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RESIDENTIAL SATISFACTION AS AN INTERVENING VARIABLE IN RESIDENTIAL MOBILITY

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Abstract—The stress-threshold model (Wolpert, 1965; Brown and Moore, 1970) assumes that people do not consider moving unless they experience residential stress. This paper develops a similar model of residential mobility in which residential satisfaction acts as an intervening variable between individual and residence variables and mobility. The model is tested with data from a panel study of Rhode Island residents. The results indicate that residential satisfaction at the first interview is related to the wish to move and to mobility in the year following the interview. Individual and residence characteristics such as age of head, duration of residence, home ownership, and room crowding are shown to affect mobility through their effect on residential satisfaction.

Introduction

Numerous studies have shown the propensity to move to be related to characteristics of the migrants, of their dwelling unit, or of their area of residence. Variables such as age, life-cycle stage, education, occupation, home ownership, duration of residence, and location relative to the center of the city have frequently been found to discriminate migrants from nonmigrants (see studies by Butler, 1969; Lansing and Mueller, 1967; Morrision, 1971; and reviews by Simmons, 1968; Morrison, 1972). Although the authors of these studies often provide plausible explanations for their findings, these separate explanations do not add up to a theory of migration. An adequate theory of migration should answer the question of why people move and help to explain the relationship between migration and other variables.

Butler (1970) and Morrison (1972) have suggested that the questions of who moves and why they move can be treated separately from the question of where they move to. In this paper we shall be concerned with only the first two questions. After a brief review of the relevant theory, we shall propose a model of the mobility decision-making process and perform an empirical test of the model. While our empirical test will be limited to short-distance moves, our discussion will be more general because we feel that there are many similarities between the processes involved in short- and long-distance moves even though some of the variables may be different.

A theoretical framework for the study of the mobility decision-making process has been suggested by Lee (1966). Lee classifies the factors important to the decision as factors associated with the area of origin, factors associated with the areas of destination, intervening obstacles, and personal factors. The decision is viewed as a weighing of the positive and negative factors at the origin versus those at the destination with some modification for individual variation in the effects of these factors. If the per-

ceived advantage favoring mobility is sufficient to offset the intervening obstacles, the person will move.

The cost-benefit model of migration proposed by Sjaastad (1962) fits within Lee's general framework. In the simplest form of the cost-benefit model, a person is assumed to move if the present value of all future monetary benefits from moving is greater than the monetary costs of moving. To apply this model to explain migration differentials it is necessary to assume that migrants are motivated by rational economic considerations, that all persons have knowledge of the opportunities elsewhere and the costs of moving, and that they give careful consideration to the possibility of moving.

The assumptions of the cost-benefit model were tested in a study of rural-urban migrants in Taiwan (Speare, 1971a). This research showed that, while most of the migrants were motivated by rational economic considerations and most gained by moving, other factors such as the receipt of job information by word of mouth and locations of friends and relatives had a great deal to do with who moved and where they went. Furthermore, a large proportion of the nonmigrants had never considered moving, and many of these also would have gained by moving. The conclusion was that the cost-benefit model must be extended to include noneconomic factors and that even then the model applies only to a segment of the population. These findings are consistent with the observation by Lansing and Mueller (1967, pp. 204–207) that only 18 percent of those who had not moved in the last five years had given any serious consideration to moving.

The mover-stayer model gets around this problem by assuming that some people are movers and some are stayers. This assumption is supported by Goldstein's observation that high mobility rates are largely due to a limited segment of the population who make repeated moves (Goldstein, 1958; 1964). While there has been some success with a model which divides people into movers and stayers (Blumen, Kogan, and McCarthy, 1955), the more successful models have used a mover-stayer continuum in which the propensity to move varies with duration of residence (McGinnis, 1968; Myers, McGinnis, and Masnick, 1967). Although these models provide a description of an important part of the mobility process, they do not adequately answer the question of who moves. We may still ask, for people of a given duration of residence, why do some move and others stay?

Another approach to a theory of who moves is to view migration as a response to stress. This is the approach which will be developed in this paper. This approach is based on a concept of human decision-making which is perhaps best represented in the work of Simon (1957). Simon views the individual decision-maker as limited in the capacity to formulate and to solve problems and to acquire and to retain information. To cope with these problems the decision-maker constructs a simplified model of the situation and acts rationally with respect to that model. Simon suggests that in this simplified model only a subset of the alternatives are perceived and that payoffs are evaluated only as satisfactory or unsatisfactory. In solving a problem a search is made for outcomes which are satisfactory, and the search is terminated when a satisfactory alternative is found (Simon, 1957, p. 198ff).

