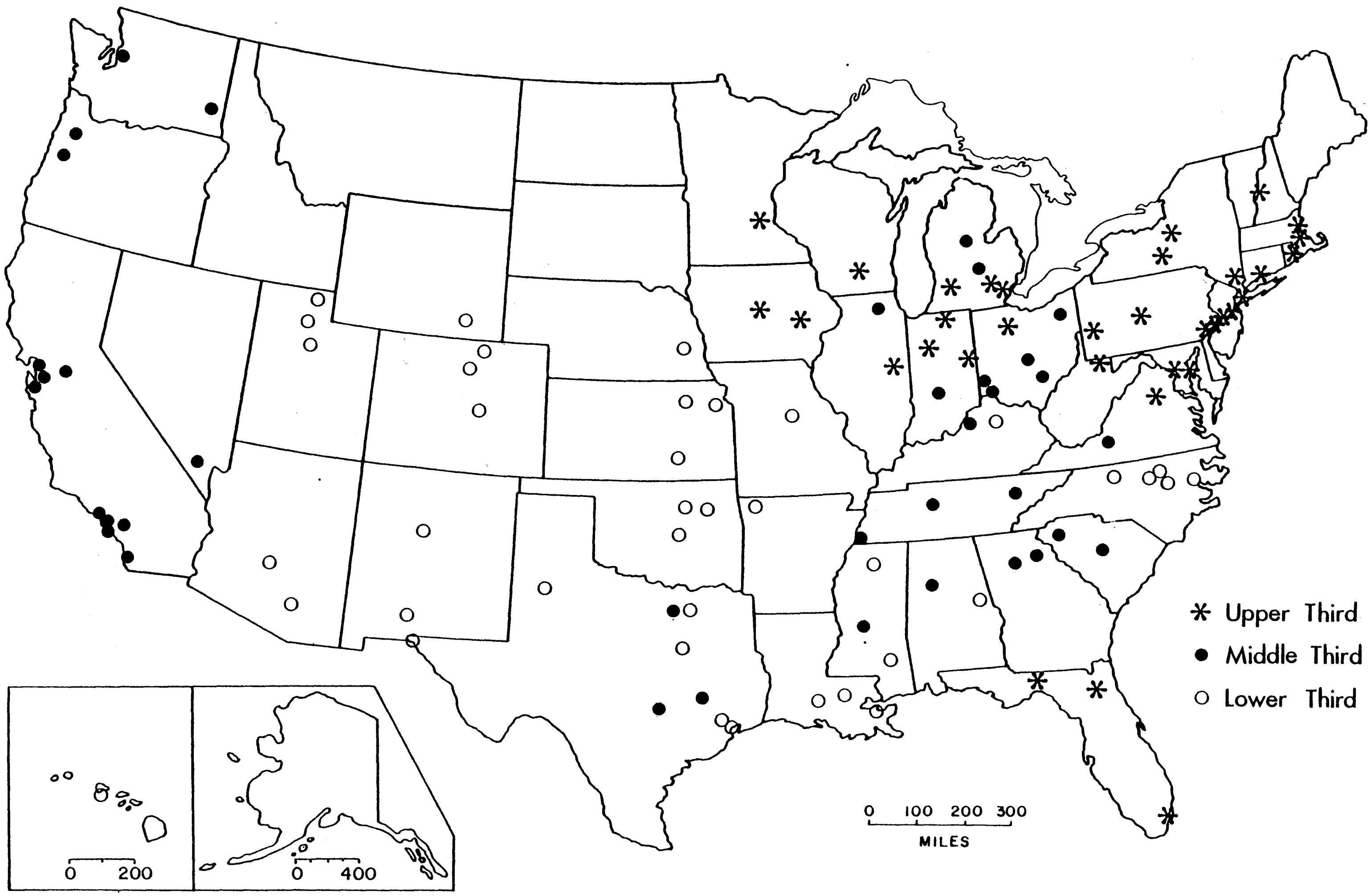


Figure 13. Unique Population

variable that is made up of coaching tenure, experience and won-loss record when hired. These other variables will be considered in more detail in the following chapter.

CHAPTER IV

RESULTS OF ANALYSIS

In the previous chapter college football (Division IA) success at the institutional level was measured from 1952-1983. Most of the success variables relate significantly to one another. variables were combined in a factor analysis technique to create success indices: 1) overall success, which can be broken down into three time periods; early 1952-1961, middle 1962-1972, late 1973-1983; and 2) success with major and minor schools.

Also in Chapter III the institution was assessed with regard to location. Location variables consisted of: relevant population, production of talent, rival competition for entertainment, statewide interest at the high school level, earlier institutional enrollment and coaching tenure.

This chapter tests for relationships between success and location.

Correlation Matrix

The data presented extreme value ranges; population figures in the millions, winning percentages in hundreths. Due to the skewness of the distributions, all data for the study were analyzed using non-parametric statisitics, specifically spearman rank-order correlation coefficients.

A total of 26 success variables were analyzed. The intercorrelations of the list of variables are presented in Table I. The factor analysis method addressed in Chapter III was aimed at describing a number of variables in terms of fewer factors. This summary device created the success indices which are displayed in the correlation matrix (Table II). Also in Table II are the various locational variables. Initial examination indicated that the relationships between success and location are weak. In order to further substantiate the correlations, additional statistical analysis will be addressed in this chapter.

Over the thirty year period, a number of schools changed their attitude towards their football programs. Some chose to go 'big-time', while others, such as the Ivy League, decided not to compete at that level. Because of the possible effect of these schools on the overall correlations, 29 schools were claimed as minor football programs, and separate correlations were performed for the remaining 84 major college football programs.

The Business of College Football

Given the assumption: college football is a business, a geographer would proceed to determine its hierarchical order in relation to other commercial activities. Live major college football entertainment is a relatively

TABLE I

INTERCORRELATIONS AMONG THE 29 SUCCESS VARIABLES

SPEARMAN CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=O / NUMBER OF OBSERVATIONS

		TPCT	TAVG	TOP20	LTPCT	LTAVG	LTOP20	NTV	RTV	CAA	CC	MTENURE
1	TPCT WINNING PERCENTAGE 1952-83	1.00000 0.0000 113	0.36246 0.0001 113	0.50946 0.0001 113	0.79013 0.0001 113	0.39569 0.0001 113	0.50450 0.0001 113	0.38206 0.0001 113	0.37135 0.0001 113	0.38931 0.0001 113	0.48755 0.0001 113	0.50610 0.0001 113
2	TAVG AVERAGE ATTENDANCE 1952-83		1.00000 0.0000 113	0.84802 0.0001 113	0.36743 0.0001 113	0.95288 0.0001 113	0.69907 0.0001 113	0.84827 0.0001 113	0.82977 0.0001 113	0.85750 0.0001 113	0.16683 0.0774 113	0.31611 0.0006 113
3.	TOP20 TOP TWENTY RANKINGS 1952-83			1.00000 0.0000 113	0.44248 0.0001 113	0.82140 0.0001 113	0.77201 0.0001 113	0.84871 0.0001 113	0.78224 0.0001 113	0.89224 0.0001 113	0.32005 0.0005 113	0.36710 0.0001 113
4	LTPCT WINNING PERCENTAGE 1972-83				1.00000 0.0000 113	0.44555 0.0001 113	0.68173 0.0001 113	0.33279 0.0003 113	0.41553 0.0001 113	0.39233 0.0001 113	0.42037 0.0001 113	0.36201 0.0001 113
5	LTAVG AVERAGE ATTENDANCE 1972-83					1.00000 0.0000 113	0.75660 0.0001 113	0.76545 0.0001 113	0.77945 0.0001 113	0.83859 0.0001 113	0.14431 0.1273 113	0.29721 0.0014 113
6	LTOP20 TOP TWENTY RANKINGS 1972-83						1.00000 0.0000 113	0.66327 0.0001 113	0.65444 0.0001 113	0.75558 0.0001 113	0.26306 0.0049 113	0.27219 0.0035 113
7	NTV NATIONAL TELEVISION APPEARANCES							1.00000 0.0000 113	0.81278 0.0001 113	0.87220 0.0001 113	0.19417 0.0393 113	0.35340 0.0001 113
8	RTV REGIONAL TELEVISION APPEARANCES								1.00000 0.0000 113	0.78094 0.0001 113	0.27557 0.0031 113	0.37432 0.0001 113
9	CAA CONSENSUS ALL-AMERICANS 1952-83									1.00000 0.0000 113	0.22523 0.0165 113	0.28671 0.0021 113
10	CC CONFERENCE CHAMPIONS 1952-83										1.00000 0.0000 113	0.31474 0.0007 113
11	MTENURE AVG COACHING TENURE @ SCHOOL											1.00000 0.0000 113
12	MCWPCT AVG WINNING PCT OF COACH WHEN HIRED											
13	MEXP AVG EXPERIENCE OF COACH WHEN HIRED											
14	BOWLTRIP # OF BOWL GAMES 1952-83											
15	BOWLPCT WIN PCT OF BOWL GAMES											
16	H # OF HEISMAN TROPHY WINNERS											
17	O # OF OUTLAND TROPHY WINNERS											
18	NCAP # OF AP NATIONAL CHAMPIONSHIPS											
19	NCUPI # OF UPI NATIONAL CHAMPS											
20	U # OF UNDEFEATED SEASONS											
21	ETPCT WINNING PERCENTAGE 1952-61											
22	ETAVG AVERAGE ATTENDANCE 1952-61											
23	ETOP20 TOP TWENTY RANKINGS 1952-61											
24	MTPCT WINNING PERCENTAGE 1962-72											
25	MTAVG AVERAGE ATTENDANCE 1962-72											
26	MTOP20 TOP TWENTY RANKINGS 1962-72											

TABLE I (Continued)

	MCWPCT	MEXP	BOWLTRIP	BOWLPCT	H	O	NCAP	NCUPI	U	ETPCT	ETAVG	ETOP20	MTPCT	MTAVG	MTOP20
1	0.19578 0.0386 112	0.08931 0.3469 113	0.45890 0.0001 113	0.19279 0.0703 89	0.34098 0.0002 113	0.36776 0.0001 113	0.45813 0.0001 113	0.45658 0.0001 113	0.63616 0.0001 113	0.62258 0.0001 111	0.23400 0.0139 110	0.34714 0.0002 113	0.79765 0.0001 113	0.40965 0.0001 106	0.48538 0.0001 113
2	0.12020 0.2068 112	0.29972 0.0013 113	0.69307 0.0001 113	0.21437 0.0437 89	0.50863 0.0001 113	0.43810 0.0001 113	0.50809 0.0001 113	0.50798 0.0001 113	0.35164 0.0001 113	0.28951 0.0021 111	0.89715 0.0001 110	0.77479 0.0001 113	0.18398 0.0511 113	0.96882 0.0001 106	0.68267 0.0001 113
3	0.04263 0.6554 112	0.25188 0.0071 113	0.81824 0.0001 113	0.28505 0.0068 89	0.52178 0.0001 113	0.51420 0.0001 113	0.58202 0.0001 113	0.58293 0.0001 113	0.58853 0.0001 113	0.43838 0.0001 111	0.76447 0.0001 110	0.84466 0.0001 113	0.35236 0.0001 113	0.83172 0.0001 106	0.81447 0.0001 113
4	0.18804 0.0471 112	0.04355 0.6470 113	0.45084 0.0001 113	0.10881 0.3101 89	0.30885 0.0009 113	0.37168 0.0001 113	0.42458 0.0001 113	0.43690 0.0001 113	0.49571 0.0001 113	0.22456 0.0178 111	0.21560 0.0237 110	0.20076 0.0330 113	0.45707 0.0001 113	0.32372 0.0007 106	0.32730 0.0004 113
5	0.13728 0.1489 112	0.22694 0.0156 113	0.74006 0.0001 113	0.20644 0.0523 89	0.49310 0.0001 113	0.43252 0.0001 113	0.48676 0.0001 113	0.47593 0.0001 113	0.36602 0.0001 113	0.24891 0.0084 111	0.75030 0.0001 110	0.67409 0.0001 113	0.20171 0.0322 113	0.88726 0.0001 106	0.66680 0.0001 113
6	0.10920 0.2518 112	0.12133 0.2005 113	0.75778 0.0001 113	0.25544 0.0157 89	0.38428 0.0001 113	0.43109 0.0001 113	0.51503 0.0001 113	0.51775 0.0001 113	0.46105 0.0001 113	0.18569 0.0510 111	0.54629 0.0001 110	0.50944 0.0001 113	0.28606 0.0021 113	0.62303 0.0001 106	0.58519 0.0001 113
7	0.00288 0.9759 112	0.29252 0.0017 113	0.67638 0.0001 113	0.21918 0.0390 89	0.58172 0.0001 113	0.47083 0.0001 113	0.54231 0.0001 113	0.55474 0.0001 113	0.41412 0.0001 113	0.33545 0.0003 111	0.84288 0.0001 110	0.77675 0.0001 113	0.24623 0.0086 113	0.85550 0.0001 106	0.67530 0.0001 113
8	0.09919 0.2981 112	0.32126 0.0005 113	0.64627 0.0001 113	0.12566 0.2407 89	0.43504 0.0001 113	0.39845 0.0001 113	0.41952 0.0001 113	0.44360 0.0001 113	0.35548 0.0001 113	0.22701 0.0166 111	0.78323 0.0001 110	0.66836 0.0001 113	0.20095 0.0328 113	0.80576 0.0001 106	0.65271 0.0001 113
9	0.04184 0.6613 112	0.21421 0.0227 113	0.77863 0.0001 113	0.24441 0.0210 89	0.54296 0.0001 113	0.52815 0.0001 113	0.59663 0.0001 113	0.60188 0.0001 113	0.46714 0.0001 113	0.33225 0.0004 111	0.78881 0.0001 110	0.78890 0.0001 113	0.22562 0.0163 113	0.81795 0.0001 106	0.71767 0.0001 113
10	0.08126 0.3943 112	0.07993 0.4000 113	0.26839 0.0040 113	0.12523 0.2423 89	0.05951 0.5312 113	0.27796 0.0029 113	0.19369 0.0398 113	0.22671 0.0157 113	0.44731 0.0001 113	0.26912 0.0043 111	0.13113 0.1721 110	0.22914 0.0146 113	0.41407 0.0001 113	0.20878 0.0317 106	0.26373 0.0048 113
11	-0.10060 0.2912 112	0.17282 0.0672 113	0.26071 0.0053 113	0.00538 0.9601 89	0.25698 0.0060 113	0.21551 0.0219 113	0.33638 0.0003 113	0.29363 0.0016 113	0.36423 0.0001 113	0.31473 0.0008 111	0.23983 0.0116 110	0.30785 0.0009 113	0.46944 0.0001 113	0.34611 0.0003 106	0.36458 0.0001 113
12	1.00000 0.0000 112	0.05262 0.5816 112	0.10125 0.2881 112	0.05982 0.5776 89	0.08058 0.3983 112	-0.00491 0.9590 112	0.07247 0.4477 112	0.08720 0.3606 112	0.08841 0.3539 112	-0.01978 0.8375 110	0.13076 0.1753 109	-0.04211 0.6593 112	0.20187 0.0328 112	0.11442 0.2429 106	0.11780 0.2161 112
13		1.00000 0.0000 113	0.06545 0.4910 113	0.06508 0.5445 89	-0.03724 0.6953 113	0.06479 0.4953 113	0.10981 0.2469 113	0.15419 0.1030 113	0.14386 0.1285 113	0.11768 0.2187 111	0.36607 0.0001 110	0.27454 0.0033 113	0.02273 0.8111 113	0.25901 0.0073 106	0.12876 0.1741 113
14			1.00000 0.0000 113	0.28735 0.0063 89	0.45560 0.0001 113	0.44640 0.0001 113	0.49599 0.0001 113	0.48335 0.0001 113	0.46682 0.0001 113	0.37135 0.0001 111	0.57042 0.0001 110	0.65043 0.0001 113	0.29759 0.0014 113	0.61959 0.0001 106	0.67298 0.0001 113
15				1.00000 0.0000 89	0.15274 0.1530 89	0.08724 0.4163 89	0.15510 0.1467 89	0.14154 0.1858 89	0.23193 0.0287 89	0.10561 0.3274 88	0.17059 0.1142 87	0.18665 0.0799 89	0.22095 0.0375 89	0.20958 0.0514 87	0.31397 0.0027 89
16					1.00000 0.0000 113	0.43808 0.0001 113	0.56244 0.0001 113	0.55525 0.0001 113	0.35253 0.0001 113	0.28741 0.0022 111	0.48434 0.0001 110	0.48350 0.0001 113	0.25308 0.0068 113	0.49689 0.0001 106	0.47085 0.0001 113
17						1.00000 0.0000 113	0.62308 0.0001 113	0.55789 0.0001 113	0.44596 0.0001 113	0.23590 0.0127 111	0.36672 0.0001 110	0.41897 0.0001 113	0.26279 0.0049 113	0.41650 0.0001 106	0.42918 0.0001 113
18							1.00000 0.0000 113	0.94106 0.0001 113	0.60033 0.0001 113	0.31375 0.0008 111	0.47140 0.0001 110	0.50221 0.0001 113	0.32423 0.0005 113	0.49327 0.0001 106	0.49040 0.0001 113
19								1.00000 0.0000 113	0.60017 0.0001 113	0.32496 0.0005 111	0.48734 0.0001 110	0.51120 0.0001 113	0.29402 0.0016 113	0.49231 0.0001 106	0.48787 0.0001 113
20									1.00000 0.0000 113	0.38141 0.0001 111	0.25074 0.0082 110	0.43833 0.0001 113	0.55130 0.0001 113	0.33202 0.0005 106	0.50945 0.0001 113
21										1.00000 0.0000 111	0.30691 0.0011 110	0.56239 0.0001 111	0.38219 0.0001 111	0.33443 0.0005 106	0.32246 0.0006 111
22											1.00000 0.0000 110	0.78991 0.0001 110	0.07405 0.4420 110	0.87762 0.0001 105	0.59861 0.0001 110
23												1.00000 0.0000 113	0.18513 0.0496 113	0.76397 0.0001 106	0.60359 0.0001 113
24													1.00000 0.0000 113	0.31000 0.0012 106	0.47435 0.0001 113
25														1.00000 0.0000 106	0.71087 0.0001 106
26															1.00000 0.0000 113

