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Evaluation of the Social Impact of Reservoir Construction on the Residential Plans of Displaced Persons in Kentucky and Ohio

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EVALUATION OF THE SOCIAL IMPACT OF RESERVOIR CONSTRUCTION
ON THE RESIDENTIAL PLANS OF DISPLACED PERSONS
IN KENTUCKY AND OHIO

Richard L. Ludtke
Rabel J. Burdge

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ABSTRACT

The states of Kentucky and Ohio have numerous reservoir projects at various stages of planning and construction. Each of the projects produces substantial social impact for the residents of the area and particularly for those persons affected by a loss of property and homes. This impact is not uniform in that people respond differently to displacement and the methods of adjusting relocation are known to differ among people.

This research was initiated to develop and test a model for explaining migration under such conditions. The model includes a consideration of people's potential for transferring existing statuses to new residences, the extent to which peoples interests are served by the reservoir, people's knowledge of the reservoir, the social class levels of those displaced and the extent to which people identify with their places of residence. These factors are viewed as affecting people's levels of apprehension and consequently their willingness to separate from their current membership systems.

Data for this investigations come from all the adult residents of the areas to be flooded neat Taylorsville, Kentucky and Lebanon, Ohio. These areas are in the Louisville District of the U. S. Army Corps of Engineers and exhibit similar topographies with rural populations of similar socio-economic and social isolation.

The testing of this model indicated that apprehensions over money is greatest for those persons who identify strongly with their present homes. Also, apprehension over migration was less for those persons whose vested interests were served by the project. Knowledge of the reservoir project did not reduce apprehensions over moving as was predicted by the model.

KEY WORDS: Social aspects, social adjustment, migration, social change, community decision-making, family decision-making, attitudes, demography, migration and sociology.

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CHAPTER ONE

INTRODUCTION

Background

Forced migration studies have been conducted primarily in the setting of social and political disaster. Such evidence can be found in the voluminous literature on refugees and displaced persons produced since World War II. A recent annotated bibliography of migration literature catalogued 139 articles under the topic of refugees and only twenty-six under the heading of "involuntary migration," of which twenty-one of these dealt with refugee or contained populations.¹

It would be fallacious to assume that all forced migrations are related to such a catastrophic event as fleeing refugees. Many land development projects generate forced migrations for persons residing in the areas to be developed. In the process of building public facilities, land may be flooded for reservoirs or man-made lakes, parks established, and roads constructed, forcing evacuation of residences from the land

¹J. J. Mangalam, Human Migration: A Guide to Migration Literature in English 1955-1962 (Kentucky: University of Kentucky Press, 1968).

involved. This type of forced migration has become commonplace in societies attempting to keep pace with the demands of an industrial order.

A Typology of Migration

Peterson, in a typology of migration, differentiates between forced and impelled migration. Both forced and impelled migration are the result of pressures applied by the state or the prevailing social power. Impelled migration means the migrants have the choice whether or not to move,¹ whereas in forced migration no element of choice is present. A more specific typology of forced migration might be conceptualized as possessing essentially two dimensions: (1) the presence or absence of any reasonable choice as to whether to migrate, and (2) the presence or absence of any element of choice in selecting the area of destination.

Figure 1.--A Typology of Forced Migration

		<u>Choice of Whether to Move</u>	
		Present	Absent
Choice of New Location	Present	Free impelled, e.g., invading army	Free compelled, e.g., removal for reser- voirs
	Absent	Contained im- pelled, e.g., Cuban flights to U. S.	Contained compelled, e.g., concentration camps

¹William Peterson, "A General Typology of Migration,"
American Sociological Review, XXIII (June 1958), 256-266.

In the preceding typology, the words contained and free designate the presence or absence of choice in selecting new locations. The words impelled and compelled indicate the nature of the drive forcing the migrations as allowing or failing to allow for any exercise of volition. This typology accounts for the logical possibilities based upon the two dimensions in the exercise of volition; that is, it delineates the possibilities based on the presence of choice in whether to move and where to relocate.

Research Problem

The focus of the present study is on the category "free compelled migration." The condition of free compelled migration requires that all parties must move from their present residences, and that they be completely free in choosing new locations. The problem studied within this context is the nature of migration differentials among involuntary movers.

The model being tested traces the effects of relevant structural and social psychological factors on the migrants' apprehension over moving, and in turn the effect of this apprehension on plans for relocation. Those structural or social psychological factors that either enhance continuities in moving from one community to another or reduce the emotional investment in the current residence are conceptualized as reducing apprehension over moving. When one's apprehension over moving is effectively reduced, he will be more willing to move greater distances both physically and socially (in terms of being separated

from his present social environment). Thus, the model predicts migration plans on the basis of apprehension over moving, which in turn is explained by pre-existing structural and attitudinal factors. As such, the model conforms to the "pattern model" of explanation set forth by Kaplan.¹

That is, migration plans are explained in relation to a set of other elements in a logically unified system. Although the pattern model of explanation is criticized by Kaplan for its lack of formalization, the deductive model is used as a basis for establishing the patterns in this study and as such lends formalization to this particular model.²

The present research was inspired by the need for information on resettlement problems of persons forced to migrate because their homes were located in areas to be flooded by a reservoir.

Federal legislation provides the Corps of Engineers with the power to purchase land for the flood pool (high-water work) and for recreational areas necessary to provide access to the reservoir. The formal procedure for public notification of proposed reservoir projects is through a series of hearings conducted by the Corps of Engineers. Residents of the involved areas, absentee landowners, state and local officials and other interested parties are invited to attend these hearings.