This approach is similar to that taken by Rossi (1955) in studying the relationship between housing complaints and mobility. More recently, Wolpert (1965; 1966), Brown and Moore (1970), and Golant (1971) have viewed migration as a response to stress between the collective needs of the household and the characteristics of its environment. Sabagh, Van Arsdol, and Butler (1969) have em-

phasized the importance of residential needs arising from life-cycle changes, social mobility aspirations, and changes in the residential environment in initiating mobility. They have also pointed out that social and locality participation may discourage mobility. The following formulation of a residential satisfaction model draws heavily from these works.

The Residential Satisfaction Model

Members of individual households can be viewed as tied to a particular location by bonds to other individuals, attachment to the particular housing unit, attachment to a job, attachment to a neighborhood-based organization or other local bonds. The strength of these bonds is reflected in a general level of satisfaction, and the higher the level of satisfaction, the less likely the person is to consider moving. In most cases a highly satisfied person will not even consider moving despite the fact that he might be better off somewhere else, were that person to calculate the costs and benefits. It is useful to think in terms of a threshold of dissatisfaction at which point a person begins to consider moving. This concept is essentially the same as the stress-threshold concept used by Wolpert (1965). We prefer to speak of dissatisfaction, rather than stress, to avoid the connotation of mental tension. Once the threshold for dissatisfaction has been passed, a person will search for alternatives and will evaluate these alternatives relative to his current location. If a satisfactory alternative location is found, the person will decide to move. In the evaluation of alternatives, objective factors such as the housing market, job market, cost of moving, etc., will enter into the decision.

Not all mobility decisions begin with the development of dissatisfaction to a point where one begins to consider moving. In some cases the decision to move is forced on the individual or household through eviction, job transfers, destruction of the housing unit, marital breakup, etc. In such cases the decision-maker is forced to search for alternatives and to choose among them.

If we exclude cases where a person or household is forced to move, then the rest of mobility can be viewed as resulting from the increase in dissatisfaction beyond a person's threshold or tolerance level. There are several things which can lead to the increase of dissatisfaction beyond the threshold level. Dissatisfaction can result from a change in the needs of a household, a change in the social and physical amenities offered by a particular location, or a change in the standards used to evaluate these factors. A frequent example of a change in needs of a household is family growth, which results in a demand for a larger dwelling unit. Examples of a change in amenities are the physical deterioration of the dwelling unit or the neighborhood, a change in job conditions, or a change in the social bonds to other persons in the area. A change in standards could result from social mobility, social mobility aspirations, or the receipt of information about opportunities elsewhere. A person who is satisfied with his current job may suddenly become dissatisfied on learning that people doing the same work at some other place receive considerably higher pay.

The theory predicts that a highly satisfied person will not consider moving even though that person might be better off somewhere else. This takes into account the findings of survey research that many people who might have benefited from moving did not consider moving.

Although dissatisfaction is a necessary condition for the consideration of mobility, it is not a sufficient condition. Some sources of dissatisfaction can be alleviated by adjustments in local conditions. Home owners can add additions onto their homes to cope with increased demand for space. The person who hears about higher wages elsewhere can ask

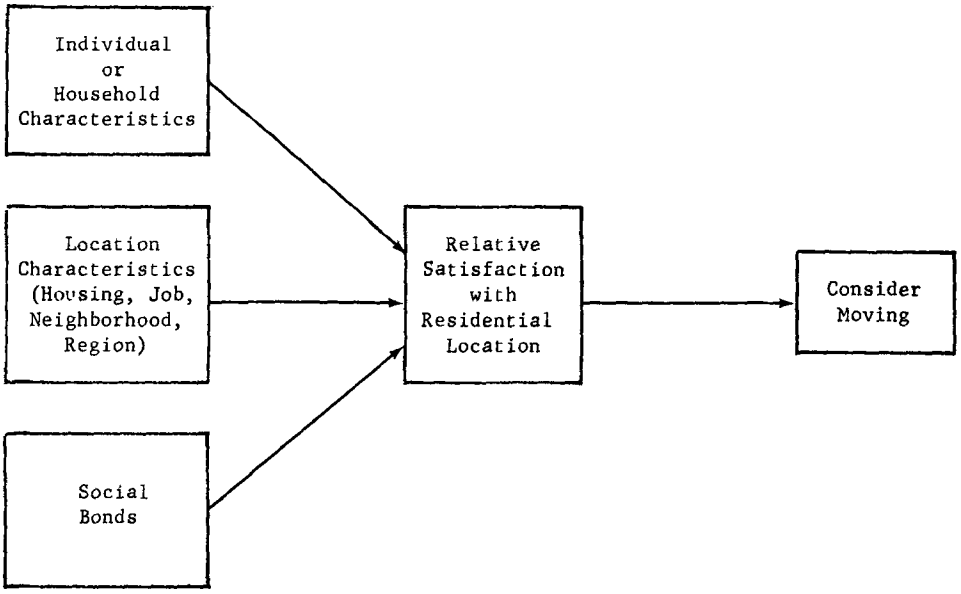

FIGURE 1.—Model for the First Stage of Mobility Decision-Making: The Determinants of Who Considers Moving

for a raise in pay and may receive it. If the dissatisfied person is aware of options for adjustments which can be made locally, these may be considered first. If adjustments are not possible or they are not perceived or if they are perceived to be too costly, the person will then consider moving to a new location.

