ACT RESEARCH REPORT

No. 54
54
December 1972

COLLEGE STUDENT MIGRATION

R. H. Fenske
C. S. Scott
J. F. Carmody

PUBLISHED BY THE RESEARCH AND DEVELOPMENT DIVISION
THE AMERICAN COLLEGE TESTING PROGRAM
P. O. BOX 168, IOWA CITY, IOWA 52240

COLLEGE STUDENT MIGRATION

ABSTRACT

This study examines the background characteristics of two large national samples of first-time enrolled freshmen who (a) attended college within their state of residence but away from their home community, (b) migrated to a college in an adjacent state, (c) migrated to a college in a distant state, and (d) attended college in their home community. The first sample included 32,351 fall 1966 enrollees in 796 colleges in 39 states; the second sample included 50,205 fall 1969 enrollees in 1,103 colleges in 45 states. These data provided the basis for an analysis of national trends in migration to college. The relationship of these trends to a wide variety of student characteristics, attributes, and backgrounds is also examined. The findings reveal that significant shifts in college migration patterns occurred over the period studied and that the four migration groups differed significantly on the variables studied.

COLLEGE STUDENT MIGRATION

Robert H. Fenske
Craig S. Scott
James F. Carmody

This study is addressed to a number of current widespread concerns in American higher education. Most states are now experiencing a critical shortage of funds to meet the constantly increasing expenditures required for public higher education. While the number of out-of-state students and their characteristics have always been of interest to legislators and administrators, the extent to which state tax revenues should be used to provide higher education for young persons from other states is of critical concern during the present budget crisis. For most state policymakers the choice is clear when it comes to either restricting out-of-state enrollments in publicly supported institutions or denying admission to in-state citizens because of lack of facilities, operating funds, or faculty. When faced with such a choice, it is not uncommon for states to increase nonresident tuition, establish quotas which restrict the percentage of out-of-state students admitted to state institutions, or apply higher admission standards to out-of-state students than to residents. Many states employ a combination of these actions. Such actions by a large and growing number of states have had the overall impact of reducing the free choice of low-cost college by students. Increasingly, their interstate mobility is limited beyond the ordinary restrictions related to cost of travel and relocation. A recent study by the U.S. Office of Education's Center for Educational Statistics (1970b) indicated that, in comparison with earlier surveys conducted between 1931 and 1963, the rate of interstate migration of college students is declining rather than rising.

The climate which has fostered the restriction of student migration has also retarded the once-promising movement toward free and reciprocal student exchange arrangements among the states. Carbone (1970) concluded that more needs to be done to facilitate reciprocity for students—certainly students should be able to attend colleges in neighboring states with greater ease. The Education Commission of the States (1970) stated that

> it is shocking indeed that this survey of public higher education covering all our states and territories could uncover only a handful of substantive reciprocal programs. In this respect, we act more like foreign nations than like 'united states.' Operating in such a Balkanized setting, higher education is prevented from helping the states make their fullest contribution to our national goals [p. 37].

Educational policymakers in the various states all too often have only enumerative or "head-count" data available when they consider the problem of student migration in or out of their respective states. Clearly, information about the characteristics and backgrounds of migrating students would help to answer or to provide the basis for considering such questions as the following: Should the number of out-of-state students be curtailed? Are the best potential college students among state residents beginning their college careers in-state or elsewhere? If out-of-state tuition is greatly increased, what kinds of students in terms of ability are likely to be restricted? A starting point in the search for answers to such questions is reliable data comparing the characteristics and backgrounds of students who begin their college careers within their home states with those who migrate to other states.

As indicated in the preceding section, the prevailing tendency in the United States today is for most states to curtail out-of-state enrollments in their public institutions of higher education by increases in tuition and/or fees, by quotas, by extremely high admissions standards, or by various combinations of these methods. Strand (1967) in a survey of 304 state colleges and universities found that all but 5 reported their tuition and/or fees were higher for out-of-state students than for residents. In over two-thirds of the schools, the difference was more than $300 per year. About three-fourths of the colleges sampled applied higher admission standards to out-of-state students than to residents. Strand determined that direct quotas were used by over 40% of the colleges in 19 states to restrict out-of-state students according to (a) available residence hall space, (b) available classroom space, (c) a percentage of total enrollment, and (d) available faculty members.

Some states are joining other states which have adopted policies of requiring out-of-state students to pay all of the computed cost of their education. For example, an objective of a major set of recommendations on tuition increases in Illinois by the State Board of Higher Education (1968) states that "Ultimately the financial burden of educating nonresident undergraduate students will be eliminated [p. 4]." This objective is to be reached by requiring that "out-of-state students should pay a major part, or all, of the cost of education provided by the State of Illinois. Such charges must be increased gradually to avoid reciprocal action by other states, most of whom import more Illinois students than they export to Illinois [p. 3]."

A similar document by the Joint Committee on Higher Education (1967) for the state of California included a statement by a committee member, Senator John G. Schmitz, that "out-of-state students should be required to pay the entire cost of their education-not only a part of it as under present law. The taxpayers of California are burdened enough with taking care of their own without also subsidizing students from other states in search of an educational bargain [p. 93]."

The underlying reasons for constructing tuition barriers may not be solely budgetary. Recently a New York Congressman asked the Justice Department to investigate Purdue University's admissions policy for possible civil rights violations (Fields, 1970). It was argued that many state universities, for example Purdue and the University of Wisconsin, applied quotas on out-of-state admissions in a discriminatory manner against students from the New York and New Jersey areas. These universities had decided "that these out-of-state minorities were the cause of campus unrest and had to go [p. 7]." Also referred to was a recent policy adopted by the Board of Regents of the University of Wisconsin that limited out-of-state enrollments to 25% of the 1969 entering freshman class, 20% of the 1970 entering class, and 15% of the 1971 entering class. This quota system was coupled with marked increases in nonresident tuition, $1,798 for the 1970-71 academic year, nearly double that of 1966. The resulting drop in out-of-state enrollments was dramatic. "If the purpose of increasing nonresident tuition was to limit nonresident students, then that purpose has been achieved. The nonresident enrollment proportion has been affected by that increase. Quota limitations have not been the cause of decreased enrollments of nonresidents; although the University of Wisconsin Board of Regents set a quota of 20.0 percent among the new freshmen for the fall of 1970, the proportion actually is only 17.9 percent [Coordinating Council for Higher Education, 1970, p. 7]." This according to the Coordinating Council for Higher Education constituted "a drop from 38.0 percent in 1966 [p. 7]." While the University of Wisconsin may be cited as an extreme example, there is nonetheless a discernible trend toward increasing parochialism and constraints on the interstate migration of beginning college students.

Further evidence of constraints on interstate student migration may be found in a recent study supported by the Michigan Department of Education (1971). The authors concluded that the factors which appear to correlate with increased retention of in-state students include "the provision of more in-state educational facilities, increased nonresident tuition and fees, quotas on the admission of nonresident students in public institutions, and stiffer entrance requirements in some institutions [p. 44]."

The rationale for actions restricting the admission of out-of-state students is usually couched in economic terms. "Many persons feel that a state which sends more students out of state for higher education than it enrolls from the remaining 49 states is relying on the citizens of another state to pay for the education of its students [Chamberlain & Strand, 1967, p. 5]." This conclusion is usually based on the simple and direct calculation of the amount of state subsidy which pays for the cost of the typical undergraduate education. There is a wide variation, of course, but normally tuition and fees cover only about one-third of the state's cost. The rhetorical question is often asked: Why should the taxpayers of, for example, a midwestern state subsidize the undergraduate education of thousands of young persons from

eastern states? Substantive economic answers to this question are extremely rare. Recently, however, President Robben Fleming of the University of Michigan (1968) listed the following points: (a) Many states like Michigan simply balance in-migration against out-migration since they educate about as many out-of-state students as the number of Michigan residents who have enrolled elsewhere. (b) A recent study showed that approximately one-fourth of 500 University of Michigan graduates who had originally come from other states remained in Michigan, many of them entering high-income professions. The state taxes paid by these professionals would in a few years cover the subsidy for a much larger number of out-of-state students. (c) A reduction in the number of out-of-state students would result in a need for a larger state appropriation since these students pay a substantially higher fee. If they were replaced with in-state students at lower fees, a deficit would be the result; if the number of out-of-state students were simply reduced or eliminated and not replaced with in-state students, a proportionate reduction in costs would not be achieved. (d) In general, only out-of-state students from relatively wealthy families can afford the nonresident tuition and other costs. Since these students spend relatively more money than others, their expenditures represent "new money" and are a significant addition to the economy of the state. (e) The University of Michigan has always been one of the foremost recipients of federal and national foundation funds (more than $60,000,000 in federal funds alone in 1967). The University received this money on the basis of its great national reputation, its ability to recruit distinguished professors and researchers from all over the world, and the attraction that it has for first-rate graduate and undergraduate students. President Fleming (1968) summarized these points by stating that "any rational analysis will show that the state of Michigan gains more than it spends on out-of-state students [p. 11]."

