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Source: *Journal of Health and Social Behavior*, Vol. 21, No. 1 (Mar., 1980), pp. 48-58

Published by: American Sociological Association

Stable URL: <https://www.jstor.org/stable/2136694>

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Sociologic and Demographic Factors Related to Geographic Stability among Allied Health and Nursing Personnel

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Journal of Health and Social Behavior 1980, Vol. 21 (March):48-58

Variables related to geographic mobility are examined for 343 persons formerly enrolled in health career education programs in south Texas. The analysis of follow-up data identifies the demographic characteristics of ethnicity and parents' income as significant independent variables, but mother's education, respondent's birthplace, age, sex, and marital status are not significantly related to geographic mobility. Personal reasons for present location is also identified as a significant independent variable. Resignation (attitudinal) is found to be a significant conditional variable in the relationship between ethnicity and geographic mobility. Upward social mobility is found to have a significant relationship to geographic stability. The implications of these results for programs such as the Area Health Education Centers are discussed.

In an endeavor to increase health services manpower in a medically underserved and primarily rural area of south Texas, the Area Health Education Center at the University of Texas Medical Branch at Galveston (UTMB) promoted a number of allied health and nursing training programs within the curriculum of south Texas colleges and junior colleges. One assumption underlying the establishment of these programs was that students trained in a medically underserved area remain in the geo-

graphic area and in the profession for which they received training, but the validity of this assumption is not self-evident. As part of the program evaluation, this study examines the patterns of geographic mobility of persons formerly enrolled in these programs.

Background

The Area Health Education Center (AHEC) is a federally funded project that fosters development of health professions education in areas with a shortage of health manpower. Conceived by the Carnegie Commission on Higher Education, these centers have been developed in 11 areas in the United States. An AHEC program includes health professions education, continuing education, minority recruitment and retention, and other education

The research reported in this article was funded under contract number 232-78-0010 from the Bureau of Health Manpower. The authors wish to acknowledge the assistance of W. W. Schottstaedt and two anonymous reviewers.

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activities that may be offered by a health sciences center to an area short in health manpower. The Texas AHEC serves a 16-county area in south Texas.

The institutions training students from which the study sample was drawn are located in a seven-county area extending along the Rio Grande from Brownsville to Laredo. The area along the river is semitropical farmland and is isolated geographically from the rest of Texas by sparsely populated cactus country. The population of these seven counties is predominantly Mexican-American (70%). The area is economically depressed (two of the Standard Metropolitan Statistical Areas in the seven-county area are among the poorest in the United States) but rapidly industrializing.

The health manpower shortage in this section of Texas is severe. In 1977, the Laredo area had only one physician per 1,860, one dentist per 9,500, and one registered nurse per 924 population. The lower Rio Grande Valley had one physician per 1,220, one dentist per 5,700, and one registered nurse per 634 population in 1977. These figures document a serious shortage when compared to the 1970 figures for the United States as a whole of one physician per 601, one dentist per 1,733, and one registered nurse per 353 population.

One method applied in the effort to alleviate the health manpower problem in south Texas has been to increase the enrollment of students from the immediate area in health science programs at local institutions through AHEC funding. This strategy assumes that once the students master the requisite skills, they will have the opportunity and desire to practice in south Texas. The opportunity to use the acquired skills is assured, because manpower studies have revealed a large number of funded vacancies in the appropriate disciplines. The success of the Area Health Education Center therefore depends on whether the students complete the educational programs and remain geographically stable.

Geographic mobility, however, is affected by considerations of social mobility. An examination of new career programs designed to upgrade the occupations of minority students has indicated that many of the students chose to move out of their community settings upon completion of their training in an effort to achieve social mobility (Pearl and Riessman,

1965). Estrada (1970) observed in an investigation of 528 heads-of-households in a rural county in Florida that those who had experienced social mobility were more likely to have migrated in the past and that social mobility was directly related to leaving the community. A study of graduating seniors in an economically depressed region in eastern Kentucky has reported that the students were ready and willing to move to areas that offered better opportunities, although not necessarily to metropolitan areas (Hansen and Yukhin, 1970). Similar findings have been reported by Sherrel (1969), Saben (1964), Smith (1971), Lansing and Mueller (1967), Ladinsky (1967), and Bates (1968).

