

FLORIDIANS IN MAJOR COLLEGE FOOTBALL, 1981¹

Harold McConnell

Anthony Carter of Michigan, George Peoples of Auburn, Eddie Weaver of Georgia, Larry Kissner of Notre Dame, Nate Dozier of Louisville, Mike Reilly of Oklahoma, and Cedric Anderson of Ohio State -- the reader may recognize these as names of major college football players in the early 1980's. However, they shared an additional attribute: all were Florida residents who competed for institutions outside the state. This paper describes certain geographic aspects of participation in major college football by Floridians during the 1981 season. It also addresses the county-level relationship between population and number of Floridians in major college football, and models their out-of-state migration.

TABLE 1

LEADING NET EXPORTERS AND IMPORTERS OF MAJOR COLLEGE FOOTBALL PLAYERS

State	Major Programs	Playing in Home State	Participating in Major Programs in Other States	Recruited from Outside State*	Net
<u>Exporters</u>					
CA	10	740	1,010	143	867
FL	5	332	626	95	531
GA	2	93	525	58	467
OH	9	634	666	276	390
NJ	2	63	527	162	365
PA	7	373	626	378	248
IL	7	394	436	222	214
NY	5	176	465	315	150
TX	15	1,163	413	266	147
MO	1	77	184	48	136
<u>Importers</u>					
ID	3	87	21	175	-154
LA	11	700	140	313	-173
NH	2	18	19	205	-186
IA	4	145	39	227	-188
SC	5	156	92	312	-220
UT	4	99	13	254	-241
IN	5	157	124	383	-259
KY	6	197	51	324	-273
NC	9	415	122	445	-323
TN	9	327	137	480	-343

* Also includes Alaska, North Dakota, South Dakota, Vermont, U.S. Territories, Canada, and other foreign countries.

Source: 1981 rosters

TABLE 2

LARGEST PRODUCERS OF MAJOR COLLEGE FOOTBALL PLAYERS

Rank	Rooney (1974)		1981 Rosters	
1	CA	1,443	CA	1,750
2	OH	1,350	TX	1,576
3	PA	1,333	OH	1,300
4	TX	1,290	PA	999
5	IL	707	FL	958
6	NY	625	LA	840
7	NJ	579	IL	830
8	MA	426	NY	641
9	MI	420	GA	618
10	FL	409	NJ	590

Source: Rooney (1974, p. 133), 1981 rosters

Unlike typical newspaper usage and previous studies by Rooney (1969, 1974, 1980), a major college program is here defined as a football program found in any member institution of National Collegiate Athletic Association Divisions IA or IAA. There were 187 major programs in 46 states and the District of Columbia in 1981; 137 of them in Division IA and 50 in Division IAA. Texas had the largest number (15), followed by Louisiana and California with 11 and 10, respectively. Alternatively, Hawaii, Maine, Minnesota, Missouri, Nebraska, Wisconsin, and Wyoming supported but one program each.²

Examination of all 187 rosters revealed that 958 Floridians participated in 122 programs in 40 states.² Of these, only 35 percent (322 players) were on the rosters of the five major programs in football, Bethune-Cookman, Florida, Florida A & M, Florida State, and Miami. The rest (626 players) competed for programs outside the state.³ Few states have a surplus of major college-level football players, and most import more players than they export. Florida is one of the few favored states,⁴ ranking second only to California as a net exporter of major college football players (Table 1). Georgia ranked a surprising third.

The Status of Floridians in Major College Football

Florida high school athletic programs have become increasingly important producers of "big-time" college football talent (Table 2). One possible reason is that the number of Division I programs in 1981 was substantially larger than Rooney's 1974 sample (p. 102) which excluded many institutions now competing in Division IAA -- many of them in the South and some of them historically black.

Florida ranked fifth in 1981 behind such traditional producers of football talent as California, Texas, Ohio, and Pennsylvania in frequency of appearance, whereas it ranked but tenth at the time of publication in Rooney's book (1974, p. 133).⁵

Of even greater significance is the fact that Florida produces a much larger number of major college football players than it requires to meet the needs of its own schools; in 1981, Florida trailed only California and Ohio and was tied with Pennsylvania for number of residents competing in programs in other states. Clearly, Florida is a significant producer of major college football talent, not only for the five major programs in the state, but for the rest of the country as well.

Where Did They Come From?

The home counties of the 958 Floridians and the number of players statistically predicted for each county were tabulated (Table 3). Expectedly, there was a strong direct relationship between the number of major college football players residing in a county and its population: the most populous counties produced the most players. Total population alone explained 91 percent of the variation ($r_{xy}=0.954$) in numbers of players produced by a county's high school athletic programs.