The economic arguments just cited seem very compelling. However, philosophical and political reasons are also often given to defend admission of out-of-state students. Chamberlain and Strand (1967) surveyed 287 public college and university presidents to determine their reasons for defending the admission of out-of-state students. The items they selected and the percentage of respondents who selected each item are as follows:

	Percentage
Out-of-state students contribute to the diversity of the academic and extra-curricular environment of the campus	75.0
Out-of-state student limitations encourage provincialism in education	59.3
Society is the primary beneficiary of the educated person	53.9
Education is highly important to all citizens, regardless of state of residence, in a democracy	47.5
State barriers constitute artificial limitations on educational opportunity in the United States	40.0
Each state is part of the national economy and cannot stand alone or apart from other states	38.2
The purposes and objectives of the institution support such a position	37.5
Residents of all states suffer from out-of-state student restrictions because few states provide higher education in all fields [p. 11].	25.0

Another important determinant of change in student migration patterns during the last 3 years has been the substantial increase in the number of 2-year colleges. These institutions provide local educational opportunities at relatively low cost to many who would otherwise have been unable to begin college careers, although they also enroll many students who chose the institution for other than purely economic reasons.

The impact of these commuter colleges on higher education is reflected by their rapid growth. The American Association of Junior Colleges (1967, 1970) reported that during the period 1966-1969 the number of junior colleges in the United States increased by about 24% from a total of 837 institutions to 1,038. The number of students enrolled in these institutions increased from 1,464,099 in 1966 to 2,186,272 in 1969, an increase of about 49% over the 1966 figure.

In 1964-1965 the average tuition charged for full-time resident students in public 2-year institutions was $120 (in 1969-1970 dollars); in comparison, tuition charged by public 4-year institutions was $271, and $360 for public universities. In 1969-1970 the average tuition charged at public 2-year institutions had increased to $188, compared with a $310 average tuition increase at public 4-year institutions and a $412 increase at public universities (National Center for Educational Statistics, 1971).

The growth of local junior colleges can be explained partially by the lower state contributions required to educate students. It can also be explained by legislators' desires to provide greater educational opportunities to

low-income students by building many schools within commuting distance rather than by building fewer but larger schools (Tuckman, 1972).

Interpretive literature dealing with student migration is relatively limited. The most recent comprehensive study is that of Gossman et al. (1968). In addition to descriptive and interpretive treatment of the migration data from the 1963 USOE study, Gossman and his associates dealt in some detail with the methodology of migration measures and the derivation of related ratios. Using secondary sources such as descriptors gleaned from the U.S. Census, these researchers used factor analytical techniques to identify the dimensions underlying the set of independent variables and to determine their relationship to various measures of student migration. Gossman's independent variables, however, were largely measures of the characteristics of the institutions and states rather than direct measures of the characteristics of the students attending them. The present study is more concerned with the latter class of variables and with any changes which may have occurred over a 4-year period.

Previous studies of student migration have been of two types: (a) A census approach such as that taken by the USOE wherein the colleges are polled as to the home addresses of their first-time students, and (b) statewide or other area studies of the college-going plans of high school seniors, some of which include a validation follow-up a year or more later. The first type does not usually include any information about the student other than his home address and the college of present enrollment. The second type does not have student interstate migration as the central focus and usually reports only the percentage of students planning to attend college out-of-state without reference to their destination. Typically, such studies make no attempt to relate plans for migration to students' characteristics. As will be seen, the present study utilizes data which make possible a combination of these two types of approaches: that is, an analysis of the relationship between student characteristics and their migration to college of first enrollment. The present study contains extensive information about a wide range of personal and background variables plus valid information about where the students were enrolled as freshmen. The added feature of comparable data from two independent samples covering a 4-year span provides an opportunity for examining the change or stability, over time, of the characteristics of migrating students.

Method

The Instruments

The data in this study were obtained during regular nationwide administrations of the ACT Assessment and include responses to the Student Profile Section (SPS). The SPS is a short biographical inventory administered as part of the ACT Assessment. The SPS asks prospective college students about their home backgrounds, educational and vocational plans, grades achieved in high school, goals in attending college, and interests and achievements in out-of-class areas. Maxey and Ormsby (1971) found that such self-reported grades and out-of-class achievements were sufficiently accurate to be useful sources of information and that the accuracy of the information did not vary significantly across categories of income level, sex, race, or class size. Correlations between self-reported grades and school-reported grades, for example, ranged from .81 to .86.

The Samples

The samples used in this study were drawn from ACT Class Profile tapes containing information furnished by students who took The American College Testing Program's Assessment between October 1, 1965, and August 30, 1966, and between October 1, 1968, and August 30, 1969. The Class Profile tapes comprise the data bank for an ACT Research Service which lists all of the students who took the ACT Assessment during a given test year and who subsequently were certified as enrolled the following fall at one of the colleges participating in the Class Profile Service. Each student record contains scores on the ACT Assessment and information gathered through the SPS. The 1966 Class Profile tapes contained 328,416 student records, and the 1969 tapes contained 532,640 student records. The sample for the present study was obtained by transferring every 10th student record from the Class Profile tapes to a special sample tape, excluding students who indicated they were married at the time the test was administered.

The 1966 sample tape contained 32,351 student records from 796 different colleges in 39 states; the 1969 tape contained 50,205 student records from 1,103 colleges in 45 states. In both samples, the colleges were distributed fairly evenly across all regions except for the

Northeastern (New England and Middle Atlantic) and the far Northwestern regions which were slightly underrepresented.

The sample tapes contained information on a wide variety of student characteristics. An average high school grade point average and an ACT Composite Score, both of which were secured from the regular ACT Assessment, were included for each student in the sample. The following SPS items were used in the analyses: choice of major field, expected vocational choice, level of educational aspiration, type of home community, family income, expected number of hours per week employment, loan or scholarship application, expected transportation, number of high school achievements, and five factors that may have influenced their college choice. Included in these five factors were desirable location, special curriculum, low cost, national reputation, and whether or not the student was offered a scholarship. The student was asked to indicate whether each factor was a "major consideration," a "minor consideration," or of "no importance" in influencing his choice of college.

A high degree of consistency in the distribution of these characteristics between the 1966 and 1969 samples has been recently reported (Carmody, Fenske, & Scott, 1972). The stability of the responses between these independent samples demonstrates their utility for descriptive purposes.

The Procedures

The index used as the dependent variable for the analyses in this study was constructed by comparing within each student record the state in which the home address was located with the state of the college in which the student later enrolled. A special computer program was developed to categorize each student record into the following three mutually exclusive groups: (a) those who enrolled within their home state, (b) those who enrolled in a state adjacent to their home state, and (c) those who enrolled in a distant state. The third category was comprised of students enrolled in a college in any state other than the home state and its adjacent states. Then, a fourth category was formed by dichotomizing the "within-state" category between those who had attended college in their local home community and those who had attended elsewhere within the home state. The identification of "local" attenders was based on information given in the SPS, specifically on the responses to the following question: "Where do you expect to live while attending college?" Among the six alternatives offered as possible responses (e.g., fraternity or sorority house, college dormitory) was "at home (or with relatives)." For the purposes of this descriptive study, the assumption was made that nearly all of those who expected to live at home or with relatives while attending college were attending college in their local community. Exceptions to this assumption included those who would be living with relatives while attending an in-state college outside of their local community and those students who, even though attending a college within commuting distance of their home, would not be living at home but would be living on or near the campus they were attending. The distinction between those who expected to live at home and those who expected to live elsewhere while attending an in-state college has significance for the present study because of the wide differences in out-of-pocket costs to the students' families between living at home or in separate quarters (Stecklein, Fenske, & Huang, 1967). In effect, the distinction between these two types of in-state students is between those commuting from their homes during their first year of college and those living away from home, whether the college attended is in the local community or not.