Social mobility or social class mobility is a conceptual and operational jungle. The term has been used to describe movement of individuals within the class structure in a society. Such movement may occur over years or over generations and may be experienced for a variety of reasons, achieved through a variety of paths, and measured in a variety of ways. Despite the conceptual and methodologic problems with social mobility, the literature consistently documents a relationship between it and geographic mobility.

Educational attainment is generally recognized as one mode of achieving social mobility (Hollingshead and Redlich, 1958; Sewell and Hauser, 1976). Level of education also has a bearing on geographic mobility, because it is related to the individual's capacity for obtaining and analyzing information about alternative income and employment opportunities. Professional and technical workers are most likely to know about job opportunities elsewhere and are more likely to accept those jobs (Greenwood, 1973; Ladinsky, 1967; Lansing and Mueller, 1967; Long, 1973; Saben, 1964; Schwartz, 1973).

Sex is another factor related to geographic mobility that is relevant to the present study, for our study population is largely female. An analysis of 1960 census data by Pedersen (1965) indicates that for persons between the ages of 16 and 26, the propensity to migrate is much greater for females than for males. This finding is supported by the longitudinal research of Yoesting and Bohlen (1968), who found that a greater proportion of females than males migrated from their home community. These re-

search efforts suggest that occupations with a high proportion of women, such as nursing and some allied health fields, may also be characterized by a high degree of geographic mobility. A national survey of senior nursing students (Smith, 1972) indicates that only half of the students were planning to stay in the state in which their school of nursing was located. The decision of nurses to migrate may be related to the wide availability of jobs nationally and the system of reciprocity of state licenses. In any case, the national data on nursing would suggest that a substantial proportion of nurses trained in south Texas will leave the area.

One source of data on the geographic mobility and occupational mobility of women is the literature on the impact of a wife's career on the geographic mobility of the family. In examining determinants of family migration, sociologists (Bell, 1971; Sussman and Cogswell, 1971; Uhlenberg, 1973) have hypothesized that noneconomic determinants are important deterrents to migration. The nature of the wife's work role is identified by Duncan and Perrucci (1976) as a potential independent variable affecting mobility, although they conclude that "the relative fullness of the wife's work role, . . . as measured by her occupational prestige or her relative contribution to the total family income, and opportunities in the field elsewhere in the country, do not affect migration probability" (p. 252).

In summary, the literature on geographic mobility of women, nurses, and dual-career couples would lead one to expect a significant amount of geographic mobility in our study population.

The fact that our study population is predominantly Mexican-American is also relevant to forming hypotheses about its social, and therefore geographic, mobility. The aspirations of Mexican-Americans for social mobility and their assimilation into the dominant cultural system are of increasing interest to sociologists. Heller (1968) reported a phenomenon among Mexican-American youth in the late 1960s of the coupling of aspirations toward achievement with a strong involvement in traditional ethnic culture. Teske and Nelson (1976), in a study of assimilation rates among middle-class Mexican-Americans, suggest that lateral mobility (mobility from the Mexican-American subculture into the broad American

cultural system) need not be preceded by social class mobility. Their data indicate that fear of marginality may be the greatest deterrent to assimilation. Thus a logical assumption is that members of the Mexican-American subculture internalize the dominant cultural value of educational achievement as a vehicle for social mobility but retain loyalty to the more comfortable and familiar mother-culture in terms of geographic disposition.

Contrary to these findings, Hansen and Gruben (1971), in studying migration in the Southwest in the early seventies, found a general potential for migration of high school students and young adults out of the lower Rio Grande and Laredo areas.

The evaluation of AHEC-supported health manpower training programs provides an opportunity to explore the relationship between social and geographic mobility among a predominantly female Mexican-American population. This study population is socially mobile by virtue of its educational status: The training programs are available only to persons who have obtained a high-school degree; approximately 50% of the population in the study area, however, have completed only eight years of education. Other indicators of socioeconomic background discussed later in the text support this contention.

METHOD

A stratified random sample of 25% of all persons formerly enrolled in the allied health and nursing programs in the lower Rio Grande Valley and Laredo areas was selected as the study group. The population was stratified by health career programs, and a 25% sample was selected from each professional group. The years 1969–1974 were selected as the study period so that all of the former students would have had at least one year to work.

A self-administered mailed questionnaire was used as the mode of data collection. Follow-up questionnaires were sent to those persons who did not return the questionnaire after the initial mailing. In many cases, respondents had to be contacted more than once before they returned the questionnaire. The response rate for the final sample of 406 former students was 88.9% (361 former students).