The relationships between factors operating in the first stage of the model are diagrammed in Figure 1. Whether or not a person (or household) considers moving depends on the relative level of satisfaction with the current location. Since feelings of satisfaction tend to be relative to one's expectations and since thresholds are also related to expectations, we are assuming that satisfaction can be measured relative to a person's threshold for dissatisfaction. Residential satisfaction is assumed to depend on characteristics and aspirations of the household, the characteristics of the location, and "social bonds" between household members and other people.

Factors such as age, income, and duration of residence should not directly affect the decision to consider moving. Although more young than old people consider moving, we cannot adequately explain this by saying that growing older causes immobility. A fuller explanation starts with the assumption that age affects some of the elements of residential satisfaction. For those earning salaries, income and seniority privileges tend to increase with age, both providing an element of satisfaction in itself and also enabling older people to purchase housing with which they are more satisfied. The importance of a familiar environment is likely to increase with age, providing another element of relative satisfaction with the current location.

The indirect effects of duration of residence are even clearer. Social bonds take time to build, and the longer people live in an area, the more friends they are likely to have. Similarly, satisfaction with shopping and other local facilities and services is likely to increase as people gain familiarity with an area.

Certain housing characteristics in and of themselves should tend to lead to

higher levels of satisfaction. Home owners tend to be more satisfied than renters both because of the pride in owning one's own home and the higher cost of moving from an owned home which increases the threshold for dissatisfaction. Suburbanites tend to be more satisfied than central-city residents, and those with large homes are usually more satisfied than those with small homes.

Since the empirical data presented in this paper pertain only to the decision to move and not to the choice of the new location, we shall not discuss that part of the theory here. A good discussion of this part of the model can be found in the works of Brown and his associates (Brown and Moore, 1970; Brown and Longbrake, 1970; Brown and Holmes, 1971) and also in Clark (1970) and Stone (1971). We should take into consideration the fact that the decision to consider moving does not usually commit a household to moving. The search process may yield no suitable alternatives to the current residence, or the household may decide that the benefits from moving are not sufficient to outweigh the costs.

Once an alternate location has been selected, the evaluation process can be represented by a cost-benefit model which includes both monetary and nonmonetary factors. The benefits include the advantages of the new job, housing unit, community, etc., plus the value of the social bonds to friends and neighbors, which may be higher for the place of origin. The costs include not only the money costs of moving but also the nonmoney costs arising from problems of moving and adjusting to the new area.

The model which we are proposing is therefore not an alternative to the cost-benefit model so much as it is a qualification of that model. The first part of the model can be viewed as separating the population into those who are satisfied and those who are dissatisfied with their current residence. Only those who are dissatisfied carry out a cost-benefit analysis of mobility and decide whether or not to become movers. From the perspective of the mover-stayer model, movers are those who have both experienced residential dissatisfaction and favorably evaluated the costs and benefits of moving, whereas stayers are either satisfied with their residence or are dissatisfied but have considered moving and decided that the costs outweigh the benefits. (I am indebted to Larry Brown for pointing out the complementarity of these three models.)

The residential-satisfaction approach outlined above is a general approach which should apply to all forms of voluntary mobility. In this paper, this approach will be applied to the study of residential mobility, defined as movement within a single labor-market area. By focussing on residential mobility the problem is simplified somewhat because job-related factors play an important role in the decision-making process for only a very small proportion of the movers. Thus, one can ignore job-related factors and focus on housing and family factors.

The Data

The basic data come from interviews taken in 1969 with a representative sample of the adult population of Rhode Island. Because of its small size, Rhode Island is essentially a single labor-market area. At the time of the 1970 Census, 83 percent of Rhode Island residents lived within the Providence-Pawtucket-Warwick SMSA, and only 13 percent of the residents of the SMSA lived outside the state. Most people in the state are able to change their job location without changing their place of residence. Only three percent of the movers in this study stated that their move was due to a change in place of work.

The original survey included 1,081 respondents who were either aged 21 and over or married and who were not living

in institutions (for a description of the study see Organic and Goldstein, 1970). For our analysis we have selected the 724 respondents who had ever been married, were under 65 years of age, were either the head of household or spouse of the head, and were not currently serving in the military or married to someone in the military. The age and marital-status restrictions were deemed necessary because of the large variation in mobility rates with these variables (see Speare, 1970). A small number of respondents who were neither the head nor spouse of the head were excluded because these persons might not be involved in the decision to move. The military families were excluded because it was assumed that most of their movement was not voluntary.

In the original interview, respondents were asked a series of questions about their satisfaction with various aspects of their housing and geographical location. They were also asked whether they had any wish to move or plans to move within the next year.