TABLE II

CORRELATION MATRIX OF SUCCESS AND LOCATIONAL VARIABLES

SPEARMAN CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=O / NUMBER OF OBSERVATIONS

		TSUCCESS	LATESUC	MAJTOSUC	MAJLASUC	MINTOSUC	MINLASUC	EARLYSUC	MIDSUC	COMPTOT	LCOMPTOT	NTV	RTV	POP
1	TSUCCESS OVERALL SUCCESS 1952-83	1.00000 0.0000 113	0.84564 0.0001 113	0.99854 0.0001 84	0.82150 0.0001 84	0.20887 0.2769 29	0.81379 0.0001 29	0.80945 0.0001 110	0.81894 0.0001 106	-0.97893 0.0001 113	-0.85016 0.0001 113	0.85909 0.0001 113	0.80341 0.0001 113	-0.04023 0.6723 113
2	LSUCCESS RECENT SUCCESS 1973-83		1.00000 0.0000 113	0.82505 0.0001 84	0.99947 0.0001 84	0.17389 0.3670 29	0.95616 0.0001 29	0.51335 0.0001 110	0.63077 0.0001 106	-0.84920 0.0001 113	-0.98206 0.0001 113	0.63691 0.0001 113	0.70087 0.0001 113	-0.04828 0.6116 113
3	MAJTOSUC OVERALL SUCCESS 1952-83 MAJOR SCHOOLS			1.00000 0.0000 84	0.82796 0.0001 84	 0	 0	0.78620 0.0001 83	0.84870 0.0001 83	-0.98128 0.0001 84	-0.80586 0.0001 84	0.87709 0.0001 84	0.74946 0.0001 84	0.24726 0.0234 84
4	MAJLASUC RECENT SUCCESS 1973-83 MAJOR SCHOOLS				1.00000 0.0000 84	 0	 0	0.43556 0.0001 83	0.63530 0.0001 83	-0.83659 0.0001 84	-0.97853 0.0001 84	0.62733 0.0001 84	0.66079 0.0001 84	0.17353 0.1144 84
5	MINTOSUC OVERALL SUCCESS 1952-83 MINOR SCHOOLS					1.00000 0.0000 29	0.16749 0.3852 29	0.00244 0.9904 27	0.03557 0.8720 23	-0.14956 0.4387 29	-0.15616 0.4186 29	-0.70204 0.0001 29	-0.26373 0.1669 29	-0.44778 0.0149 29
6	MINLASUC RECENT SUCCESS 1973-83 MINOR SCHOOLS						1.00000 0.0000 29	0.34860 0.0747 27	0.65514 0.0007 23	-0.78182 0.0001 29	-0.96158 0.0001 29	-0.19331 0.3150 29	0.29942 0.1146 29	0.00493 0.9798 29
7	EARLYSUC EARLY SUCCESS 1952-61							1.00000 0.0000 110	0.65602 0.0001 105	-0.80004 0.0001 110	-0.49945 0.0001 110	0.74227 0.0001 110	0.63325 0.0001 110	0.07566 0.4321 110
8	MIDSUC MIDDLE SUCCESS 1962-72								1.00000 0.0000 106	-0.85265 0.0001 106	-0.61967 0.0001 106	0.70401 0.0001 106	0.67376 0.0001 106	0.03217 0.7434 106
9	COMPTOT COMPOSITE SUCCESS 1952-83									1.00000 0.0000 113	0.84954 0.0001 113	-0.82371 0.0001 113	-0.79461 0.0001 113	0.01002 0.9161 113
10	LCOMPTOT COMPOSITE SUCCESS 1973-83										1.00000 0.0000 113	-0.65507 0.0001 113	-0.70873 0.0001 113	0.07269 0 4442 113
11	NTV NATIONAL TELEVISION APPEARANCES											1.00000 0.0000 113	0.81278 0.0001 113	-0.00366 0 9694 113
12	RTV REGIONAL TELEVISION APPEARANCES												1.00000 0.0000 113	-0.07778 0.4129 113
13	POP POPULATION W/IN 250 MILE RADIUS													1.00000 0.0000 113
14	PROD TALENT W/IN 250 MILE RADIUS													
15	UPOP UNIQUE POPULATION													
16	UPROD UNIQUE TALENT													
17	CAA CONSENSUS ALL-AMERICANS 1952-83													
18	CC CONFERENCE CHAMPIONS 1952-83													
19	IARIVAL DIV IA RIVALS W/IN 250 MILES													
20	INSTATE DIV IA RIVALS W/IN STATE													
21	NFL # OF NFL FRANCHISES W/IN 250 MILES													
22	MTENURE AVG COACHING TENURE													
23	MCWPCT AVG WINNING PCT OF COACH WHEN HIRED													
24	MEXP AVG EXPERIENCE OF COACH WHEN HIRED													
25	BOWLTRIP # OF BOWL GAMES 1952-83													
26	BOWLPCT WINNING PCT OF BOWL GAMES													
27	ECOMPTOT COMPOSITE SUCCESS 1952-61													
28	MCOMPTOT COMPOSITE SUCCESS 1962-72													
29	ENROLL UNDERGRADUATE ENROLLMENT 1963													
30	PCPART 71 HIGH SCHOOL INTEREST 1971													
31	PCPART 81 HIGH SCHOOL INTEREST 1981													

TABLE II (Continued)

	PROD	UPOP	UPROD	CAA	CC	IARIVAL	INSTATE	NFL	MTENURE	MCWPCT	MEXP	BOWLTRIP	BOWLPCT	ECOMPTOT	MCOMPTOT	ENROLL	PCPART71	PCPART81
1	-0.00018 0.9985 113	0.00404 0.9661 113	0.07570 0.4255 113	0.86499 0.0001 113	0.32459 0.0005 113	-0.05074 0.5935 113	-0.08512 0.3700 113	-0.04960 0.6019 113	0.40658 0.0001 113	0.12251 0.1982 112	0.24357 0.0093 113	0.82998 0.0001 113	0.27923 0.0080 89	-0.82700 0.0001 110	-0.79827 0.0001 106	0.28181 0.0026 112	0.12299 0.1943 113	0.18152 0.0543 113
2	-0.02412 0.7998 113	-0.02760 0.7717 113	0.04093 0.6669 113	0.72023 0.0001 113	0.33031 0.0004 113	-0.05448 0.5666 113	-0.10384 0.2737 113	-0.06439 0.4980 113	0.35825 0.0001 113	0.18893 0.0460 112	0.16681 0.0774 113	0.69896 0.0001 113	0.20190 0.0578 89	-0.52824 0.0001 110	-0.63112 0.0001 106	0.37851 0.0001 112	0.09053 0.3403 113	0.15036 0.1119 113
3	0.27912 0.0101 84	0.24327 0.0258 84	0.26073 0.0166 84	0.87740 0.0001 84	0.51705 0.0001 84	0.17577 0.1097 84	0.00883 0.9364 84	0.25492 0.0193 84	0.52077 0.0001 84	0.15590 0.1567 84	0.24288 0.0260 84	0.82222 0.0001 84	0.25872 0.0240 76	-0.79029 0.0001 83	-0.80798 0.0001 83	0.32042 0.0030 84	0.08337 0.4509 84	0.01274 0.9084 84
4	0.19722 0.0721 84	0.13390 0.2246 84	0.17776 0.1057 84	0.76302 0.0001 84	0.52008 0.0001 84	0.13518 0.2202 84	-0.00869 0.9375 84	0.17163 0.1185 84	0.38713 0.0003 84	0.22782 0.0371 84	0.19681 0.0728 84	0.71577 0.0001 84	0.19569 0.0902 76	-0.44199 0.0001 83	-0.62871 0.0001 83	0.44044 0.0001 84	0.07411 0.5029 84	0.02053 0.8530 84
5	-0.12906 0.5046 29	-0.50542 0.0052 29	-0.37488 0.0451 29	0.03658 0.8506 29	0.01093 0.9551 29	0.01136 0.9534 29	0.39420 0.0343 29	-0.35233 0.0609 29	-0.26605 0.1630 29	-0.05583 0.7778 28	-0.49951 0.0058 29	0.85430 0.0001 29	0.46973 0.1053 13	0.00031 0.9988 27	-0.15613 0.4768 23	-0.06596 0.7388 28	0.18697 0.3315 29	0.23316 0.2235 29
6	0.02414 0.9011 29	-0.06404 0.7414 29	-0.10443 0.5898 29	-0.06330 0.7443 29	0.29864 0.1156 29	0.03704 0.8487 29	-0.25541 0.1812 29	-0.13153 0.4964 29	0.40155 0.0308 29	0.09141 0.6437 28	-0.22217 0.2467 29	-0.06266 0.7468 29	0.14152 0.6447 13	-0.25191 0.2049 27	-0.57411 0.0042 23	-0.27754 0.1527 28	-0.06554 0.7355 29	0.07714 0.6908 29
7	0.12159 0.2057 110	0.12854 0.1808 110	0.16979 0.0762 110	0.71192 0.0001 110	0.27170 0.0041 110	0.06577 0.4948 110	-0.03226 0.7379 110	0.08575 0.3731 110	0.33596 0.0003 110	0.04153 0.6681 109	0.28816 0.0023 110	0.60727 0.0001 110	0.18539 0.0856 87	-0.97916 0.0001 110	-0.60827 0.0001 105	0.18415 0.0541 110	0.12855 0.1808 110	0.17084 0.0744 110
8	0.02515 0.7981 106	0.11950 0.2224 106	0.10066 0.3046 106	0.66652 0.0001 106	0.40753 0.0001 106	-0.02230 0.8205 106	-0.08244 0.4008 106	0.04498 0.6471 106	0.52772 0.0001 106	0.17062 0.0804 106	0.20660 0.0336 106	0.59307 0.0001 106	0.26581 0.0128 87	-0.65531 0.0001 105	-0.94453 0.0001 106	0.30117 0.0017 106	0.07962 0.4172 106	0.10759 0.2723 106
9	-0.01965 0.8363 113	-0.02936 0.7576 113	-0.07601 0.4236 113	-0.84305 0.0001 113	-0.36348 0.0001 113	0.03220 0.7350 113	0.12660 0.1815 113	0.02751 0.7724 113	-0.44631 0.0001 113	-0.12460 0.1906 112	-0.26937 0.0039 113	-0.78066 0.0001 113	-0.25225 0.0171 89	0.81964 0.0001 110	0.83381 0.0001 106	-0.31971 0.0006 112	-0.11930 0.2082 113	-0.15708 0.0966 113
10	0.03345 0.7250 113	0.05335 0.5747 113	-0.05440 0.5671 113	-0.74119 0.0001 113	-0.29010 0.0018 113	0.07224 0.4471 113	0.07287 0.4431 113	0.07581 0.4249 113	-0.35440 0.0001 113	-0.15906 0.0939 112	-0.15052 0.1115 113	-0.72664 0.0001 113	-0.21279 0.0453 89	0.52156 0.0001 110	0.62835 0.0001 106	-0.36420 0.0001 112	-0.10801 0.2548 113	-0.14823 0.1171 113
11	0.01599 0.8665 113	0.10601 0.2638 113	0.14506 0.1253 113	0.87220 0.0001 113	0.19417 0.0393 113	-0.06095 0.5214 113	0.00306 0.9743 113	0.01193 0.9002 113	0.35340 0.0001 113	0.00288 0.9759 112	0.29252 0.0017 113	0.67638 0.0001 113	0.21918 0.0390 89	-0.76596 0.0001 110	-0.68398 0.0001 106	0.28304 0.0025 112	0.06962 0.4637 113	0.12210 0.1976 113
12	-0.07936 0.4034 113	0.01805 0.8495 113	-0.00472 0.9604 113	0.78094 0.0001 113	0.27557 0.0031 113	-0.10626 0.2626 113	-0.11500 0.2252 113	-0.08293 0.3825 113	0.37432 0.0001 113	0.09919 0.2981 112	0.32126 0.0005 113	0.64627 0.0001 113	0.12566 0.2407 89	-0.66109 0.0001 110	-0.66867 0.0001 106	0.33196 0.0003 112	0.04545 0.6326 113	0.08296 0.3824 113
13	0.92805 0.0001 113	0.78887 0.0001 113	0.38316 0.0001 113	-0.04703 0.6208 113	0.06117 0.5198 113	0.90793 0.0001 113	0.10403 0.2729 113	0.86870 0.0001 113	0.19979 0.0339 113	0.07290 0.4449 112	0.26317 0.0049 113	-0.22160 0.0183 113	0.00649 0.9519 89	-0.06233 0.5177 110	0.02718 0.7821 106	0.13395 0.1591 112	-0.08736 0.3575 113	-0.44634 0.0001 113
14	1.00000 0.0000 113	0.69767 0.0001 113	0.52024 0.0001 113	0.00032 0.9973 113	0.08953 0.3456 113	0.90038 0.0001 113	0.22864 0.0149 113	0.87376 0.0001 113	0.18292 0.0525 113	0.02241 0.8146 112	0.16466 0.0814 113	-0.13309 0.1599 113	0.00219 0.9837 89	-0.10218 0.2881 110	0.02142 0.8275 106	0.10848 0.2549 112	0.03014 0.7513 113	-0.40623 0.0001 113
15		1.00000 0.0000 113	0.61025 0.0001 113	-0.01430 0.8805 113	-0.04970 0.6012 113	0.56873 0.0001 113	0.04207 0.6582 113	0.81639 0.0001 113	0.22830 0.0150 113	0.02303 0.8096 112	0.33084 0.0003 113	-0.22918 0.0146 113	-0.04037 0.7072 89	-0.10457 0.2769 110	-0.04374 0.6562 106	0.26462 0.0048 112	-0.07782 0.4126 113	-0.36161 0.0001 113
16			1.00000 0.0000 113	0.03651 0.7010 113	-0.01804 0.8496 113	0.18329 0.0520 113	0.39683 0.0001 113	0.55678 0.0001 113	0.15645 0.0980 113	-0.03440 0.7188 112	0.07908 0.4050 113	-0.04681 0.6225 113	-0.04592 0.6691 89	-0.15023 0.1172 110	-0.05307 0.5890 106	0.09179 0.3358 112	-0.04252 0.6548 113	-0.17686 0.0608 113
17				1.00000 0.0000 113	0.22523 0.0165 113	-0.02735 0.7737 113	-0.00675 0.9434 113	-0.05442 0.5670 113	0.28671 0.0021 113	0.04184 0.6613 112	0.21421 0.0227 113	0.77863 0.0001 113	0.24441 0.0210 89	-0.74953 0.0001 110	-0.68159 0.0001 106	0.29728 0.0015 112	0.19011 0.0437 113	0.20116 0.0326 113
18					1.00000 0.0000 113	0.09512 0.3163 113	0.08781 0.3550 113	0.06366 0.5029 113	0.31474 0.0007 113	0.08126 0.3943 112	0.07993 0.4000 113	0.26839 0.0040 113	0.12523 0.2423 89	-0.24219 0.0108 110	-0.35049 0.0002 106	0.12680 0.1828 112	0.07613 0.4229 113	0.16420 0.0822 113
19						1.00000 0.0000 113	0.15388 0.1037 113	0.76907 0.0001 113	0.08394 0.3768 113	0.09136 0.3381 112	0.14718 0.1198 113	-0.15426 0.1028 113	-0.01607 0.8812 89	-0.05298 0.5826 110	0.06571 0.5034 106	0.10939 0.2509 112	0.03159 0.7398 113	-0.37916 0.0001 113
20							1.00000 0.0000 113	0.17787 0.0595 113	-0.16682 0.0774 113	0.05194 0.5865 112	-0.19181 0.0418 113	-0.00154 0.9871 113	-0.01092 0.9191 89	0.05304 0.5821 110	0.09859 0.3147 106	0.09331 0.3278 112	0.12537 0.1858 113	0.05683 0.5499 113
21								1.00000 0.0000 113	0.14327 0.1301 113	0.08198 0.3902 112	0.16396 0.0827 113	-0.23037 0.0141 113	-0.03134 0.7706 89	-0.06713 0.4858 110	0.01871 0.8490 106	0.23809 0.0115 112	0.09174 0.3339 113	-0.39823 0.0001 113
22									1.00000 0.0000 113	-0.10060 0.2912 112	0.17282 0.0672 113	0.26071 0.0053 113	0.00538 0.9601 89	-0.32463 0.0005 110	-0.46574 0.0001 106	0.23907 0.0111 112	-0.02847 0.7647 113	-0.03609 0.7043 113
23										1.00000 0.0000 112	0.05262 0.5816 112	0.10125 0.2881 112	0.05982 0.5776 89	-0.02587 0.7895 109	-0.19273 0.0478 106	0.18241 0.0553 111	-0.00453 0.9622 112	-0.04350 0.6488 112
24											1.00000 0.0000 113	0.06545 0.4910 113	0.06508 0.5445 89	-0.29631 0.0017 110	-0.15864 0.1043 106	0.17727 0.0615 112	-0.07562 0.4260 113	-0.08563 0.3672 113
25												1.00000 0.0000 113	0.28735 0.0063 89	-0.64125 0.0001 110	-0.61994 0.0001 106	0.18026 0.0572 112	0.19865 0.0349 113	0.26136 0.0052 113
26													1.00000 0.0000 89	-0.21216 0.0465 87	-0.29930 0.0049 87	-0.00742 0.9450 89	0.01115 0.9174 89	-0.12378 0.2478 89
27														1.00000 0.0000 110	0.62303 0.0001 105	-0.20276 0.0338 110	-0.13889 0.1479 110	-0.15616 0.1033 110
28															1.00000 0.0000 106	-0.27793 0.0039 106	-0.09755 0.3198 106	-0.10505 0.2839 106
29																1.00000 0.0000 112	0.16158 0.0888 112	-0.04058 0.6709 112
30																	1.00000 0.0000 113	0.47767 0.0001 113
31																		1.00000 0.0000 113

high order service. It is not available everywhere. At most it is found in only half of the campuses on any one given autumn Saturday. Industrial location theory deals with the location of activity in reference to five major components: 1) market 2) raw materials 3) transportation 4) capital 5) labor.