¹ Abraham Kaplan, The Conduct of Inquiry: Methodology for Behavioral Science (California: Chandler Publishing Company, 1964), p. 332.

² Ibid., p. 333.

At these formal hearings the Corps of Engineers provides an economic justification for the reservoir, answers questions and reserves relevant statements from the audience. Following these hearings, a recommendation is submitted to Congress by the Corps of Engineers as to the merits of the reservoir. Congress then decides if the reservoir should be built. After the engineering phases and the plans for the reservoirs and recreational facilities have been completed, Congress appropriates funds for the acquisition of lands and construction begins. The matter of appropriation of funds often lags behind the decision to approve the construction of the reservoir. Since negotiations with the landowners are possible only after the appropriation of funds, residents of the areas to be flooded are aware that they will have to move long before the reservoir is built. It is this period of awareness that affords the researcher an opportunity to investigate pre-migration problems. This pre-migration situation provides an unusual set of circumstances in the study of migration. The impending migration is definite and there is no need to wait until the move has actually taken place for an investigation of many migration phenomena.

For the families living in the areas to be flooded, many problems of concern to sociologists and demographers could result. These include the following:

- (1) No legislative programs are currently available to assist the residents of flooded areas in finding new homes in comparable areas.

Thus, while the inhabitants are aware of the impending move, they are left to their own resources to find new homes. This character provides excellent correspondence with the category of migration typified as free compelled migration.

(2) Many psychological problems could arise when people are informed of an impending displacement. These problems are of an anticipatory nature, directed toward resigning one's self to the necessary move and seeking out satisfactory alternatives to the present residence. Rural residents with attachments to a particular area may experience considerable anxiety when compelled to leave their home and land.

(3) The lapse of time between first knowledge about the move and the actual sale of property and relocation could produce social as well as psychological disturbances. The affected parties are likely to consider investments of time and money as unwarranted and neglect their property, allowing it to deteriorate rather than maintaining it or making what otherwise might be economically advantageous improvements.

(4) The uncertainty inherent in a system of waiting for Congress to make the necessary appropriations produces an ambiguous character for the waiting period for the residents of affected areas. The possible implications of such uncertainty are many, including the already mentioned problems of property maintenance and improvement, are possible feelings of hostility toward the project itself.

In order to explore some of these research problems, all the

adult members of households to be moved in the Taylorsville Reservoir located East of Taylorsville, Kentucky, and the Ceasar Creek Reservoir located North of Lebanon, Ohio, were interviewed. These two communities were selected because they represent somewhat different culture areas and different time phases in the development of the reservoir.

Plan of the Research

Chapter II provides a discussion of the development of the theoretical model, conceptual definitions, and a theoretical statement of the model to be tested.

Chapter III, the methodology section, includes a specification of the universe, a discussion of the techniques used in data collection and the methods used to operationalize each theoretical concept.

Chapter IV contains the discussion of findings that relate specifically to the model being tested. Chapter V is concerned with a discussion of exploratory findings and a reformulation of the original model, taking into consideration the findings of Chapter IV.

Chapter VI summarizes the findings, presenting the major conclusions and the implications of the results.

CHAPTER TWO

TOWARD A MODEL OF FREE COMPELLED MIGRATION

A Basic Perspective of Social Demography

The need for theories to explain migration has been elaborated by demographers and sociologists alike.¹ Efforts toward theoretical synthesis, however, have met with a variety of problems due to the varied approaches involved in the study of migration. A few researchers have been critical of this diversity, accusing migration investigators of reductionism to biological and physical levels.² However, the examination of migration has various purposes and those investigations solely for adequate description or prediction may yield models that are fruitless from a sociological point of view. This fundamental distinction

¹ For example, see: Rupert B. Vance, "Is Theory for Demographers?" pp. 88-90 and Philip M. Hauser, "Present Status and Prospects of Research in Population," pp. 70-85, Population Theory and Policy, ed. Joseph J. Spengler and Otis Dudley Duncan (Illinois: The Free Press, 1956), and J. J. Mangalam and Harry K. Schwarzweller, "General Theory in the Study of Migration: Current Needs and Difficulties," The International Migration Review, III (Fall 1968), pp. 3-18.

² Mangalam and Schwarzweller, op. cit., pp. 12-13.

between formal demographic models and social demographic models may ease efforts toward synthesizing migration literature. However, there are numerous other confounding factors contributing to the difficulty of developing satisfactory migration models. Foremost among these would be the sharing of terms with wholly different conceptualizations such that one researcher may talk of migration streams as graphical representations of gross population movements,¹ while others use the concept of migration streams with reference to group processes producing migration systems.² These complications are obstacles, but not insurmountable once known.

The appeals for a general theory of migration are basically appeals for a general instrument or, perhaps preferably, general instruments which could explain that human behavior labeled migration. To accomplish such ends a systematic paradigm that permits discrimination between the sociologically relevant and non-relevant research is needed.

¹ James D. Tarver, William R. Gurley and Patrick M. Skees, "Vector Representations of Migration Streams Among Selected State Economic Areas During 1955 to 1960," Demography, IV (1967), pp. 1-18.

² George A. Hillery, Jr., James S. Brown and Gordon F. DeJong, "Migration Systems of the Southern Appalachians: Some Demographic Observations," Rural Sociology, XXX (March 1965), pp. 33-48.

In short, there must be a "social demographic perspective" for the analysis of demographic phenomena from a behavioral perspective.