The residuals of the regression suggest additional factors which, if quantified, might further reduce the amount of variation in number of players per county: reputation, population structure, and proximity to a major college program. The first is the reputation (perceived quality) of the programs, particularly among college recruiters. The most populous counties were generally underestimated, which suggests either that they produce an inordinately large number of major college-quality football players for their population, or that recruiters believe that they produce the best players, presumably because of superior coaching and facilities. One might also argue that because the most populous counties are best connected with the rest of the country through major airports and interstate highways, their high school players are most accessible to recruiters and are therefore most likely to be awarded college grants-in-aid.⁶ Furthermore, metropolitan area players are most likely to benefit from expanded media exposure.

The second factor is a county's population structure. Total population seriously overpredicted overprediction of the number of players from several South Florida "retirement counties." The number of persons in a lower age cohort would likely have been a somewhat more definitive independent variable than total population.

A third possible factor is proximity to a major program, which may increase an athlete's desire to compete at the college level, or at least his level of awareness of the possibility, even though he may not matriculate at a local college. As evidence of this, the number of players from Alachua, Dade, and Leon Counties was underpredicted by at least one-half standard error of estimate.

Where Did They Go?

The forty-six states in which major college football is played have been aggregated into ten origin-destination regions, using such criteria as geographic proximity, current conference affiliation of the dominant programs in a state, traditional rivalries and scheduling, and the author's perception of such factors as commonality of purpose and comparative level of fan support. The regions thus delineated are:

I-New England (Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island): most institutions are members of either the Ivy League or Division IAA Yankee Conference. In contrast with the other regions, the most

TABLE 3
ACTUAL AND PREDICTED NUMBER OF MAJOR COLLEGE
FOOTBALL PLAYERS BY COUNTY

County	Actual	Predicted	County	Actual	Predicted
Alachua	22	14#	Lake	15	9#
Baker	2	0	Lee	4	21*
Bay	10	10	Leon	23	15#
Bradford	1	1	Levy	3	1
Brevard	47	28#	Liberty	0	-1
Broward	85	111*	Madison	2	1
Calhoun	2	0	Manatee	7	14*
Charlotte	1	4	Marion	10	11
Citrus	1	4	Martin	4	6
Clay	2	6	Monroe	4	6
Collier	7	8	Nassau	5	3
Columbia	6	2	Okaloosa	16	11#
Dade	190	166#	Okeechobee	1	1
De Soto	2	1	Orange	46	49
Dixie	0	0	Osceola	2	4
Duval	82	66#	Palm Beach	43	61*
Escambia	17	25*	Pasco	7	18*
Flagler	2	0	Pinellas	42	78*
Franklin	0	0	Polk	43	31#
Gadsden	3	3	Putnam	3	4
Gilchrist	1	0	St. Johns	2	4
Glades	0	0	St. Lucie	11	8
Gulf	2	0	Santa Rosa	6	5
Hamilton	1	0	Sarasota	11	20*
Hardee	3	1	Seminole	11	17*
Hendry	2	1	Sumter	0	2
Hernando	3	3	Suwannee	1	1
Highlands	3	4	Taylor	3	1
Hillsborough	95	69#	Union	0	0
Holmes	2	0	Volusia	28	24
Indian River	5	4	Wakulla	2	0
Jackson	1	4	Walton	0	1
Jefferson	2	0	Washington	1	0
Lafayette	0	-1			

$$E(Y_i) = 0.1096X_i - 1.13 \quad r_{xy} = 0.954 \quad S_{E(Y)} = 9.056$$

- * Overprediction by at least one-half standard error of estimate.
Underprediction by at least one half standard error of estimate.

Source: Calculated by author

successful programs and those with the highest levels of interest and institutional support are those representing private colleges and universities.

II-Independientia (Delaware, New Jersey, New York, Pennsylvania, and West Virginia): the dominant programs (e.g., Penn State, Pittsburgh, and Syracuse) compete as independents.

III-South Atlantic (Maryland and the District of Columbia, North Carolina, South Carolina, and Virginia): the dominant programs are members of the Atlantic Coast Conference.

IV-Deep South (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, and Tennessee): the region is traditionally associated with the Southeastern Conference, notwithstanding the recent national prominence of such independents as Florida State, Miami, and Southern Mississippi.

V-Midwest (Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin): the region is dominated by the member schools of the Big Ten Conference and independent Notre Dame.

VI-Great Plains (Kansas, Missouri, Nebraska, and Oklahoma): the dominant programs are the more successful members of the Big Eight Conference.

VII-Southwest (Arkansas and Texas): the dominant programs are members of the Southwest Conference.

VIII-Big Skyland (Idaho and Montana): all major institutions are members of the Division IAA Big Sky Conference. This is the only region where no programs compete at the IA level.

IX-Aridia (Colorado, Hawaii, Nevada, New Mexico, Utah, and Wyoming): at least one institution per state competes in the Western Athletic Conference in this far-flung, non-contiguous region.

X-Far West (Arizona, California, Oregon, and Washington): the dominant programs are members of the Pacific Ten Conference.