Production of Talent - The Raw Material

The total number of quality high school football players within a 250 mile radius of a given institution is an attempt to measure the location of the school with regard to the raw materials, players that make up the football team, an essential ingredient. The unique production variable is an attempt to calculate raw material available to an individual institution assuming each school has equal access to talent within their 250 mile radius. In reality, equal access is seldom the case. The r-squared values in Table III suggest there is little relationship. Major schools displayed higher r-squared values. This may indicate the greater influence they have in the surrounding area over the smaller football programs.

Population - The Market

The potential market for live sports entertainment, and the television marketing thereof, is generally greater in more populated areas.

TABLE III

R-SQUARED VALUES OF LOCATION
W/RESPECT TO TALENT* WHEN
USED TO PREDICT SUCCESS

		Total	Unique
All Schools, n = 113			
Overall Success	(1952-1983)	.003	.011
Recent Success	(1973-1983)	.005	.008
Major Schools, n = 84			
Overall Success		.068	.025
Recent Success		.082	.052

*Quality high school football players w/in a 250 mile radius of a given institution.

The total population within a 250 mile radius of an institution was calculated to measure the football market place. The radius was an arbitrary delination of an approximate fan region based on the distance a spectator would travel to and from the stadium for a weekend game.

The alternative opportunity presented by close proximity schools was taken into account by the unique population variable. As in the case of available talent, it was based on the assumption that all schools will draw upon equal proportions of the population within their designated radius. These two market variables are not good predictors of success (Table IV).

Rivals - The Competition

The previous location variables assessed total and equally shared figures. The fact that each institution looks after itself in regard to market and raw materials is well documented (31) Therefore, the actual number of rivals for talent acquisition, entertainment and media coverage within the 250 mile radius of a place (team) may be a better indictator of success or the lack thereof.

Competition from other schools within the state, other major colleges and professional franchises (NFL) within the area were measured for each school in the study.

Traditionally, professional sports were limited to major urban centers primarily in the northeastern United

TABLE IV

R-SQUARED VALUES OF LOCATION W/RESPECT TO POPULATION* WHEN USED TO PREDICT SUCCESS

	Total	Unique
All Schools, n = 113		
Overall Success	.0006	.0002
Recent Success	.0004	.00005
Major Schools, n = 84		
Overall Success	.034	.029
Recent Success	.027	.013

*Population w/in a 250 mile radius of a given institution.

States. College football thrived in areas not well served by professional sports. Rooney (30) suggests land-grant and selected other institutions throughout the sparsely populated midwest, south and west filled the need for live sports entertainment. Consequently, the location of schools in close proximity to professional franchises may have additional obstacles to overcome on their way toward success.

However, the r-squared values in Table V indicate little potential for predicting success based upon the competition aspects of location. The r-squared values in Table V indicate little if any explained variation.

<u>Management - Coaching</u>

Attempts to measure the effectiveness of various management styles at major college football schools are beyond the scope of this investigation. However, data were collected to determine the average tenure at the school and experience and winning percentage of the coach when hired. The underlying assumption dealing with success is: the better the school, the better the coach it will attract. As is the case with the industrial and commericial sectors, good management may overcome poor location by intangible factors. So it is with football. Take for example the Nebraska case. Tremendous organization and statewide interest have developed a mediocre location into a perennial powerhouse over the past two decades.

TABLE V

R-SQUARED VALUES OF LOCATION W/RESPECT TO COMPETITION* WHEN PREDICTING SUCCESS

	In-state	Div. IA	NFL
All Schools, n = 113			
Overall Success	.001	.0000	.0008
Recent Success	.00005	.0003	.002
Major Schools, n = 84			
Overall Success	.0000	.039	.067
Recent Success	.0000	.036	.057

*W/in a 250 mile radius of a given institution.

Coaching tenure has the strongest relationship to success of any of the variables studied (Table VI). It also tends to relate stronger at the major school level. The integrity and continuity of a football program is important to the present and future players (recruits). It is characterized by the coaching reign. The traditional big-time program displays a greater average tenure than the minor programs delineated earlier. This is due in part to the individual career goals of a coach. Striving for the head coaching position at a major institution is virtually every coach's ambition. Smaller programs are merely stepping stones for career enhancement, hence the shorter average stay.

The other two coaching variables utilized in this study have less in common with football success. Statistically, coaching experience is less related to recent success than to overall success. A coach's win-loss record when hired appears to play a remarkably small role in overall success. However, recent success is more strongly tied to winning coaches. Correlations for the eighty-four major schools were stronger than those for the entire study group.

Enrollment

Enrollment at the institution as of 1963 is a questionable locational variable. An attempt to generalize potential alumni support was conducted by measuring the

TABLE VI

R-SQUARED VALUES OF LOCATION W/RESPECT TO MANAGEMENT WHEN USED TO PREDICT SUCCESS

	Tenure	Experience	Winning Percentage
All Schools, n = 113			
Overall Success	.22	.06	.01
Recent Success	.22	.02	.06
Major Schools, n = 84			
Overall Success	.32	.06	.02
Recent Success	.29	.03	.11

undergraduate school enrollment in 1963 and assuming that the greater number of people associated with an institution the greater the possibility of backing in later years. In other words, schools that have traditionally large enrollments should have a greater alumni (booster) following than schools that have remained small or increased recently.

The various measures of football success indicate slight to moderate correlation with enrollment (Table II). This variable is a better predictor of recent success, as the explained variance increases for the last decade (Table VII).

High School Interest

The measures of statewide interest in football were based upon 1971 and 1981 per capita high school football participation. No significant relationship exists between the high school interest variables and institutional football success.

In Summary

In general the analysis failed to reveal strong relationships between success and location and management variables. The operational definitions of the variables used in the analysis might have been inadequate, but it is also possible that the business location model may not hold true with regard to major college football programs.

TABLE VII

R-SQUARED VALUES OF LOCATION
W/RESPECT TO ALUMNI AND INTEREST
WHEN USED TO PREDICT SUCCESS

	Enrollment 1963	High School 1971	Interest 1981
All Schools, n = 113			
Overall Success	.09	.01	.05
Recent Success	.14	.008	.05
Major Schools, n = 84			
Overall Success	.10	.006	.01
Recent Success	.19	.005	.02

Success Breeds Success

The negative results thus far suggest the need to investigate another relationship, that between success during the early period and recent gridiron success, or in other words, a look into the traditional 'success breeds success' idea. The relationship (Table VIII) is moderate, however middle period success appears to be a better predictor of recent success.

Examples of latecomers are Arizona St, Brigham Young University and Nebraska. These teams are spatially isolated from other college football programs. Examples of early success gone sour include the University of Mississippi, Rice University and Texas Christian University. Rice and Texas Christian share the same location with other college and professional football teams. According to Texas Christian backers it is simply a matter of luring the right coach to rediscover the 'glory days' of old. Mississippi was the last school in the Southeastern Conference to allow black players to participate in varsity football.

Success Groups

The recent success index was utilized to classify the schools into three equal frequency categories: the hammers (high), the pack (middle), and the anvils (low). The groups were then assessed by one-way analysis of variance

TABLE VIII

R-SQUARED VALUES OF EARLY AND MIDDLE SUCCESS
WHEN USED TO PREDICT SUCCESS

	Early	Middle
All Schools, n=113		
Overall Success (1952-1983)	.54	.68
Recent Success (1973-1983)	.27	.49
Major Schools, n=84		
Overall Success	.48	.68
Recent Success	.19	.46

(ANOVA) to determine if the mean values differed significantly between groups for each variable in the study (Table IX). The results showed significant differences between groups in so far as success variables were concerned. The mean differences between recent success groups pertaining to the locational factors failed to reach significance regarding talent, population, and rival competition. But, enrollment, coaching and high school interest in 1981 resulted in significant group mean differences.

When using a one-way ANOVA on three groups it is essential to know which of the groups are significantly different from the others. Duncan's multiple range test was used to determine how the three groups differed (Table IX).

The high recent success group mean was significantly different from the middle or low groups regarding success variables, with the exception of the early period win-loss percentage. This was also true when assessing group one (high) with the locational factors that displayed significant ANOVA differences.

Based on these results there is a great difference between successful and unsuccessful football programs. The mean characteristics of the high success group could be utilized as a measuring stick to determine the current and future status those programs striving to join the upper echelon.

TABLE IX

ANALYSIS OF VARIANCE PROCEDURE WITH DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLES

Recent Success Group (Means)		SUCCESS VARIABLES 1952-1983				
		Winning %*	Average Attendance*	Top Twenty*	National Television*	Regional Television*
High	(1)	A .603	A 47,223	A 271	A 13.8	A 21.5
Middle	(2)	B .546	B 24,115	B 43	B 2.7	B 10.1
Low	(3)	C .444	C 18,248	B 21	B 1.8	B 7.4
		Consensus All-Americans*	Conference Championships*	Bowl Trips*	Bowl W-L %*	
	(1)	A 12.1	A 5.33	A 11.4	A .517	
	(2)	B 1.7	B 3.13	B 3.7	B .327	
	(3)	B .9	B 2.13	B 1.8	B A .468	
		Heisman*	Outland*	Undefeated Season*	National Championships*	
	(1)	A .64	A .69	A 1.31	A .74	
	(2)	B .05	B .08	B .27	B .05	
	(3)	B .08	B .02	B .24	B .02	

TABLE IX (Continued)

Recent Success Group (Means)		SUCCESS VARIABLES	
		Early 1952-1961	
	Winning %	Average Attendance*	Top Twenty*
High	(1)	A .567	A 35,397	A 70.1
Middle	(2)	A .533	B 18,474	B 22.3
Low	(3)	A .507	B 15,483	B 14.3
		Middle 1962-1972	
	Winning %*	Average Attendance*	Top Twenty*
(1)	A .589	A 45,703	A 90.2
(2)	B A .542	B 24,877	B 13.0
(3)	B .483	B 20,352	B 6.4
		Late 1973-1983	
	Winning %*	Average Attendance*	Top Twenty*
(1)	A .646	A 57,519	A 110.7
(2)	B .555	B 27,751	B 8.1
(3)	C .356	C 19,088	B 0.3

TABLE IX (Continued)

Recent Success Group (Means)	LOCATIONAL VARIABLES				
	Total Production	Total Population	Unique Production	Unique Population	
High (1)	A 2968	A 18,231,412	A 233	A 1,808,186	
Middle (2)	A 3164	A 21,592,297	A 243	A 2,031,659	
Low (3)	A 3009	A 20,344,946	A 255	A 1,848,735	
	Division IA Rivals	In-State Rivals	NFL Rivals	Enrollment 1963 *	Average Coach Winning % ○
(1)	A 9.6	A 4.2	A 2.2	A 17,706	A .627
(2)	A 10.1	A 3.6	A 2.6	B 12,927	B A .589
(3)	A 10.1	A 4.7	A 2.6	B 9,929	B .579
	Average Coaching Tenure ●	Average Coaching Experience ○	High School Interest 1971	High School Interest 1981 ●	
(1)	A 6.7	A 4.5	A .074	A .074	
(2)	B A 5.9	B 3.3	A .067	B .065	
(3)	B 5.1	B 3.2	A .066	B .065	

ANOVA Procedure significant at the .0001 level = *
.01 level = ●
.05 level = ○

Duncan's Test-Means with the same letter are not significantly different

CHAPTER V

SUMMARY AND CONCLUSIONS

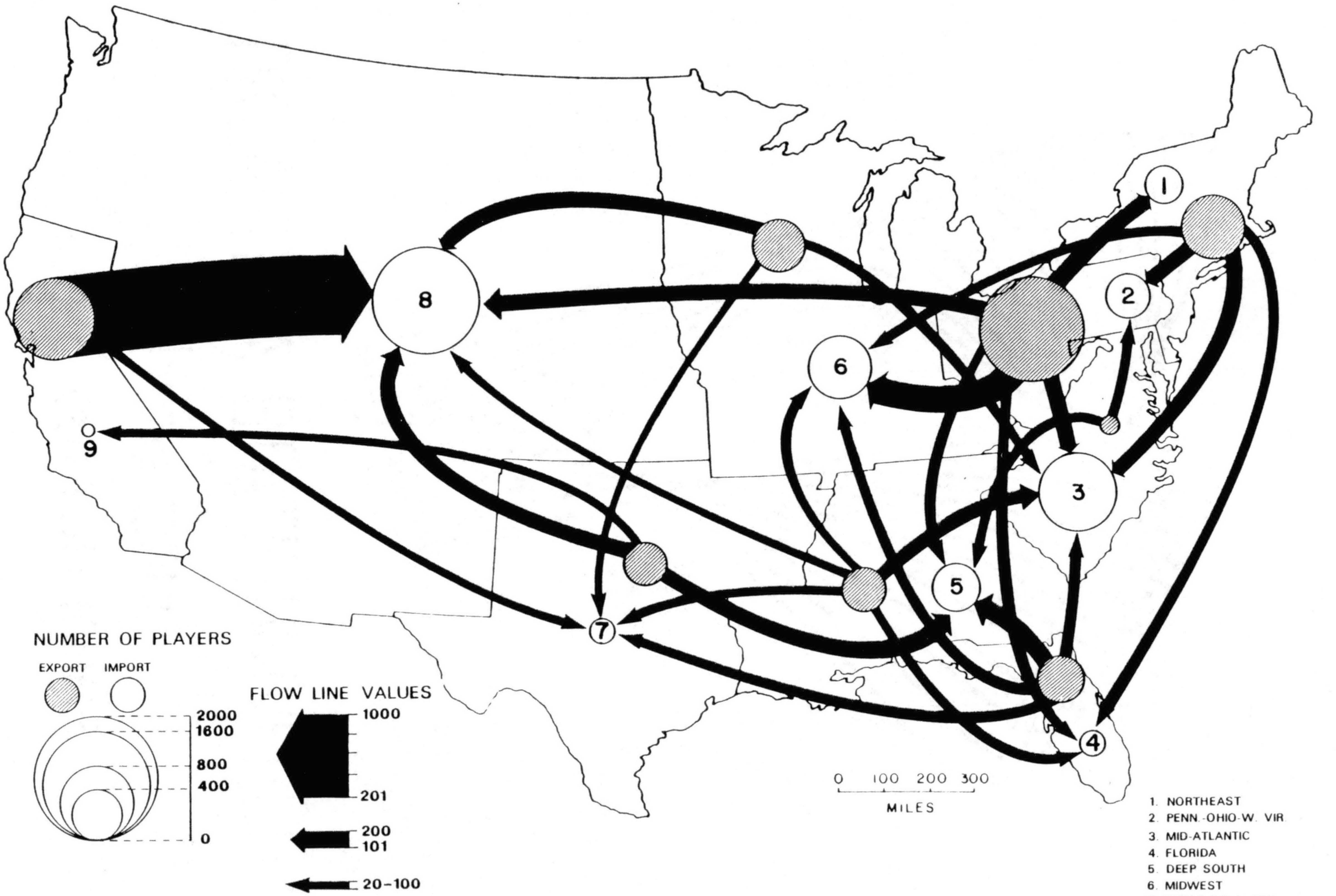
The purpose of this study was to test the relationship between the location of collegiate football programs and their long term success. The selected locational variables showed little significant relationship to college football success during the time period of the study. On the one hand, there are football programs that have been successful year in and year out that possess good relative locations, such as Alabama, Michigan, Notre Dame, Ohio State, Penn State, Pittsburgh and Texas. On the other hand there are sufficient numbers of successful programs with relatively poor locations; Arkansas, Arizona State, Brigham Young, Miami, Nebraska and Washington. Thus, the 'good' and 'bad' locations tend to cancel out one another, so that no clear cut relationship between success and location can be identified.