A perspective of "social demography" has been set forth by Ford and DeJong. These researchers view social demography as the inter-¹section of demographic, social action and social aggregate systems. These systems are analytically distinguished for purposes of conceptual clarity and analysis, but remain in interaction when consideration of their determinants or consequences is undertaken. That is to say, the systems are analytically separable, but they must be conceptualized with recognition of their continuous interaction. For purposes of this investigation, the primary focus is on elements of a social aggregate and social action nature, with implications being drawn to the demographic system.

Any migration can be viewed as a variable in a closed formal system, or as the product of or determinant of factors in a system of social behavior. It is with the determinants and consequences of demographic phenomena that such studies in social demography are directed.

¹Thomas R. Ford and Gordon F. DeJong, "Social Demography: An Analytical Approach." A paper presented at the population section of the American Sociological Association annual meeting in San Francisco, August 29, 1967.

Definitions of Migration

As was indicated in the introduction, the present model is concerned with one aspect of the migration variable, namely, "free compelled migration." Free compelled migration is defined as migration in which choice may be exercised with respect to choosing a new location but not with respect to the question of moving. In free compelled migration, there is allowance for a period of awareness in which the involved parties are able to respond to the nature of their moving and are able to plan their moves with sufficient time as to preclude a totally spontaneous choice. It is not expected that the reactions are independent from the migrant's plans, but on the contrary, the reactions of the migrants are factors which provide partial explanations for their choices of new residences.

Hillery has pointed out that migration has at least two facets: its existence relative to a population and its existence relative to a social system.¹ Migration, as a concept, has been used to refer to a variety of physical movements, but has seldom been used in relation to a social system. Peterson, in his typology of migration, treats wandering and nomadism as a type of migration, neglecting the relevance

¹ George A. Hillery, Jr., "A Working Paper on Migration Concepts." A paper prepared for the Research Committee on Migrations Program of the annual meeting of the Rural Sociological Society, 1966.

of social action systems.¹ From the standpoint of social demography, it would be sufficient to consider the three systems employed by Ford and DeJong² and maintain a criterion that "social migration" must involve the interrelation of the demographic, social aggregate and social action systems. The social aggregate phenomena, particularly of a social psychological nature, can be viewed as related to the demographic system only through behavioral manifestations in a social action system.

Social migration, or migration from the perspective of social demography, can be defined as any change in residence that provides a change in social membership systems.³ This definition of migration designates migration as a variable experience rather than as a discrete event. Students of residential mobility have created categories such as local movers and migrants (those who move to new communities) or have used arbitrary political boundaries such as counties in determining the presence or absence of migration.⁴ The concept social migration treats

¹ Peterson, op. cit., pp. 260-62.

² Ford and DeJong, op. cit.

³ Allen J. Beegle, "Social Components in the Decision to Migrate." A mimeographed paper, approximate date 1959.

⁴ Donald J. Bogue, The Population of the United States (New York: The Free Press, 1959), p. 375.

movement as falling on a single continuum, avoiding nominal categories which may obscure important characteristics of migration. Thus, any person who has moved becomes a member of a class of migrants without the move having to fit a contrived category such as out of a county or a city. The degree of separation from membership systems becomes the crucial aspect of the definition of social migration, with the completeness of one's separation from the original community indexing the magnitude of migration.

Migration as a Dissociative Experience

Migration when defined in terms of separation from membership systems becomes a dissociative experience affecting at least part of one's established routines and patterns of interaction. Park early recognized this phenomenon when he stated, "Migration is not, however, to be identified with mere movement. It involves at the very least, a change of residence and the breaking of home ties."¹ It is this dissociative nature of migration, the separation from membership systems, that serves as a basic starting point for developing the present model. Actors who experience migration are placed in different situational contexts and are faced with the task of establishing themselves in new membership systems. Recent migrants face a period of relative status

¹ Robert Park, "Human Migration and the Marginal Man," American Journal of Sociology, XXXIII (May 1928), pp. 886-87.

fluidity, in which new statuses remain relatively undefined and old statuses are not fully recognized.

The consequences of such dissociative experiences for migrants has recently been conceptualized by Weiss as a process of desocialization and resocialization. He stated, "Migration is one of the most obvious instances of complete disorganization of the individual's role system, hence some disturbances of the social identity and the self image tied to the system is to be predicted. Viewed from this aspect migration has a desocializing affect."¹ This conceptualization provides support for the notion that migration is a dissociative experience and the idea that the disturbance can be viewed as affecting the status role complex. On the latter subject, Weiss stated, "the migrant . . . is ignorant of the proper definitions of the situation in which he has to participate and of the rules of social interaction; he has no grasp of the role map of others and has no clear idea about either the roles he is expected to fulfill or the opportunities for entering the roles he desires."² This conceptualization was derived with immigrants as the subjects, but would appear to provide a good fit for migration of lesser types as well, although the disturbances would most likely be lessened

¹ Rivka Bar-Yosek Weiss, "Desocialization and Resocialization: The Adjustment Process of Immigrants," The International Migration Review, II (Summer 1968), p. 28.

² Ibid., p. 28.

considerably. The conceptualization is definitely supportive of that set forth in the present model.

Migration and Mental Stress

A much earlier expression of the disturbance generated by migration is found in Pitirim Sorokin's writing. Sorokin wrote that among the affects of migration on human psychology were increases in mental strain and a corresponding increase in mental disease and an increase in feelings of loneliness.¹ Recent investigations have studied the generally accepted proposition that migration produces mental strains and associated problems. The results of these empirical examinations, while not entirely consistent, generally support the proposition. Malzberg and Lee found considerably higher frequencies of both functional and non-functional psychoses among migrants of all ages.² In a more recent study Lee concluded, based on first admissions of mental patients, that migrants had higher rates than non-migrants even though age, sex, and race were controlled.³ The use of first admissions as an indicator of

¹ Pitirim A. Sorokin, Social and Cultural Mobility (New York: Harper and Brothers, 1927), pp. 508-28.