Five regions enjoy a talent surplus and five are talent-deficit. The net exporters include Regions II-Independientia (589), IV-Deep South (180), V-Midwest (307), VII-Southwest (109), and X-Far West (745). The net importers include Regions I-New England (-416), III-South Atlantic (-547), VI-Great Plains (105), VIII-Big Skyland (-235), and IX-Aridia (-627). Inter- and intraregional flows are given in origin-designation matrix form in Table 4. Because of the large surplus of football talent in Florida, out-of-state recruiters are active in the state. Thus, Floridians are prone to migrate elsewhere.⁷

TABLE 4
REGIONAL ORIGIN-DESTINATION MATRIX

From	To	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
I		645	128	22	9	18	2	4	1	4	10	843
II		337	1255	348	121	214	17	23	8	34	43	2400
III		41	95	1290	104	58	21	4	2	17	15	1647
IV		24	81	372	2961	136	38	132	6	37	28	3815
V		150	193	107	220	2457	76	45	17	68	71	3404
VI		8	11	15	24	99	518	58	6	26	12	777
VII		4	17	12	156	10	133	1290	0	95	16	1733
VIII		0	0	1	1	1	0	0	173	10	14	200
IX		7	9	3	7	16	22	29	20	387	42	542
X		43	22	24	32	88	55	39	202	491	1335	2331
Total		1259	1811	2194	3635	3097	882	1624	435	1169	1586	17692

Source: 1981 rosters

Distributional Patterns.

Floridians in major college football in 1981 have been enumerated at the institutional and state levels (Table 5). Institutional characteristics, including NCAA level, institutional control, racial identity, and conference affiliation (if any) are also noted.

The Institutions. Floridians appeared on the rosters of 122 (65 percent) of the 187 major college programs. As one might expect, most attended the five Florida football schools. There was a moderate inverse relationship between the number of Floridians on a roster and distance from Florida, but the distance-decline was not linear. Floridians were well represented in states near to, but not contiguous with, Florida. Smallest numbers generally occurred in the Northeast and West, and intermediate numbers occurred in the Midwest and Great Plains. The spatially, culturally, and climatologically distant University of Minnesota's roster contained eight Floridians, rather more than would be expected.

TABLE 5
DISTRIBUTION OF FLORIDIANS BY INSTITUTION AND STATE

Region	State	Major Programs	Major Programs with Florida Players	NCAA Div.	Inst. Control	Black Inst.	Confer- ence	Florida Players	State Total
I	CT	2	Yale	IA	P		IL	2*	2
	NE	1							0
	MA	6	Boston U.	LAA	P		Y	1	
			Harvard	IA	P		IL	4*	
	NH	2	Northeastern	LAA	P		--	1	6
			Dartmouth	IA	P		IL	4*	4
RI	2	Brown	IA	P		IL	3*	3	
II	DE	2	Delaware St.	LAA	S	x	MEA	19	19
	NJ	2	Princeton	IA	P		IL	5*	5
			Army	IA	P		--	4*	
	PA	7	Colgate	IA	P		--	1*	
			Columbia	IA	P		IL	3*	
			Cornell	IA	P		IL	1*	9
			Lafayette	LAA	P		ME	1	
	WV	2	Pennsylvania	IA	P		IL	10*	
			Pittsburgh	IA	S		--	5	16
	III	MD/DC	3	Marshall	IA	S		S	5
West Virginia				IA	S		--	1	6
NC		9	Virginia	IA	S		--	4*	4
			Appalachian St.	IA	S		S	1*	
			Davidson	LAA	P		--	23	
			Duke	IA	P		AC	3	
			E. Carolina	IA	S		--	2	
			No. Carolina	IA	S		AC	1	
			No. Car. A&T	LAA	S		x MEA	4*	
			No. Car. St.	IA	S		AC	3	
Wake Forest	IA	P		AC	4				
W. Carolina	IA	S		S	3	44			
VA	6	The Citadel	IA	S		S	13		
		Clemson	IA	S		AC	6		
		Farman	IA	P		S	18		
		S. Carolina	IA	S		--	8*		
		S. Carolina St.	LAA	S		x MEA	17	62	
		Richmond	IA	P		--	5*		
IV	AL	2	Virginia	IA	S		AC	3	
			VMI	IA	S		S	1	
	FL	3	Wm. & Mary	IA	S		--	1*	10
			Alabama	IA	S		SE	11	
	GA	2	Auburn	IA	S		SE	12	23
			Bethune-Cookman	LAA	P		x MEA	47	
			Florida	IA	S		SE	92	
			Florida A&M	LAA	S		x MEA	83	
	KY	6	Florida St.	IA	S		--	69	
			Miami	IA	P		--	41*	332
W. Kentucky	6	Georgia	IA	S		SE	9*		
		Georgia Tech	IA	S		AC	15*	24	
		E. Kentucky	LAA	S		OV	23		
		Kentucky	IA	S		SE	8		
		Louisville	IA	S		--	9		
		Morehead St.	LAA	S		OV	7		
		Murray St.	LAA	S		OV	9		
		W. Kentucky	LAA	S		OV	4	62	

Table 5 (cont.)