Approximately one year later, these same respondents were contacted by telephone (or field interview where necessary) and were asked if they had moved. Although interviews could not be obtained for approximately three percent of those selected for this study, the interviewers were able to determine whether or not the person had moved for all persons who were still living. Nine persons had died, and 15 had moved out of state. When these persons are excluded from the study, we are left with 700 persons who met the criteria for the study and who remained in Rhode Island throughout the one-year period of observation.

Mobility Variables

An attempt was made to identify those persons who might be considering a move at the time of the original interview by asking two questions, "Do you have any wish to move within the next year?" and "Do you have any specific plans to move within the next year?" The first question should have identified all those who had given any consideration to moving, and the second should have identified those who had made a definite commitment to move. The difference in these two questions can be seen in the fact that 22 percent of the respondents expressed a wish to move whereas only three percent had plans to move. These results differ considerably from those of Van Arsdol, Sabagh, and Butler (1968), who found that 30 percent planned to move. However, they counted as planning to move all those who responded "definitely move," "probably move," "uncertain," or gave no response, and they did not report what percentage of those classified as planning to move were in the latter two categories.

Since our basic theoretical model is one in which more people consider moving than actually move, the wish-to-move question represents a better measure of those who consider moving. We have improved this measure by recoding all persons who wished only to move out of the state as not wishing to move. According to this definition, 19.7 percent of the sample expressed a wish to move at the time of the original interview.

The second mobility variable is whether or not the respondent moved in the one-year period between the original interview and the follow-up interview. The proportion who moved is 10.3 percent. Although this figure may appear to be low to one who is accustomed to the rule of thumb that "one in five move in a year," it compares well with estimates obtained from other data. Rhode Island tends to be below the national average in mobility, and many moves are made by single persons, military personnel, and those moving in and out of the state, all of whom we have excluded from this study. Using data from other surveys in Rhode Island where

TABLE 1.—Mobility 1969 to 1970 by Expressed Wish in 1969

	Moved		Stayed		Total	
Wish to Move	Number	Percent	Number	Percent	Number	Percent
Yes	51	37.0	87	63.0	138	100.0
No	21	3.7	541	96.3	562	100.0
Total	72	10.3	628	89.7	700	100.0

Source: Rhode Island Health Survey 1969 and follow-up Survey 1970.

complete residence histories were obtained, we estimate that 8.9 percent of those meeting the criteria for this study moved per year between 1948 and 1967 (based on age- and marital-status-specific rates reported in Speare, 1970). The 1970 Census shows that 17.6 percent of the husband-wife families in Rhode Island where the head was under 65 moved into their current residence in the 16 months prior to April 1970. This results in estimates of between 9.9 and 11.8 percent moving within the state per year depending on assumptions made about the proportion moving from out of state and the proportion with repeated movement during the 16-month period.

There is a strong relationship between the wish to move and actual mobility in the year following the original interview (see Table 1). Looking at the percentages by wish to move, we see that 37 percent of those who expressed a wish to move did move, whereas fewer than four percent of those who had no wish to move moved. However, we failed to identify all of the potential movers with the wish-to-move question. Out of the 72 movers 21, or about 30 percent, did not express a wish to do so at the time of the original interview. Some of these discrepant cases were people who were forced to move. Also, there may have been changes in the situation which resulted in the development of a wish to move at some time after the original interview.

Index of Residential Satisfaction

Residential satisfaction was measured with a series of questions about specific housing, neighborhood, or location items. Only those items thought to be relevant to residential mobility within a labor-market area were included. For each item the respondent was asked to reply whether he was "completely satisfied, well-satisfied, neither satisfied nor dissatisfied, a little dissatisfied or very dissatisfied." Each of these items was coded from 0 to 4 with 0 representing very dissatisfied and 4 representing completely satisfied. The relative importance of an item to the respondent was measured by questions following the residential-satisfaction series which asked which item the respondent considered to be most important and which was second in importance. The relative importance of an item was taken to be the proportion of respondents who selected the item as first or second in importance.

The satisfaction items, their "relative importance," and their weights in the regression equations to predict wish to move and mobility following the interview are displayed in Table 2. The relative importance does not always correspond with the relative weights in the regression equations. The only item which is clearly important by all criteria is the satisfaction with the size of the house. Two items, distance from schools and distance from shopping, are moder-

TABLE 2.—Relative Importance and Regression Weights of Housing-Satisfaction Items

Housing-Satisfaction Items	Percentage Citing Item as Most Important or Next Most Important	Regression Weights[a]	
		With Wish to Move	With Mobility 1969-1970
Size of house	42.0	-.085	-.037
Yard	9.0	-.021	-.018
Age of house	4.6	-.027	-.029
Immediate neighborhood	56.5	-.037	--
Community (section of town)	39.3	-.031	--
Distance from work	17.4	--	-.018
Distance from schools	18.6	--	--
Distance from shopping	10.7	--	--
Don't know or not ascertained	2.0	--	--
Total	200.0		
Multiple correlation		.476	.303

a- Unstandardized partial regression coefficients. A stepwise multiple regression was used which selected only those items which reduced the unexplained variance by 0.2 percent or more. All regression coefficients are statistically significant at $p < .05$, based on one-tailed t-test.