² Benjamin Malzberg and Everett S. Lee, Migration and Mental Disease: A Study of First Admissions to Hospitals for Mental Disease, New York, 1939-1941 (New York: Social Science Research Council, 1956), p. 119.

³ Everett S. Lee, "Migration and Mental Disease: New York State, 1949-1951," Selected Studies of Migration Since World War II (New York: Milbank Memorial Fund, 1958), p. 148.

incidence of mental disease must be viewed judiciously, acknowledging that selective factors in hospital admissions could obscure the relationships. A considerably stronger generalization of the relationships between migration and mental illness was set forth by Abrahamson, based on survey data from Jerusalem. This study found a relation between emotional disorder and status inconsistency, social status and migration and produced the suggestion that emotional disorders may parallel general ill health.¹

Approaching the question of the affects of migration on mental health from a somewhat different perspective, Brown and Birley suggest that crises and life changes like migration could serve as precipitants for schizophrenic attacks when the predisposition is already present.² Turner suggests that downward social mobility is found disproportionately among schizophrenics, but that it is impossible to discern whether this is causally related to mobility itself or the product of cultural selection of the least fit by the lower classes.³ The relevance of

¹ J. H. Abrahamson, "Emotional Disorder, Status Inconsistency and Migration," The Milbank Memorial Fund Quarterly, XLIV (January 1965), p. 44.

² George W. Brown and J. L. Birley, "Crises and Life Changes and the Onset of Schizophrenia," Journal of Health and Social Behavior, IX (September 1968), pp. 203-13.

³ R. Jay Turner, "Social Mobility and Schizophrenia," Journal of Health and Human Behavior, IX (September 1968), pp. 195-203.

downward mobility in the case of migration is that the dominant rural to urban migration pattern can be viewed as producing a downward mobility in a relative sense. That is, the farm owner moving from a relatively undifferentiated, homogeneous system in which his status was high, becomes attached to a much more differentiated system in which low skill levels force entry at the bottom of the structure. Thus, the rural to urban migrant experiences a relative loss of status because of the divergent natures of the rural and urban social structures.¹ It follows that if downward mobility produces mental strain then this phenomenon would be present among rural to urban migrants.

Not all research on the mental effects of migration has provided such support for the proposition that migration produces mental strain and higher frequencies of mental disorders. One study explained the differentials in children's emotional disturbances as being the product of the mother's adjustment rather than the event of migration itself.² However, this study did not attempt to explain the mother's adjustment and did not preclude indirect contributions of migration to the children's

¹ For a discussion of the vertical mobility of rural to urban migrants, see: Walter L. Slocum, Agricultural Sociology (New York: Harper and Brothers, 1962), pp. 354-57.

² Frank A. Pederson and Eugene J. Sullivan, "Relationships Among Geographical Mobility, Parental Attitudes and Emotional Disturbances in Children," American Journal of Orthopsychiatry, XXXIV (April 1964), pp. 579-80.

adjustment problems. Perhaps more outstanding are the mixed results of Jaco's research, which, with some ethnic exceptions, generally failed to support Malzberg and Lee's hypothesis that migration contributes to mental illness.¹ Jaco's findings suggest that cultural factors might significantly influence the affects of migration on mental disorders, but these findings do not lead to a categorical rejection of the position that migration is a contributory factor in mental illness.

In a slightly different approach to spatial mobility, Tietze, Lemkau and Cooper viewed personality disorder as the precipitant of migration and found that the most disturbed persons did move the most frequently, but that their movements were within the city. That is, length of residence in the city did not relate to mental illness.² This perspective uses an inversion of the order normally described for the variables and would suggest that the relation between migration and mental health may be reciprocal. These findings fail to show a difference where others would have expected the greatest differences and consequently cast some doubt on the relation of migration to emotional disturbances.

¹ E. Garty Jaco, The Social Epidemiology of Mental Disorders (New York: Russell Sage Foundation, 1960), pp. 69-72.

² Christopher Tietze, Paul Lemkau and Marcia Cooper, "Personality Disorder and Spatial Mobility," American Journal of Sociology, XLVIII (July 1942), pp. 29-39.

In spite of some variation in findings, the support appears sufficient for acceptance of the basic proposition that migration does contribute to mental strain and mental disorder. There are, of course, a variety of types of migration, and in many cases it is conceivable that moving is an adjustive process in itself. However, in the case of involuntary migration, one can scarcely suggest that the move is an effort to gain better adjustment. Weinberg places involuntary migration in perspective by indicating that it is more stress provoking than is voluntary migration and it is generally acknowledged that a mental up-rooting occurs even among many healthy voluntary migrants.¹

Apprehension Over Moving

In advance of an involuntary migration, the simple knowledge of the impending move can be viewed as a crisis to the participants. Brown and Birley contend that being told of an impending change, such as a job transfer or forthcoming move, provides stress much in the same manner that the actual change would.² Perceptions of separation and problems of establishing new friendship groups and positions in a new community can be expected to produce apprehension about moving and

¹ Abraham A. Weinberg, "Mental Health Aspects of Voluntary Migration," Mental Hygiene, XXXIX (July 1964), p. 464.