The migration index was cross-tabulated with all of the independent variables listed in the preceding section. Each of the resulting tables is presented and discussed in the following section.

Results

The Two Independent Samples

The samples used were comprised of students who enrolled in fall 1966 and in fall 1969. Two entering classes (fall 1967 and fall 1968) intervened between the sample classes. Therefore, this report refers to a period including 4 academic years encompassed by the samples despite the fact that only 3 calendar years separated the samples.

The 1966 and 1969 samples exhibited somewhat different patterns of migration. The percentages for each of the migration categories in both samples and the corresponding increases or decreases in each category from 1966 to 1969 are shown in Table 1. The

statistical significance of the difference between the increases or decreases in each migration category over the 4-year period was determined by a standard test of the difference between two independent proportions (Ferguson, 1971).

TABLE 1

Percentages of 1966 and 1969 Total Sample Migration Patterns

Migration category	Sample percentages
Attended locally	
1966	37.0
1969	38.4
Increase or decrease	+ 1.4*
Within state	
1966	48.9
1969	49.5
Increase or decrease	+ .6
Adjacent state	
1966	7.3
1969	5.9
Increase or decrease	- 1.4*
Distant state	
1966	6.8
1969	6.2
Increase or decrease	- .6
1966 N	32,351
1969 N	50,205

*Significant at the .05 level.

There are two salient findings in Table 1. First, the percentage of students migrating to another state to enroll as freshmen was relatively small in both the 1966 (14.1) and the 1969 (12.1) samples; and second, there was a small but significant decrease in interstate migration over this 4-year period. (The extremely large sample sizes enabled statistical tests to detect significance of relatively small absolute percentage differences.)

The 1969 sample exhibited a slight but significant increase in local attendance and a corresponding decrease in adjacent state attendance over the 1966 sample. Neither within nor distant state attendance changed significantly over the 4-year period.

The percentages of students migrating out of state in these samples were somewhat lower than was reported in the 1968 USOE study cited previously. However, the samples used in the present study included a larger proportion of students attending public institutions than the national average. Other studies have shown that students attending private colleges are much more likely to migrate than those attending public colleges. For example, Werts and Watley (1970) used samples which contained a much higher proportion of high-ability students attending private institutions than would be found in the population of college-bound students at large. Migration of these "more talented" groups of students to "adjacent" or "distant" states or regions was found to be greater than for the USOE national sample. It has been reported that private institutions accounted for 65.4% of the student migrants in 1963 (Gossman et al., 1968).

The decrease in migration exhibited by the present samples conforms to the findings of several other studies and reflects a decline during recent years in the relative tendency of students to migrate. This general downward migration trend has been in evidence since World War II. During the fall of 1968, a total of 16% of the nation's higher education enrollment migrated, whereas in 1949 a total of 20% migrated (California Coordinating Council for Higher Education, 1970).

The percentages of migration shown in Table 1 were cross-tabulated for each of 12 characteristics to determine the relative effect of certain personal and background characteristics on the students' subsequent migration. The remainder of this section presents the results of these percentage tabulations and the corresponding statistical tests.

In Tables 2 through 13, chi square tests of goodness of fit (Ferguson, 1971) were applied to each column to compare the 1966 and 1969 distributions in that column. The purpose of these "column effect" tests was to determine whether significant changes in the corresponding column distributions of percentages over the four migration categories had taken place during the 4-year period. Chi squares significant at the .05 level are designated by an asterisk (*) following the column heading. Within each column that produced a significant "column effect," z-tests identical to those described for Table 1 of the difference between two independent proportions were conducted for every cell percentage increase or decrease. These "cell effect" tests identified the significant changes within any given column between corresponding percentages of migration categories. However, since any set of four tests in any one column of these tables was not independent, the .05 level of significance was conservatively estimated by using as a critical z the value of $\pm$ 2.50 rather than $\pm$ 1.96.

Thus, the apparent level of significance was .0125 while the actual level was .05. "Cell effect" tests significant at the .05 level are designated by an asterisk (*).

ACT Composite Scores

The composite score is an unweighted average of the separate scores on the four tests which comprise the test battery portion of the ACT Assessment: English, mathematics, social sciences, and natural sciences. For the 1966 sample the mean composite score was 20.76 with a standard deviation of 4.82. For the 1969 sample these statistics were 19.41 and 4.95, respectively. Table 2 presents the percentages for each category of student migration cross-tabulated by ACT Composite Scores grouped into five categories. The remaining tables in this report follow the format shown in Table 2. Each column contains the migration category percentages for all students who scored within the range of scores indicated at the top of the column. The percentage increase or decrease from 1966 to 1969 is included with the rows of migration percentages for both samples in each migration category. Each increase or decrease was tested for statistical significance.

Table 2 shows that for all but the last migration category there was a strong and monotonic relationship between ACT Composite Score and percentage migrating: lower-scoring students were more likely to attend a local college; conversely, higher-scoring students were more likely to migrate to a college within the state or one in an adjacent state. This relationship was stronger in 1969 than in 1966. For example, the percentage of students attending a local college in 1966 ranged from 44.5% in the lowest score category to 27.5% in the highest score category. In 1969 the range was from 50.0% to 24.4%.

TABLE 2

Percentages of 1966 and 1969 Student Migration and ACT Composite Scores

	ACT composite scores				
Migration to college	1-15*	16-19*	20-22*	23-25*	26-36*
Attended locally					
1966	44.5	40.7	36.7	32.5	27.5
1969	50.0	42.5	37.3	31.2	24.4
Increase or decrease	+ 5.5*	+ 1.8*	+ .6	- 1.3	- 3.1*
Within state					
1966	42.7	46.3	49.3	52.4	56.4
1969	40.6	46.5	50.3	54.9	60.2
Increase or decrease	-2.1*	+ .2	+ 1.0	+ 2.5*	+ 3.8*
Adjacent state					
1966	5.9	6.8	7.6	8.0	8.4
1969	3.8	5.5	6.4	6.6	8.1
Increase or decrease	- 2.1*	- 1.3*	- 1.2*	- 1.4*	- .3
Distant state					
1966	6.9	6.2	6.4	7.1	7.7
1969	5.6	5.5	6.0	7.3	7.3
Increase or decrease	- 1.3*	- .7	- .4	+ .2	- .4
1966 N	5,685	8,296	7,651	6,378	4,341
1969 N	10,300	12,905	10,817	9,140	7,043

*Significant at the .05 level.

All of the score categories showed significant changes in migration over the 4-year period as evidenced by the column effect chi square tests. The algebraic signs of the increases or decreases revealed that nearly all of the changes (over half of which were statistically significant) were consistent with the overall trend of a strengthened association between migration and test score.

The clear-cut trends discussed above were not so evident for students migrating to college in distant states. In 1966 there were no systematic increases or decreases in migration according to test score, and in 1969 there was only a slight increase in migration accompanying increases in test score. In view of the strong trends shown for all other migration categories, it is probable that there are one or more confounding or intervening variables related to scores and distant state migration.

Average High School Grades

At the time of administration of the ACT Assessment, the student is asked to give the last letter grade that he earned at the end of his junior year in high school in social studies, English, mathematics, and natural sciences. In the student's ACT record, this letter grade is converted to a numeric grade. After conversion an "A" equals 4.00, a "B" equals 3.00, etc. Table 3 contains the percentages of student migration cross-tabulated by high school grades.