LA	11	Louisiana St.	IA	S	SE	2	
		Louisiana Tech	IA	S	SL	1	
		McNeese St.	IA	S	SL	1	
		Nicholls St.	IAA	S	--	1	
		NE Louisiana	IA	S	--	2	
		Northwestern St.	LAA	S	--	1	
		SE Louisiana	LAA	S	--	1	
		Southern	LAA	S	x SWN	11	
		SW Louisiana	IA	S	SL	7*	
		Tulane	IA	P	--	15	42
MS	6	Jackson St.	LAA	S	x SWN	1	
		Mississippi	IA	S	SE	1	
		Mississippi St.	IA	S	SE	11	
		Miss. Valley St.	LAA	S	x SWN	3	
		So. Mississippi	IA	S	--	5*	21
TN	9	Austin Peay	LAA	S	OV	6	
		E. Tennessee	IA	S	S	13	
		Memphis St.	IA	S	--	14	
		Middle Tenn.	LAA	S	OV	3	
		Tennessee	IA	S	SE	5*	
		Tennessee-Chattanooga	IA	S	S	22	
		Tennessee St.	LAA	S	x --	3	
		Tennessee Tech	LAA	S	OV	17	
		Vanderbilt	IA	P	SE	16*	99
		V	7	E. Illinois	LAA	S	MC
Illinois	IA			S	BT	9	
Illinois St.	IA			S	MV	5	
Northwestern	IA			P	BT	4	19
IN	5	Indiana	IA	S	BT	3	
		Indiana St.	IA	S	MV	1	
		Notre Dame	IA	P	--	1	
		Purdue	IA	S	BT	2	7
IA	4	Iowa	IA	S	BT	1	
		Iowa St.	IA	S	BE	6	
		Northern Iowa	LAA	S	MC	1	8
MI	5	Michigan	IA	S	BT	9	
		Michigan St.	IA	S	BT	4	13
MN	1	Minnesota	IA	S	BT	8	
OH	9	Cincinnati	IA	S	--	9	8
		Ohio St.	IA	S	BT	6	
		Toledo	IA	S	MA	1	
		Youngstown St.	LAA	S	OV	2	18
WI	1	Wisconsin	IA	S	BT	2	2
VI	3	Kansas	IA	S	BE	7	
		Kansas St.	IA	S	BE	1	
		Wichita St.	IA	S	MV	7	15
ND	1	Nebraska	IA	S	BE	1*	1
NE	1	Nebraska	IA	S	BE	1*	1
OK	3	Oklahoma	IA	S	BE	5	
		Oklahoma St.	IA	S	BE	1	6
VII	2	Arkansas	IA	S	SW	1	
		Arkansas St.	IA	S	SL	6	7
TX	13	Baylor	IA	P	SW	1	
		Prairie View	LAA	S	x SWN	6	
		Rice	IA	P	SW	1	
		So. Methodist	IA	P	SW	4	
		Texas	IA	S	SW	1	
		Texas-El Paso	IA	S	WA	5	
		Texas A&M	IA	S	SW	2	
Tex. Southern	LAA	S	x SWN	11	31		
VIII	3	Idaho St.	LAA	S	BS	1	1
MI	2						0
IX	3	Air Force	IA	F	WA	7*	
		Colorado	IA	S	BE	4	
		Colorado St.	IA	S	WA	1	12
HI	1						0
NV	2	Nev. -Las Vegas	IA	S	--	2	2
NM	2	New Mexico St.	IA	S	MV	3	3
UT	4	Utah St.	IA	S	PC	3	3
WY	1						0
X	3	Arizona	IA	S	PT	2	
		Arizona St.	IA	S	PT	2	
		No. Arizona	LAA	S	BS	2	6
		UCLA	IA	S	PT	2*	2
OR	2	Oregon St.	IA	S	PT	1	1
WA	2						0
Grand Total	187	122				958	958