² Brown and Birley, op. cit., p. 204.

prove to be an influencing factor in one's future plans. In effect the dissociative nature of migration is recognized in advance and produces a mental strain qualitatively parallel to that of the actual migration. With this in mind, the definition of the pre-migration situation can be expected to vary among migrants, as would their post migration adjustment, and their definitions of the situation become a consideration in planning their future moves.

Migration and Status Transfer

Apprehension over moving is unequal among migrants and the extent of anxiety may be viewed as a factor involved in the determination of the destination. That is, those persons who experience the greatest amounts of apprehension over being separated from their present communities would be inclined to remain as close as possible, both physically and socially. One factor affecting people's levels of apprehension and indirectly their migration plans is the possibility of status transfer.¹

Status transfer refers to the continuation of statuses in new communities that were present in the communities of origination. There are several possibilities for the transfer of statuses which may be expected to vary according to the segment of the population involved. One such category of status transfer involves the transfer of formally structured

¹ Charles Tilly, Migration to an American City (Delaware: University of Delaware Experiment Station, 1965), pp. 1-3.

¹ relationships. These structured relationships are those contained in voluntary associations such as fraternal organizations and organized clubs. The nature of the status transfer is such that the structures of the organizations remain constant over a variety of groups and members will fit comfortably in any of the groups regardless of the location. Thus if a person has a number of structured relationships to transfer, he is likely to experience greater familiarity in new communities than would persons lacking such organizational ties. Another type includes those statuses that are generally recognized and community wide. Some community-wide statuses such as age and sex transfer automatically, while others like esoteric occupations that are locally recognized transfer differentially. Finally, there is a type of status transfer that involves the transfer of primary relationships. A migrant can successfully transfer primary status relationships only if friends and relatives are present in the new location.

Status Transfer and Social Class

The differential use of these sub-types of status transfer has been studied by Charles Tilly. This researcher found community-wide and formally structured types of status transfer to be associated with the higher social status groups, while the use of primary ties was

¹ Beegle, op. cit., p. 9.

more characteristic of the lower social status groups.¹ The use of kinship ties among lower income, rural to urban migrants provides a migration pattern analogous to the chain migration pattern found with many U. S. immigrants. In such chain migrations, kinship or friendship ties provided a channel of information in advance of immigration and assistance after immigration in securing housing, helping with language difficulties, and locating employment.² Tilly suggests that the same type of information and aids are extended to internal migrants, particularly among migrants from lower income groups.³ Mutual aid would facilitate assimilation into a new subculture in the same manner as it facilitates assimilation into a foreign culture.

Community Character

The character of the community of origination may be viewed as contributing to an individual's propensity to move and sever ties. Shyrock asserts that the status mobility of an area relates to the residents propensity to move, with areas undergoing rapid change

¹ Charles Tilly, "On Uprooting, Kinship, and the Auspices of Migration," International Journal of Comparative Sociology, VIII (September 1967), p. 143.

² For a discussion of the "chain" process in immigration see, John S. MacDonald and Leatrice D. MacDonald, "Urbanization, Ethnic Groups, and Social Segmentation," Social Research, XXIX (Winter 1962), pp. 433-448.

³ Tilly, On Uprooting, p. 144.

producing greater mobility orientations.¹ The reason for this phenomenon is that areas experiencing change in their social structure contain more ambiguous relations due to the high frequency of new and ill-defined statuses. Moving from one ambiguous situation to another is less disruptive than is moving from an unambiguous situation. Thus, under conditions of changing statuses, the residents have "less to lose" in terms of familiarity and are relatively free from the constraints that such familiarity might produce. It is suggested that persons moving from areas of changing structures would be more willing to move long distances and to sever social ties.

The Character of Involuntary Migration

Although many patterns would be expected to hold for migration generally, there are some significant aspects of involuntary migration that merit attention. Voluntary migrations are generally acknowledged to be selective according to age and sex, with persons between the ages of 15 and 29 being the most inclined to move and males being the most inclined to move long distances.² This selectivity factor does

¹ Henry S. Shyrock, "Mobility Within the United States," Population and Society, ed. Charles B. Nam (New York: Houghton-Mifflin Company, 1968), p. 341.

² Toshio Kuroda, "Internal Migration: An Overview of Problems and Studies," Population and Society, ed. Charles B. Nam (New York: Houghton-Mifflin Company, 1968), p. 338.

not operate as clearly in involuntary migration since all persons are compelled to move. However, one would expect the young and particularly the younger males to manifest a greater willingness to separate from their current membership groups.

The character of the involuntary movement is not without consequence itself. Free compelled migration comprises migration resulting from the construction of public projects such as reservoirs, highways, and public parks. A unique aspect is that return migration is precluded. In other types of forced or impelled migration there exists at least some possibility of return. History provides examples of return migration such as the successive evacuations of the Karelian territory by the Finnish government.¹ The attitude toward return migration is best typified by Polish refugees in Britain who hoped for a new war of liberation and maintained that, "we are grateful to you, of course, but this is not our home. Some day we will really go home."² These attitudes can serve tension management functions for forced migrants, but do not represent an attitude alternate for free compelled migrants.

¹ Axel DeGadolin, The Solution of the Karelian Refugee Problem in Finland (The Hague: Martinus Nijhoff, 1952).

² Jerzy Zubrzycki, Polish Immigrants in Britain: A Study of Adjustment (The Hague: Martinus Nijhoff, 1956), p. 167.

Responses to Public Projects

Response to resource development and other public projects that require population relocation have been studied mainly in an exploratory fashion. Although numerous variables have been related to people's responses, an integrated explanation of their relationships in theoretical terms has been generally lacking. The empirical findings of these exploratory studies have been utilized here as a base for the development of a partial explanatory theory of people's responses to their anticipated relocation. The relevant factors can best be reviewed and presented in an inventory of propositions. The determinants in the inventory include the variables that have been utilized to explain reactions to projects, and represent people's responses to the construction of projects and the exercise of eminent domain by the state.