Examination of Table 3 reveals that in both samples in-state migration increased monotonically with level of high school grades and that there was a concomitant decrease in local attendance. These trends were stronger in 1969 than in 1966. In 1966 the percentage attending locally declined from 42.9% for the lowest level of grades to 27.6% for the highest. In 1969

TABLE 3

Percentages of 1966 and 1969 Student Migration and High School Grades

	High school grades				
Migration to college	0-2.00*	2.01-2.50*	2.51-3.00*	3.01-3.50	3.51-4.00*
Attended locally					
1966	42.9	38.9	35.1	29.8	27.6
1969	47.3	41.1	35.6	29.4	23.7
Increase or decrease	+ 4.4*	+ 2.2*	+ .5	- .4	- 3.9*
Within state					
1966	43.2	46.0	51.0	56.7	60.4
1969	42.0	46.6	51.7	57.1	64.0
Increase or decrease	- 1.2	+ .6	+ .7	+ .4	+ 3.6*
Adjacent state					
1966	6.8	7.6	7.4	7.4	7.1
1969	4.8	5.7	6.3	7.0	7.0
Increase or decrease	- 2.0*	- 1.9*	- 1.1*	- .4	- .1
Distant state					
1966	7.1	7.5	6.5	6.1	4.9
1969	5.9	6.6	6.4	6.5	5.3
Increase or decrease	- 1.2*	- .9*	- .1	+ .4	+ .4
1966 N	9,132	8,735	7,632	4,406	2,446
1969 N	13,489	13,072	12,510	7,115	4,019

NOTE.—Letter grades converted to numeric scale where 2.00 = C, 4.00 = A.
*Significant at the .05 level.

the comparable percentages declined from 47.3% to 23.7%, respectively. The percentage migrating to colleges within state increased 17.2% from the lowest to the highest grade levels in 1966 compared with an increase of 22% in 1969. Unlike the pattern shown for ACT Composite Scores, migration to colleges in adjacent or distant states showed no strong or consistent relationship with high school grades. This is not surprising since standardized tests of college potential normed on a nationwide basis are much more likely to be used for admission and placement in out-of-state colleges than are high school grades which reflect only standing among the students' classmates.

Significant changes over the 4-year period in percentages migrating are shown in the results of the tests for column effects. Only the "B+" (3.01-3.50) category showed no significant shift. The largest absolute changes were in the lowest and highest categories. The gain of 4.4% in local attendance of lowest achieving students was derived from fairly equal decreases in percentage migrating from all three migration categories. In the highest achieving category the decrease of 3.9% in local attendance was nearly balanced by the gain of 3.6% in migration to in-state colleges.

Level of Educational Aspirations

The students were asked on the SPS to indicate the highest level of education they expected to complete from a list which included choices ranging from a "High school diploma" to several types of doctoral degrees. These choices were grouped into four categories excluding "High school diploma" and cross-tabulated by migration categories in Table 4. The first aspiration

TABLE 4

Percentages of 1966 and 1969 Student Migration and Level of Educational Aspiration [a]

	Level of educational aspiration			
Migration to college	Jr. coll. degree*	Bachelor's degree*	Master's degree*	Doctoral degree
Attended locally				
1966	54.6	35.8	32.9	32.5
1969	63.2	35.6	32.5	32.5
Increase or decrease	+ 8.6*	- .2	- .4	0
Within state				
1966	35.9	50.7	50.5	51.0
1969	31.3	52.6	52.4	51.6
Increase or decrease	- 4.6*	+ 1.9*	+ 1.9*	+ .6
Adjacent state				
1966	5.5	7.3	8.0	7.5
1969	3.2	6.1	6.8	6.9
Increase or decrease	- 2.3*	- 1.2*	- 1.2*	- .6
Distant state				
1966	4.0	6.2	8.6	9.0
1969	2.3	5.7	8.3	9.0
Increase or decrease	- 1.7*	- .5	- .3	0
1966 N	3,785	17,782	7,585	3,103
1969 N	6,518	26,657	11,562	5,088

*Significant at the .05 level.

[a] Total 1966 N is slightly smaller because 96 students aspired to a high school degree. The total 1969 N is also slightly smaller because 380 students aspired to a high school degree.

category ("Junior college degree") includes those who indicated on the SPS that they aspired to "college, but for less than a bachelor's degree."

Examination of Table 4 reveals there were significant changes in the migration distribution over the 4-year period for all levels of educational aspiration except doctoral degree. The level of educational aspiration exhibiting the largest magnitude of change as well as the largest number of changes was that corresponding to a "Junior college degree." In fact, the percentage of "Junior college degree" aspirants attending local colleges increased by 8.6% in 1969.

In 1969, a total of 63.2% of those who aspired to less than a baccalaureate college degree attended locally. This percentage was almost twice that of any other aspiration group and reflected the widespread availability of community college facilities noted by the Carnegie Commission on Higher Education (1970). Those who aspired to either bachelor's, master's, or doctoral degrees were much more likely to have attended a college somewhere other than in their local communities.

Those who aspired to either bachelor's or master's degrees exhibited identical percentage increases in within-state attendance as well as identical percentage decreases in adjacent state attendance. Doctoral aspirants did not change significantly in any of the categories.

Type of Home Community

On the SPS the students were asked "Which of the following best describes the community that you think of as your hometown during high school days?" Selections were made from a list including the main headings of "Farm," "Suburb" (with four population size choices), and "Central city" (with five population size choices). For the present analysis these 10 choices were combined into three groups corresponding to the main headings and were designated as "Rural," "Suburban," and "Urban." The results of cross-tabulating these grouped

TABLE 5

Percentages of 1966 and 1969 Student Migration and Type of Community

	Type of community		
Migration to college	Rural*	Suburban*	Urban
Attended locally			
1966	26.9	39.7	42.2
1969	28.8	41.7	42.3
Increase or decrease	+ 1.9*	+ 2.0*	+ .1
Within state			
1966	60.8	43.3	45.3
1969	61.0	44.6	45.8
Increase or decrease	+ .2	+ 1.3	+ .5
Adjacent state			
1966	8.3	7.4	6.4
1969	6.3	5.8	5.8
Increase or decrease	- 2.0*	- 1.6*	- .6
Distant state			
1966	4.0	9.6	6.1
1969	3.9	7.9	6.1
Increase or decrease	- .1	- 1.7*	0
1966 N	9,038	11,315	11,998
1969 N	13,810	19,425	16,970

*Significant at the .05 level.

choices with migration categories are shown in Table 5.

Significant column effects were shown for both the rural and suburban categories, but not for the urban category. As might be expected, students from urban population centers had the highest percentages of local attendance and rural students had the lowest. This pattern remained stable over the 4-year period. Local or commuter-type colleges are typically not within reasonable commuting range of many rural students. To the extent that rural students cannot live at home while attending college, rural students are disadvantaged and probably always have been. It is possible that these data reflect substantial inequality of educational opportunities for rural students.

Family Income

Each student was also asked on the SPS to estimate his family's total annual income before taxes from a list of eight alternatives ranging from "Less than $3,000 per year" to "$25,000 and over." Two additional options were "I consider this information confidential" and "I don't know." For purposes of the present analysis, responses to the last two options (about one-fourth of the total in both samples) were combined with those in the median category of "$5,000 to $7,499." Table 6 presents family income data cross-tabulated by migration categories.

Table 6 shows several interesting and perhaps surprising results. Except for an increase in distant state migration in the lowest income category over the 4-year period, *all* income levels decreased in interstate migration both to adjacent and to more distant states. Conversely, *all* income levels had increases in local college attendance during this period. The consistency of these changes resulted in significant column effects for all income levels except the highest.

The lone exception to decreases in adjacent and dis-

TABLE 6

Percentages of 1966 and 1969 Student Migration and Family Income

	Family income						
Migration to college	$5,000*	$5,000 to 7,499*	$7,500 to 9,999*	$10,000 to 14,999*	$15,000 to 19,999*	$20,000 to 24,999*	$25,000 and over
Attended locally							
1966	38.7	37.0	40.1	36.8	31.1	25.3	23.2
1969	39.4	37.4	42.9	39.3	36.7	30.7	23.3
Increase or decrease	+ .7	+ .4	+ 2.8*	+ 2.5*	+ 5.6*	+ 5.4	+ .1
Within state							
1966	51.5	49.8	47.1	46.5	49.0	48.7	47.3
1969	50.4	50.8	47.2	48.1	47.9	50.6	50.9
Increase or decrease	- 1.1	+ 1.0	+ .1	+ 1.6	- 1.1	+ 1.9	+ 3.6
Adjacent state							
1966	5.9	7.2	6.5	7.8	8.8	12.8	13.5
1969	5.0	6.0	5.1	6.0	6.7	8.2	10.2
Increase or decrease	- .9	- 1.2*	- 1.4*	- 1.8*	- 2.1	- 4.6*	- 3.3
Distant state							
1966	3.9	6.0	6.3	8.9	11.1	13.2	16.0
1969	5.2	5.8	4.8	6.6	8.7	10.5	15.6
Increase or decrease	+ 1.3*	- .2	- 1.5*	- 2.3*	- 2.4*	- 2.7	- .4
1966 N	3,680	15,810	5,423	4,995	1,354	577	512
1969 N	5,915	22,336	7,429	9,201	2,955	1,262	1,107

*Significant at the .05 level.

tant state migration in all income categories was an increase in distant state migration category for the lowest income category. This increase could be attributed to increased efforts of recruitment and more offers of financial aid to disadvantaged students by out-of-state colleges and universities.