The sociodemographic variables listed in the

first column of Table 1 are defined as the independent variables. Attitudinal variables of resignation, work-related reasons for present location, and personal reasons for present location are viewed as conditional variables, and present geographic location is the dependent variable.

Geographic location is separated conceptually into geographic stability and geographic mobility. Geographic mobility is defined for the purposes of the study as residence, at the time of the investigation, outside the 16-county area of south Texas served by the AHEC program. Conversely, geographic stability is defined as residence within these 16 southernmost counties of Texas at that time. These definitions involve a larger area than the area from which the sample was drawn. Consequently, in theory a person who meets the definition of geographic stability could still have relocated a considerable distance from where he or she attended school. The data indicate, however, that 95% of the respondents labeled stable lived either in the county of their education or in a neighboring county.

Reasons for present location are indicated by the individual's response to the following question: What are the three most important reasons for each move made since you left the health care training program? If the respondent has not moved since leaving the program, he or she is asked the three most important reasons for remaining at the present location. These responses are divided conceptually into work-related reasons (including availability of a position, attractive remuneration, and challenging position) and personal reasons (including spouse-related reasons and propinquity of family). Personal reasons are categorized either as reasons related to family of origin or reasons not related to family of origin (e.g.,

reasons related to spouse and spouse's family). As indicated earlier, professional and personal reasons contributing to the decision on current residence are considered conditional variables.

Resignation, the other conditional variable, refers to a lack of aspirations or restriction of hope and includes a negative orientation to the future. The literature suggests that such an orientation is prevalent among lower socioeconomic groups (Dean, 1961; Lewis, 1959; Liebow, 1967; Merton, 1957). It is hypothesized therefore that former students who are not geographically mobile will evidence a higher degree of resignation than those who are mobile. Level of resignation is measured by a 6-item scale (heavily weighted toward work attitudes) derived from data on a 15-item scale by Alix and Lantz (1973). The sample is divided into high and low categories for the purpose of analyzing this construct as a conditional variable. All measures of central tendency, however, indicate that the sample tends toward low resignation. This cohort has a positive outlook on the future.

RESULTS

Table 2 shows the distribution of the former students by present location and occupation. Of the 361 former students, 10 were neither Mexican-American nor Anglo-American, and 8 did not report their present occupation; these 18 have been excluded from the analysis. Of the total cohort of 343 former students, 204 (59.5%) were presently employed in a health occupation and were geographically stable. Eighty-five others (24.8%) were not employed in a health career but had remained in the area. Forty-two (12.2%) persons had remained in a health career but had left the area, and 12 (3.5%) were neither living in the area nor working in a health career. These figures indi-

TABLE 1. Sociologic and Demographic Variables

Independent Variables	Conditional Variables	Dependent Variable
Age	Work-related reasons for present location	Geographic location
Sex		
Marital status	Personal reasons for present location	Resignation
Ethnicity		
Parents' income	Resignation	Resignation
Mother's education		
Number of moves during childhood		
Birthplace		

TABLE 2. Present Location of Residence and Occupation of Former Students (percentages)

Present Location	Present Occupation		Total
	Health-Related	Not Health-Related	
AHEC area	59.5	24.8	84.3
Outside AHEC area	12.2	3.5	15.7
Total	71.7	28.3	100.0
N	(246)	(97)	(343)

cate that many of those attending training courses in this particular geographic area can be expected to remain there. Only 15.7% of the sample were living outside south Texas at the time of the survey. Whether or not such trainees will remain in a health-related occupation appears less certain. Almost twice as many former students had left the health field as had left the south Texas area (28.3% vs. 15.7%).

Those students who do remain in the AHEC area after their education are likely to remain in close proximity to the school they attended. Of the 231 attendees sampled from lower Rio Grande Valley schools who had remained in the AHEC area, 222 or 96.1% had stayed in the Valley. In addition, of the 65 attendees sampled from Laredo programs who had remained in the AHEC area, 61 or 93.8% were in the Laredo area. It can be concluded that there is almost no movement within the AHEC area. Those students educated in the lower Rio Grande Valley and Laredo tend to stay in these respective areas.