These findings run contrary to the basic principles of locational analysis theory. The success of a large majority of commercial or service related phenomena are dependent upon optimal locational factors.

In the case of today's large metropolitan agglomerations early location advantages played a key role in their growth and development. Locations with a good harbor, interior transportation route (overland or river) to serve the surrounding region and easy access to major trade routes often resulted in densely populated settlements. As settlements grew, more service activities were required. As transportation and communications systems improved the original locational aspects were not as significant. Yet, the nodal framework, the market, the agglomeration of service and industry resulted in the early locational advantages playing a key role in today's urban picture.

One may question the classification of college football as a typical business operation. But, current practices support this notion. It is very specialized, however. The raw materials (recruits) are limited in number and the potential market area is national in scope. Figure 14 depicts massive player movement from source areas across regional zones to illustrate the national dimensions of recruiting. A major factor in marketing a successful football program is obtaining the quality players that fans will pay to see.

Consequently, the demand for talent by the institutions defies locational logic. The college team representing a university is frequently composed of talent from many states. Nonetheless, the local pride for the successful team is not diminished. Locational disadvantages have in effect been overcome through infusion of capital investment. Thus, good programs have been purchased by



Adapted from: Rooney, 1980, p. 90.

Figure 14. The Inter-Regional Movement of Talent

universities and their supporters. Those with outstanding management have risen to the top and maintained this position.

This study suggests that early period and middle period success tend to explain current or recent success. Therefore, a successful tradition is important to the maintainence of future well being. Perhaps, as in the case of the early locational advantages of today's large cities, early locational variables may have played a key role in today's football success. Institutions developed winning programs, in part on the basis of access to talent, but also in response to the need to provide high quality football entertainment. The absence of professional football or other first order sports entertainment may have been the original impetus. Thus, original locational advantages may play a very important role in the present distribution of major college football power.

What about the teams that displayed early success but have dropped from the 'elite' over the last decade? This study did not identify a success equation. Therefore, additional inquiry into individual institutions is needed to better understand the results of each school's continued effort toward achieving excellence on the gridiron.

Several case studies are in order. A detailed analysis of the University of Nebraska could provide insights regarding the development of programs in sparsely settled areas. Nebraska has experienced phenomenal success since

1962, and garnered nationwide attention for the university and state. Arizona State, Arizona, Brigham Young and Clemson also deserve further study.

The beginning time period of this study, 1952, was chosen to coincide with the first year of legalized financial aid (scholarships). The grant-in-aid's original purpose was to equalize the advantages of one school over another pertaining to the recruitment and payment of players. The findings of this study indicate that a relatively small group of schools has maintained a successful status and the differences between the 'haves' and the 'have nots' has widened over the last decade (Table XXXII, Appendix). The advent of television during the study period has played a key role in the 'rich get richer' scheme. The impact of television on the success of football programs requires further study.

Many big-time collegiate football programs are in essence fulfilling the live sports entertainment needs of less populated areas. Therefore it is difficult to assess all schools within the NCAA Division IA designation due to the discrepency in size and purpose of the programs. It is recommended that this grouping be restructured to accomodate the different levels of competition that exist at the present time. This could be accomplished using the success indices and other data generated by this study.

The need for a follow-up study of this nature every five years is also encouraged. Thought should be given to assigning a different distance radius for the location variables. More detailed research dealing with actual recruitment regions, fan regions, and television markets would aid in improving the relative locational measures.

Athletics in general, football specifically, are the most visible branch of the university tree. Much emphasis is directed toward a football program's development and its ultimate goal of success. In many cases these efforts run contrary to the overall mission of the university. Consequently the relationship between college football and other university functions and its constitutients merits serious investigation. This study has provided much data, answered some questions and asked several more. Continued investigation of this American phenomenon, college football, will provide further insights into its unique role in man's cultural environment.

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APPENDIX

TABLE X

WIN-LOSS RECORDS 1952-1983

	W	L	T	%		W	L	T	%
OKLAHOMA	259	69	7	.784	OHIO	164	150	7	.522
OHIO STATE	240	64	8	.782	ARIZONA	169	156	9	.519
PENN STATE	250	74	4	.768	TEXAS TECH	167	157	13	.515
ALABAMA	250	73	14	.763	DUKE	164	156	14	.512
TEXAS	248	76	6	.761	LOUISVILLE	162	157	4	.508
ARIZ STATE	247	84	4	.743	STANFORD	164	161	9	.504
U.S.C.	238	85	13	.728	ARMY	156	154	13	.503
MICHIGAN	226	87	7	.717	UTAH	167	166	3	.501
NEBRASKA	236	95	7	.709	S.CAROLINA	162	166	7	.494
MIAMI (O)	223	90	9	.707	CINCINNATI	157	163	11	.491
NOTRE DAME	226	95	8	.699	SAN JOSE	158	164	9	.491
ARKANSAS	227	100	5	.691	MINNESOTA	152	158	11	.491
CENT MICH	219	100	6	.683	S.M.U.	158	165	11	.490
UCLA	216	100	14	.676	W.MICHIGAN	149	156	9	.489
AUBURN	216	107	8	.665	TOLEDO	154	162	7	.488
MISSISSIPPI	210	109	11	.653	WISCONSIN	148	158	14	.484
TENNESSEE	212	110	14	.652	NEW MEXICO	160	171	6	.484
SOUTH.MISS	211	113	6	.648	S.W. LA	153	164	9	.483
SAN DIEGO	205	109	10	.648	N.C.STATE	154	168	11	.479
GEORGIA	210	113	13	.644	TEMPLE	141	155	9	.477
NEVADA-LV	109	61	3	.639	BAYLOR	153	171	9	.473
L.S.U.	207	114	15	.638	TEXAS A&M	152	171	12	.472
BOWLING GR	196	111	10	.634	AIR FORCE	131	149	11	.469
DARTMOUTH	181	104	7	.632	NOR. ILL	147	167	4	.469
BOSTON COL	195	120	5	.617	OKIE STATE	149	172	12	.465
YALE	181	111	7	.617	KENT STATE	143	173	5	.453
HARVARD	170	105	12	.613	CORNELL	127	155	10	.452
HOUSTON	196	123	11	.611	EAST.MICH	129	160	13	.449
FLORIDA	196	125	14	.606	MISS STATE	141	175	12	.448
E.CAROLINA	193	125	7	.605	PACIFIC	144	179	7	.447
WEST VIRG.	193	132	7	.592	IOWA STATE	141	178	9	.444
MISSOURI	191	131	12	.590	IOWA	136	174	9	.440
RUTGERS	185	129	3	.588	OREGON	140	181	14	.439
MICH.STATE	182	129	9	.583	CALIFORNIA	142	184	9	.437
CLEMSON	187	135	11	.578	KANSAS	138	180	15	.437
BALL STATE	170	123	9	.578	KENTUCKY	139	182	14	.436
WASHINGTON	188	137	8	.577	ILLINOIS	132	177	11	.430
GA. TECH	188	137	11	.576	FULLERTON	66	88	2	.429
PRINCETON	164	122	6	.572	NEW MEX ST	138	185	7	.429
WYOMING	187	139	9	.572	BROWN	114	167	9	.409
VA TECH	186	139	8	.571	OREGON ST	131	194	6	.405
FRESNO ST	189	143	3	.569	CO. STATE	132	200	6	.399
MARYLAND	186	142	5	.566	WASH STATE	127	196	11	.397
SYRACUSE	180	138	4	.565	WICHITA ST	126	194	9	.397
PURDUE	171	132	16	.561	PENN	109	175	8	.387
PITTSBURGH	179	140	11	.559	T.C.U.	121	198	15	.385
LONG BEACH	163	129	2	.558	TULANE	123	202	9	.382
HAWAII	178	141	5	.557	VANDERBILT	112	204	17	.362
FL. STATE	180	143	12	.555	RICE	115	208	10	.360
UTAH STATE	183	146	8	.555	UTEP	114	211	8	.354
COLORADO	179	145	9	.551	INDIANA	108	207	5	.345
MEMPHIS ST	173	145	7	.543	WAKE FOREST	103	222	9	.322
N CAROLINA	177	150	5	.541	VIRGINIA	105	224	3	.321
TULSA	178	152	4	.539	NORTHWESTERN	97	217	5	.312
NAVY	169	146	13	.535	K-STATE	98	231	4	.300
MIAMI	174	152	5	.533	COLUMBIA	77	206	9	.279
B.Y.U.	176	155	6	.531					

TABLE XI

TOP TWENTY RANKINGS 1952-1983

	pts		pts
OKLAHOMA	733	TOLEDO	27
ALABAMA	731	UTAH STATE	26
OHIO STATE	657	CALIFORNIA	23
NOTRE DAME	612	TULANE	20
TEXAS	601	OKIE STATE	19
U.S.C.	583	PRINCETON	17
NEBRASKA	540	SAN DIEGO	16
MICHIGAN	504	NORWESTERN	14
ARKANSAS	439	YALE	14
PENN STATE	387	ARIZONA	11
UCLA	387	TULSA	11
MISSISSIPPI	341	OHIO	10
AUBURN	333	IOWA STATE	9
MICH.STATE	328	RUTGERS	9
L.S.U.	319	LOUISVILLE	8
GEORGIA	303	TEMPLE	8
PITTSBURGH	300	MEMPHIS ST	7
TENNESSEE	268	NEW MEX ST	7
ARIZ STATE	208	UTAH	7
GA. TECH	196	S.CAROLINA	6
IOWA	189	NEW MEXICO	5
PURDUE	183	OREGON	5
MARYLAND	178	VA TECH	5
WASHINGTON	178	WASH STATE	5
HOUSTON	166	DARTMOUTH	5
WISCONSIN	166	BOSTON COL	3
MIAMI	154	SOUTH.MISS	2
NAVY	152	E.CAROLINA	1
SYRACUSE	140	VIRGINIA	1
CLEMSON	137	BALL STATE	0
TEXAS A&M	128	BOWLING GREEN	0
MINNESOTA	124	CENT MICH	0
FL. STATE	121	CINCINNATI	0
S.M.U.	120	CO. STATE	0
COLORADO	118	EAST.MICH	0
MISSOURI	112	FRESNO ST	0
ILLINOIS	110	FULLERTON	0
FLORIDA	108	HAWAII	0
N CAROLINA	105	K-STATE	0
ARMY	95	KENT STATE	0
T.C.U.	95	LONG BEACH	0
OREGON ST	93	NEVADA-LV	0
B.Y.U.	88	NOR. ILL	0
BAYLOR	86	PACIFIC	0
STANFORD	85	S.W. LA	0
DUKE	82	SAN JOSE	0
WEST VIRG.	68	UTEP	0
KANSAS	66	VANDERBILT	0
TEXAS TECH	65	W.MICHIGAN	0
RICE	63	WAKE FOREST	0
AIR FORCE	57	WICHITA ST	0
MIAMI (O)	53	BROWN	0
WYOMING	51	COLUMBIA	0
N.C.STATE	49	CORNELL	0
INDIANA	39	HARVARD	0
KENTUCKY	37	PENN	0
MISS STATE	32		

TABLE XII

AVERAGE ATTENDANCE 1952-1983

OHIO STATE	84681	MISS STATE	28389
MICHIGAN	82257	SAN DIEGO	27527
MICH.STATE	63485	FL. STATE	27256
L.S.U.	61891	SYRACUSE	27042
WISCONSIN	60802	HAWAII	26303
OKLAHOMA	60663	B.Y.U.	24225
TEXAS	58912	T.C.U.	24225
NOTRE DAME	58433	OREGON	24114
NEBRASKA	57588	VANDERBILT	24029
U.S.C.	57100	VA TECH	24026
PURDUE	56280	K-STATE	23969
TENNESSEE	55670	PRINCETO	23941
IOWA	52538	OREGON ST	23864
ILLINOIS	51888	WASH STATE	22059
PENN STATE	51287	MEMPHIS ST	21744
ALABAMA	51090	BOSTON COL	20866
GEORGIA	50894	PENN	20786
WASHINGTON	49305	UTAH	20629
MINNESOTA	48881	VIRGINIA	20400
FLORIDA	48507	NEVADA-LV	20351
MISSOURI	46983	HARVARD	19050
AUBURN	45355	WAKE FOREST	17669
UCLA	44295	S.W. LA	17506
STANFORD	43917	TULSA	17063
GA. TECH	42678	WYOMING	16252
CALIFORNIA	40120	NEW MEXICO	16217
ARIZ STATE	39651	E.CAROLINA	16010
ARKANSAS	39529	CINCINNATI	15578
S.CAROLINA	39243	SOUTH.MISS	15204
KENTUCKY	39071	W.MICHIGAN	15154
PITTSBURGH	38685	RUTGERS	15060
TEXAS A&M	38561	CO. STATE	14804
CLEMSON	38305	UTEP	14109
COLORADO	37913	CORNELL	13479
RICE	36409	CENT MICH	13305
N CAROLINA	36131	PACIFIC	13182
ARMY	35918	SAN JOSE	13069
MIAMI	35897	WICHITA ST	12741
INDIANA	35071	MIAMI (O)	12331
KANSAS	34497	OHIO	12280
S.M.U.	34030	TEMPLE	12238
TEXAS TECH	33767	TOLEDO	11987
NAVY	33672	BOWLING GR	11936
NORWESTERN	32800	FRESNO ST	11771
YALE	32005	UTAH STATE	11703
MISSISSIPPI	31265	DARTMOUTH	11622
DUKE	31182	LOUISVILLE	11563
OKIE STATE	30677	BALL STATE	10656
N.C.STATE	30477	NOR. ILL	9810
MARYLAND	30272	COLUMBIA	9573
TULANE	29719	NEW MEX ST	9436
AIR FORCE	29657	BROWN	9053
ARIZONA	29643	KENT STATE	8908
BAYLOR	29217	LONG BEACH	6861
HOUSTON	29035	EAST.MICH	6224
WEST VIRG.	29018	FULLERTON	4214
IOWA STATE	28987		

TABLE XIII

TELEVISION APPEARANCES 1952-1983

	national	regional		national	regional
NOTRE DAME	42	26	MISS STATE	1	7
TEXAS	37	26	N.C.STATE	1	18
U.S.C.	36	21	OKIE STATE	1	8
ALABAMA	34	16	S.CAROLINA	1	11
UCLA	33	23	SAN DIEGO	1	6
ARMY	32	15	TULSA	1	11
NAVY	32	16	UTAH	1	8
OKLAHOMA	30	26	VANDERBILT	1	5
MICHIGAN	28	28	WASH STATE	1	18
OHIO STATE	28	28	YALE	1	19
NEBRASKA	23	20	COLUMBIA	1	1
PENN STATE	22	26	CORNELL	1	10
PITTSBURGH	21	18	DARTMOUTH	1	15
ARKANSAS	19	28	PENN	1	5
TEXAS A&M	18	21	PRINCETON	1	11
MICH.STATE	17	25	BALL STATE	0	0
GA. TECH	15	14	BOWLING GR	0	4
GEORGIA	13	23	CENT MICH	0	7
MIAMI	13	15	CINCINNATI	0	2
STANFORD	13	26	CO. STATE	0	8
IOWA	12	18	E.CAROLINA	0	5
AUBURN	10	15	EAST.MICH	0	0
L.S.U.	10	22	FRESNO ST	0	1
MISSOURI	10	26	FULLERTON	0	0
FLORIDA	9	20	HAWAII	0	3
MINNESOTA	9	23	INDIANA	0	14
PURDUE	9	28	IOWA STATE	0	9
TENNESSEE	8	19	KENT STATE	0	5
WASHINGTON	8	30	LONG BEACH	0	0
CALIFORNIA	7	24	LOUISVILLE	0	2
ILLINOIS	7	29	MEMPHIS ST	0	2
DUKE	6	15	MIAMI (O)	0	4
HOUSTON	6	12	NEVADA-LV	0	1
MISSISSIPPI	6	17	NEW MEX ST	0	3
S.M.U.	6	24	NEW MEXICO	0	12
MARYLAND	5	17	NOR. ILL	0	0
NORTHWESTERN	5	16	OHIO	0	5
SYRACUSE	5	19	PACIFIC	0	1
AIR FORCE	4	19	RUTGERS	0	2
BOSTON COLL	4	13	S.W. LA	0	3
COLORADO	4	16	SAN JOSE	0	11
FL. STATE	4	18	SOUTH.MISS	0	4
TEXAS TECH	4	21	TEMPLE	0	1
WISCONSIN	4	22	TOLEDO	0	3
N CAROLINA	3	29	TULANE	0	7
OREGON	3	17	UTAH STATE	0	7
ARIZ STATE	2	15	UTEP	0	0
B.Y.U.	2	20	VA TECH	0	10
BAYLOR	2	17	VIRGINIA	0	4
OREGON ST	2	13	W.MICHIGAN	0	1
RICE	2	11	WAKE FORES	0	7
T.C.U.	2	9	WEST VIRG.	0	12
ARIZONA	1	16	WICHITA ST	0	3
CLEMSON	1	17	WYOMING	0	15
K-STATE	1	7	BROWN	0	10
KANSAS	1	15	HARVARD	0	23
KENTUCKY	1	10			