Most of the research included in this review did not focus specifically on those persons directly involved by a loss of property or residence, but does represent a summary of social science studies on attitudes toward resource development.

A study of attitudes toward watershed development programs in Mississippi found that four individual variables were related to people's attitudes toward watershed development: organizational involvement, occupation, education, and level of living. These variables also indicated an additive property, providing a stronger combined correlation than each held independently. It was also found that project knowledge

related to people's attitudes as an intervening variable. Increased knowledge about watershed development projects generally resulted in more favorable attitudes. These variables were selected because of their known relation to the process of innovation, and the adoption or advocacy of innovations is a phenomenon similar to acceptance of a development project. Whether or not people had experienced previous flood damage was positively related to favorable attitudes toward watershed development.¹ Wilkenson suggested that similar relations would hold for socio-economic factors using the community as a unit of analysis, thus supporting the correlations found by Dasgupta. Wilkenson also suggested that technical projects would be more successful in communities that lacked integration and were less aggressive.²

¹ Satadal Dasgupta, Attitudes of Local Residents Toward Watershed Development, Preliminary Report 18, Social Science Research Center in cooperation with Water Resources Research Institute, May 1967 and Satadal Dasgupta, Sociology of Watershed Development. A paper presented at the Mississippi Water Resources Conference in Jackson, Mississippi, April 1968.

² Kenneth P. Wilkenson, Local Action and Acceptance of Watershed Development (Mississippi: Mississippi State University Water Resources Research Institute, 1966), and Kenneth P. Wilkenson and Lucy W. Cole, Sociological Factors in Watershed Development (Mississippi: Mississippi State University Water Resources Research Institute, 1967).

In a somewhat broader study of attitudes toward a water resource development program in South Dakota, Photiadis found several relationships that agreed with the Mississippi studies. This research found that town people (non-farm residents) hold more favorable attitudes toward water resource development programs than did farm people, that people with higher educational levels maintained more favorable attitudes, and that people with more knowledge about the projects were more favorably disposed toward them. Photiadis also found that the older respondents were the least favorably disposed and that renters were the most favorably disposed toward the water resource development program.¹

At a more general level, Kraenzel suggests that more negative attitudes are found among rural residents. His explanation for this observed difference is that metropolitan dominance largely precludes democratic participation of rural people in decision making on development projects.² This suggests that perceived power distribution is a relevant factor in determining attitudes toward water resource development programs.

¹ John D. Photiadis, Attitudes Toward the Water Resources Development Program in Central South Dakota, Preliminary Report No. 1, Department of Rural Sociology Extension Service and Water Resources Commission (South Dakota: South Dakota State College, 1960).

² Carl F. Kraenzel, "The Social Consequences of River Basin Development," Law and Contemporary Problems, XXII (1957), pp. 221-36.

The construction of public facilities occasionally requires that property be gained through the exercise of the state's right of "eminent domain." Although a refusal to sell property may initially appear simply to reflect a negative attitude toward a project, there is frequently a strong economic consideration underlying this behavior which does not necessarily represent a negative attitude toward the project. That is, a person may resist the sale of his property in hopes of receiving more money, although secretly pleased at the opportunity to sell. Hallberg and Flinchbaugh studied factors associated with property holders' decisions to require the exercise of eminent domain proceedings and found that both economic and non-economic factors were important. In general, their findings support the previously reported relations between socio-economic status, age, knowledge of project and the favorableness of peoples attitudes toward the projects as reflected in their decisions to sell willingly.¹ Using discriminant function analysis to classify acceptors and rejectors, these researchers found eleven factors that would adequately characterize their respondents. Of particular interest among these was that being a registered republican, a housewife, or inconvenienced by the highway being built characterized

¹ M. C. Hallberg and B. L. Flinchbaugh, Analysis of Factors Associated with Property Holders' Decision in Eminent Domain Proceedings, Publication No. 57, Institute for Research on Land and Water Resources (Pennsylvania: Pennsylvania State University, 1967).

¹
the rejectors. Hallberg and Flinchbaugh did not explain the theoretical relevance of these variables, but they suggested only that conservative attitudes and vested social interests are important factors.

The determinants derived from the foregoing review can be summarized in a list. The dependent variable for all of the determinants inventoried is the favorableness of people's attitudes toward the various resource development projects affecting them.

Dasgupta²

- 1) high organizational involvement
- 2) non-farm occupations
- 3) education
- 4) level of living
- 5) history of flood damage to property
- 6) knowledge of projects and purposes

Wilkenson³

- 7) community socio-economic status

Photiadis⁴

- 8) tenure status of renter
- 9) age related negatively to favorable responses when the extremes were considered

Support was evidenced for elements number 3 and 6 above.

Kraenzel⁵

- 10) perceptions of metropolitan dominance related negatively to favorable attitudes toward resource development

Hallberg and Flinchbaugh⁶

- 11) shortness of residence

¹ Ibid., p. 24.

² Dasgupta, op. cit.

³ Wilkenson, op. cit.

⁴ Photiadis, op. cit.

⁵ Kraenzel, op. cit., pp. 221-36.

⁶ Hallberg and Flinchbaugh, op. cit.