Explanatory Variables for Geographic Stability

In order to identify factors that contribute to the geographic mobility, or lack of it, of persons employed in health occupations, the analysis performed involved a comparison of the geographically stable and mobile respondents who were presently employed in a health occupation (N = 246).

Table 3 provides a breakdown of the demographic characteristics within the stable and mobile groups. The groupings in age, sex, marital status, mother's education, and number of prior moves are not significantly different between the two groups. The differences in parental income and ethnicity, however, are significant. Former students who reported a parental income of less than \$5,000 in the year before the survey are less likely to have relocated outside south Texas than those whose parents earned \$5,000 or more. Anglo-Americans are significantly more likely to have moved from the area than their Mexican-American counterparts. In addition, mobility is not found to be related to year of entry into the program, graduation from the program, place

of birth of the respondent, or place of birth of respondent's mother.

To shed light on why ethnicity and parental income should be related to mobility/stability, we examined these relationships under various conditions—work-related reasons for present location, personal reasons for present location, and level of resignation—for reasons suggested above. As a preliminary to this examination, we inquired if these three attitudinal variables were directly related to geographic mobility, regardless of whether they conditioned the relationship between mobility/stability and the two independent variables of ethnicity and parental income.

As Table 4 indicates, one of these variables does have a direct relationship to mobility/stability—the personal reasons that stable and mobile respondents identified as important to their decisions about where to locate. The former students who had stayed in the AHEC area are more likely to have identified family-related reasons for their present location than those who had moved away from the area. Forty-three percent of the stable respondents identified family of origin, either alone or in combination, as a reason for their present location, whereas only 24% of the mobile respondents identified family reasons.

It is interesting to note, however, that mobile ex-students were more likely to identify a spouse-related reason for present location than stable ex-students. (These data are not presented in tabular form in the paper.) Thirty-eight percent of the geographically mobile respondents identified a spouse-related reason for present location (either alone or in combination with other personal reasons), whereas only 27% of the geographically stable respondents did so. This difference between stable and mobile respondents in the number of spouse-related reasons cited occurs in spite of the fact that no significant differences exist between the groups with regard to marital status.

Next, the relationships between the significant independent sociodemographic variables and the dependent variable of geographic mobility were examined, controlling for each of the conditional variables.

Table 5 shows such relationships, controlling for work-related reasons for area of residence. The strength of the relationship between

TABLE 3. Demographic Characteristics Related to Geographic Mobility (percentages)

Demographic Characteristics	Geographic Mobility		Total N ¹
	Stable	Mobile	
<i>Age</i>			
25 and under	49.0	53.8	(117)
Over 25	51.0	46.1	(118)
Total N	(196)	(39)	(235)
<i>Sex</i>			
Male	19.1	19.0	(47)
Female	80.9	81.0	(199)
Total N	(204)	(42)	(246)
<i>Marital Status</i>			
Never married	35.0	26.2	(86)
Married	50.9	69.0	(138)
Other	14.0	4.8	(22)
Total N	(204)	(42)	(246)
<i>Ethnicity*</i>			
Mexican-American	83.3	54.8	(193)
Anglo-American	16.6	45.2	(53)
Total N	(204)	(42)	(246)
<i>Parents' Income**</i>			
Less than \$5,000	44.9	11.8	(79)
\$5,000 or over	55.1	88.2	(122)
Total N	(167)	(34)	(201)
<i>Mother's Education</i>			
0-6 Years	53.7	42.5	(118)
7-12 Years	36.2	40.0	(84)
13+ Years	10.1	17.5	(26)
Total N	(188)	(40)	(228)
<i>Number of Moves during Respondent's Childhood</i>			
0	41.1	38.1	(99)
1+	58.9	61.9	(145)
Total N	(202)	(42)	(244)
<i>Location of Respondent's Birthplace</i>			
AHEC area	76.5	71.4	(186)
Outside AHEC area (U.S.)	14.7	26.2	(41)
Mexico	8.8	2.4	(19)
Total N	(204)	(42)	(246)

¹ Questionnaires with incomplete demographic data have been eliminated from this table. Therefore the total N does not always equal 246, the number of health workers included in the survey.

* $\chi^2 = 15.71$; $p < .001$.

** $\chi^2 = 13.01$; $p < .001$.

ethnicity and geographic mobility is weakened (although it is still significant) when work-related reasons for present location are considered. The relationship between parental income and mobility also remains significant. In short, the variable of work-related reasons (which was not significantly related to geographic stability/mobility) is not a condition for the observed relationships between ethnicity and parents' income, on the one hand, and stability/mobility, on the other.