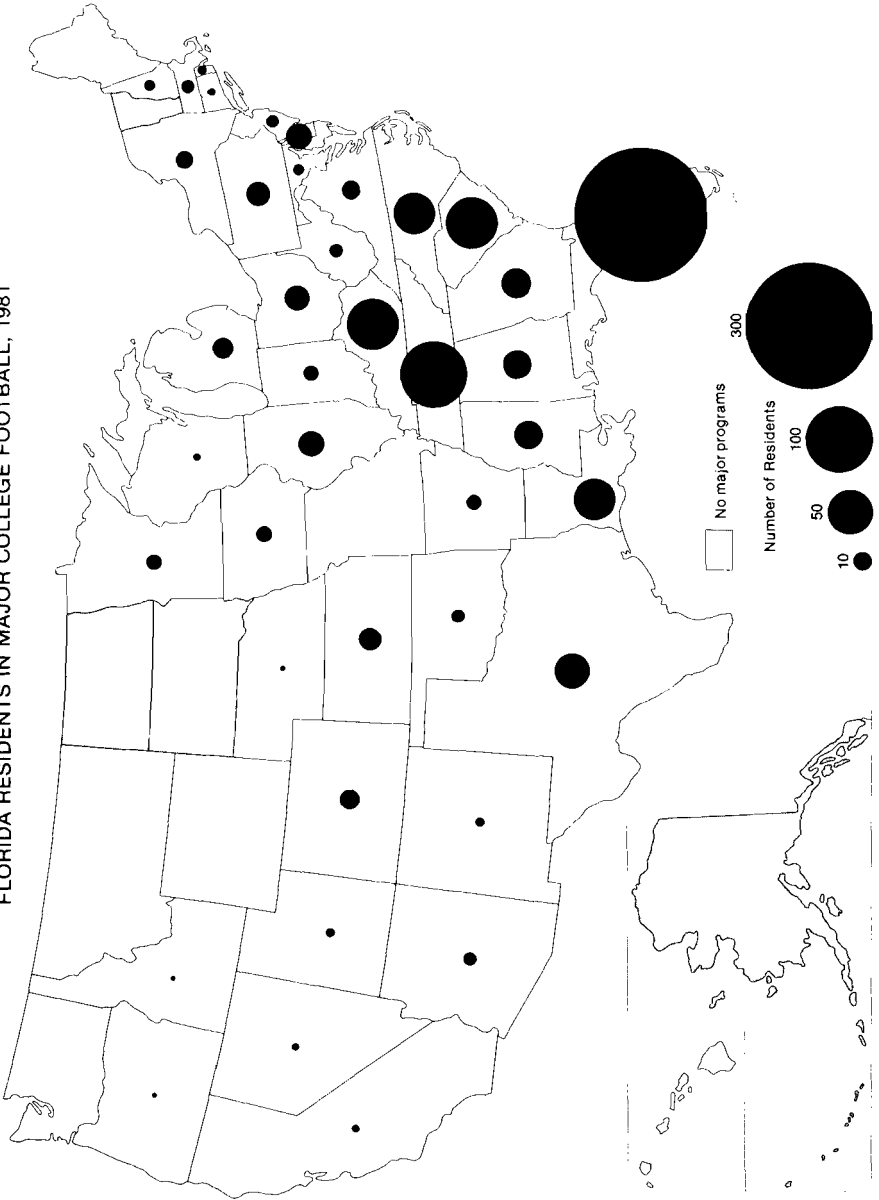
Institutional Support: (P) Private, (S) State, (F) Federal.

Conferences: (AC) Atlantic Coast, (BE) Big Eight, (BT) Big Ten, (BS) Big Sky, (IL) Ivy League, (MA) Mid-American, (MC) Mid-Continent, (MF) Middle Four, (MEA) Mid-Eastern Athletic, (MV) Missouri Valley, (OV) Ohio Valley, (PC) Pacific Coast Athletic Association, (PT) Pacific-Ten, (SE) Southeastern, (S) Southern, (SL) Southland, (SW) Southwest, (SWN) Southwestern, (WA) Western Athletic, (Y) Yankee.

* No Data on freshmen.

Source: Kavanaugh, ed. (1981); 1981 rosters

Figure 1
FLORIDA RESIDENTS IN MAJOR COLLEGE FOOTBALL, 1981



Some 205 Floridians (21 percent of all who played) competed for 11 of a possible 14 historically black institutions, whereas 753 (79 percent) played for 111 of a possible 173 predominantly white institutions. This pattern is consistent with the existence of two black colleges in Florida, the fact that much of Florida's major college-level football talent is black, and with the fact that all, save Delaware State, of the historically black institutions in major college football are located in the South. As evidenced by large numbers of their alumni in the National Football League, these institutions play excellent football. Because of this, their proximity, and the apparent preference of many black athletes to attend black colleges and universities, the historically black institutions can compete successfully for talent from Florida.⁸

Institutional Control. Two hundred nineteen Floridians (23 percent) competed for 23 of a possible 39 privately-controlled institutions, 724 (76 percent) for 96 of a possible 145 state-supported schools, and 15 (less than 2 percent) for the three major service academies. All Floridians playing in New England competed for private institutions. The private school figure averaged approximately 40 percent in Regions II and III and approached 20 percent in Regions IV and VII. Two Florida schools (Bethune-Cookman and Miami) are privately controlled.

NCAA Divisions. Six hundred forty-six Floridians (67 percent) competed for 92 of the possible 137 Division 1A institutions, while 312 (33 percent) were listed on 30 of the 50 1AA rosters. The 1A schools comprised 73 percent of the total in 1981. Thus, it appears that Florida was underrepresented nationally in Division 1A and overrepresented in Division 1AA. This distribution can probably be explained by the fact that Florida has two 1AA schools, as well as by the fact that the three regions comprising the South (III, IV, and VII) contained 50 percent of the 1AA schools but only 41 percent of the 1A schools. A short distance migration within or near Florida was disproportionately likely to be to a 1AA school: Floridians competing at this level were relatively concentrated in the South. Alternatively, longer-distance migrations of smaller numbers of "blue-chip" players were likely to be to Division 1A institutions.