Source: Rhode Island Health Survey 1969 and follow-up Survey 1970.

ately important to the respondents but fail to add significantly to the prediction of a wish to move or an actual move in the year following the interview. These results are consistent with the findings of a national survey conducted by Butler et al., (1969, pp. 53–54) that accessibility to schools, to shopping, and to other facilities are not important factors in the decision of whether or not to move. Two other items, the yard and the age of the house, which were less frequently cited by respondents, contribute to the prediction of both mobility variables.

Several different indices of residential satisfaction were experimented with. These included a simple sum of all eight items, a sum with weights proportional to the proportion of respondents citing the item as important, and several other combinations. There was very little difference among these measures in their correlations with the two mobility variables. The index which was selected for this analysis consists of the sum of the six items which entered the regression for either the wish to move or mobility between 1969 and 1970. Items were given weights roughly proportional to their regression coefficients. All items except size of house were given a weight of 1. Size of house was given a weight of 3. This index correlated .471 with the wish to move and .297 with whether or not the person moved between 1969 and 1970. These correlations are very close to the multiple correlations shown in Table 2, where the selection of factors and their relative weights was unconstrained.

There is a strong relationship between residential satisfaction and the wish to move (see Table 3). The relationship does not appear to be a strictly linear one although a test for nonlinearity failed to show significant departure from linearity. As satisfaction decreases, the

TABLE 3.—Relationship between Index of Residential Satisfaction, Wish to Move, and Mobility.

Satisfaction Index Score	Number of Cases	Percentage Expressing a Wish to Move in 1969	Percentage Moving 1969-1970
32[a]	114	3.5	1.8
28-31	164	5.5	3.7
24-27	143	9.8	8.4
20-23	108	24.1	12.0
16-19[b]	83	39.8	12.0
12-15	46	50.0	23.9
8-11	24	62.5	45.8
0- 7[c]	18	77.8	38.9
Total	700	19.7	10.3

a- Completely satisfied with all items.
b- Neither satisfied nor dissatisfied.
c- Mostly dissatisfied.
Source: Rhode Island Health Survey 1969 and follow-up Survey 1970.

increases in the proportion who expressed a wish to move are at first gradual. However, as satisfaction approaches and falls below the point where respondents are on the average neither satisfied nor dissatisfied, the increases in the proportion who expressed a wish to move become more rapid. These results are consistent with the view that there is a threshold for residential satisfaction such that people begin to consider moving when their level of satisfaction falls below the threshold. If there were a definite lower threshold and satisfaction were measured relative to that threshold, we would expect all those below the threshold to desire to move and all those above it to desire to stay. Since our measure of residential satisfaction is a crude one which is not calibrated to have the same meaning for all respondents and fails to include some relevant items such as housing costs, we cannot expect to be able to pinpoint the threshold.

The relationship between the satisfaction index and whether or not the person moved between the original interview and the follow-up is not as strong. While mobility clearly increases as satisfaction decreases, it is impossible to make any inferences about the linearity of the relationship from the data.

THE ANALYSIS

The goal of our analysis will be to establish whether or not a plausible argument that residential satisfaction acts as an intervening variable in residential-mobility decisions can be made. If residential satisfaction is an intervening variable, it should be more strongly related to the wish to move and to mobility following the interview than to any of the household and location characteristics (the background variables) which are frequently associated with mobility. We must also be able to show that the background variables are related to residential satisfaction and that most of the effect of these variables on mobility can be viewed as an indirect effect which acts through residential satisfaction. We shall begin with a discussion of the zero-order correlations between the variables and then proceed to a discussion of the path coefficients between variables.

The zero-order correlations between

TABLE 4.—Zero-Order Correlations between Background Variables, Satisfaction Index, and Mobility Variables

Background Variables	Satisfaction Index	Wish to Move	Mobility in Year Following Interview
Age of head	.23	-.20	-.19
Education of head (years of school completed	-.07	.07	-.02[d]
Family income[a]	.08	-.09	-.17
City/suburb location (0=central city, 1=suburb or fringe)	.09	-.09	-.12
Owner or renter (0=owner, 1=renter)	-.20	.27	.31
Duration of residence (log scale)[b]	.13	-.13	-.20
Crowding ratio (persons/rooms)	-.27	.11	.07
Friends and relatives index[c]	.08	-.09	-.07
Satisfaction index		-.47	-.30
Wish to move (0=no, 1=yes)			.44

a- Income was coded to the nearest thousand dollars up to 7,499. Then the following categories were used: (8) 7,500-9,999; (9) 10,000-12,249; (10) 12,250-14,999; (11) 15,000-19,999; (12) 20,000-24,999; (13) 25,000-29,999; (14) 30,000-39,999; (15) 40,000 and over. This coding roughly approximates a log scale.

b- We have measured duration of residence on a logarithmic scale because both our data and previous research (Land, 1969, and Morrison, 1967) have shown the relationship to be curvilinear.

c- The friends and relatives index is the sum of four questions on how many of the respondent's close friends (relatives) live in the immediate neighborhood (section of town or community). Each question was coded: 0=none; 1=some; 2=most; 3=all.

d- Not statistically significant at p = .05 level. Level of significance is approximately r = .07.