There are two distinct underlying relationships shown between family income and student migration. The first is a very strong positive relationship between income and interstate migration. Adjacent state migration more than doubled over the range of income categories for both samples, and the rate of distant state migration quadrupled in 1966 and tripled in 1969 over the income range. This relationship is in the logical and expected direction, but the magnitude of the increases is striking nonetheless. The second salient relationship shown in Table 6 is the remarkable lack of association between income and within-state migration. For example, in 1969 the percentages over all income categories did not vary more than 2.3% from the total sample percentage of 49.5. Among those attending local colleges there was a fairly strong tendency for percentages to decrease inversely with increases in family income, but the highest percentages are at the third lowest income category rather than at the lowest two categories. This trend is consistent with a recent study on Florida junior colleges which found that the presence of local junior colleges in an area is beneficial to lower income families. Since the percentage of enrollments in a local junior college is price responsive, at least in the lowest income groups, the savings obtained from having local junior colleges increases the number of low-income students in college (Tuckman, 1972).

TABLE 7

Percentages of 1966 and 1969 Student Migration and Sex

	Sex	
Migration to college	Female*	Male*
Attended locally		
1966	34.4	39.1
1969	34.8	41.3
Increase or decrease	+ .4	+ 2.2*
Within state		
1966	52.2	46.3
1969	52.5	47.0
Increase or decrease	+ .3	+ .7
Adjacent state		
1966	7.4	7.2
1969	6.4	5.5
Increase or decrease	- 1.0*	- 1.7*
Distant state		
1966	6.0	7.4
1969	6.3	6.2
Increase or decrease	+ .3	- 1.2*
1966 N	14,107	18,244
1969 N	22,839	27,366

*Significant at the .05 level.

Sex

Differences between males and females in migration to college were of direct interest in the present study; thus, sex was used as one of the set of independent variables rather than a control variable. Table 7 shows migration category percentages separately for males and females.

The proportion of females in both the 1966 sample (44%) and the 1969 sample (45%) is consistent with national sample percentages for first-time fall enrollments for these years (United States Office of Education, 1967, and National Center for Educational Statistics, 1970b). While both male and female migration patterns changed significantly as evidenced by the column effect tests, male interstate migration declined more than female over the 4-year period. For males three of the four migration category percentages changed significantly between 1966 and 1969, but for females only adjacent state migration changed significantly. These data indicate that males migrate to college slightly less than females and that the trend is for this difference to increase. This finding is in line with previous research which found that family income of females who attend college is higher than for males and that this difference is accentuated for students who migrate out-of-state to college (United States Office of Education, 1970).

Expected Part-Time Employment in College

On the SPS form administered to the 1966 sample, each student was asked "About how many hours do you expect to work part-time while attending college? (excluding summer work)." The student was instructed to select one of the following four responses: "1-9 hours per week," "10-19 hours per week," "20-29 hours per week," and "30+ hours per week." There were no alternatives for those who did not expect to work. The nonresponse rate of

16.8% to this question was largely attributed to lack of this alternative (nonresponse was negligible for all other SPS items).

The SPS form administered to the 1969 sample asked the same question with the same options except for the addition of the option "Do not expect to work." The nonresponse rate was negligible (less than 2%). In preparing these data for the present study, the decision was made to include nonresponses for the 1966 sample in the category of "Do not expect to work" (shown as "none" in the table). This classification was made on the assumption that the inordinately large number of 1966 nonresponses was comprised mostly of those who did not expect to work but were given no option to so indicate. Table 8 shows these data cross-tabulated by migration categories.

Cross-tabulation of migration with employment expectations yielded more change over the 4-year period than did cross-tabulation with any other single variable. Examination of Table 8 reveals that 60% of the cells in this tabulation exhibit statistically significant shifts in percentage increases or decreases.

Percentages of local attendance more than doubled from the lowest to the highest amounts of expected employment for both the 1966 and the 1969 samples. The converse trend was nearly as strong for within-state migration as well as interstate migration, marking expected part-time employment as a potent indicator of college student migration. Furthermore, the 1969 data showed an increase in the strength of the relationship over the 1966 sample. All employment categories showed significant column effects indicating meaningful shifts in the distribution of migration percentages over the 4-year period.

TABLE 8

Percentages of 1966 and 1969 Student Migration and Expected Part-Time Employment in College

	Hours/week employment				
Migration to college	None*	1-9 hrs.*	10-19 hrs.*	20-29 hrs.*	30+ hrs.*
Attended locally					
1966	24.6	30.6	41.7	55.0	57.2
1969	25.3	32.4	43.9	59.5	64.2
Increase or decrease	+ .7	+ 1.8*	+ 2.2*	+ 4.5*	+ 7.0*
Within state					
1966	56.2	53.8	46.4	35.8	32.5
1969	59.0	55.1	45.1	33.3	30.3
Increase or decrease	+ 2.8*	+ 1.3	- 1.3	- 2.5*	- 2.2
Adjacent state					
1966	9.6	8.1	6.3	4.5	5.9
1969	7.4	6.5	5.5	3.4	2.7
Increase or decrease	- 2.2*	- 1.6*	- .8*	- 1.1*	- 3.2*
Distant state					
1966	9.6	7.5	5.6	4.7	4.4
1969	8.3	6.0	5.5	3.8	2.8
Increase or decrease	- 1.3*	- 1.5*	- .1	- .9	- 1.6
1966 N	5,469	11,118	10,978	3,560	1,226
1969 N	17,299	9,017	15,211	6,520	2,158

*Significant at the .05 level.

Extracurricular High School Achievements

Both the 1966 and the 1969 SPS forms used identical lists of 48 accomplishments or achievements which might have applied to the student's high school years. Each student indicated whether or not each accomplishment applied to him or her. The 48 items were grouped evenly into the following six categories: Leadership, Music, Drama and Speech, Art, Writing, and Science. For the present analysis, students were grouped into five categories according to the number of achievements that they indicated applied to them. These categories were cross-tabulated with migration and are presented in Table 9.

Because of the nature of the achievements listed in the SPS, the frequency distribution of achievements was skewed markedly toward the lower end of the scale. The list included a few accomplishments that could have applied to many students (e.g., played a musical instrument); but the list was largely comprised of accomplishments that could be expected to have applied only to a very select group (e.g, was elected to one or more student offices; won literary award or prize for creative writing; or placed first, second, or third in a regional or state science contest). The cross-tabulation showed there was a slight positive relationship between number of extracurricular achievements and migration. The magnitude of the percentage differences in types of migration across the range of enumerated high school achievements indicated that this variable (a) differentiated strongly between local attendance and within state migration, and (b) was not a factor that differentiated effectively among those who attended an out-of-state college.

Results thus far have indicated that the sharpest differentiation among migration groups is between *non-migrators* (local attenders) and *migrators* of all other types. This difference can be illustrated by a brief recapitulation of the cross-tabulation results described to this point. In Tables 2 and 3 which cross-tabulated

TABLE 9

Percentages of 1966 and 1969 Student Migration and Number of Extracurricular High School Achievements

	Number of achievements				
Migration to college	1-5*	6-10*	11-15	16-20*	21-48
Attended locally					
1966	42.9	32.4	29.1	24.9	25.4
1969	45.0	35.5	29.3	26.7	23.6
Increase or decrease	+ 2.1*	+ 3.1*	+ .2	+ 1.8	- 1.8
Within state					
1966	44.4	52.4	55.5	58.0	56.2
1969	44.4	51.7	56.5	59.2	60.0
Increase or decrease	0	- .7	+ 1.0	+ 1.2	+ 3.8
Adjacent state					
1966	6.4	8.0	8.5	9.1	9.6
1969	5.0	6.3	7.5	6.1	8.3
Increase or decrease	- 1.4*	- 1.7*	- 1.0	- 3.0*	- 1.3
Distant state					
1966	6.3	7.2	6.9	8.0	8.8
1969	5.6	6.5	6.7	8.0	8.1
Increase or decrease	- .7*	- .7	- .2	0	- .7
1966 N	16,675	9,797	4,310	1,215	354
1969 N	23,248	15,941	7,626	2,566	824

*Significant at the .05 level.