The sample's distribution with regard to the significant demographic characteristics, controlling for personal reasons for area of residence (i.e., reasons related to family of origin

and reasons not related to family of origin), is shown in Table 6. The relationship between ethnicity and geographic stability remains significant when both categories of personal reasons are considered. Mexican-Americans are more likely to be geographically stable and Anglo-Americans are less likely to be geographically stable, regardless of whether family of origin is mentioned as a personal reason. The relationship between parental income and mobility also remains significant for respondents who cite personal reasons for present location not related to family of origin: Respondents within this group are more likely to have remained in the area if their parents had a

TABLE 4. Work-related Reasons, Personal Reasons, and Level of Resignation Related to Geographic Mobility (percentages)

Conditional Variables	Geographic Mobility		Total N ¹
	Stable	Mobile	
<i>Work-related Reasons for Present Location</i>			
No reasons	51.1	42.9	(110)
One or more reasons	48.9	57.1	(112)
Total N	(180)	(42)	(222)
<i>Personal Reasons for Present Location*</i>			
Family-related reasons	43.3	23.8	(88)
Non-family-related reasons	56.7	76.2	(134)
Total N	(180)	(42)	(222)
<i>Resignation</i>			
Low	56.4	64.3	(142)
High	43.6	35.7	(104)
Total N	(204)	(42)	(246)

¹ Questionnaires with incomplete data on the conditional variables have been eliminated from the table. Therefore the total N does not always equal 246, the number of health workers included in the survey.

* $\chi^2 = 4.05$; $p < .05$.

low income level and more likely to have left the area if their parents had more income. A similar trend is apparent among those citing family-related reasons, but the difference is not statistically significant. Thus personal reasons for present location, while having a direct effect on mobility/stability, does not serve as a conditional variable for the observed relationship between mobility/stability and either ethnicity or parental income.

Unlike the other two proposed conditional variables, the level of resignation changes the relationship between ethnicity and geographic mobility. As shown in Table 7, higher resignation influences the relationship between

ethnicity and geographic mobility. Perhaps Mexican-Americans are more likely than Anglo-Americans to "respond" to a high degree of resignation (hopelessness about the future) with geographic stability as self-protection. Among those persons who demonstrate lower resignation, however, no significant differences in stability/mobility can be found between the two ethnic groups.

The relationship between parents' income and geographic mobility (as shown in Table 3) remains significant when resignation is introduced as a conditional variable.

Although the data are not presented in this paper, the pattern of the relationship between

TABLE 5. Significant Demographic Characteristics Related to Geographic Mobility and Work-related Reasons for Present Location (percentages)

Significant Demographic Characteristics	Work-related Reasons for Present Location					
	No Work-related Reasons			One or More Work-related Reasons		
	Stable	Mobile	Total N	Stable	Mobile	Total N
<i>Ethnicity</i>						
Mexican-American	83.7	50.0	(86)	85.2	58.3	(89)
Anglo-American	16.3	50.0	(24)	14.8	41.7	(23)
Total N	(92)	(18)	(110)	(88)	(24)	(112)
	$\chi^2 = 8.14$; $p < .01$			$\chi^2 = 6.79$; $p < .01$		
<i>Parents' Income</i>						
Less than \$5,000	52.0	15.4	(41)	39.0	9.5	(32)
\$5,000 or over	48.0	84.6	(47)	61.0	90.5	(66)
Total N	(75)	(13)	(88)	(77)	(21)	(98)
	$\chi^2 = 5.969$; $p < .01$			$\chi^2 = 6.501$; $p < .01$		

Note: Differences in the N totals in this table and Table 3 are a result of respondent refusal to answer questions concerning reasons for present location.