Source: Rhode Island Health Survey 1969 and follow-up Survey 1970.

the background variables, the residential-satisfaction index, wish to move, and mobility following the original interview are shown in Table 4. As predicted by the theory, residential satisfaction is more highly correlated with wish to move than any of the background variables. Similarly, wish to move has the highest correlation with mobility in the year following the interviews. Age, education, duration of residence, and the other background variables which have been stressed in the literature have relatively low correlations with the two mobility variables. Among the background variables, home ownership has the strong-

est relationship to the mobility variables, and age and duration of residence are the only other two variables with correlations exceeding .20. The importance of these three variables in explaining variations in mobility has been established by the previous work of Morrison (1967), Land (1969), and Speare (1970).

The other background variables (education of head, family income, city or suburban location, the crowding ratio, and the index representing the extent to which friends and relatives live in the same neighborhood or section of town) all have weak relationships to the two mobility variables. Although small, all the correlations are statistically significant except the correlation (−.02) between education of head and mobility in the year following the interview.

The relative magnitude of the correlations between the background variables and the satisfaction index tends to be the same as that of the correlations with the mobility variables except for a reversal of sign. The main exception is the crowding ratio, which is more highly correlated with the satisfaction index than the mobility variables. We can thus conclude that the background variables are significantly related to residential satisfaction.

We now need to show that residential satisfaction has an independent effect on the mobility variables when the effects of the background variables are taken into account. We have used path analysis to investigate this issue. The path diagram (shown in Figure 2) is similar to the theoretical model shown in Figure 1. Five of the background variables are shown as determinants of the satisfaction index, which in turn is a major determinant of the expressed wish to move. The only difference between Figure 1 and Figure 2 is the addition of the outcome of the mobility decision, which is shown to be a function of wish to move, of the satisfaction index, and of two of the background variables. We feel it is important to include the outcome of the mobility decision in our analysis because it is the ultimate variable which our theory seeks to explain. However, we lack measures of the other intervening variables which should appear between the background variables and mobility to represent the cost-benefit type of analysis which we have assumed is carried out in the act of considering a move.

All paths for which the path coefficient is statistically significant are included in the path diagram. The significance test is approximate since the data come from a clustered sample. Three variables, education, income, and urban/suburban location, do not appear in the diagram because they do not have significant independent relationships to the satisfaction index or to the mobility variables once the other variables are included.

The satisfaction index depends on all five background variables. With one exception, the direction of the relationship is the same as that of the zero-order correlation. Satisfaction tends to increase as the proportion of friends and relatives nearby increases and as age increases. Satisfaction decreases with increased crowding and is less for renters than for others.

The one exception is duration of residence, which has a positive path coefficient and a negative zero-order correlation. The apparent explanation for this result lies in the correlation between age and duration of residence, which is the only correlation between background variables larger than .5. If a person stays in the same place, both age and duration of residence increase, and, since age has the larger path coefficient, the net effect of the two is to increase satisfaction. For those cases where age and duration of residence do not bear the normal relationship to each other, the opposite effects of the two variables are understandable. There are virtually no young