The States. The inverse relationship with distance from Florida is evident (Fig. 1). Three hundred thirty-two Floridians played for Florida schools, while 626 migrated out-of-state. Other than Florida, Tennessee's rosters contained the largest number (99), followed by Kentucky and South Carolina (62 each), North Carolina (44), Louisiana (42), and Texas (31). The number of Floridians per state declined in all directions, but the slope was steeper in the Northeast and Northwest than in the North and West. Florida was well-represented in Regions V, VI, and VII, despite the considerable distance. Those states with no Floridians included Hawaii, Maine, Missouri, Montana, Washington, and Wyoming. Complete absence is regarded as a function both of low demand for out-of-state players (four of these states supported but one major college program each and the others had but two each) and tyranny of distance from Florida. The steep decline to the Northeast can probably be explained by the fact that the needs of the talent-deficit states in Regions I, II, and III have historically been met by closer talent-surplus states, such as New Jersey, New York, Ohio, and Pennsylvania. Recruiters from these areas have only recently begun to search for players in Florida.

The Regions. The distance-decline is more readily apparent (Table 6) than at either the institutional or state levels; both the number of players per region and proportion of programs with Florida players decreased with distance from the Deep South. Aside from the Deep South (Region IV), Florida was best represented in the South Atlantic (Region III), followed by the Midwest (Region V), although the proportion of institutions with Floridians was higher in Region VI (Great Plains) than in Region V (Midwest). This is probably attributable to the fact that all Great Plains institutions competed in Division 1A, whereas there were numerous 1AA schools in the Midwest. It was suggested earlier that players are unlikely to migrate long distances to 1AA schools: 1AA

TABLE 6
DISTRIBUTION OF FLORIDIANS BY FOOTBALL REGION

Region	Major Programs	Major Programs with Florida Players	Number of Florida Players
I	13	6	15
II	18	11	55
III	23	19	120
IV	41	39	603
V	32	19	75
VI	8	6	22
VII	17	10	38
VIII	5	1	1
IX	13	6	20
X	17	5	9
Total	187	122	958

Source: 1981 rosters

recruitment is geographically constrained. As further evidence, one might note the paucity of Floridians in Region VIII, which is entirely a 1AA region.

The Conferences. Since many conferences transcend regional boundaries, their patterns are more complex. In fact, 200 players were listed on the rosters of southern independents (including Florida State and Miami). However, there is continuing evidence of the distance-decline.

There was at least one Floridian in every athletic conference (Table 7). Largest numbers (170) competed in the Division 1AA Mid-Eastern Athletic Conference, which has two member schools (Bethune-Cookman and Florida A & M) in Florida. The MEAC was followed by the Southeastern Conference (167 Floridians on its ten rosters), of which the University of Florida is a member. Others with 25 or more included the Atlantic Coast Conference (35), the Big Eight (25), the Big Ten (48), the Ivy League (32), the Ohio Valley (73), the Southern Conference (76) and Southwestern Athletic Conference (32).

As suggested earlier, despite the fact that large numbers were not involved, the proportion of institutions with Florida players was higher for geographically distant 1A conferences than for comparable 1AA conferences, such as the Big Sky, Middle Four, and Yankee Conferences.⁹

A Simple Model of Out-of-State Migration

The purpose of this section is to statistically explain at the state level the distribution of those 626 Floridians in out-of-state major college programs in 1981. In developing the model, four factors were elicited from the foregoing.

The first factor is that the states very considerably in level of demand for out-of-state players. Demand seems to be largely a function of the number of programs within a state vis-a-vis its "home-grown" supply of quality players, which generally varies directly with its population: the larger the ratio of programs to population, the greater the reliance on out-of-state players if its programs are to be competitive.¹⁰ The relevancy of this factor can readily be seen in certain talent-deficit, lightly populated western states, such as Idaho, Nevada, Utah, and Wyoming. Rooney (1974) treats this subject at length. It is also evident east of the Mississippi in such heavy emphasis (for their population) states as New Hampshire, Rhode Island, Delaware, the Carolinas, Kentucky, Louisiana, Mississippi, and Tennessee.