ACT Composite Scores and high school grades with migration, there was a negative relationship between score and/or grade level with percentages of local attendance. Conversely, all other migration categories in both tables (except for distant state migration in Table 3) increased with score and grade level. Table 4 which displays level of educational aspiration by migration shows a clear-cut negative relationship with local attenders and a positive relationship with all migration categories. Family income, part-time employment in college, and number of extracurricular high school achievements (Tables 6, 8, and 9, respectively) all show the same basic patterns of a negative relationship between local attenders and each of these variables and a positive relationship with all other migration categories. The sole exception is an almost complete lack of relationship between family income and the within-state category. Cross-tabulation of migration by type of community (Table 5) shows the same basic pattern except for distant state migration. Table 7 (sex by migration) could show no trend because migration was cross-tabulated with a purely dichotomous nominal variable. All of the cross-tabulations indicated that the variables were related to local attendance in a logical and expected direction.

Analysis of the relationship between migration and level of educational aspiration, family income, amount of expected part-time employment in college, and number of high school achievements suggests that, in contrast to migrators, local attenders tend to have less time or inclination for extracurricular high school achievements; have limited family financial resources; will seek employment to sustain their college careers; and, in general, aspire to bachelors' degrees or less. These findings delineate a profile of students who would be expected to choose a college for largely practical reasons related to cost, accessibility, and ease of finding part-time work. These data concomitantly suggest that migrators would put less emphasis on these factors but would find other reasons more important in choice of college.

The final part of this section presents data relating to factors that influenced the student's choice of a college. The SPS forms used for both the 1966 and the 1969 samples listed a number of such factors. The student was asked to indicate whether each factor was a "major consideration," a "minor consideration," or of "no importance" in influencing his choice of college. Five factors were selected as variables believed to be important for the present study.

Low Cost as a College Choice Factor

Examination of Table 10 shows that local attenders are again different from all other migration categories in the distribution of their rating of "low cost" as an influence on their choice of college.

Percentages of local attenders increase markedly and monotonically with increases in ratings of the importance of low cost in both samples. Furthermore, this trend increased significantly over the 4-year period. Conversely, "low cost" decreased in importance for all migration categories, although the amount of decrease in rating from "no importance" to "major consideration" was not as great as the increase for local attenders. The trend for all interstate migrators over the 4-year period was for low cost to be of decreasing importance. However, for those migrating to within-state colleges, the only significant change was an increase in low cost as a "minor consideration" in college choice. Selection of an in-state college over an out-of-state college may well have been related to increases in erection of high tuition barriers for nonresidents. The decline in low cost as an important influence on interstate migrators was less in 1969 than in 1966: 10.1% of adjacent state migrators reported low cost of "no importance" compared with 7.7% in 1969; the decline in low cost as a "major consideration" was only .9% over the 4-year period. A similar pattern of changes of lesser magnitude was recorded for distant state migrators.

The high level of influence ascribed to low cost by local attenders is consistent with the findings of research on public junior college students, nearly all of whom live at home while attending college. However, public 2-year college students, as a group, are from a considerably lower socioeconomic background than are university students. This is not surprising, since various studies have shown that existence of a public 2-year college in a community materially increases the number of high school graduates from lower socioeconomic homes who continue their education. In a study authorized by the California Coordinating Council for Higher Education, the investigators concluded that of students in the state's three segments of public higher education, those attending junior colleges demonstrated the greatest financial need (Medsker & Tillery, 1971).

In addition, these authors concluded that as a group, 2-year students, as compared with 4-year students, represent a much wider range of ability and achievement, come from homes lower in the socioeconomic scale, are less likely to be motivated for college work, and are more likely to be employed while attending college (Medsker & Tillery, 1971).

Unfortunately, the present data do not differentiate junior college attenders from those attending local senior colleges and universities. However, had these types of attenders been differentiated, it is logical to assume that, given the known characteristics,

TABLE 10

Percentages of 1966 and 1969 Student Migration and "Low Cost" as a College Choice Factor

Migration to college	Importance of low cost		
	No importance*	Minor consideration*	Major consideration*
Attended locally			
1966	27.1	33.1	47.0
1969	30.1	34.0	49.0
Increase or decrease	+ 3.0*	+ .9	+ 2.0*
Within state			
1966	53.3	51.9	43.2
1969	53.4	53.3	42.3
Increase or decrease	+ .1	+ 1.4*	- .9
Adjacent state			
1966	10.1	7.8	5.1
1969	7.7	6.4	4.2
Increase or decrease	- 2.4*	- 1.4*	- .9*
Distant state			
1966	9.5	7.2	4.7
1969	8.8	6.3	4.5
Increase or decrease	- .7	- .9*	- .2
1966 N	6,482	13,913	11,956
1969 N	10,127	23,086	16,992

*Significant at the .05 level.

background, and motivation of junior college students, the indicated differences between migrators and local attenders would have been accentuated between migrators and attenders of local junior colleges taken separately.

Desirable Location as a College Choice Factor

The meaning of the data reflecting the influence of desirable location as a college selection factor is ambiguous. For example, "desirable location" to a financially needy student attending a local public junior college may mean that his college was well-located because it was within commuting distance of his home, thus saving him out-of-pocket cost of living elsewhere. To a student migrating to a distant state, "desirable location" may pertain to a favorable climate or proximity to a major metropolitan area. These data, however, may be of interest despite their ambiguity and are presented in Table 11.

These data should be interpreted with considerable caution in view of the ambiguity noted above. Nonetheless, they reveal an interesting pattern of relationships that is consistent with preceding results. Desirable location was an influential factor for local attenders, but for all types of migrators, the percentage of students reporting it as a "major consideration" was considerably lower than for those who indicated that it was a "minor consideration" or of "no importance."

National Reputation as a College Choice Factor

It is logical to expect that the national reputation of a college would influence college choice of migrants more than of local attenders, many of whom presumably selected their college on the basis of low cost and proximity. Table 12 contains these data.

TABLE 11

Percentages of 1966 and 1969 Student Migration and "Desirable Location" as a College Choice Factor

Migration to college	Importance of desirable location: No importance*	Minor consideration*	Major consideration*
Attended locally			
1966	24.1	26.6	47.3
1969	30.6	29.9	47.6
Increase or decrease	+ 6.5*	+ 3.3*	+ .3
Within state			
1966	55.7	56.8	42.0
1969	53.9	56.2	42.7
Increase or decrease	- 1.8	- .6	+ .7
Adjacent state			
1966	9.2	8.5	6.0
1969	7.1	6.7	5.0
Increase or decrease	- 2.1*	- 1.8*	- 1.0*
Distant state			
1966	11.0	8.1	4.7
1969	8.4	7.2	4.7
Increase or decrease	- 2.6*	- .9*	0
1966 N	4,641	10,826	16,884
1969 N	7,587	19,219	23,339

*Significant at the .05 level.

The relationships shown in Table 12 are in the expected direction but are not as strong as those shown for other variables such as low cost.

Offered Scholarship as a College Factor

Data concerning scholarship offers are difficult to interpret for a number of reasons. First, during the 4-year period studied, the concept of financial need as a factor in awarding scholarships became more widespread; increasingly, scholarships "make the difference" financially in allowing students to migrate to college from their home community. Second, these data were gathered from about half of the sample students before completion of the first half of their senior year in high school. Consequently, many were not notified of scholarship offers by the time they responded to this SPS item. These data are shown in Table 13.

Examination of Table 13 reveals that there was a tendency for local attenders to see little influence in whether or not they were offered a scholarship on their choice of college. The converse was true for those attending within-state colleges. There were no strong trends for either category of interstate migrators.