Inventory Reduction

Continuity Factor

This series of determinants can be reduced to a smaller set of propositions containing concepts at a higher informational level. Two of the propositions listed involve factors that enhance continuity between residential locations. That is, they serve to facilitate status transfer. High organizational involvement provides the context within which the transfer of structured relationships can be carried out.¹ The nominal category of non-farm occupation fulfills a similar function in that non-farm occupations are generally found in all types of residences, whereas the farming occupation is only rural. Thus, the transfer of occupational status is easier for non-farm occupations. Given these considerations, the two elements of organizational involvement and non-farm occupational status can be combined under a new proposition as follows: (1) Factors that increase continuity between residential systems produce attitudes that are more favorable toward resource development.

Socio-economic Factor

Two additional elements found in this inventory of research can be subsumed under the concept of socio-economic status. Education and

¹ See page 21 for a discussion of the nature of status transfer involving the transfer of structured relationships.

level of living are both factors which indicate socio-economic status and from which relative prestige is derived. When these two factors are subsumed under the concept of socio-economic status, the new proposition becomes: (2) The higher the socio-economic status of those affected, the more favorable their attitudes toward resource development.

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Vested Interest Factor

Several of the variables listed in the inventory of determinants can be generically labeled "vested interest variables." Vested interest variables are those factors that serve individual or group gain and which relate specifically to resource development and residential change.

A previous history of flood damage to one's property would, of course, heighten interest in the construction of flood prevention devices.

The tenure status of renter was also considered to facilitate favorable attitudes. In this case a diminished interest relating to losing property is present and protection or betterment of the land remaining in use is likely to provide greater security for the renter.

Age can also be related to vested interest consideration. Earlier studies indicated age was most closely related at the extremes with the over 65 cohort the least favorably disposed toward resource development and the under 35 group the most favorably disposed.¹ As

¹ Photiadis, op. cit., p. 22.

migration is selective of youth and youth are more favorably disposed toward developing resources, it is likely that youth have interests in future changes which differ from the interests of the aged.

Those interests considered above are concerned with maintaining one's residence and with recovering some benefit from the social and/or economic costs of any program. The matter of inconvenience created by any project can be seen as stimulating unfavorable attitudes. Matters of convenience are personal and relate quite specifically to the person expressing concern. As such, they are essentially matters of vested interest, and make it clear that vested interests need not be entirely economic in nature.

The final variable to be included under vested interests is the perception of metropolitan dominance. Kraenzel indicated that perceptions of metropolitan dominance produced negative reactions toward water resource development because of a perceived lack of democratic participation.¹ That is, the vested interest of being a participant in democratic processes was seen as damaged leading to a negative reaction to the project.

Incorporating the above variables under the concept of vested interest, the propositions may be stated that: (3) Those with vested interests injured or damaged by the project and/or removal will respond

¹ Kraenzel, op. cit., p. 222.

negatively to the project. (4) Those persons with vested interests enhanced by the project and/or removal will have attitudes favorable to the project.

Knowledge Factor

Knowledge is the remaining variable in the inventory that did not appear to fit in the above propositions. This variable will stand in its original form, as stated in the proposition: (5) Knowledge of the projects involved tends to produce responses that are favorable to the projects or resource development programs in general.

Response to Projects and Migration

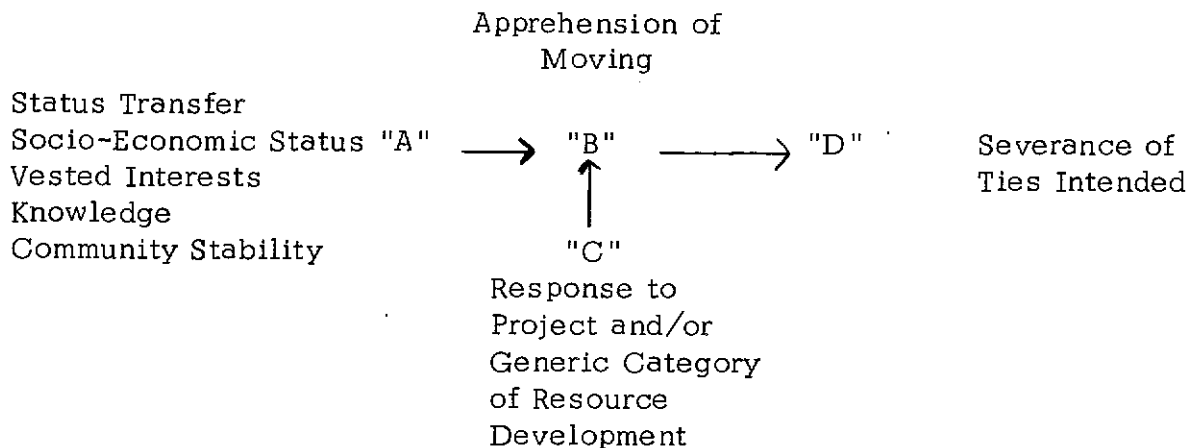
Persons with unfavorable attitudes toward water resource development and who resist the forced migration could be referred to maintainers of the status quo. However, not all resisters to project development are necessarily "conservative." A project at an alternate site might accomplish the objective of proper water use. A response favorable to the project and/or the resulting forced migration could be construed as favoring change. These differential attitudes, in turn, can systematically be related to the earlier introduced variable of apprehension. Apprehension is defined as an expressed anxiety concerning the unknown quantities of role relationships and personalities in new environments. A high degree of apprehension over new situations can be considered indicative of a conservatism or as expressed above, resistance to change.

The absence of such apprehension in like manner, can be conceptualized as analogous to the advocacy of change. Therefore, a favorable relation is expected between attitudes toward the project and apprehension. We would therefore expect those social factors which facilitate favorable responses to minimize apprehension and facilitate the severance of home ties.