TABLE 7
DISTRIBUTION OF FLORIDIANS BY MAJOR ATHLETIC CONFERENCE

Conference	Divisional Level (1981)	Conference Members	Conference Members with Florida Players	Number of Florida Players
Atlantic Coast Conference	IA	8	7	35
Big Eight Conference	IA	8	7	25
Big Ten Conference	IA	10	10	48
Big Sky Conference	LAA	8	2	3
Ivy League	IA	8	8	32
Mid-American Conference	IA	10	1	1
Mid-Continent Conference	LAA	3*	2	2
Middle Four Conference	LAA	4	1	1
Mid-Eastern Athletic Conference	LAA	6	5	170
Missouri Valley Conference	IA	8	4	16
Ohio Valley Conference	LAA	9	8	73
Pacific Coast Athletic Association	IA	6	1	3
Pacific Ten Conference	IA	10	4	7
Southeastern Conference	IA	10	10	167
Southern Conference	IA	8	8	76
Southland Conference	IA	6	4	15
Southwest Conference	IA	9	6	10
Southwestern Conference	LAA	7	5	32
Southwestern Athletic Conference	IA	9	5	13
Yankee Conference	LAA	6	1	1
<hr/>				
Eastern Independents		12	6	16
Mid-Western Independents		2	2	10
Southern Independents		18	16	200
Southwestern & Western Independents		2	1	2
<hr/>				
Total		187	122	958

* The fourth member school, Southwest Missouri, competed in NCAA Division 2 in 1981.

Source: Kavanaugh, ed. (1981), 1981 rosters

The second factor is the type of institutions in a state. All other things (especially population) being equal, those states with duplicative higher educational systems, whether public-private or black-white, tend to support larger numbers of programs and thus have higher aggregate demand for out-of-state players than those with single educational systems. The relevancy of this "private institutions-black institutions" factor can be seen in such talent-deficit regions as New England and the South Atlantic.

The third factor is distance from Florida. The existence of an apparent distance-decline function has been discussed previously. The gravity model literature is rich with examples where the number of migrants to a destination varies inversely with distance from a source (see, for example: Carrothers, 1956; Kavanaugh, 1950; Isard, 1960; Lukerman and Porter, 1960; McConnell, 1965; and Stewart and Warntz, 1958).

The fourth is the presence of an intervening supplier, or barrier to migration from Florida, a concept compatible with that of an intervening opportunity (Stouffer, 1940). As noted earlier, sixteen other states had a net surplus of major college football players in 1981. Any one of these located nearer to a talent-deficit state than Florida can be considered to have been an intervening supplier. For example, in comparison with Florida, California was an intervening supplier for Utah, Texas for New Mexico, Georgia for either North Carolina or Tennessee, Pennsylvania for New Hampshire, Ohio for Kentucky, and both Ohio and Illinois for Indiana.11

TABLE 8

OUT-OF-STATE MIGRATION

ACTUAL AND PREDICTED NUMBER OF FLORIDIANS

Region	State	Actual	Predicted	Region	State	Actual	Predicted	
I	CT	2	7	V	IL	19	15	
	ME	0	0		IN	7	33*	
	MA	6	22*		IA	8	12	
	NH	4	10*		MI	13	8	
	RI	3	5		MN	8	-1#	
Total	15	44	OH		18	22		
II	DE	19	8#		WI	2	0	
	NJ	5	10		Total	75	89	
	NY	9	19*		VI	KS	15	7#
	PA	16	29*			MO	0	0
	WV	6	11	NE		1	-1	
Total	55	77	OK	6		10		
III	MD(DC)	4	16*	Total	22	16		
	NC	44	61*	VII	AR	7	6	
	SC	62	62		TX	31	16#	
	VA	10	33*	Total	38	22		
Total	120	172	VIII	ID	1	3		
IV	AL	23		13#	MT	0	0	
	GA	24		12#	Total	1	3	
	KY	62	34#	IX	CO	12	7	
	LA	42	33#		NV	2	2	
	MS	21	29*		NM	3	3	
TN	99	61#	UT		3	7		
Total	271	182	WY		0	-2		
			Total		20	17		
			X	AZ	6	4		
				CA	2	1		
				OR	1	1		
				WA	0	-1		
				Total	9	5		

$$E(Y_i) = 3.5072X_i - 3.9303 \quad r_{xy} = 0.824 \quad S_{E(Y)} = 11.49$$

- * Overprediction by at least one-half standard error of estimate.
- # Underprediction by at least one-half standard error of estimate.

Source: Calculated by author

The Statistical Model.

As a first approximation to an explanatory model which would seem to incorporate the foregoing, it was decided to employ as the dependent variable the number of players on all major college rosters in a state and as the independent variable a measure of gravitational attraction on Florida, quantified for each state with major programs (except Hawaii) by the ratio of its aggregate out-of-state demand to the distance in standard units between the approximate geographic centers of both states. Hawaii was omitted because of its tremendous distance from the conterminous United States. Thus, $N = 44$. It was hypothesized that the number of Floridians varies directly with gravitational attraction. The results of a regression-correlation analysis and patterns of over- and underprediction are presented in Table 8. While a formal test for significance was not conducted because of apparent lack of normality and the fact that we were dealing with a population instead of a sample, the model was generally successful. Gravitational attraction explained approximately 67 percent ($r_{xy}=0.824$) of the variation in number of players from Florida.

Residuals from Regression.