Special Curriculum Desired as a College Choice Factor

Selection of a college on the basis of availability of a special curriculum would seem to be an option only for those who have the required academic and financial qualifications to choose among a number of colleges away from home. Table 14 displays the data pertaining to the perceived importance of curriculum as a college choice factor.

Table 14 shows that local attenders tended to find "special curriculum desired" of little importance in

TABLE 12

Percentages of 1966 and 1969 Student Migration and "National Reputation" as a College Choice Factor

Migration to college	Importance of national reputation		
	No importance*	Minor consideration*	Major consideration*
Attended locally			
1966	44.8	35.7	32.3
1969	46.5	37.4	32.4
Increase or decrease	+ 1.7	+ 1.7*	+ .1
Within state			
1966	42.5	49.8	53.0
1969	42.5	50.6	54.2
Increase or decrease	0	+ .8	+ 1.2
Adjacent state			
1966	6.1	7.6	7.9
1969	5.0	6.0	6.7
Increase or decrease	- 1.1*	- 1.6*	- 1.2*
Distant state			
1966	6.6	6.9	6.8
1969	6.0	6.0	6.7
Increase or decrease	- .6	- .9*	- .1
1966 N	8,601	13,453	10,297
1969 N	13,345	21,714	15,146

*Significant at the .05 level.

choosing a college. In contrast, there was a slight tendency for within-state and interstate migrators to ascribe some importance to this factor.

The overall pattern of relationships between migration and the five college choice factors reveals that local attenders rated "low cost" and "desirable location" as more influential on their choice of college than did migrators of all types. "National reputation," "offered scholarship," and "special curriculum desired," however, were rated as more influential by migrators than by local attenders. These relationships are consistent both with other findings of this study pertaining to factors that would influence choice of college (such as family income and academic qualifications) and with other national studies of the characteristics of commuters and students who attend out-of-state colleges.

Discussion

This is the first national longitudinal study to compare the backgrounds and characteristics of students who began college in their local community with those who migrated from their home community to a college within the state, in an adjacent state, or in a state beyond those contiguous to their home states. The data revealed that over the period from fall 1966 through fall 1969, (a) interstate migration declined significantly; (b) the proportion of those attending local colleges increased significantly; and (c) there was no statistically significant change in the proportion enrolling within the home state but away from the local home com-

TABLE 13

Percentages of 1966 and 1969 Student Migration and "Offered Scholarship" as a College Choice Factor

Migration to college	Importance of offered scholarship		
	No importance*	Minor consideration*	Major consideration*
Attended locally			
1966	39.0	35.9	31.2
1969	41.0	38.7	32.4
Increase or decrease	+ 2.0*	+ 2.8*	+ 1.2
Within state			
1966	46.9	50.5	54.6
1969	46.8	49.4	55.4
Increase or decrease	- .1	- 1.1	+ .8
Adjacent state			
1966	7.2	7.5	7.3
1969	5.7	6.2	6.3
Increase or decrease	- 1.5*	- 1.3*	- 1.0*
Distant state			
1966	6.9	6.1	6.9
1969	6.5	5.7	5.9
Increase or decrease	- .4	- .4	- 1.0*
1966 N	21,080	5,222	6,049
1969 N	27,310	9,958	12,936

*Significant at the .05 level.

munity. These findings were consistent with those of other migration surveys and with recent trends in higher education.

There seem to be two national developments in higher education that could at least partly account for a decline in interstate migration. One is the erection of a variety of barriers by many states to stem the influx of out-of-state college students. These barriers include prohibitively high levels of tuition, achievement and aptitude admission standards that are higher for nonresidents than for residents, and outright quota restrictions. These policies seem to be growing in intensity and becoming more widespread in recent years. Such policies may be undertaken for a variety of reasons. However, since there is an almost complete lack of data comparing students who migrate to colleges with those who stay in state, it seems clear that they have not been based on the results of research findings. Perhaps the most valuable aspect of the information provided by this study is bench mark data on the backgrounds and characteristics of nonmigrating students and those who fall in various migration categories. Several important changes in the migration patterns among students with certain characteristics were detected over the period studied. From this point on, it will be possible to investigate further changes or departures from the patterns revealed by these data.

The second national development which could help account for the proportionate decline in student migration is the rapid proliferation of public junior or community colleges and the concomitant mushrooming of enrollments in these institutions. For many college-bound high school graduates with family and academic backgrounds of the type normally associated with college-going, the availability of local opportunities for higher education has simply provided an alternative to migrating. In addition, the availability of local higher education opportunities has encouraged the first-time enrollment of many new types of students whose financial resources and/or academic backgrounds would

TABLE 14

Percentages of 1966 and 1969 Student Migration and "Special Curriculum Desired" as a College Choice Factor

Migration to college	Importance of special curriculum: No importance	Minor consideration*	Major consideration*
Attended locally			
1966	43.2	41.2	32.7
1969	41.6	43.2	34.7
Increase or decrease	- 1.6	+ 2.0*	+ 2.0*
Within state			
1966	44.9	45.4	52.3
1969	47.1	45.7	52.3
Increase or decrease	+ 2.2*	+ .3	0
Adjacent state			
1966	5.6	7.1	7.9
1969	5.4	5.5	6.3
Increase or decrease	- .2	- 1.6*	- 1.6*
Distant state			
1966	6.3	6.3	7.1
1969	5.9	5.6	6.7
Increase or decrease	- .4	- .7*	- .4
1966 N	5,803	9,331	17,217
1969 N	7,472	15,180	27,553

*Significant at the .05 level.

have discouraged them from beginning their college careers elsewhere. Encouragement of such students is specifically a policy of these "open-door" colleges. Local enrollment of both "new" and "traditional" types of students inflates the percentage of nonmigrants and decreases the proportion of those who migrate.

Among the four migration groups, the sharpest differentiation on most variables occurred between local attenders and all migrants. Among the three types of migrants, adjacent and distant state migrants were more alike than they were similar to those migrating to college within their home state. These distinctions increased somewhat over the 4-year period studied. These data underscore the validity of Tuckman's (1972) conclusion: "If educational policy is to be determined on the basis of benefits and costs then the enrollment inducing effects of local colleges must be taken into account [p. 14]."

Some distinction between the profiles of nonmigrating (locally attending students) and out-of-state migrating students begins to emerge from the data. However, since the group statistics for those who migrate within state are mostly intermediate between migrating and nonmigrating students, a within-state group profile is not clearly distinguishable from those of the other groups. At this point it is worth emphasizing that proportionate declines in interstate migration should not leave the impression of a decline in absolute numbers of students migrating to out-of-state colleges. Since the number of first-time enrollments increased markedly over the period studied, the percentage decline in interstate migration did not offset an increase in absolute numbers.

A profile of interstate migrating students can be delineated from these data; however, it must be remembered that the percentage of interstate migrating students is rather small both in comparison with those attending locally and in comparison with those attending within their home state. Most students do not migrate out-of-state whatever their personal, familial, or

background characteristics. The following profile describes the characteristics "typical" of a group which comprises only a substantial minority. Students who migrated to an adjacent or distant state in both 1966 and 1969 were likely to have the following characteristics: better-than-average ACT Composite Scores, educational expectations at or beyond a bachelor's degree, a rural or suburban home community, a moderate to high family income, no plans to work part time, little importance placed on either "desirable location" or "low cost" as influencing their choice of college, greater influence placed on such factors as "national reputation" and "special curriculum," and more than the average number of extracurricular achievements.

Conversely, students who attended locally in both 1966 and 1969 were much more likely than interstate migrants to have low high school grades, low ACT Composite Scores, low educational expectations, urban backgrounds, and low to lower-middle family income. They expected to work more than half time, stated that "desirable location" and "low cost" were of major consideration as college choice factors, and had less than the average number of high school extracurricular achievements.

It is perilous to postulate implications from purely descriptive data, but some of the trends revealed were most intriguing. For example, if the nonmigrating and interstate migrant student profiles become even more clearly differentiated, then American higher education may become sharply stratified purely on socioeconomic bases, a trend that has always been counter to democratic ideologies.

The findings of this study have raised many questions which could be foci for further research. Probably the most obvious opportunity for further research is to extend the present study with another time frame to determine changes in the trends revealed here. Further research should make provision for migration analysis by other important control variables, e.g., public versus private colleges and junior versus 4-year colleges. Another interesting approach would be to examine migration patterns as they are affected by interactions between independent variables such as family income and academic ability or achievement. Finally, a most significant study for policy determination would be a case study of migration in sets of states which have erected barriers versus those which have not.