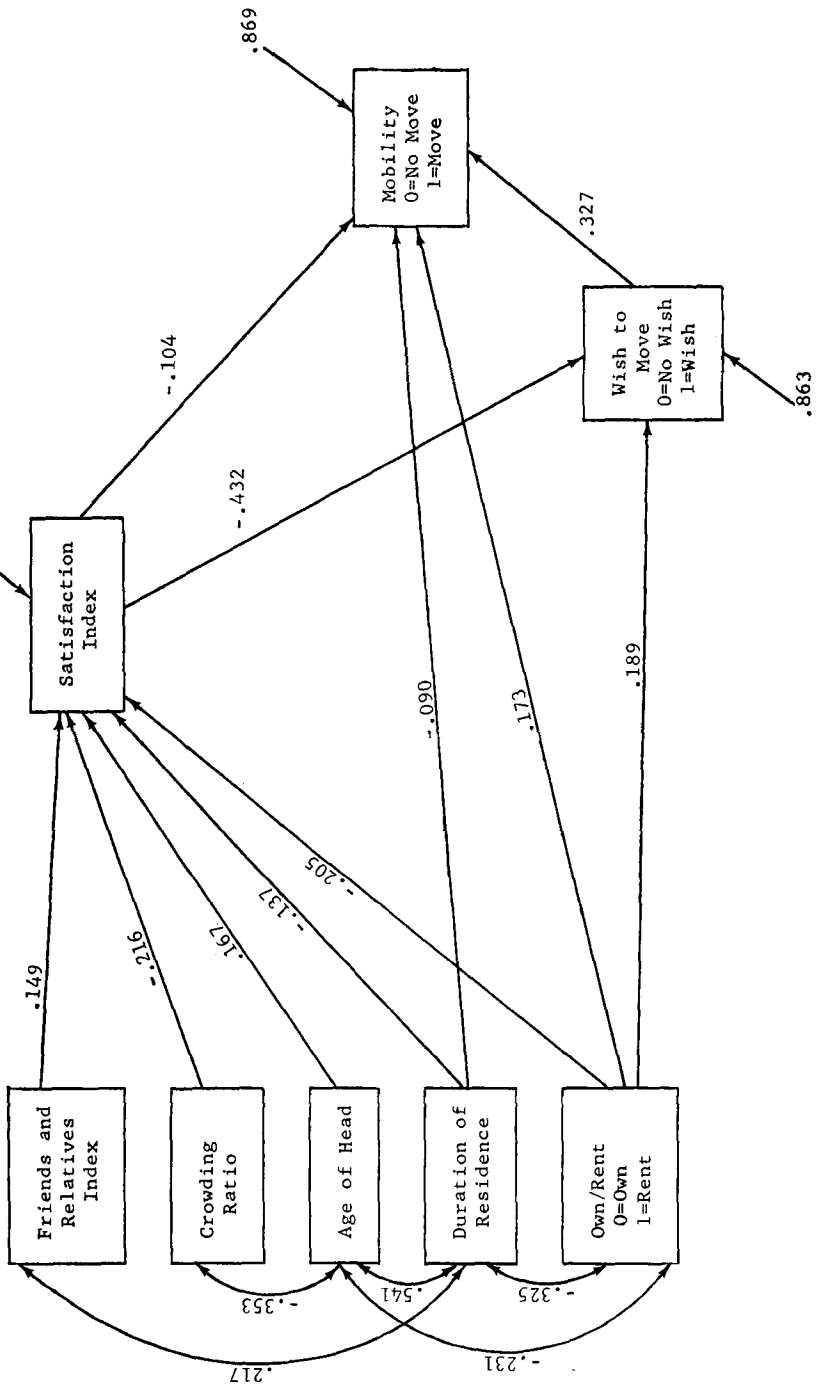

FIGURE 2.—Path Diagram for Best Empirical Model[a]

a- Includes all paths where the path coefficients are statistically significant at $p<.05$ based on two-tailed t-test. Intercorrelations of less than .2 between background factors are not shown.

persons of long duration of residence in our sample because such persons are not likely to be the head of household or spouse of the head. However, there are older persons with short duration, and these are likely to have taken unusual care in selecting their residence and thus to be more satisfied with it than most short-duration residents.

The wish to move is strongly related to the satisfaction index and influenced directly by only one background variable, home ownership. With the exception of this one variable, residential satisfaction acts as an intervening variable between the background variables and the wish to move. The total variance which is explained by residential satisfaction is 19 percent. Home ownership adds another six percent to make a total of 25 percent explained variance for wish to move. In contrast, the five background variables without the residential-satisfaction index explain 11 percent of the variance in wish to move. Thus, although residential satisfaction provides a far from perfect prediction of the wish to move, it is a much better predictor than the individual and household characteristics which have previously been used to predict mobility.

The fact that home ownership has an independent effect on the wish to move when satisfaction is controlled suggests either that there are some aspects of satisfaction which affect home owners differently from renters which we have failed to measure, or that we have failed to measure satisfaction relative to a person's threshold. It seems reasonable to expect that home owners might have higher thresholds than renters because of the anticipated high cost of moving for home owners. Unfortunately, there is no way in which we can independently check for such systematic variations in the measurement of relative satisfaction.

The analysis of the determinants of mobility in the year following the original interview is not as precise because other intervening variables such as the extent of search and the anticipated cost of moving were not included in the study. Nevertheless, the prior expression of a wish to move and the level of residential satisfaction are major determinants of whether or not the person moved. Only two other variables, duration of residence and home ownership, have significant independent effects. The wish to move and satisfaction index together explain 20 percent of the variance in mobility in the year following the original interview. Duration of residence and home ownership explain an additional four percent for a total explained variance of 24 percent. In contrast the five background variables taken alone explain only 12 percent of the variance. Again, the intervening variables are the major determinants of mobility.