TABLE 6. Significant Demographic Characteristics Related to Geographic Mobility and Personal Reasons for Present Location (percentages)

Significant Demographic Characteristics	Personal Reasons for Present Location					
	Family-related Reasons			Non-Family-related Reasons		
	Stable	Mobile	Total N	Stable	Mobile	Total N
<i>Ethnicity</i>						
Mexican-American	92.3	20.0	(74)	81.4	56.3	(101)
Anglo-American	7.7	80.0	(14)	18.6	43.7	(33)
Total N	(78)	(10)	(88)	(102)	(32)	(134)
	$\chi^2 = 9.07; p < .01$			$\chi^2 = 6.42; p < .01$		
<i>Parents' Income</i>						
Less than \$5,000	52.2	20.0	(36)	40.0	10.3	(37)
\$5,000 or over	47.8	80.0	(36)	60.0	89.7	(77)
Total N	(67)	(5)	(72)	(85)	(29)	(114)
	$\chi^2 = 1.934; NS$			$\chi^2 = 8.674; p < .01$		

Note: Differences in the N totals in this table and Table 3 are a result of respondent refusal to answer questions concerning reasons for present location or parents' income.

mother's education, resignation, and geographic mobility parallels the pattern discussed above with regard to ethnicity. No relation is found between mother's education and geographic mobility for the less resigned respondents. Within the group of respondents who are more highly resigned, as mother's education increases, the probability of the respondent staying in the AHEC area decreases. Of those who are more highly resigned and whose mothers have a sixth-grade education or less, 90% remain in the AHEC area.

Geographic Mobility and Social Mobility

If the AHEC program leads to geographic stability in the absence of social mobility, it could be viewed as perpetuating a system of

limited opportunity for residents in the lower Rio Grande Valley. Therefore an assessment of the AHEC strategy requires examining the relationship between geographic and social mobility for these health professionals.

Measuring intergenerational social mobility was a problem in this survey. More than 90% of the respondents had achieved more education than their mothers (derived from Table 3). However, respondents' level of education could not be used as a measure of social class position because inclusion in the survey required education beyond high school. The criteria used for evaluating respondents' social status are their salary and occupation. Mother's education and the income of the family of origin are used as indicators of the family's social status. (Father's occupation is not

TABLE 7. Significant Demographic Characteristics Related to Geographic Mobility and Levels of Resignation (percentages)

Significant Demographic Characteristics	Resignation Levels					
	Low Resignation			High Resignation		
	Stable	Mobile	Total N	Stable	Mobile	Total N
<i>Ethnicity</i>						
Mexican-American	73.9	55.6	(100)	95.5	53.3	(93)
Anglo-American	26.1	44.4	(42)	4.5	46.7	(11)
Total N	(115)	(27)	(142)	(89)	(15)	(104)
	$\chi^2 = 2.71; NS$			$\chi^2 = 19.88; p < .01$		
<i>Parents' Income</i>						
Less than \$5,000	34.4	13.0	(36)	59.1	9.1	(43)
\$5,000 or over	65.6	87.0	(83)	40.8	90.9	(39)
Total N	(96)	(23)	(119)	(71)	(11)	(82)
	$\chi^2 = 4.001; p < .05$			$\chi^2 = 9.57; p < .01$		

used because of the high proportion of "unknown" responses [30%.] Social mobility is measured by comparing the respondent's social class ranking with that of his/her parents.

The relative social mobility of the study subjects is related to geographic mobility (Table 8). On the basis of the criteria outlined above, those persons who remained in the AHEC area were significantly more socially mobile than those who had left the area.

Because this survey was conducted at the beginning of the respondents' career, the social status they had achieved may change. The relatively short interval between the subjects' involvement in an educational program and our follow-up tends to diminish identification of middle-class students as upwardly mobile. The research design may therefore encourage a bias that identifies only lower-class students as upwardly mobile.

DISCUSSION

The plan to train south Texas students in south Texas for health careers appears to be sound. The majority of former students are remaining in the area and are employed in a health career. Caution must be exercised, however, in generalizing from these results. The sample was drawn from a predominantly female population, and the geographic and cultural characteristics of the area make it unique. We should not assume that similar results would be obtained in follow-up studies of allied health and nursing students in other AHEC areas. The results may also not be similar for a sample of female medical students or other female professional students.

The data presented in this paper suggest that students from low-income families and Mexican-American students are more likely to be geographically stable than those from higher-

income families and Anglo-Americans. Resignation, however, is found to be a conditional variable in regard to ethnicity. No significant differences in geographic mobility between Anglo-Americans and Mexican-Americans are found among those students with less restricted aspirations. It is when resignation is high that ethnicity becomes a significant independent variable. Anglo-Americans who are more resigned are more likely to be geographically mobile, whereas Mexican-Americans who are more resigned are likely to be geographically stable. Resignation, however, does not impact the relation between parents' income and geographic mobility. Parental income is a significant variable regardless of the respondent's level of resignation. One explanation for these results may be that resignation includes an element of attachment to one's culture, and this cultural identification may inhibit geographic mobility.