TABLE XIV

BOWL GAME APPEARANCES 1952-1983

	#	W	L	T	%		#	W	L	T	%
ALABAMA	27	16	10	1	0.611	RICE	4	1	3	0	0.250
TEXAS	24	11	12	1	0.479	S.CAROLINA	4	0	4	0	0.000
NEBRASKA	21	12	9	0	0.571	TOLEDO	4	4	0	0	1.000
PENN STATE	21	15	6	0	0.714	TULANE	4	1	3	0	0.250
MISSISSIPPI	19	10	9	0	0.526	TULSA	4	1	3	0	0.250
L.S.U.	18	9	9	0	0.500	CALIFORNIA	3	0	3	0	0.000
OKLAHOMA	18	12	5	1	0.694	DUKE	3	1	2	0	0.333
ARKANSAS	17	8	9	0	0.471	KENTUCKY	3	2	1	0	0.667
OHIO STATE	17	9	8	0	0.529	MICH.STATE	3	2	1	0	0.667
FLORIDA	16	7	9	0	0.438	MINNESOTA	3	1	2	0	0.333
TENNESSEE	16	7	9	0	0.438	VA TECH	3	0	3	0	0.000
U.S.C.	16	11	5	0	0.688	VANDERBILT	3	2	1	0	0.667
GA. TECH	15	9	6	0	0.600	ARIZONA	2	0	2	0	0.000
GEORGIA	15	6	9	0	0.400	BOSTON COL	2	0	2	0	0.000
AUBURN	14	7	7	0	0.500	INDIANA	2	1	1	0	0.500
MISSOURI	13	8	5	0	0.615	LOUISVILLE	2	1	1	0	0.500
MICHIGAN	12	3	9	0	0.250	NEW MEX ST	2	2	0	0	1.000
N CAROLINA	12	7	5	0	0.583	OHIO	2	0	2	0	0.000
PITTSBURGH	12	6	6	0	0.500	BOWLING GR	1	0	1	0	0.000
TEXAS TECH	12	2	10	0	0.167	FRESNO ST	1	1	0	0	1.000
FL. STATE	11	3	8	0	0.273	FULLERTON	1	0	1	0	0.000
MARYLAND	11	3	8	0	0.273	K-STATE	1	0	1	0	0.000
NOTRE DAME	11	8	3	0	0.727	KENT STATE	1	0	1	0	0.000
WEST VIRG.	11	6	5	0	0.545	NEW MEXICO	1	1	0	0	1.000
BAYLOR	10	4	6	0	0.400	PACIFIC	1	1	0	0	1.000
UCLA	10	4	6	0	0.400	SAN JOSE ST	1	0	1	0	0.000
B.Y.U.	9	4	5	0	0.444	UTAH	1	1	0	0	1.000
COLORADO	9	4	5	0	0.444	UTAH STATE	1	0	1	0	0.000
HOUSTON	9	5	4	0	0.556	W.MICHIGAN	1	0	1	0	0.000
N.C.STATE	9	6	3	0	0.667	WAKE FOREST	1	0	1	0	0.000
WASHINGTON	9	6	3	0	0.667	WASH STATE	1	0	1	0	0.000
ARIZ STATE	8	7	1	0	0.875	WICHITA ST	1	0	1	0	0.000
CLEMSON	8	3	5	0	0.375	ARMY	0	0	0	0	.
OKIE STATE	8	6	2	0	0.750	BALL STATE	0	0	0	0	.
SYRACUSE	8	3	5	0	0.375	CENT MICH	0	0	0	0	.
E.CAROLINA	7	5	2	0	0.714	CINCINNATI	0	0	0	0	.
STANFORD	7	6	1	0	0.857	CO. STATE	0	0	0	0	.
TEXAS A&M	7	4	3	0	0.571	EAST.MICH	0	0	0	0	.
MIAMI	6	3	3	0	0.500	HAWAII	0	0	0	0	.
S.M.U.	6	3	3	0	0.500	LONG BEACH	0	0	0	0	.
SOUTH.MISS	6	1	5	0	0.167	MEMPHIS ST	0	0	0	0	.
IOWA	5	3	2	0	0.600	NEVADA-LV	0	0	0	0	.
MIAMI (O)	5	3	2	0	0.600	NORTHWESTERN	0	0	0	0	.
NAVY	5	3	2	0	0.600	RUTGERS	0	0	0	0	.
T.C.U.	5	1	3	1	0.300	S.W. LA	0	0	0	0	.
UTEP	5	4	1	0	0.800	SAN DIEGO ST	0	0	0	0	.
WISCONSIN	5	2	3	0	0.400	TEMPLE	0	0	0	0	.
WYOMING	5	3	2	0	0.600	VIRGINIA	0	0	0	0	.
AIR FORCE	4	1	2	1	0.375	YALE	0	0	0	0	.
ILLINOIS	4	2	2	0	0.500	BROWN	0	0	0	0	.
IOWA STATE	4	0	4	0	0.000	COLUMBIA	0	0	0	0	.
KANSAS	4	1	3	0	0.250	CORNELL	0	0	0	0	.
MISS STATE	4	3	1	0	0.750	DARTMOUT	0	0	0	0	.
NOR. ILL	4	2	2	0	0.500	HARVARD	0	0	0	0	.
OREGON	4	2	2	0	0.500	PENN	0	0	0	0	.
OREGON ST	4	2	2	0	0.500	PRINCETO	0	0	0	0	.
PURDUE	4	4	0	0	1.000						

TABLE XV

COMPOSITE SUCCESS 1952-1983

	winning %	attendance	Top 20		winning %	attendance	Top 20
OHIO STATE	.782	84681	657	BOSTON COL	.617	20866	3
OKLAHOMA	.784	60663	733	AIR FORCE	.469	29657	57
TEXAS	.761	58912	601	SOUTH.MISS	.648	15204	2
MICHIGAN	.717	82257	504	VA TECH	.571	24026	5
ALABAMA	.763	51090	731	RICE	.360	36409	63
NOTRE DAME	.699	58433	612	OKIE STATE	.465	30677	19
U.S.C.	.728	57100	583	RUTGERS	.588	15060	9
NEBRASKA	.709	57588	540	E.CAROLINA	.605	16010	1
PENN STATE	.768	51287	387	MEMPHIS ST	.543	21744	7
L.S.U.	.638	61891	319	MISS STATE	.448	28389	32
TENNESSEE	.652	55670	268	INDIANA	.345	35071	39
UCLA	.676	44295	387	TULSA	.539	17063	11
ARKANSAS	.691	39529	439	T.C.U.	.385	24225	95
AUBURN	.665	45355	333	DARTMOUTH	.632	11622	5
MICH.STATE	.583	63485	328	OREGON ST	.405	23864	93
ARIZ STATE	.743	39651	208	NEVADA-LV	.639	20351	0
GEORGIA	.644	50894	303	UTAH STATE	.555	11703	26
MISSISSIPPI	.653	31265	341	IOWA STATE	.444	28987	9
PURDUE	.561	56280	183	TULANE	.382	29719	20
WASHINGTON	.577	49305	178	UTAH	.501	20629	7
GA. TECH	.576	42678	196	CENT MICH	.683	13305	0
FLORIDA	.606	48507	108	HARVARD	.613	19050	0
MISSOURI	.590	46983	112	NORTHWESTRN	.312	32800	14
PITTSBURGH	.559	38685	300	HAWAII	.557	26303	0
CLEMSON	.578	38305	137	OHIO	.522	12280	10
WISCONSIN	.484	60802	166	TOLEDO	.488	11987	27
HOUSTON	.611	29035	166	BOWLING GR	.634	11936	0
MARYLAND	.566	30272	178	OREGON	.439	24114	5
COLORADO	.551	37913	118	LOUISVILLE	.508	11563	8
MINNESOTA	.491	48881	124	NEW MEXICO	.484	16217	5
MIAMI	.533	35897	154	TEMPLE	.477	12238	8
IOWA	.440	52538	189	WASH STATE	.397	22059	5
NAVY	.535	33672	152	BALL STATE	.578	10656	0
N CAROLINA	.541	36131	105	FRESNO ST	.569	11771	0
STANFORD	.504	43917	85	CINCINNATI	.491	15578	0
SYRACUSE	.565	27042	140	S.W. LA	.483	17506	0
WEST VIRG.	.592	29018	68	LONG BEACH	.558	6861	0
YALE	.617	32005	14	W.MICHIGAN	.489	15154	0
ARMY	.503	35918	95	VIRGINIA	.321	20400	1
FL. STATE	.555	27256	121	SAN JOSE ST	.491	13069	0
SAN DIEGO	.648	27527	16	NEW MEX ST	.429	9436	7
TEXAS A&M	.472	38561	128	VANDERBILT	.362	24029	0
ILLINOIS	.430	51888	110	CORNELL	.452	13479	0
S.M.U.	.490	34030	120	PENN	.387	20786	0
TEXAS TECH	.515	33767	65	K-STATE	.300	23969	0
DUKE	.512	31182	82	PACIFIC	.447	13182	0
MIAMI (O)	.707	12331	53	NOR. ILL	.469	9810	0
B.Y.U.	.531	24225	88	CO. STATE	.399	14804	0
PRINCETON	.572	23941	17	WAKE FOREST	.322	17669	0
S.CAROLINA	.494	39243	6	KENT STATE	.453	8908	0
WYOMING	.572	16252	51	WICHITA ST	.397	12741	0
BAYLOR	.473	29217	86	EAST.MICH	.449	6224	0
CALIFORNIA	.437	40120	23	UTEP	.354	14109	0
KENTUCKY	.436	39071	37	BROWN	.409	9053	0
N.C.STATE	.479	30477	49	FULLERTON	.429	4214	0
ARIZONA	.519	29643	11	COLUMBIA	.279	9573	0
KANSAS	.437	34497	66				

TABLE XVI

FACTORED SUCCESS 1952-1983

ALABAMA	3.068	E.CAROLINA	-.385
OHIO STATE	2.945	BOSTON COL	-.386
TEXAS	2.943	RICE	-.402
OKLAHOMA	2.797	WYOMING	-.429
U.S.C.	2.510	ARIZONA	-.457
NOTRE DAME	2.489	T.C.U.	-.460
MICHIGAN	2.394	VA TECH	-.463
NEBRASKA	2.296	MISS STATE	-.467
PENN STATE	2.032	OREGON ST	-.478
UCLA	1.647	IOWA STATE	-.525
ARKANSAS	1.600	PRINCETO	-.535
L.S.U.	1.489	OREGON	-.535
GEORGIA	1.270	TULSA	-.538
TENNESSEE	1.213	NEVADA-LV	-.543
AUBURN	1.150	HAWAII	-.571
PITTSBURGH	1.048	CENT MICH	-.585
MICH.STATE	1.044	TULANE	-.585
MISSISSIPPI	1.032	HARVARD	-.599
GA. TECH	0.940	INDIANA	-.606
FLORIDA	0.826	BOWLING GR	-.635
NAVY	0.719	MEMPHIS ST	-.648
MISSOURI	0.696	DARTMOUTH	-.649
WASHINGTON	0.608	UTAH	-.660
ARIZ STATE	0.560	NORTHWESTRN	-.677
PURDUE	0.529	RUTGERS	-.679
ARMY	0.429	TOLEDO	-.685
IOWA	0.425	UTAH STATE	-.711
TEXAS A&M	0.396	FRESNO ST	-.730
WISCONSIN	0.376	OHIO	-.735
STANFORD	0.333	VANDERBILT	-.740
MIAMI	0.321	LOUISVILLE	-.769
MARYLAND	0.316	BALL STATE	-.772
HOUSTON	0.290	NEW MEXICO	-.777
N CAROLINA	0.245	NOR. ILL	-.785
COLORADO	0.215	WASH STATE	-.790
MINNESOTA	0.192	W.MICHIGAN	-.793
CLEMSON	0.175	S.W. LA	-.805
FL. STATE	0.145	SAN JOSE	-.821
TEXAS TECH	0.138	CINCINNATI	-.823
ILLINOIS	0.118	UTEP	-.845
SYRACUSE	0.094	LONG BEACH	-.856
WEST VIRG.	0.044	PENN	-.868
S.M.U.	0.008	TEMPLE	-.879
BAYLOR	-.083	PACIFIC	-.881
B.Y.U.	-.110	CORNELL	-.884
N.C.STATE	-.175	K-STATE	-.905
DUKE	-.176	NEW MEX ST	-.913
CALIFORNIA	-.214	KENT STATE	-.935
OKIE STATE	-.275	WICHITA ST	-.959
S.CAROLINA	-.282	CO. STATE	-.963
MIAMI (O)	-.293	VIRGINIA	-.990
AIR FORCE	-.307	WAKE FOREST	-.992
KANSAS	-.342	EAST.MICH	-1.02
YALE	-.357	BROWN	-1.03
KENTUCKY	-.359	FULLERTON	-1.04
SOUTH.MISS	-.372	COLUMBIA	-1.19
SAN DIEGO	-.376		

TABLE XVII

RECENT FACTORED SUCCESS 1973-1983

MICHIGAN	3.185	VA TECH	-.261
ALABAMA	2.856	TULANE	-.264
OHIO STATE	2.833	NAVY	-.265
NEBRASKA	2.826	MINNESOTA	-.267
OKLAHOMA	2.669	SOUTH.MISS	-.290
PENN STATE	2.503	KANSAS	-.308
U.S.C.	2.167	HARVARD	-.315
TEXAS	2.038	GA. TECH	-.340
GEORGIA	1.775	MISSISSIPP	-.358
PITTSBURGH	1.720	SAN JOSE ST	-.383
NOTRE DAME	1.680	TEMPLE	-.419
UCLA	1.201	BALL STATE	-.424
ARIZ STATE	1.186	INDIANA	-.441
ARKANSAS	1.155	MEMPHIS ST	-.508
CLEMSON	0.942	BROWN	-.520
WASHINGTON	0.902	BOWLING GR	-.568
B.Y.U.	0.831	W.MICHIGAN	-.575
AUBURN	0.831	UTAH STATE	-.591
TENNESSEE	0.809	DARTMOUTH	-.602
L.S.U.	0.745	UTAH	-.610
N CAROLINA	0.739	NEW MEXICO	-.623
FLORIDA	0.668	ARMY	-.624
TEXAS A&M	0.638	CO. STATE	-.624
HOUSTON	0.632	AIR FORCE	-.629
MARYLAND	0.620	DUKE	-.657
PURDUE	0.502	WASH STATE	-.675
MISSOURI	0.493	WYOMING	-.692
FL. STATE	0.437	LONG BEACH	-.694
MICH.STATE	0.391	SYRACUSE	-.702
WISCONSIN	0.366	VANDERBILT	-.705
S.M.U.	0.332	TOLEDO	-.712
N.C.STATE	0.173	FRESNO ST	-.732
STANFORD	0.172	S.W. LA	-.750
ARIZONA	0.159	OHIO	-.778
S.CAROLINA	0.140	LOUISVILLE	-.784
ILLINOIS	0.138	K-STATE	-.797
TEXAS TECH	0.111	CINCINNATI	-.801
KENTUCKY	0.092	OREGON	-.821
IOWA	0.039	NOR. ILL	-.843
SAN DIEGO	0.035	PRINCETO	-.855
CENT MICH	0.032	PENN	-.869
WEST VIRG.	0.028	WAKE FOREST	-.911
BAYLOR	0.016	VIRGINIA	-.929
MIAMI	0.006	NEW MEX ST	-.931
OKIE STATE	0.005	PACIFIC	-.955
YALE	0.003	WICHITA ST	-.959
MIAMI (O)	0.003	KENT STATE	-.995
IOWA STATE	-.052	RICE	-1.02
CALIFORNIA	-.064	CORNELL	-1.05
BOSTON COL	-.119	FULLERTON	-1.13
COLORADO	-.138	NORWESTERN	-1.18
NEVADA-LV	-.143	OREGON ST	-1.2
MISS STATE	-.151	EAST.MICH	-1.24
HAWAII	-.171	T.C.U.	-1.27
E.CAROLINA	-.187	UTEP	-1.45
RUTGERS	-.194	COLUMBIA	-1.49
TULSA	-.198		