In interpreting the correlations and explained variance, it should be pointed out that the two mobility variables are dichotomous variables and that the maximum attainable correlation between a dichotomous variable with ten to 20 percent of the cases in one category and a normally distributed continuous variable is around .8 (see Kendall and Stuart, 1958, p. 311). For an empirical study such as this we expect the correlation to be further reduced by measurement error. One relatively serious measurement error results from the delay between the consideration of mobility and the actual move. Some of the people who expressed a wish to move but did not move still expressed a wish to move a year later and might have done so after the follow-up interview. More frequently, people who had no wish to move at the time of the original interview may have developed a wish to move and then moved, both during the follow-up period. Another problem results from the fact that in some households the head was interviewed and in other households the spouse of the head was interviewed. Separate analyses for heads and for

spouses yielded results similar to those shown in Figure 2. However, the major relationships are all stronger for those cases where the head was interviewed. This indicates that the residential satisfaction of the head usually plays a more important role in the mobility decision-making process than that of the spouse. Ideally, it would be best to obtain measures of satisfaction for both the head and the spouse and to combine them in the analysis. Given these measurement problems, we feel the correlations are large enough to claim some validity for the general theoretical model being tested.

The analysis can be refined in several ways. We have assumed that the effect of home ownership can simply be added to the effects of other variables. However, in an earlier study (Speare, 1970) we demonstrated that duration of residence is related to mobility only for renters. This suggests that we might do better if we were to have separate models for home owners and renters. When separate models are tried, the path diagrams are generally similar for owners and renters. The main exception is duration of residence, which has an independent effect on both of the mobility variables for renters but not for owners. The magnitude and direction of the relationships between the other variables are similar to those of the relationships shown in Figure 2 for the combined sample.

Another possible refinement has to do with the form of the relationships. We have employed a linear model even though the dependent variables are dichotomous. In a related paper, we have shown that a modest improvement can be made using either a Logit model or a truncated linear model (Speare, 1971b).

Conclusion

In this paper we have argued that residential satisfaction is a key determinant of whether a person moves or stays at the current location. We have measured residential satisfaction in terms of an index which includes measures of the relative satisfaction with various aspects of housing and location and have found that this measure is a meaningful predictor of whether or not one will express a wish to move and whether or not one will move in the following year. We also have found that the effects of background variables on mobility are mainly indirect effects which act through the residential-satisfaction variable. Once satisfaction has been controlled, these background variables add little to the prediction of either a wish to move or to mobility in the year following the interview. The main exception is home ownership, which has significant direct effects on both mobility variables.

These results provide general support for the stress-threshold theory of human mobility (Wolpert, 1965; Brown and Moore, 1970). One of the important contributions of this theory is the division of the mobility decision-making process into at least two stages. In the first stage factors in the physical and social environment act on a given household in such a way as to create stress. We have modified this theory slightly by substituting residential satisfaction for stress. We have assumed that if dissatisfaction passes some unspecified threshold, then the household or some component of it will develop a desire to move. A desire to move is not the same as a decision to move; it means merely that a person will give some consideration to moving. The second stage of the model deals only with those persons who have a desire to move. We have argued that it is only those people who reach the second stage who can be viewed as weighing the costs and benefits of various alternative locations and as deciding whether or not to move. We have pointed out that, in cases where the person or household is forced to move or is lured by an extremely attractive alternative, the two-stage model

does not hold. For residential mobility, at least, these cases appear to be relatively few.

The residential-satisfaction model also adds to the understanding of the mover-stayer model. The movers can be seen as persons who are dissatisfied and the stayers as those who are satisfied. When the model is used to predict future mobility, it is assumed that levels of satisfaction tend to remain constant over time. Particularly, it is assumed that movers tend to be dissatisfied with each new place to which they move. This is a reasonable assumption to the extent that satisfaction is related to characteristics such as age, income, and the ability to buy a home. However, satisfaction is also related to other factors such as room crowding and the proximity of friends and relatives, which may be more easily adjusted in the process of moving. The stress-threshold approach is thus a more general one because it does not postulate satisfaction as an enduring characteristic but allows satisfaction to change in response to changes in the physical and social environment, to changes in economic position, and to changes in household composition. The stress-threshold approach also provides a framework for understanding why a given background variable is related in a particular way to mobility. It provides us with two types of explanations. Either the particular background variable affects one's satisfaction with his housing and location or it affects the perceived costs and benefits that would result from a move. It is quite possible that in some social settings a particular background variable might have an effect opposite to the effect it has in other settings. In such cases it would be necessary to look more closely at the actual mechanics of mobility for an understanding of the relationships. The failure to do so in these cases would result in erroneous prediction.

The research presented here has been exploratory in nature and needs to be further developed. The theory needs to be stated in a more formal mathematical form. The measure of residential satisfaction could be improved by adding items on housing costs and physical condition of the housing unit. Considerable work needs to be done in establishing the threshold for mobility consideration and in determining the extent to which it varies from individual to individual. The model also needs to be extended to include the other intervening variables which influence the decision to move among those who desire to move. Finally, empirical studies in other settings and with other types of mobility are needed.

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