Whether or not a respondent cited family-of-origin reasons for present location is found to be an independent variable. (Although there is some evidence that personal reasons is also a conditional variable, we believe that the evidence is biased by the low frequency in one cell.) Whether or not an ex-student cited family-related reasons for present location may reflect both social and cultural attachment to a geographic place. The existence of a social network in the form of the family of origin appears to be directly influencing the geographic stability/mobility of the ex-students.

The results demonstrate some of the problems in measuring the relationship between social class and geographic mobility. The former students included in this survey were from lower- and lower-middle-class families, and most were better educated and earning more than their parents. Their apparent upward mobility is a function of a relatively low socioeconomic starting point.

The relationship found between class and geographic mobility may be spurious, the appearance of a relationship possibly being attributable to other factors with equal impact. In this instance, parents' income, which is used as an indicator of social class, is related to geographic mobility. Those ex-students whose parental income is low are less likely to be geographically mobile. Almost by definition, however, they are likely to be socially mobile.

TABLE 8. The Relationship of Social Mobility to Geographic Mobility (percentages)

Social Mobility	Geographic Mobility	
	Stable	Mobile
Upward	42.0	21.0
None	29.0	42.0
Downward	29.0	37.0
Total N	(138)	(33)
	$\chi^2 = 14.99; p < .006$	

Their lack of geographic mobility is interesting. These former students may have become trapped into helping to support their families once they had more income. The financial links between the students and their family appear to be a plausible explanation for the lack of geographic mobility in this sample. However, if the link between the ex-students and their family were primarily financial, then personal reasons would have emerged as a strong conditional variable in the relationship between family income and geographic mobility. Since the data are not compelling, other variables must be sought to explain that relationship. More research is needed to evaluate the impact of additional variables on geographic mobility.

This research demonstrates that geographic mobility is not necessary for social mobility. Increased social status without geographic mobility, as evidenced in this study, validates the implementation of educational programs such as AHEC to provide educational opportunities to underrepresented groups and to provide such opportunities where there is a manpower shortage. It is not likely, however, that these results could be replicated elsewhere. South Texas is economically depressed but developing. It is predominantly Mexican-American and is isolated from the rest of the United States. These factors tend to decrease geographic mobility among its residents.

CONCLUSION

The sample is socially upward mobile. The members of our study population have achieved a measure of economic and educational success that sets them apart from their parents and peers. One might expect that this upward social mobility would be accompanied by geographic mobility and detachment from the family and the community. This is not the case. Social mobility has not led automatically to assimilation elsewhere. These former students remain closely tied to their families and community, and the tie is more than simply financial. Respondents with higher-income parents are as likely to cite family as the reason for present location as respondents whose parents have lower incomes. The results suggest that investigations regarding the assimilation of Mexican-Americans should recognize that

economic equality and cultural diversity need not be mutually exclusive. Further research into an assimilation process should consider various aspects of participation in the institutions of society.

The findings of this study suggest three major areas for further research. First, the concept of resignation needs to be sharpened and refined. It was developed to describe a generalized attitude toward life. It implies an acceptance of one's life situation with little possibility of changing it. The term may apply to certain aspects of one's life situation, however, and not to others. For example, respondents in this survey may have been resigned to living in the lower Rio Grande Valley but not resigned to a low-level job. Also, how cultural groups respond to feelings of resignation appears to vary widely. The methods of coping must be defined and measured if the concept is to become fully useful.

The second area for further research concerns the relationship between geographic mobility and social mobility. Our findings demonstrate that the two are not necessarily linked. The results found in our study within the social context of the lower Rio Grande Valley need to be replicated in areas that differ from south Texas. Such research should attempt to identify which characteristics of the area are most closely associated with geographic stability.

The third area for further research concerns the applicability of the findings regarding one aspect of the AHEC program to other geographic areas. The assumption underlying allied health and nursing education activities through the AHEC in south Texas has been supported by these data. The question remains as to whether these results are generalizable to other medically underserved areas. The results suggest that the strategy of training allied health and nursing personnel in the colleges and hospitals in a medically underserved area deserves more consideration as a viable solution to some of the health manpower distribution problems existing at present.

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