TABLE XVIII

TOTAL PRODUCTION & POPULATION WITHIN A 250 MILE RADIUS

	players	population		players	population
PENN STATE	6905	51260320	CLEMSON	2654	17464734
BOWLING GR	6455	38554847	L.S.U.	2630	7804030
TOLEDO	6374	37845360	N CAROLINA	2606	17906899
PITTSBURGH	6255	37613485	DUKE	2603	18022424
EAST.MICH	6137	36545075	WISCONSIN	2592	23514668
MICHIGAN	6137	36545075	SOUTH.MISS	2544	9313758
MIAMI (O)	6061	36633326	N.C.STATE	2521	16962148
MARYLAND	6036	45230355	LONG BEACH ST	2515	14465497
WEST VIRG.	5952	33734125	U.S.C.	2515	14465497
BALL STATE	5934	38897306	UCLA	2515	14465497
NAVY	5933	45173289	FULLERTON	2504	14414774
CORNELL	5868	47656605	S.CAROLINA	2462	15589308
PRINCETON	5796	48613782	WAKE FOREST	2443	17207030
RUTGERS	5768	49197602	AUBURN	2415	12932566
ARMY	5699	49269345	SAN DIEGO	2255	13140960
OHIO STATE	5695	32908471	MEMPHIS ST	2236	13104909
COLUMBIA	5638	47789987	TULANE	2226	6793640
TEMPLE	5573	46998440	MISSISSIPPI	2206	11230217
PENN	5573	46998440	E.CAROLINA	2188	14403485
OHIO	5529	31432381	TULSA	2089	11139697
MICH.STATE	5472	34809619	FL. STATE	2084	11112518
NOTRE DAME	5468	37104238	OKIE STATE	2003	10086486
W.MICHIGAN	5376	35826310	OKLAHOMA	1981	8829092
KENT STATE	5296	30571805	NEVADA-LV	1970	11505885
PURDUE	5279	36751576	ARKANSAS	1831	10675265
CINCINNATI	5169	31216985	CALIFORNIA	1569	9684292
YALE	5044	44394499	PACIFIC	1569	9701732
VIRGINIA	4973	31357072	STANFORD	1569	9683498
HARVARD	4737	41395343	SAN JOSE	1559	9577616
INDIANA	4534	30530595	MISSOURI	1432	12549358
SYRACUSE	4384	40233977	FLORIDA	1354	7954163
BROWN	4288	37815494	IOWA STATE	1322	12877666
VA TECH	4084	25604217	WICHITA ST	1111	7765095
ILLINOIS	4078	30170457	KANSAS	1091	8824345
NORTHWESTERN	4062	32029390	MIAMI	1054	6520501
CENT MICH	3929	27785737	K-STATE	1044	7966739
BOSTON COL	3498	32507318	NEBRASKA	898	7064589
TEXAS A&M	3454	11647890	WASHINGTON	795	5540861
TENNESSEE	3437	21425263	TEXAS TECH	761	2529404
BAYLOR	3428	11707381	OREGON ST	739	5255083
HOUSTON	3372	11230082	OREGON	718	5070651
RICE	3372	11230082	MINNESOTA	680	8556511
LOUISVILLE	3304	22446530	WASH STATE	650	3766896
FRESNO ST	3275	19395856	AIR FORCE	444	3281408
S.W. LA	3261	9915714	WYOMING	425	3172608
DARTMOUTH	3172	30370586	COLORADO	422	3115130
T.C.U.	3161	12472839	CO. STATE	420	3113227
NOR. ILL	3096	26512478	UTAH STATE	383	1938714
S.M.U.	3090	11899092	B.Y.U.	332	1902077
KENTUCKY	3067	21084609	NEW MEX ST	329	2158353
VANDERBILT	2948	18362270	UTEP	322	1566467
IOWA	2944	25178511	UTAH	318	1846696
TEXAS	2901	10499856	NEW MEXICO	285	2092348
GEORGIA	2839	17616516	ARIZONA	270	2351961
ALABAMA	2838	14277969	ARIZ STATE	262	2473549
MISS STATE	2729	12849193	HAWAII	135	895000
GA. TECH	2660	16230571			

TABLE XIX

UNIQUE PRODUCTION & POPULATION

	players	population		players	population
MIAMI	646	3951437	VIRGINIA	240	2158519
FRESNO ST	505	3161403	ALABAMA	239	1716012
S.W. LA	413	1480693	W.MICHIGAN	239	2225658
FLORIDA	381	2534054	OHIO	233	1848995
FL. STATE	378	2418071	DARTMOUTH	229	2541436
HOUSTON	376	1485832	OREGON ST	213	1669649
RICE	376	1485832	CINCINNATI	208	1841060
TEXAS A&M	376	1531296	IOWA	208	2796623
PENN STATE	365	3472672	INDIANA	206	2090604
BAYLOR	360	1497897	OREGON	203	1575490
LONG BEACH	360	2142912	ILLINOIS	201	2227038
U.S.C.	360	2142912	CENT MICH	200	1930688
UCLA	360	2142912	MEMPHIS ST	198	1697980
FULLERTON	359	2136572	OKLAHOMA	193	1125111
ARMY	342	3608441	MISSISSIPPI	189	1433080
RUTGERS	341	3514325	GEORGIA	187	1759917
L.S.U.	334	1222158	NORTHWESTRN	187	2218703
COLUMBIA	334	3383085	AUBURN	184	1481167
PRINCETON	329	3373897	VA TECH	183	1849585
SAN DIEGO	328	1965671	VANDERBILT	181	1753495
CORNELL	326	3374754	TULSA	179	1378325
TEXAS	325	1546216	TENNESSEE	177	1764096
T.C.U.	321	1582978	OKIE STATE	174	1220820
YALE	315	3295295	GA. TECH	173	1659143
SOUTH.MISS	313	1410510	MINNESOTA	170	2796172
MARYLAND	308	2952591	ARKANSAS	169	1448078
HARVARD	303	3148987	NOR. ILL	166	2139363
NAVY	302	2939342	WISCONSIN	161	2431031
TULANE	298	1102887	CLEMSON	154	1657348
PITTSBURGH	296	2471553	S.CAROLINA	153	1531233
S.M.U.	296	1453292	HAWAII	135	895000
BOWLING GR	294	2265652	IOWA STATE	134	2281650
TOLEDO	291	2227154	LOUISVILLE	128	1530662
TEMPLE	287	3129542	DUKE	125	1425301
PENN	287	3129542	UTAH STATE	125	681201
BROWN	285	2894320	N.C.STATE	124	1361269
EAST.MICH	283	2173244	NORTH CARO	124	1422062
MICHIGAN	283	2173244	E.CAROLINA	114	1172460
NEVADA-LV	277	1698465	ARIZONA	110	971470
TEXAS TECH	271	974985	WAKE FOREST	110	1425923
WEST VIRG.	271	2180914	ARIZ STATE	107	1003730
WASH STATE	269	1677573	UTEP	103	505234
MISS STATE	267	1670160	MISSOURI	101	1523482
CALIFORNIA	263	1791623	KENTUCKY	98	1335686
PACIFIC	263	1799362	WYOMING	98	896336
STANFORD	263	1791465	AIR FORCE	92	844968
SAN JOSE	261	1764954	NEW MEX ST	92	684330
MIAMI (O)	259	2142027	B.Y.U.	89	592678
BALL STATE	258	2343898	K-STATE	89	1162753
PURDUE	253	2490758	WICHITA ST	88	1047196
MICH.STATE	252	2154734	UTAH	87	582550
WASHINGTON	251	1913095	NEBRASKA	86	1224612
BOSTON COL	249	2617464	COLORADO	85	763673
KENT STATE	247	2004585	CO. STATE	84	760021
NOTRE DAME	247	2347140	KANSAS	82	1228571
SYRACUSE	245	2916190	NEW MEXICO	79	674446
OHIO STATE	242	1927639			

TABLE XX

IN-STATE FOOTBALL PROGRAMS
BY INSTITUTION

CALIFORNIA	10	FL. STATE	3
PACIFIC	10	L.S.U.	3
SAN DIEGO ST	10	MEMPHIS ST	3
SAN JOSE ST	10	MISSISSIPPI	3
STANFORD	10	S.W. LA	3
FULLERTON	10	K-STATE	3
LONG BEACH	10	OKLAHOMA	3
U.S.C.	10	MISS STATE	3
UCLA	10	SOUTH.MISS	3
FRESNO ST	10	WICHITA ST	3
TEXAS TECH	9	KANSAS	3
UTEP	9	OKIE STATE	3
BAYLOR	9	TULSA	3
TEXAS	9	VANDERBILT	3
TEXAS A&M	9	NOR. ILL	3
HOUSTON	9	TENNESSEE	3
RICE	9	ILLINOIS	3
S.M.U.	9	NORTHWESTERN	3
T.C.U.	9	ARIZONA STATE	2
KENT STATE	7	WASH STATE	2
OHIO	7	ARIZONA	2
TOLEDO	7	NEW MEXICO	2
BOWLING GREEN	7	OREGON	2
OHIO STATE	7	OREGON ST	2
CINCINNATI	7	NEW MEX STATE	2
MIAMI (O)	7	WASHINGTON	2
E.CAROLINA	5	IOWA	2
N.C.STATE	5	IOWA STATE	2
N.CAROLINA	5	ALABAMA	2
DUKE	5	AUBURN	2
WAKE FOREST	5	BOSTON COLLEGE	2
CENT MICH	5	GA. TECH	2
EAST.MICH	5	GEORGIA	2
MICH.STATE	5	CLEMSON	2
MICHIGAN	5	S.CAROLINA	2
W.MICHIGAN	5	LOUISVILLE	2
SYRACUSE	4	HARVARD	2
PITTSBURGH	4	KENTUCKY	2
TEMPLE	4	RUTGERS	2
CORNELL	4	VIRGINIA	2
PENN	4	PRINCETON	2
ARMY	4	NAVY	2
PENN STATE	4	VIRGINIA TECH	2
COLUMBIA	4	MARYLAND	2
INDIANA	4	HAWAII	1
NOTRE DAME	4	MINNESOTA	1
PURDUE	4	WYOMING	1
BALL STATE	4	NEBRASKA	1
MIAMI	3	NEVADA-LV	1
FLORIDA	3	MISSOURI	1
B.Y.U.	3	ARKANSAS	1
UTAH	3	DARTMOUTH	1
UTAH STATE	3	BROWN	1
AIR FORCE	3	WISCONSIN	1
CO. STATE	3	YALE	1
COLORADO	3	WEST VIRG.	1
TULANE	3		

TABLE XXI

COLLEGE FOOTBALL PROGRAMS (DIVISION IA) WITHIN A 250 MILE RADIUS

BALL STATE	21	KANSAS	9
CINCINNATI	21	OKLA STATE	9
MIAMI (O)	21	TULSA	9
BOWLING GREEN	20	DARTMOUTH	9
OHIO STATE	20	ARKANSAS	8
PURDUE	20	HOUSTON	8
NOTRE DAME	19	IOWA	8
OHIO	19	IOWA STATE	8
TOLEDO	19	MISS STATE	8
W.MICHIGAN	19	RICE	8
MARYLAND	18	SOUTH.MISS	8
EAST.MICH	17	WICHITA ST	8
INDIANA	17	BAYLOR	7
MICH.STATE	17	FULLERTON	7
MICHIGAN	17	K-STATE	7
NAVY	17	LONG BEACH ST	7
NORTHWESTERN	17	MISSOURI	7
VA TECH	17	OKLAHOMA	7
ARMY	16	TEXAS	7
KENT STATE	16	TEXAS A&M	7
PENN STATE	16	U.S.C.	7
COLUMBIA	16	UCLA	7
ILLINOIS	15	MEMPHIS STATE	6
PITTSBURGH	15	MISSISSIPPI	6
RUTGERS	15	S.W. LA	6
TEMPLE	15	CALIFORNIA	5
VIRGINIA	15	FLORIDA STATE	5
WEST VIRG.	15	L.S.U.	5
CORNELL	15	NEBRASKA	5
PENN	15	NEVADA-LV	5
PRINCETON	15	PACIFIC	5
CENT MICHIGAN	14	SAN DIEGO ST	5
KENTUCKY	14	SAN JOSE ST	5
YALE	14	STANFORD	5
LOUISVILLE	13	AIR FORCE	4
NOR. ILLINOIS	13	CO. STATE	4
TENNESSEE	13	COLORADO	4
WAKE FOREST	13	MINNESOTA	4
HARVARD	13	NEW MEX STATE	4
SYRACUSE	12	TULANE	4
VANDERBILT	12	WASHINGTON	4
WISCONSIN	12	WYOMING	4
CLEMSON	11	ARIZONA	3
DUKE	11	B.Y.U.	3
S.CAROLINA	11	NEW MEXICO	3
BROWN	11	OREGON	3
E.CAROLINA	10	OREGON STATE	3
GEORGIA	10	UTAH	3
N.C.STATE	10	UTAH STATE	3
N.CAROLINA	10	UTEP	3
S.M.U.	10	ARIZ STATE	2
T.C.U.	10	FLORIDA	2
ALABAMA	9	WASH STATE	2
AUBURN	9	MIAMI	1
BOSTON COLLEGE	9	TEXAS TECH	1
FRESNO STATE	9	HAWAII	0
GEORGIA TECH	9		

TABLE XXII

PROFESSIONAL (NFL) FOOTBALL FRANCHISES WITHIN A 250 MILE RADIUS

PENN STATE	8	OKIE STATE	2
WEST VIRG.	7	TULSA	2
CORNELL	7	S.M.U.	2
PITTSBURGH	6	T.C.U.	2
RUTGERS	6	VANDERBILT	2
PRINCETON	6	LOUISVILLE	2
ARMY	6	TENNESSEE	2
COLUMBIA	6	VIRGINIA TECH	2
EAST.MICH	6	FLORIDA	1
MICHIGAN	6	WASH STATE	1
NAVY	6	OREGON	1
MARYLAND	6	OREGON ST	1
YALE	5	AIR FORCE	1
TEMPLE	5	CO. STATE	1
PENN	5	COLORADO	1
KENT STATE	5	MINNESOTA	1
MICH.STATE	5	TULANE	1
NOTRE DAME	5	WASHINGTON	1
TOLEDO	5	WYOMING	1
W.MICHIGAN	5	CALIFORNIA	1
BOWLING GREEN	5	L.S.U.	1
MIAMI (O)	5	NEBRASKA	1
IOWA	4	PACIFIC	1
BROWN	4	SAN JOSE ST	1
SYRACUSE	4	STANFORD	1
HARVARD	4	MEMPHIS ST	1
CENT MICH	4	K-STATE	1
VIRGINIA	4	OKLAHOMA	1
OHIO	4	ARKANSAS	1
OHIO STATE	4	SOUTH.MISS	1
PURDUE	4	WICHITA ST	1
BALL STATE	4	ALABAMA	1
CINCINNATI	4	AUBURN	1
SAN DIEGO	3	GA. TECH	1
FULLERTON	3	KANSAS	1
LONG BEACH	3	E.CAROLINA	1
U.S.C.	3	GEORGIA	1
UCLA	3	N.C.STATE	1
BOSTON COLLEGE	3	N.CAROLINA	1
FRESNO ST	3	CLEMSON	1
DARTMOUTH	3	DUKE	1
WISCONSIN	3	S.CAROLINA	1
NOR. ILLINOIS	3	KENTUCKY	1
ILLINOIS	3	HAWAII	0
INDIANA	3	TEXAS TECH	0
NORTHWESTERN	3	ARIZ STATE	0
MIAMI	2	ARIZONA	0
FL. STATE	2	B.Y.U.	0
NEVADA-LV	2	NEW MEXICO	0
S.W. LA	2	UTAH	0
BAYLOR	2	UTAH STATE	0
MISSOURI	2	UTEP	0
TEXAS	2	NEW MEX ST	0
TEXAS A&M	2	MISSISSIPPI	0
HOUSTON	2	MISS STATE	0
IOWA STATE	2	WAKE FOREST	0
RICE	2		

TABLE XXIII

INSTITUTIONAL ENROLLMENT 1963

MINNESOTA	49228	OREGON	11044
WISCONSIN	38883	STANFORD	10450
ILLINOIS	35859	OREGON ST	10430
OHIO STATE	34184	WEST VIRGINIA	9854
INDIANA	34032	AUBURN	9819
MICH.STATE	31931	FULLERTON ST	9782
MICHIGAN	30826	ALABAMA	9671
PENN STATE	29753	NEW MEXICO	9641
MARYLAND	29290	EAST.MICH	9224
WASHINGTON	26880	N.C.STATE	9192
CALIFORNIA	26756	BOWLING GREEN	9185
TEMPLE	25883	K-STATE	9158
MISSOURI	25595	FRESNO ST	9123
TEXAS	24867	BALL STATE	8983
COLUMBIA	24801	VIRGINIA TECH	8918
RUTGERS	23024	BOSTON COLLEGE	8828
SAN JOSE	22735	WASHINGTON STATE	8792
PURDUE	22675	ARKANSAS	8745
CINCINNATI	21916	MEMPHIS STATE	8697
UCLA	21890	COLORADO STATE	8452
COLORADO	19950	GEORGIA TECH	8418
SYRACUSE	19918	YALE	8343
L.S.U.	19302	S.CAROLINA	8332
U.S.C.	19226	TEXAS A&M	8175
PENN	18611	CENT MICH	8039
TENNESSEE	18333	TOLEDO	8039
ARIZONA	18083	UTAH STATE	7759
HOUSTON	17430	E.CAROLINA	7702
ARIZ STATE	17046	TULANE	7460
KENT STATE	16620	S.M.U.	7456
NORTHWESTERN	16469	LOUISVILLE	7229
SAN DIEGO ST	16097	T.C.U.	6963
PITTSBURGH	15532	WICHITA ST	6851
B.Y.U.	15394	NOTRE DAME	6797
OKLAHOMA	15305	BAYLOR	6495
OKLA STATE	15294	DUKE	6421
LONG BEACH	15084	UTEP	6155
FLORIDA	14801	SOUTH.MISS	6035
OHIO	14570	MISS STATE	6025
UTAH	14420	S.W. LA	6020
GEORGIA	13741	WYOMING	5996
VIRGINIA	13630	MISSISSIPPI	5679
W.MICHIGAN	13514	TULSA	5300
MIAMI	13207	NEW MEX ST	5000
CORNELL	13131	BROWN	4451
IOWA	12991	PRINCETON	4384
HAWAII	12972	CLEMSON	4376
HARVARD	12572	VANDERBILT	4370
KANSAS	12486	NAVY	4084
MIAMI (O)	12411	DARTMOUTH	3453
TEXAS TECH	12036	WAKE FOREST	2958
NOR. ILL	11956	PACIFIC	2758
N.CAROLINA	11713	AIR FORCE	2618
IOWA STATE	11516	ARMY	2615
NEBRASKA	11463	RICE	2242
KENTUCKY	11348	NEVADA-LV	.
FL. STATE	11162		