Using over- and underprediction by at least one-half standard error as critical, interesting patterns emerged. Gravitational attraction overpredicted the number of Floridians competing in Massachusetts, New Hampshire, New York, Pennsylvania, Maryland and the District of Columbia, North Carolina, Virginia, Mississippi, and Indiana. Underprediction occurred in Delaware, Alabama, Georgia, Kentucky, Louisiana, Tennessee, Minnesota, Kansas, and Texas. The regional sums suggest that gravitational attraction overpredicted northeasterly and northerly migrations, underpredicted intraregional flows and those to the Great Plains and Southwest, and was most successful in the West.

Explanation of Patterns.

Which factors might, if quantified in multiple regression, account for these patterns? The most evident is a private institutions factor. Privately-controlled institutions comprise approximately 41 percent of the total in the overpredicted states and but 12 percent in the underpredicted states. Moreover, the overpredicted states contain twenty of the total of thirty-nine private institutions, whereas but six are located in the underpredicted states. Further examination of the rosters of the private institutions in the overpredicted states in New England and "Independentia" revealed disproportionately large numbers of players with either parochial high school or preparatory school backgrounds, neither of which is characteristic of the typical Floridian.

Other possible factors include cultural similarity or relative proximity to Florida, a more sensitive measure of intervening suppliers and one which would incorporate the geographical biases and social experiences of both recruiters and players. The first might be operationalized by calibrating the measure of gravitational attraction with a distance exponent larger than one, whereas the second should take into account that critical mass of talent-surplus states in the New Jersey, New York, Ohio, Pennsylvania cluster which, together with Georgia, seems to serve as an effective barrier to the Northeast (even in the nearby South Atlantic, only South Carolina was adequately predicted).

With respect to the last factor, the author is otherwise unable to suggest why gravitational attraction overpredicted migration to Mississippi when all other states in the Deep South were underpredicted, and underpredicted migration to Minnesota. Is it possible that, because of its dubious national image, Floridians are culturally biased against competing for Mississippi institutions? The "Minnesota Connection" may be an isolate which requires detailed investigation, possibly into the prior experiences of recruiters, players, and even former players. It is sufficient to say, however, that Florida to Minnesota flows also exist in college basketball and that Minnesota has had a tradition of recruiting in the South since the reign of Coach Murray Warmath (a Mississippi native) which began in the 1950's.

Conclusion

Florida has a huge surplus of major college-level talent and appears to play a larger role in the geography of football player production than previously. Floridian competing outside the state are most numerous in talent-deficient states in the Deep South and South Atlantic. They are also important in other areas of the country where recruiting is not dominated by such talent surplus states as California, Ohio, Pennsylvania and Texas.

* * *

1. I wish to thank Rance Ellis, Department of Geography, Florida State University, for data collection, the sports information directors of the various institutions for providing roster information (especially Wayne Hogan, now of Florida State but then at New Mexico), and the staff of the NCAA for answering numerous telephone inquiries, as well as providing me with the rosters of several institutions.

2. There were no major programs in Alaska, North Dakota, South Dakota, and Vermont. Subsequent reclassification by the NCAA resulted in the downgrading of forty programs classified as 1A in 1981 to 1AA for 1982. There are three Mid-American Conference schools whose classification was pending as of July, 1982. Two additional schools, Alabama State and Southwest Missouri, competed in Division 1AA in 1982, increasing the number of major programs to 189.

3. This contrasts with previous years (Rooney, 1969).

4. Only seventeen states exported more players than they imported on the 1981 rosters. Twenty-nine were net importers. Three southern states (Tennessee, North Carolina, and Kentucky) had the worst negative balances of trade, although the percentage of out-of-state players was higher for New Hampshire, and certain western states, such as Nevada, Utah, and Wyoming.

5. Most institutions provided me with complete season-opening rosters, but some did not provide data on freshmen and a few provided spring practice rosters. Thus, the number of Floridians in major college football was more likely underestimated than overestimated.

6. The importance of the airplane and automobile in recruiting was chronicled by Rooney (1980, p. 35-65).

7. The data suggest that Floridians are more likely to migrate interregionally and less likely to remain in their home region than "Deep Southerners" as a whole, as the following demonstrate:

	Probability of Migrating to:									
	I	II	III	IV	V	VI	VII	VIII	IX	X
All Players from Region IV	.006	.021	.098	.776	.036	.010	.035	.002	.010	.007
Floridians	.016	.057	.125	.629	.078	.023	.040	.001	.021	.009

8. Florida A & M won the 1978 Division 1AA national playoffs. Tennessee State competed in Division 1A through the 1980 season.

9. This effect would have been even more evident if reorganization of the Division 1 programs had occurred prior to the 1981 season. The Mid-American Conference, which has had many of its programs downgraded, listed but one Floridian on its ten rosters.

10. A regression-correlation analysis of percentage of out-of-state players on all rosters in a state and the number of programs per one million population resulted in a correlation coefficient of 0.394.

11. A nearby talent-rich state, such as New Jersey, would have constituted an intervening opportunity for a college recruiter from Virginia, whereas it would have been an intervening supplier with respect to Florida, and a barrier to migration from Florida to Virginia.

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