A GEOGRAPHIC ANALYSIS OF FOOTBALL PLAYER PRODUCTION IN OKLAHOMA AND TEXAS

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Geographic aspects of football in the United States, with special reference to the situation in Oklahoma and Texas as contrasted with other sections of the country, are presented. Hypotheses offered for regional emphasis on football include such variables as "ruggedness," militarism, nationalism, weather, and absence of intervening opportunities. Attention is given to differences in player production and recruiting patterns.

Sports are a vital part of the American way of life. Most Americans are associated with athletics in some way, as participants, analysts, spectators, or casual followers. Organized sports are one of our most discussed, but least understood social phenomena. In general, they provide a focus of attention and, thereby, a diversion from pressing problems of the day, but to many they are much more than that. The sports page is probably the most intensely read section of the country's newspapers, and fan loyalties are among the strongest of human attachments.

Psychologists tell us that our preoccupation with "Games" is a matter of identity substitution (The Walter Mitty Complex) or, perhaps, it reflects a need for hero worship. Certainly, our interest has elevated many a sports personality to celebrity status and has made genuine folk heroes of some, e.g., Arnold Palmer, Jack Nicklaus, Ted Williams, Stan Musial, Joe Namath, and Jimmy Brown. Such reputations gained from athletic success have been used to great advantage in other, seemingly unrelated endeavors.

American enthusiasm and, thus far, insatiable demands for more exposure have resulted in an unprecedented expansion of major league franchises, as evidenced by the following statistics. Professional football has grown from 12 to 26 teams in eight years. Baseball has expanded from 16 to 24 units, and basketball, long the stepchild of the professional athletic world, has nearly tripled, growing from 8 to 23 quintets. The number of professional golfers has mushroomed to the accompaniment of a tremendous increase in financial support, and the National Hockey League has successfully doubled its size without much loss in quality of play. Other sports, such as automobile racing, horse racing, tennis, track and field, and even roller derby have participated in the upward spiral. Only boxing has suffered a decline in recent years.

College and universities have been involved in the growth, and in many ways have made the professional expansion possible. Pressures during the early 1950s to de-emphasize athletics have now largely abated, although in the last two years there has been evidence of a financial strain on college programs. High caliber play is the norm for every section of the country. The football dominance of the Northeast, and later the Midwest, has given way to a truly national fight for mythical collegiate dominance. Even teams from the sparsely populated Rocky Mountain region are proving to be formidable opponents in intersectional contests. The South has spawned numerous football powers since the days of tiny Centre College's rise to prominence. More recently, the football fortunes of the region's Black schools, e.g., Grambling, Jackson State, and Florida A & M, have sky-rocketed. At the same time, the list of first class teams in Texas and the Southwest have expanded. The rise of North Texas State, Houston, U.T.E.P., Arizona, Arizona State, and New Mexico are exemplary.

The origin of college-bound athletes in the United States has been a topic of considerable dispute among sports enthusiasts for a long time. Although there is nation-wide sports interest, some areas excel in the production of top-notch players. Speculation

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on the location of "hotbeds" of football, basketball, and baseball has run rampant, with little to substantiate it.

A previous study examined the origins of and recruiting pattern for major college and professional football players throughout the country (1). A six-year recruiting sample of approximately 14,000 players from 136 teams was used to identify the origin of football players by state, county, city, Standard Metropolitan Statistical Area, and county-based regions. Productivity was examined on the basis of sheer output and from a per capita standpoint. A per capita index was devised so that any number of geographic units could be compared using 1.00 as the national norm. For example, given a national average output of one player per 12,500 population (1/12,500 = 1.00), a county producing at the rate of 1/6,250 would have a per capita index of 2.00; at 1/50,000 the index would be 0.25; etc. "Average" basketball production was only 1/42,500 and indices were calculated accordingly. A letter rating system has been devised to facilitate comparisons between places (Table 1), with

TABLE 1. *Ranking of per capita performance.*

Performance grade[a]	Per capita ratio (Norm = 1.00)	Population equivalent to one football player	Population equivalent to one basketball player
A	2.50	< 5,000	< 17,000
B	1.50 - 2.49	5,001 - 8,330	17,001 - 28,290
C	0.75 - 1.49	8,331 - 16,670	28,291 - 56,590
D	0.40 - 0.74	16,671 - 30,125	56,591 - 106,000
F	0.39	> 30,126	> 106,001

[a] A, outstanding; B, commendable; C, medicore; D, poor; F, horrendous.