TABLE XXIV

HIGH SCHOOL INTEREST IN FOOTBALL

1971 & 1981

	1971		1971
NEBRASKA	0.1381	OKLA STATE	0.0658
WEST VIRGINIA	0.1362	OKLAHOMA	0.0658
MINNESOTA	0.1349	TULSA	0.0658
WISCONSIN	0.1170	NEW MEX ST	0.0654
BAYLOR	0.1109	NEW MEXICO	0.0654
HOUSTON	0.1109	FL. STATE	0.0642
RICE	0.1109	FLORIDA	0.0642
S.M.U.	0.1109	MIAMI	0.0642
T.C.U.	0.1109	MISS STATE	0.0636
TEXAS	0.1109	MISSISSIPPI	0.0636
TEXAS A&M	0.1109	SOUTH.MISS	0.0636
TEXAS TECH	0.1109	CALIFORNIA	0.0596
UTEP	0.1109	FRESNO ST	0.0596
IOWA	0.1097	FULLERTON ST	0.0596
IOWA STATE	0.1097	LONG BEACH ST	0.0596
MISSOURI	0.1022	PACIFIC	0.0596
PENN STATE	0.1016	SAN DIEGO ST	0.0596
PITTSBURGH	0.1016	SAN JOSE ST	0.0596
TEMPLE	0.1016	STANFORD	0.0596
PENN	0.1016	U.S.C.	0.0596
ARIZ STATE	0.0960	UCLA	0.0596
ARIZONA	0.0960	CLEMSON	0.0593
K-STATE	0.0941	S.CAROLINA	0.0593
KANSAS	0.0941	HAWAII	0.0570
WICHITA ST	0.0941	ILLINOIS	0.0530
ARKANSAS	0.0896	NOR. ILLINOIS	0.0530
CINCINNATI	0.0850	NORTHWESTERN	0.0530
KENT STATE	0.0850	DARTMOUTH	0.0461
MIAMI (O)	0.0850	L.S.U.	0.0454
OHIO	0.0850	S.W. LA	0.0454
OHIO STATE	0.0850	TULANE	0.0454
TOLEDO	0.0850	KENTUCKY	0.0430
CENT MICH	0.0839	LOUISVILLE	0.0430
EAST.MICH	0.0839	DUKE	0.0413
MICH.STATE	0.0839	E.CAROLINA	0.0413
MICHIGAN	0.0839	N.C.STATE	0.0413
W.MICHIGAN	0.0839	N.CAROLINA	0.0413
BALL STATE	0.0810	WAKE FOREST	0.0413
INDIANA	0.0810	ALABAMA	0.0411
NOTRE DAME	0.0810	AUBURN	0.0411
PURDUE	0.0810	BOWLING GREEN	0.0407
OREGON	0.0794	YALE	0.0407
OREGON ST	0.0794	ARMY	0.0281
WYOMING	0.0792	B.Y.U.	0.0281
VIRGINIA TECH	0.0777	SYRACUSE	0.0281
VIRGINIA	0.0777	UTAH	0.0281
AIR FORCE	0.0763	UTAH STATE	0.0281
CO. STATE	0.0763	COLUMBIA	0.0281
COLORADO	0.0763	CORNELL	0.0281
RUTGERS	0.0716	BROWN	0.0279
PRINCETON	0.0716	MARYLAND	0.0186
NEVADA-LV	0.0715	NAVY	0.0186
MEMPHIS ST	0.0712	WASH STATE	0.0071
TENNESSEE	0.0712	WASHINGTON	0.0071
VANDERBILT	0.0712	BOSTON COLLEGE	0.0069
GEORGIA TECH	0.0667	HARVARD	0.0069
GEORGIA	0.0667		

TABLE XXIV (Continued)

	1981		1981
NEBRASKA	0.1534	COLORADO	0.0657
ALABAMA	0.1182	B.Y.U.	0.0656
AUBURN	0.1182	UTAH	0.0656
K-STATE	0.1135	UTAH STATE	0.0656
KANSAS	0.1135	VIRGINIA TECH	0.0623
WICHITA ST	0.1135	VIRGINIA	0.0623
IOWA	0.1071	DUKE	0.0621
IOWA STATE	0.1071	E.CAROLINA	0.0621
BAYLOR	0.0902	N.C.STATE	0.0621
HOUSTON	0.0902	N.CAROLINA	0.0621
RICE	0.0902	WAKE FOREST	0.0621
S.M.U.	0.0902	RUTGERS	0.0611
T.C.U.	0.0902	PRINCETON	0.0611
TEXAS	0.0902	CINCINNATI	0.0603
TEXAS A&M	0.0902	KENT STATE	0.0603
TEXAS TECH	0.0902	MIAMI (O)	0.0603
UTEP	0.0902	OHIO	0.0603
WISCONSIN	0.0901	OHIO STATE	0.0603
CLEMSON	0.0859	TOLEDO	0.0603
S.CAROLINA	0.0859	BALL STATE	0.0595
NEVADA-LV	0.0834	INDIANA	0.0595
OREGON	0.0822	NOTRE DAME	0.0595
OREGON ST	0.0822	PURDUE	0.0595
ARIZ STATE	0.0815	OKLA STATE	0.0578
ARIZONA	0.0815	OKLAHOMA	0.0578
GEORGIA TECH	0.0806	TULSA	0.0578
GEORGIA	0.0806	BOSTON COLLEGE	0.0565
WYOMING	0.0768	PENN STATE	0.0565
WASH STATE	0.0755	PITTSBURGH	0.0565
WASHINGTON	0.0755	TEMPLE	0.0565
MINNESOTA	0.0744	HARVARD	0.0565
MEMPHIS ST	0.0740	PENN	0.0565
TENNESSEE	0.0740	FL. STATE	0.0563
VANDERBILT	0.0740	FLORIDA	0.0563
MISSOURI	0.0737	MIAMI	0.0563
MISS STATE	0.0704	ILLINOIS	0.0524
MISSISSIPPI	0.0704	NOR. ILLINOIS	0.0524
SOUTH.MISS	0.0704	NORTHWESTERN	0.0524
CALIFORNIA	0.0701	ARKANSAS	0.0500
FRESNO ST	0.0701	BOWLING GREEN	0.0482
FULLERTON ST	0.0701	YALE	0.0482
LONG BEACH ST	0.0701	L.S.U.	0.0477
PACIFIC	0.0701	S.W. LA	0.0477
SAN DIEGO ST	0.0701	TULANE	0.0477
SAN JOSE ST	0.0701	NEW MEX STATE	0.0464
STANFORD	0.0701	NEW MEXICO	0.0464
U.S.C.	0.0701	MARYLAND	0.0404
UCLA	0.0701	NAVY	0.0404
WEST VIRGINIA	0.0699	ARMY	0.0381
HAWAII	0.0684	SYRACUSE	0.0381
CENT MICH	0.0674	COLUMBIA	0.0381
EAST.MICH	0.0674	CORNELL	0.0381
MICH.STATE	0.0674	BROWN	0.0357
MICHIGAN	0.0674	DARTMOUTH	0.0345
W.MICHIGAN	0.0674	KENTUCKY	0.0326
AIR FORCE	0.0657	LOUISVILLE	0.0326
CO. STATE	0.0657		

TABLE XXV

MANAGEMENT (COACHING) VARIABLES

	#	tenure	W-L %	experience (yrs)
OHIO STATE	2	16.0	.646	6.5
PENN STATE	2	16.0	.579	4.0
HARVARD	3	11.3	.678	6.0
AUBURN	3	10.7	.524	3.0
CENT MICH	3	10.7	.611	0.3
GEORGIA	3	10.7	.691	4.3
MICHIGAN	3	10.7	.697	3.3
OHIO	3	10.7	.677	1.7
SYRACUSE	3	10.7	.648	4.3
TEXAS	3	10.7	.567	2.0
AIR FORCE	3	9.3	.333	1.0
ALABAMA	4	8.0	.568	8.3
ARIZ STATE	4	8.0	.545	6.5
FLORIDA	4	8.0	.690	4.5
HOUSTON	4	8.0	.567	5.0
L.S.U.	4	8.0	.547	1.0
MINNESOTA	4	8.0	.536	6.5
RUTGERS	4	8.0	.505	7.0
SOUTH.MISS	4	8.0	.581	0.8
YALE	4	8.0	.591	5.3
BROWN	4	8.0	.516	4.3
DARTMOUTH	4	8.0	.636	12.3
ARKANSAS	5	6.4	.561	4.0
BAYLOR	5	6.4	.462	4.8
BOWLING GR	5	6.4	.632	4.0
CLEMSON	5	6.4	.629	5.8
DUKE	5	6.4	.525	7.0
GA. TECH	5	6.4	.624	2.8
INDIANA	5	6.4	.690	4.6
LOUISVILLE	5	6.4	.465	3.6
MEMPHIS ST	5	6.4	.526	2.2
MISSISSIPPI	5	6.4	.624	4.0
MISSOURI	5	6.4	.704	5.4
NEBRASKA	5	6.4	.672	2.2
OKLAHOMA	5	6.4	.877	1.0
OREGON	5	6.4	.484	2.0
OREGON ST	5	6.4	.447	1.2
SAN DIEGO	5	6.4	.597	1.8
TEMPLE	5	6.4	.460	3.0
U.S.C.	5	6.4	.636	0.2
VA TECH	5	6.4	.382	2.4
WASHINGTON	5	6.4	.575	3.4
WISCONSIN	5	6.4	.679	2.4
COLUMBIA	5	6.4	.639	9.6
PRINCETON	5	6.2	.572	7.8
LONG BEACH	5	5.6	.850	0.4
NAVY	6	5.5	.390	1.5
B.Y.U.	6	5.3	.537	1.3
BOSTON COL	6	5.3	.445	2.3
CO. STATE	6	5.3	.667	2.2
E.CAROLINA	6	5.3	.752	3.2
ILLINOIS	6	5.3	.550	7.7
IOWA	6	5.3	.559	6.2
K-STATE	6	5.3	.407	1.2
MIAMI	6	5.3	.586	5.2
MICH.STATE	6	5.3	.680	8.5
N.CAROLINA	6	5.3	.709	9.3
PURDUE	6	5.3	.543	5.0
RICE	6	5.3	.540	5.7
S.W. LA	6	5.3	.600	0.3
TEXAS TECH	6	5.3	.587	1.5
W.MICHIGAN	6	5.3	.663	2.0
WASH STATE	6	5.3	.608	2.5
WEST VIRG.	6	5.3	.628	3.0
CORNELL	6	5.3	.626	5.0
PENN	6	5.3	.580	5.7
TENNESSEE	6	5.2	.685	6.2
UCLA	5	4.8	.577	12.6
BALL STATE	7	4.6	.	0.0
CALIFORNIA	7	4.6	.590	4.0
COLORADO	7	4.6	.670	2.1
FL. STATE	7	4.6	.700	4.7
MIAMI (O)	7	4.6	.700	0.1
MISS STATE	7	4.6	.570	1.9
N.C.STATE	7	4.6	.603	2.2
NORWESTERN	7	4.6	.592	4.3
NOTRE DAME	7	4.6	.675	8.3
OKIE STATE	7	4.6	.481	1.4
PITTSBURGH	7	4.6	.578	2.0
S.CAROLINA	7	4.6	.565	6.1
STANFORD	7	4.6	.729	2.7
UTAH	7	4.6	.606	4.3
VANDERBILT	7	4.6	.654	3.4
NOR. ILL	7	4.4	.720	5.3
FRESNO ST	8	4.3	.486	4.1
KENTUCKY	6	4.2	.779	2.0
SAN JOSE	8	4.1	.482	3.6
ARIZONA	8	4.0	.626	5.1
ARMY	8	4.0	.585	7.0
EAST.MICH	8	4.0	.562	2.4
IOWA STATE	8	4.0	.753	4.4
KANSAS	8	4.0	.593	2.6
KENT STATE	8	4.0	.566	2.1
MARYLAND	8	4.0	.574	4.9
NEVADA-LV	4	4.0	.740	3.0
NEW MEX ST	8	4.0	.397	3.5
T.C.U.	8	4.0	.626	4.8
TEXAS A&M	8	4.0	.649	2.4
TOLEDO	8	4.0	.499	1.1
TULSA	8	4.0	.681	0.9
UTAH STATE	8	4.0	.539	1.3
HAWAII	9	3.9	.693	3.9
S.M.U.	7	3.9	.603	3.3
WAKE FOREST	9	3.7	.587	1.4
TULANE	8	3.6	.615	4.3
CINCINNATI	9	3.6	.739	1.6
NEW MEXICO	9	3.6	.596	4.0
PACIFIC	9	3.6	.587	0.9
WYOMING	9	3.6	.720	2.8
FULLERTON	4	3.5	.682	0.5
UTEP	9	3.2	.495	2.4
VIRGINIA	10	3.2	.617	2.3
WICHITA ST	13	2.5	.451	1.9

TABLE XXVI

EARLY FACTORED SUCCESS 1952-1961

OHIO STATE	3.385	KANSAS	-0.339
OKLAHOMA	3.149	UTAH	-0.348
MICH.STATE	2.683	NORTHWESTRN	-0.350
MISSISSIPP	2.397	OREGON	-0.357
NOTRE DAME	2.086	VA TECH	-0.387
IOWA	1.960	CENT MICH	-0.406
UCLA	1.888	PACIFIC	-0.409
WISCONSIN	1.664	OHIO	-0.420
TEXAS	1.663	HARVARD	-0.425
GA. TECH	1.652	TEXAS TECH	-0.432
MICHIGAN	1.564	NEBRASKA	-0.447
AUBURN	1.355	ARIZONA	-0.455
NAVY	1.306	RUTGERS	-0.482
L.S.U.	1.294	MISS STATE	-0.482
MINNESOTA	1.288	KENT STATE	-0.503
U.S.C.	1.217	WICHITA ST	-0.527
SYRACUSE	1.171	N CAROLINA	-0.550
ARMY	1.008	OKIE STATE	-0.565
MARYLAND	0.955	NEW MEXICO	-0.578
ALABAMA	0.874	VANDERBILT	-0.587
TENNESSEE	0.780	UTEP	-0.628
RICE	0.770	MEMPHIS ST	-0.644
ARKANSAS	0.718	LOUISVILLE	-0.645
MIAMI	0.712	PENN	-0.655
T.C.U.	0.655	DARTMOUTH	-0.672
PURDUE	0.647	SAN JOSE ST	-0.679
DUKE	0.637	TULANE	-0.685
WASHINGTON	0.531	WASH STATE	-0.710
COLORADO	0.513	UTAH STATE	-0.711
ILLINOIS	0.499	FL. STATE	-0.715
PITTSBURGH	0.465	TULSA	-0.793
PENN STATE	0.444	CORNELL	-0.834
FLORIDA	0.326	HAWAII	-0.836
ARIZ STATE	0.317	EAST.MICH	-0.882
PRINCETO	0.271	IOWA STATE	-0.910
CLEMSON	0.203	LONG BEACH	-0.922
BAYLOR	0.182	BALL STATE	-0.946
TEXAS A&M	0.145	INDIANA	-0.958
SOUTH.MISS	0.103	S.W. LA	-0.965
GEORGIA	0.028	W.MICHIGAN	-0.977
WYOMING	0.025	SAN DIEGO ST	-0.993
WEST VIRG.	0.020	N.C.STATE	-1.023
YALE	0.008	BROWN	-1.033
KENTUCKY	-0.034	CO. STATE	-1.041
MIAMI (O)	-0.051	NEW MEX ST	-1.095
MISSOURI	-0.087	K-STATE	-1.101
S.M.U.	-0.133	WAKE FOREST	-1.117
HOUSTON	-0.141	TOLEDO	-1.152
FRESNO ST	-0.150	VIRGINIA	-1.258
AIR FORCE	-0.187	NOR. ILL	-1.263
S.CAROLINA	-0.220	COLUMBIA	-1.287
BOWLING GR	-0.230	B.Y.U.	-1.287
CALIFORNIA	-0.231	TEMPLE	-1.597
STANFORD	-0.246	E.CAROLINA	.
CINCINNATI	-0.285	FULLERTON	.
BOSTON COL	-0.296	NEVADA-LV	.
OREGON ST	-0.329		