REFERENCES

American Association of Junior Colleges. *1967 junior college directory.* Washington, D.C.: Author, 1967

American Association of Junior Colleges. *1970 junior college directory.* Washington, D.C.: Author, 1970.

California Coordinating Council for Higher Education. The nonresident student. *CCHE Staff Report No. 70-3.* Sacramento: Author, 1970.

Carbone, R. F. States urged to examine residency requirements. *Compact,* 1970, **4**(2), 39-40.

Carmody, J. F., Fenske, R. H., & Scott, C. S. *Changes in goals, plans, and background characteristics of college-bound high school students.* ACT Research Report No. 52. Iowa City, Iowa: The American College Testing Program, 1972.

Carnegie Commission on Higher Education. *The open-door colleges: Policies for community colleges.* New York: McGraw-Hill, 1970.

Chamberlain, P. C., & Strand, D. A. The role of out-of-state students in public higher education. *Bulletin of the School of Education,* Indiana University, 1967, **43**(6), 1-33.

Coordinating Council for Higher Education. Comparison of fall 1970 enrollments with fall 1969 and estimated enrollments. *CCHE Paper No. 70-73.* Madison, Wis.: Author, 1970.

Education Commission of the States. Resident or nonresident: Tuition classification in higher education in the states. *ECS Report No. 18.* Denver: Author, 1970.

Ferguson, G. A. *Statistical analysis in psychology and education.* New York: McGraw-Hill, 1971.

Fields, C. M. Purdue is accused of bias in nonresident admissions. *Chronicle of Higher Education,* 1970, **4**(35), p. 7.

Fleming, R. W. *The exploding education picture and the case for the out-of-state student.* Ann Arbor: University of Michigan, 1968.

Gossman, C. S., et al. *Migration of college and university students in the United States.* Seattle: University of Washington, 1968.

Illinois State Board of Higher Education. Recommendations on tuition increases and student aid. *Educational Resources Information Center,* ED 040 652, 1968.

Joint Committee on Higher Education. The academic state: A progress report to the legislature on tuition and other matters pertaining to higher education in California. *Educational Resources Information Center,* ED 019 941, 1967.

Maxey, E. J., & Ormsby, V. J. *The accuracy of self-report information collected on the ACT Test Battery: High school grades and items of non-academic achievement.* ACT Research Report No. 45. Iowa City, Iowa: The American College Testing Program, 1971.

Medsker, L. L., & Tillery, D. *Breaking the access barriers.* New York: McGraw-Hill, 1971.

Michigan Department of Education. *Report on non-resident enrollment policies, student migration, and reciprocity agreement related to public institutions of higher education in Michigan and abutting states.* Lansing: Author, 1971.

National Center for Educational Statistics. Residence and migration of college students: Analytic report. U.S. Department of Health, Education, and Welfare. Washington, D.C.: U.S. Government Printing Office, 1970. (a)

National Center for Educational Statistics. *Fall enrollment in higher education, 1969, supplementary information, summary data.* U.S. Department of Health, Education, and Welfare. Washington, D.C.: U.S. Government Printing Office, 1970. (b)

National Center for Educational Statistics. *Projections of educational statistics to 1979-80.* U.S. Department of Health, Education, and Welfare. Washington, D.C.: U.S. Government Printing Office, 1971.

Stecklein, J. E., Fenske, R. H., & Huang, A. S. *Student finances study: An analysis of income and expenditures of sophomore, junior, and senior students at the University of Minnesota, 1965-66 academic year.* Minneapolis: Bureau of Institutional Research, 1967.

Strand, D. A. An analysis of undergraduate student migration in public colleges and universities in the United States. Unpublished doctoral dissertation, Indiana University, 1967.

Tuckman, H. P. The enrollment inducing effects of local colleges. Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1972.

United States Office of Education. *Opening fall enrollment in higher education, 1966.* Washington, D.C.: Author, 1967.

United States Office of Education. *Trends in post-secondary education.* Washington, D.C.: Author, 1970.

Werts, C. E., & Watley, D. J. The relationship of parental education to achievement test performance of girls versus boys. *Sociology of Education,* 1970, **43,** 186-194.

ACT Research Reports

This report is Number 54 in a series published by the Research and Development Division of The American College Testing Program. The first 26 research reports have been deposited with the American Documentation Institute, ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington, D.C. 20540. Photocopies and 35 mm. microfilms are available at cost from ADI; order by ADI Document number. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress. Beginning with Research Report No. 27, the reports have been deposited with the National Auxiliary Publications Service of the American Society for Information Science (NAPS), c/o CCM Information Sciences, Inc., 22 West 34th Street, New York, New York 10001. Photocopies and 35 mm. microfilms are available at cost from NAPS. Order by NAPS Document number. Advance payment is required. Printed copies ($1.00) may be obtained, if available, from the Publication and Information Services Division, The American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240. A check or money order must accompany the request.

The reports since October 1970 in this series are listed below. A complete list of the reports can be obtained by writing to the Publication and Information Services Division, The American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240.

No. 37 *Practices and Outcomes of Vocational-Technical Education in Technical and Community Colleges,* by T. G. Gartland, & J. F. Carmody (NAPS No. 01441; photo, $6.80; microfilm, $2.00)

No. 38 *Bayesian Considerations in Educational Information Systems,* by M. R. Novick (NAPS No. 01442; photo, $5.00; microfilm, $2.00)

No. 39 *Interactive Effects of Achievement Orientation and Teaching Style on Academic Achievement,* by G. Domino (NAPS No. 01443; photo, $5.00; microfilm, $2.00)

No. 40 *An Analysis of the Structure of Vocational Interests,* by N. S. Cole, & G. R. Hanson (NAPS No. 01444; photo, $5.00; microfilm, $2.00)

No. 41 *How Do Community College Transfer and Occupational Students Differ?* by E. J. Brue, H. B. Engen, & E. J. Maxey (NAPS No. 01445; photo, $5.50; microfilm, $2.00)

No. 42 *Applications of Bayesian Methods to the Prediction of Educational Performance,* by M. R. Novick, P. H. Jackson, D. T. Thayer, & N. S. Cole (NAPS No. 01544; photo, $5.00; microfilm, $2.00)

No. 43 *Toward More Equitable Distribution of College Student Aid Funds: Problems in Assessing Student Financial Need,* by M. D. Orwig (NAPS No. 01543; photo, $5.00; microfilm, $2.00)

No. 44 *Converting Test Data to Counseling Information,* by D. J. Prediger (NAPS No. 01776; photo, $5.00; microfiche, $2.00)

No. 45 *The Accuracy of Self-Report Information Collected on the ACT Test Battery: High School Grades and Items of Nonacademic Achievement,* by E. J. Maxey, & V. J. Ormsby (NAPS No. 01777; photo, $5.00; microfiche, $2.00)

No. 46 *Correlates of Student Interest in Social Issues,* by R. H. Fenske, & J. F. Carmody (NAPS No. 01778; photo, $5.00; microfiche, $2.00)

No. 47 *The Impact of College on Students' Competence to Function in a Learning Society,* by M. H. Walizer, & R. E. Herriott (NAPS No. 01779; photo, $5.00; microfiche, $2.00)

No. 48 *Enrollment Projection Models for Institutional Planning,* by M. D. Orwig, P. K. Jones, & O. T. Lenning (NAPS No. 01780; photo, $5.00; microfiche, $2.00)

No. 49 *On Measuring the Vocational Interests of Women,* by N. S. Cole (NAPS No. not available at this time.)

No. 50 *Stages in the Development of a Black Identity,* by W. S. Hall, R. Freedle, & W. E. Cross, Jr. (NAPS No. not available at this time.)

No. 51 *Bias in Selection,* by N. S. Cole (NAPS No. not available at this time.)

No. 52 *Changes in Goals, Plans, and Background Characteristics of College-Bound High School Students,* by J. F. Carmody, R. H. Fenske, & C. S. Scott (NAPS No. not available at this time.)

No. 53 *Toward an Integration of Theory and Method for Criterion-Referenced Tests,* by R. K. Hambleton, & M. R. Novick (NAPS No. not available at this time.)