TABLE 2. *Origin and per capita production of major college football players.*

State	Number of Players	Per Capita Rate (1.00 = Norm)	State	Number of Players	Per Capita Rate (1.00 = Norm)
Alabama	270	1.03	Montana	50	.93
Alaska	0	.00	Nebraska	101	.89
Arizona	83	.80	Nevada	24	1.05
Arkansas	93	.65	New Hampshire	78	1.51
California	1,433	1.15	New Jersey	579	1.19
Colorado	134	.95	New Mexico	78	1.03
Connecticut	200	.99	New York	625	.47
Delaware	57	1.60	North Carolina	361	.99
Dist. of Col.	48	.79	North Dakota	42	.83
Florida	409	1.03	Ohio	1,350	1.74
Georgia	333	1.06	Oklahoma	242	1.30
Hawaii	38	.73	Oregon	134	.95
Idaho	63	1.18	Pennsylvania	1,333	1.47
Illinois	707	.88	Rhode Island	58	.84
Indiana	209	.56	South Carolina	210	1.10
Iowa	128	.58	South Dakota	11	.20
Kansas	228	1.31	Tennessee	225	1.79
Kentucky	154	.63	Texas	1,290	1.68
Louisiana	203	.78	Utah	119	1.67
Maine	99	1.28	Vermont	24	.77
Maryland	142	.57	Virginia	353	1.11
Massachusetts	426	1.03	Washington	217	.95
Michigan	420	.67	West Virginia	192	1.29
Minnesota	193	.71	Wisconsin	177	.56
Mississippi	274	1.57	Wyoming	28	1.06
Missouri	169	.49			

categories ranging from "A" (areas with indices of 2.50 or more) to "F" (areas providing less than 40% of the average).

The purpose of this paper is to focus on athletic output in Oklahoma and Texas, states which are among the most prolific suppliers of sports manpower in the country, and to assess the spatial relationships which exist between their athletes and athletic programs, as compared with those throughout the United States.

PRODUCTION OF PLAYERS

As shown in Table 2, Texas ranks fourth and Oklahoma is sixteenth in total football output. Together they account for over 10% of the nation's major college players. Per capita-wise, Texas produced at 1.68 times the national norm and Oklahoma at 1.30, both among the nation's top ten.

Texas and Oklahoma are the epitomy of successful "small town" high school football, and it is in communities like Graham, Borger, Andrews, Rockwall, Caldwell, Elk City, and Clinton that much of the area's talent is bred. Texas might best be described as the holyland of the high school game. Over 1,000 schools field teams and in many towns football is life's biggest diversion, which is in no small way related to the absence of other game-destroying temptations.

Of the seven highly productive county-based regions which were previously delineated for the United States (1), four are located here (Figure 1). The north-

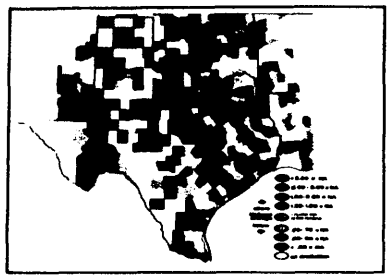

FIGURE 1. Texas-Oklahoma per capita production of college football players.

eastern Texas region has a per capita index of 2.90 (A) based upon an output of 162 players. The area is composed of small cities north and east of the Dallas-Fort Worth area, e.g., Kilgore, Sherman, Longview, McKinney, Palestine, and Rockwall. Rockwall is the second leading county in the

TABLE 3. *Athletic output of Texas and Oklahoma Standard Metropolitan Statistical Areas (SMSA).*

SMSA	Football Number	Per Capita Index	Letter Rating	Basketball Number	Per Capita Index
Houston	130	1.31	C	35	1.20
Dallas	140	1.61	B	37	1.45
San Antonio	51	1.09	C	7	.43
Fort Worth	72	1.57	B	24	1.78
Oklahoma City	43	1.05	C	17	1.41
Tulsa	50	1.49	C	13	1.32
El Paso	25	1.00	C	5	.68
Beaumont-Pt. Arthur	45	1.85	B	4	.56
Corpus Christi	31	1.75	B	1	.19
Austin	12	.71	D	2	.40
Lubbock	11	.88	C	8	2.18
Brownsville-Harlingen-San Benito	12	.99	C	0	0
Waco	18	1.50	B	2	.57
Amarillo	33	3.57	A	4	1.47
Galveston-Texas City	37	3.30	A	3	.91
Wichita Falls	24	2.31	B	1	.33
Abilene	20	2.08	B	1	.33
Texarkana	8	1.09	C	2	.93
Odessa	23	3.16	A	3	1.40
Lawton	10	1.38	C	1	.47
Tyler	18	2.56	A	1	.49

United States, with a per capita rating of 15.00. Dallas and Fort Worth are both "B" producers, and rank very high among cities in their size category (Table 3).

A second noteworthy district is located on the Pecos River and centers on the oil towns of Midland and Odessa. It includes the sparsely populated counties south of the river and stretches northward through Big Spring, Lamesa, and up to Denver City. In this "football-happy" section, college players have been produced at a rate of 3.5 times the national norm.