TABLE XXVII

MIDDLE FACTORED SUCCESS 1962-1972

ALABAMA	2.895	IOWA	-0.341
TEXAS	2.869	CALIFORNIA	-0.361
OHIO STATE	2.729	N.C.STATE	-0.363
NEBRASKA	2.728	CLEMSON	-0.395
U.S.C.	2.637	S.W. LA	-0.450
NOTRE DAME	2.559	LONG BEACH	-0.475
L.S.U.	2.178	S.CAROLINA	-0.476
MICHIGAN	2.155	PITTSBURGH	-0.479
OKLAHOMA	2.009	CORNELL	-0.488
ARKANSAS	1.858	OREGON	-0.513
TENNESSEE	1.811	UTAH	-0.517
PENN STATE	1.306	E.CAROLINA	-0.524
MICH.STATE	1.279	NOR. ILL	-0.542
AUBURN	1.235	T.C.U.	-0.584
PURDUE	1.184	TULSA	-0.592
GEORGIA	1.105	ARIZONA	-0.601
ARIZ STATE	1.046	SOUTH.MISS	-0.604
MISSOURI	0.949	RICE	-0.605
MISSISSIPPI	0.835	B.Y.U.	-0.605
UCLA	0.760	W.MICHIGAN	-0.623
GA. TECH	0.703	TEMPLE	-0.627
SAN DIEGO ST	0.676	OHIO	-0.655
FLORIDA	0.625	RUTGERS	-0.656
STANFORD	0.503	LOUISVILLE	-0.658
WASHINGTON	0.479	OKIE STATE	-0.665
COLORADO	0.392	KENTUCKY	-0.707
MINNESOTA	0.284	IOWA STATE	-0.713
OREGON ST	0.223	MISS STATE	-0.721
HOUSTON	0.184	NEW MEXICO	-0.751
WISCONSIN	0.175	TEXAS A&M	-0.775
SYRACUSE	0.123	UTEP	-0.789
YALE	0.103	NEW MEX ST	-0.807
ILLINOIS	0.074	VIRGINIA	-0.808
FL. STATE	0.068	CINCINNATI	-0.816
DARTMOUT	0.049	BAYLOR	-0.862
PRINCETO	0.030	WASH STATE	-0.868
MIAMI	0.029	TULANE	-0.882
TEXAS TECH	-0.011	MARYLAND	-0.900
DUKE	-0.013	PENN	-0.902
ARMY	-0.032	PACIFIC	-0.989
WEST VIRG.	-0.040	K-STATE	-1.008
AIR FORCE	-0.041	VANDERBILT	-1.062
KANSAS	-0.088	KENT STATE	-1.081
N CAROLINA	-0.097	COLUMBIA	-1.115
MEMPHIS ST	-0.098	WAKE FOREST	-1.130
HARVARD	-0.168	CO. STATE	-1.141
WYOMING	-0.212	SAN JOSE ST	-1.147
NAVY	-0.217	WICHITA ST	-1.277
MIAMI (O)	-0.269	BROWN	-1.532
INDIANA	-0.291	BALL STATE	.
VA TECH	-0.299	CENT MICH	.
S.M.U.	-0.308	EAST.MICH	.
BOSTON COL	-0.326	FRESNO ST	.
BOWLING GR	-0.330	FULLERTON	.
NORTHWESTRN	-0.334	HAWAII	.
UTAH STATE	-0.334	NEVADA-LV	.
TOLEDO	-0.339		

TABLE XXVIII

OVERALL FACTORED SUCCESS 1952-1983
(MAJOR SCHOOLS)

ALABAMA	2.657	S.M.U.	-0.254
OHIO STATE	2.597	BAYLOR	-0.343
TEXAS	2.550	B.Y.U.	-0.352
OKLAHOMA	2.427	DUKE	-0.418
U.S.C.	2.134	N.C.STATE	-0.422
NOTRE DAME	2.096	CALIFORNIA	-0.470
MICHIGAN	2.063	S.CAROLINA	-0.505
NEBRASKA	1.947	OKIE STATE	-0.519
PENN STATE	1.724	SAN DIEGO	-0.548
UCLA	1.309	AIR FORCE	-0.554
ARKANSAS	1.282	SOUTH.MISS	-0.555
L.S.U.	1.199	BOSTON COL	-0.580
GEORGIA	0.983	E.CAROLINA	-0.583
TENNESSEE	0.945	KANSAS	-0.590
AUBURN	0.875	KENTUCKY	-0.600
MICH.STATE	0.755	WYOMING	-0.639
MISSISSIPPI	0.750	VA TECH	-0.660
PITTSBURGH	0.720	ARIZONA	-0.669
GA. TECH	0.643	RICE	-0.674
FLORIDA	0.565	MISS STATE	-0.708
MISSOURI	0.435	T.C.U.	-0.733
NAVY	0.392	OREGON ST	-0.743
ARIZ STATE	0.363	TULSA	-0.751
WASHINGTON	0.350	IOWA STATE	-0.760
PURDUE	0.276	HAWAII	-0.764
IOWA	0.126	OREGON	-0.780
WISCONSIN	0.117	TULANE	-0.839
ARMY	0.114	RUTGERS	-0.865
TEXAS A&M	0.091	INDIANA	-0.867
STANFORD	0.059	UTAH	-0.875
MARYLAND	0.057	NORTHWESTRN	-0.954
HOUSTON	0.047	NEW MEXICO	-0.994
MIAMI	0.047	VANDERBILT	-0.998
N CAROLINA	-0.007	WASH STATE	-1.033
COLORADO	-0.031	SAN JOSE ST	-1.036
CLEMSON	-0.055	TEMPLE	-1.096
MINNESOTA	-0.069	UTEP	-1.107
FL. STATE	-0.106	PACIFIC	-1.108
TEXAS TECH	-0.118	K-STATE	-1.175
SYRACUSE	-0.152	CO. STATE	-1.201
ILLINOIS	-0.154	VIRGINIA	-1.249
WEST VIRG.	-0.177	WAKE FOREST	-1.253

TABLE XXIX

RECENT FACTORED SUCCESS 1971-1983
(MAJOR SCHOOLS)

MICHIGAN	2.838	BAYLOR	-0.217
OHIO STATE	2.486	MIAMI	-0.242
ALABAMA	2.453	IOWA STATE	-0.253
NEBRASKA	2.449	CALIFORNIA	-0.273
OKLAHOMA	2.297	BOSTON COL	-0.333
PENN STATE	2.147	COLORADO	-0.346
U.S.C.	1.816	MISS STATE	-0.364
TEXAS	1.716	HAWAII	-0.378
GEORGIA	1.469	E.CAROLINA	-0.403
PITTSBURGH	1.379	TULSA	-0.414
NOTRE DAME	1.369	RUTGERS	-0.415
ARIZ STATE	0.926	MINNESOTA	-0.466
UCLA	0.907	VA TECH	-0.467
ARKANSAS	0.864	TULANE	-0.471
CLEMSON	0.685	NAVY	-0.474
WASHINGTON	0.638	SOUTH.MISS	-0.505
TENNESSEE	0.626	KANSAS	-0.515
AUBURN	0.587	GA. TECH	-0.540
B.Y.U.	0.567	MISSISSIPPI	-0.559
L.S.U.	0.538	SAN JOSE ST	-0.602
N CAROLINA	0.486	TEMPLE	-0.640
FLORIDA	0.445	INDIANA	-0.645
TEXAS A&M	0.403	UTAH	-0.820
MARYLAND	0.373	ARMY	-0.824
HOUSTON	0.345	CO. STATE	-0.837
MISSOURI	0.289	NEW MEXICO	-0.838
PURDUE	0.285	AIR FORCE	-0.845
MICH.STATE	0.193	DUKE	-0.865
WISCONSIN	0.184	WASH STATE	-0.883
FL. STATE	0.173	WYOMING	-0.905
S.M.U.	0.077	SYRACUSE	-0.910
STANFORD	-0.036	VANDERBILT	-0.911
N.C.STATE	-0.048	K-STATE	-1.003
ARIZONA	-0.048	OREGON	-1.027
S.CAROLINA	-0.053	WAKE FOREST	-1.120
ILLINOIS	-0.068	VIRGINIA	-1.136
KENTUCKY	-0.112	PACIFIC	-1.172
TEXAS TECH	-0.113	RICE	-1.222
IOWA	-0.166	NORTHWESTRN	-1.393
SAN DIEGO	-0.177	OREGON ST	-1.407
WEST VIRG.	-0.192	T.C.U.	-1.482
OKIE STATE	-0.206	UTEP	-1.665

TABLE XXX

ALPHABETICAL LISTING OF SUCCESS VARIABLES 1952-1983 (MINOR SCHOOLS)

	W-L %	attendance	Top 20	Nat. TV	Reg. TV
BALL STATE	0.577	10656	0	0	0
BOWLING GR	0.634	11936	0	0	1
CENT MICH	0.683	13305	0	0	0
CINCINNATI	0.491	15578	0	0	0
EAST.MICH	0.448	6223	0	0	0
FRESNO ST	0.568	11771	0	0	1
FULLERTON	0.429	4214	0	0	1
KENT STATE	0.453	8908	0	0	1
LONG BEACH	0.558	11562	0	0	0
LOUISVILLE	0.507	11563	8	0	2
MEMPHIS ST	0.543	21744	7	0	0
MIAMI (O)	0.706	12331	53	0	5
NEVADA-LV	0.638	20351	0	0	0
NEW MEX ST	0.428	9436	7	0	2
NOR. ILL	0.468	9809	0	0	4
OHIO	0.521	12280	10	0	2
S.W. LA	0.483	17506	0	0	0
TOLEDO	0.487	11986	27	0	4
UTAH STATE	0.554	11703	26	0	1
W.MICHIGAN	0.488	15154	0	0	1
WICHITA ST	0.396	12741	0	0	1
BROWN	0.408	9052	0	0	0
COLUMBIA	0.279	9573	0	1	0
CORNELL	0.452	13479	0	1	0
DARTMOUTH	0.631	11621	5	1	0
HARVARD	0.613	19050	0	0	0
PENN	0.386	20785	0	1	0
PRINCETON	0.571	23941	17	1	0
YALE	0.617	32005	14	1	0

TABLE XXXI

ALPHABETICAL LISTING OF SUCCESS VARIABLES 1973-1983 (MINOR SCHOOLS)

	W-L %	attendance	Top 20
BALL STATE	0.621	12604	0
BOWLING GR	0.537	14750	0
CENT MICH	0.768	19646	0
CINCINNATI	0.442	13491	0
EAST.MICH	0.288	8150	0
FRESNO ST	0.467	14246	0
FULLERTON	0.370	4214	0
KENT STATE	0.385	9808	0
LONG BEACH	0.537	7933	0
LOUISVILLE	0.418	17283	0
MEMPHIS ST	0.450	28333	0
MIAMI (O)	0.688	14149	46
NEVADA-LV	0.683	20351	0
NEW MEX ST	0.380	13863	0
NOR. ILL	0.429	12769	0
OHIO	0.454	13340	0
S.W. LA	0.425	18279	0
TOLEDO	0.459	16327	0
UTAH STATE	0.529	14500	0
W.MICHIGAN	0.504	18309	0
WICHITA ST	0.360	14800	0
BROWN	0.603	9510	0
COLUMBIA	0.184	6837	0
CORNELL	0.359	9846	0
DARTMOUTH	0.549	11558	0
HARVARD	0.631	17242	0
PENN	0.403	14519	0
PRINCETON	0.398	15869	0
YALE	0.699	26359	0

TABLE XXXII

RECENT COMPOSITE SUCCESS 1973-1983

	W-L %	attendance	Top 20		W-L %	attendance	Top 20
MICHIGAN	0.839	101056	273	S.CAROLINA	0.533	53558	0
NEBRASKA	0.831	76143	295	INDIANA	0.364	40254	7
ALABAMA	0.855	65972	325	YALE	0.699	26359	0
OHIO STATE	0.822	87843	260	AIR FORCE	0.360	28492	14
OKLAHOMA	0.832	71075	283	CENT MICH	0.768	19646	0
PENN STATE	0.816	71125	259	HAWAII	0.574	31789	0
TEXAS	0.792	65373	203	NEVADA-LV	0.683	20351	0
U.S.C.	0.775	62270	244	VA TECH	0.525	32813	0
GEORGIA	0.766	62159	176	MINNESOTA	0.447	41824	0
NOTRE DAME	0.725	59898	183	HARVARD	0.631	17242	0
PITTSBURGH	0.789	45814	212	GA. TECH	0.426	40403	0
ARIZ STATE	0.703	59066	104	MISSISSIPPI	0.434	38444	0
UCLA	0.723	46288	142	SAN JOSE	0.626	14184	0
ARKANSAS	0.694	47573	141	BALL STATE	0.621	12604	0
CLEMSON	0.660	53714	95	MEMPHIS ST	0.450	28333	0
WASHINGTON	0.628	52371	105	BROWN	0.603	9510	0
N.CAROLINA	0.657	46642	83	BOWLING GR	0.537	14750	0
AUBURN	0.583	60444	83	ARMY	0.308	39000	0
B.Y.U.	0.770	36644	88	W.MICHIGAN	0.504	18309	0
FLORIDA	0.598	59616	50	CO. STATE	0.456	21396	0
L.S.U.	0.579	70438	35	UTAH STATE	0.529	14500	0
TEXAS A&M	0.607	53267	62	DARTMOUTH	0.549	11558	0
MARYLAND	0.721	38125	64	NEW MEXICO	0.484	18127	0
TENNESSEE	0.582	81169	9	UTAH	0.431	25161	0
MISSOURI	0.587	59969	21	DUKE	0.393	27180	0
HOUSTON	0.642	32032	119	LONG BEACH	0.537	7933	0
PURDUE	0.500	63169	47	VANDERBILT	0.351	29500	0
FL. STATE	0.537	40754	96	WASH STATE	0.393	26226	0
S.M.U.	0.595	34407	75	WYOMING	0.444	19182	0
N.C.STATE	0.542	44269	34	K-STATE	0.310	29476	0
MICH.STATE	0.488	66302	21	SYRACUSE	0.376	26723	0
ARIZONA	0.594	44000	11	TOLEDO	0.459	16327	0
TEXAS TECH	0.529	41875	36	OREGON	0.306	28695	0
STANFORD	0.512	51492	21	FRESNO ST	0.467	14246	0
WEST VIRG.	0.541	38825	26	S.W. LA	0.425	18279	0
ILLINOIS	0.467	54794	22	RICE	0.219	28411	0
SAN DIEGO	0.630	33646	9	LOUISVILLE	0.418	17283	0
OKIE STATE	0.525	42213	17	OHIO	0.454	13340	0
MIAMI	0.533	28831	59	VIRGINIA	0.277	26279	0
BAYLOR	0.525	34847	44	WAKE FOREST	0.302	24308	0
KENTUCKY	0.438	56338	20	CINCINNATI	0.442	13491	0
IOWA	0.413	55571	23	PRINCETON	0.398	15869	0
CALIFORNIA	0.504	42102	13	NORWESTERN	0.188	23121	0
MIAMI (O)	0.688	14149	46	OREGON ST	0.160	25551	0
IOWA STATE	0.504	45127	5	PENN	0.403	14519	0
COLORADO	0.446	44388	15	NOR. ILL	0.429	12769	0
BOSTON COL	0.637	26169	3	T.C.U.	0.169	20517	0
MISS STATE	0.508	36323	15	WICHITA ST	0.360	14800	0
RUTGERS	0.648	19491	8	NEW MEX ST	0.380	13863	0
TULSA	0.649	20865	2	PACIFIC	0.389	11500	0
E.CAROLINA	0.665	19796	1	KENT STATE	0.385	9808	0
TULANE	0.471	37015	7	UTEP	0.127	15833	0
NAVY	0.525	31456	4	CORNELL	0.359	9846	0
SOUTH.MISS	0.594	22392	2	FULLERTON	0.370	4214	0
KANSAS	0.429	39016	9	EAST.MICH	0.288	8150	0
TEMPLE	0.564	17278	8	COLUMBIA	0.184	6837	0
WISCONSIN	0.492	70629	0				

VITA

Theodore Lynn Goudge

Candidate for the Degree of

Doctor of Education

Thesis: A GEOGRAPHICAL ANALYSIS OF MAJOR COLLEGE FOOTBALL PROGRAMS: THE PARAMETERS OF SUCCESS 1952-1983

Major Field: Higher Education

Minor Field: Geography

Biographical:

Personal Data: Born in Plainview, Nebraska, November 2, 1956, the son of Fredric L. and Rogene M. Goudge. Married, wife Rebecca, son Andrew.

Education: Graduated from Shenandoah High School, Shenandoah , Iowa in May, 1975; received Bachelor of Science degree in Geography from Northwest Missouri State University in 1979; received Master of Science degree in Education from Northwest Missouri State University in 1980; completed requirements for the Doctor of Education at Oklahoma State University in December, 1984.

Professional Experience: Graduate Assistant, Northwest Missouri State University, Maryville, Missouri, 1979-1980; Assistant Track Coach, Oklahoma State University, 1980-1983; Graduate Teaching Assistant for Department of Geography, Oklahoma State University, 1981-1983; Administrative Intern, Athletic Department, Oklahoma State University, 1982; Graduate Teaching Associate, Department of Geography, Oklahoma State University, 1983-1984.