An eight county area in the Texas panhandle centers on Amarillo, a perennial contender for Texas State Championships, and Borger, which has accounted for 71 players representing a production rate four times that of the national average (over 40 times that of Queens, New York or of Anderson, Indiana). This region, characterized by many 5,000 to 20,000 acre ranches, encompasses Dalhart, Dumas, Hereford (Deaf Smith County), and Tucumcari, New Mexico.

The central Texas zone includes a part of western Oklahoma and contains 32 counties. It extends from Eldorado to Abilene through Graham and Wichita Falls, with the last three being the major foci of production. In Oklahoma, it takes in such places as Enid, Hobart, Clinton, and Elk City. This sprawling section has sent forth 153 players and registers a per capita index of 3.25.

High standards are virtually ubiquitous. One measure of the regional consistency of production is the percentage of "A" and "B" counties in a state (Figure 1). Using this statistic, Texas and Oklahoma show up extremely well (Table 4). This regional

TABLE 4. Production consistency based on the percentage of "A" and "B" counties in the major source states.

State	Number of "A" counties	Number of "B" counties	Percentage of "A" and "B" counties for each State. (National norm = 19.5%)
Texas	72	47	47
Mississippi	13	18	38
Ohio	6	26	38
Pennsylvania	9	15	36
Oklahoma	10	17	35
Utah	8	2	35
Kansas	17	17	32
West Virginia	9	8	31
South Carolina	3	10	28
Washington	3	8	28
California	3	12	26

consistency is largely attributable to the ability of the small towns to turn out football players, a feat not common in most other sections of the country. However, most cities in the area also sponsor productive high school football programs. Of the 21 Standard Metropolitan Statistical Areas, 18 cities sport indices of 1.00 or better (Table 3). Four of the country's ten "A" metropolitan areas are in Texas and seven of 36 "B" areas are in the two states. Amarillo, Galveston-Texas City, and Odessa are among the five outstanding producers in the nation. Of the larger centers, Dallas, Fort Worth, Tulsa, and Houston rank high and compare favorably with other cities of their size, with the exceptions of Pittsburgh, Cincinnati, Toledo, Dayton, and Youngstown.

REASONS FOR PRODUCTIVITY

It is much more difficult to account for football or any other type of athletic success than it is to plot its whereabouts. It appears that different sets of socio-economic and physical environments are associated with successful programs in different regions of the United States. For example, despite the differences which exist between western Texas and western Pennsylvania, both are prolific generators of college gridders. Also worthy of comparison are the highly pro-

ductive southern Mississippi area and the Louisiana Gulf Coast region, with its meager supply of college-bound talent.

It is easy to say that football prowess is the result of some type of socio-cultural emphasis, and that good football programs are likely to be associated with high levels of community support. Most football buffs have heard stories about six- and eight-men coaching staffs, fourth grade competition, and jobs for parents of especially promising young players. What causes this kind of enthusiasm or mania to develop and thrive? In the case of Texas and Oklahoma, several hypotheses might be formulated and tested. Their productivity may be explained by one or more of the following factors.

1) Above-average emphasis on rugged individualism ("ruggedness") which finds expression on the gridiron, either through direct participation or identification with the participants.
2) Above-average emphasis on militarism which is reflected in an attraction for games demanding considerable self-discipline, such as football.
3) State-related "nationalism" (which seems to reach a high degree in Texas and Oklahoma) finds a micro-expression at the local level, and, hence, community prestige is more vital than in other sections of the country. This nationalism is partially reflected in local veneration of songs like "Oklahoma," "The Eyes of Texas," and "Deep in the Heart of Texas." Possibly there exists here a stronger degree of place identification than in most other sections of the United States. The football team is an instrument by which community prestige is judged.
4) Fine fall weather provides ample time for a long season, including "playoffs."
5) An absence of intervening opportunity permits greater emphasis on football.
6) Considerable local opportunity to play major college football.

Clearly, there are a variety of explanations for athletic success, whatever the sport may be. It is obvious that spatial multipliers and local diffusion are important in the development of an athletic region. A simple model might begin with the initial successes at the college or professional level of a few local athletes, who become heroes with whom young boys and parents identify. Encouraged by parents, boys seek to duplicate the hero's feats. As a result, goals are attained by more athletes, and many become coaches in the area. Rivalries emerge and intensify and, thus, the core area expands.

There must be a trigger, and this is where one comes back to socio-cultural emphasis. Which sport or sports will it be? A few areas are able to generate a high output of athletes in more than one sport, some emphasize one at the expense or almost total neglect of others, and many are unable to provide schoolboy environments conducive to athletic development.

RECRUITING

Texas and Oklahoma players have a much lower propensity to migrate out of state than does the average major college recruit (Figure 2). Over 47% of the national sam-

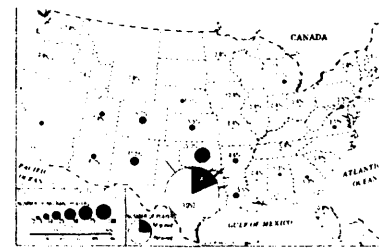

FIGURE 2. Percentage of total migration of players from the source state.

ple play football outside their home state. Indiana and Maryland, which import most of their players, lose nearly 65% of their own products. By comparison, Texas lost only 18% of its talent and over a third of its exports went to Oklahoma. Only 28% of the "Sooners" left home, and the majority went to Kansas, Texas and Colorado. These figures reinforce the "nationalism" hypothesis, and they are duplicated to a large extent in the Deep South, where inter-regional flow of football players is extremely limited.

Paucity of outward movement is also a function of abundant local opportunity to play big-time football. In relation to the number of major college programs in the nation, Oklahoma and Texas are "over-emphasizers." Given 1.00 as an average index of emphasis, Oklahoma merits a 1.71 and Texas a 1.38. By comparing this to per capita output (Table 2), it can be concluded

that Oklahoma is over-emphasizing relative to both its population and production. While Texas is over-emphasizing in relation to its population, but under-emphasizing relative to its production. Hence, a net outflow from Texas and a deficity for Oklahoma results (Figure 3).

Recruiting at Oklahoma State University from 1930 to 1969 illustrates a considerable reliance on local players (Figures 4 and 5). Only 37 players (less than one per year), were procured from states not bordering Oklahoma! Spatial changes in recruitment at OSU have occurred in recent years, with a general increase in the areal spectrum. While the 1930s witnessed a more localized talent search, with Payne and Kay Counties heavily represented, presently the major recruiting

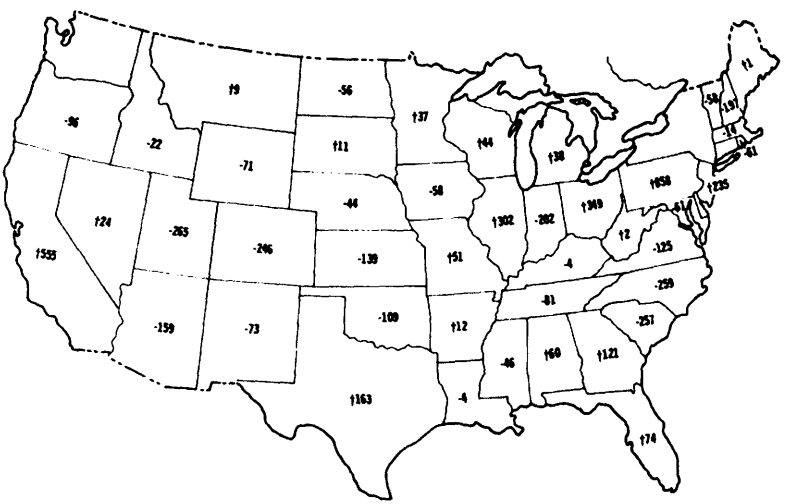

FIGURE 3. State movements of football players in the United States. † States with a net surplus (exporters); − States with a net deficit (importers).

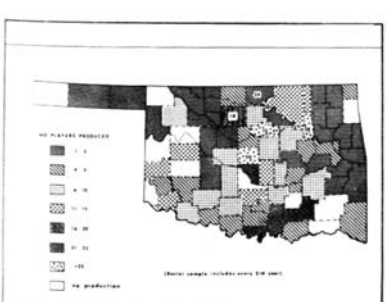

FIGURE 4. Origin of Oklahoma State University varsity football players by county, 1930-1969.

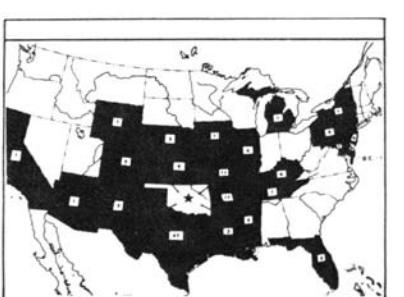

FIGURE 5. Origin of Oklahoma State University varsity football players by state, 1930-1969. Figures represent number of players produced. Roster sample includes every 3rd year.

effort is more widespread, encompassing the state of Oklahoma and much of Texas.

FURTHER RESEARCH

The chief questions for investigation are concerned with the explanation of production variation. The hypotheses mentioned above need to be tested. Ethnic and racial factors, the role of school size, financial support, local university athletic success, multi-sports emphasis, fan loyalities, and other variables should be examined. An in-depth look at players' backgrounds would be enlightening, as would field investigation in both high and low productivity areas.

REFERENCE

1. J. F. Rooney, Jr., Geograph. Rev. 59: 471-492 (1969).