Summation of Previous Research Findings

Figure 2 is a schematization of the suggested relations among the variables considered to be relevant up to this point. It traces the developmental sequence of variables and demonstrates the nature of the relations between attitudes toward resource development and apprehension within the broader context of the model of forced migration.

Figure 2.--Summary of Relationships Among Conceptual Variables



The relation of "A" to "B" or "C" is asymmetrical with "A" being the determinant set and "B" and "C" being results. "B" and "C" are related symmetrically and without temporal precedence. Having the development of "B" and "C", they become determinants of "D" in a new asymmetrical relationship. Thus, a sequence of events leads to the production of "D", the final dependent variable.

Identification with Place--An Exploration

The variable "identification with place" is introduced as an addendum to the present study.¹ Identification with place is here defined as an attachment to a particular home or geographical location. The concept identification has a variety of uses in the social psychological literature, generally referring to some interpersonal attachment with a parent or leader.² As the concept identification is used here, the nature of the object is expanded to mean that a person can be seen as having a qualitatively similar attachment to non-human or even non-living objects. Thus, people readily develop attachments

¹ This variable was suggested informally by Daniel O. Price of The University of Texas at Austin. The treatment of the variable and its measurements are, however, the sole responsibility of the author.

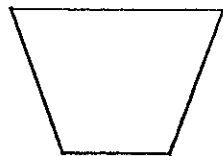
² Gordon W. Allport, "The Historical Background of Modern Social Psychology," Handbook of Social Psychology, Gardner Lindzey, ed. (Massachusetts: Addison-Wesley Publishing Company, Inc., 1954), pp. 3-56.

to animals, cars and geographical areas. This research is concerned with attachments to physical places such as the "old farmstead," or the "family place." Persons that have emotional attachment to a place, by definition would experience difficulty in moving. Being separated from what is considered an integral part of one's self could be traumatic, causing extreme anxiety. Therefore, one would expect that people do identify with physical objects in greater or lesser degrees and consequently would experience related anxiety in varying amounts. The consequences of strong identification with place produce a sequence fitting into the pattern that views apprehension of moving as affecting migration plans.

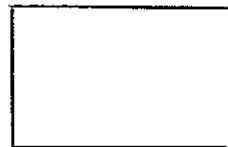
A Theoretical Summary

The model of forced migration incorporating the variables suggested is schematically summarized in Figure 3. The basic proposition is that forced migration or migration in general is productive of stress and anxiety, and that recognition of such impending events produces a crisis corresponding to the actual event. This illustration utilizes the basic design of a flowchart, demonstrating the effects of variables in sequence as one follows the arrows and decisions. To summarize the model without elaborating each pattern in detail, the presence or absence of variables facilitating status transfer will reduce the extent of apprehension over moving and facilitate separation from the community of origination. Variables such as knowledge, vested interests and socio-economic

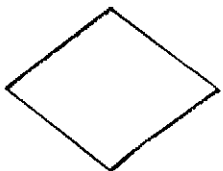
Figure 3.--Summary of Relationships



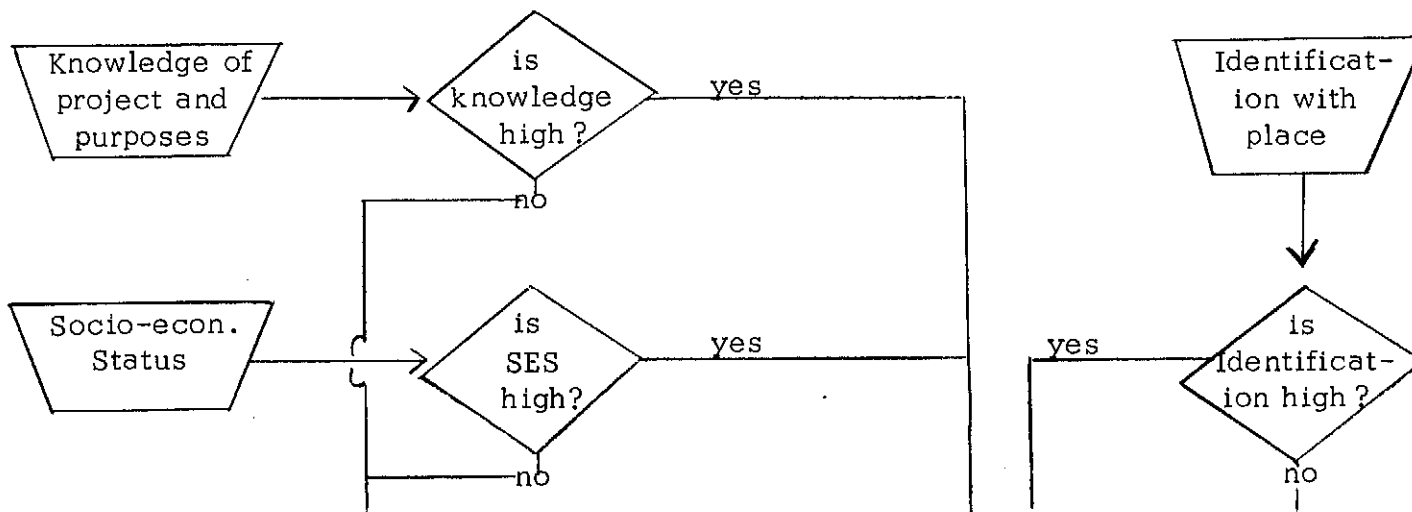
= Input or beginning of process.

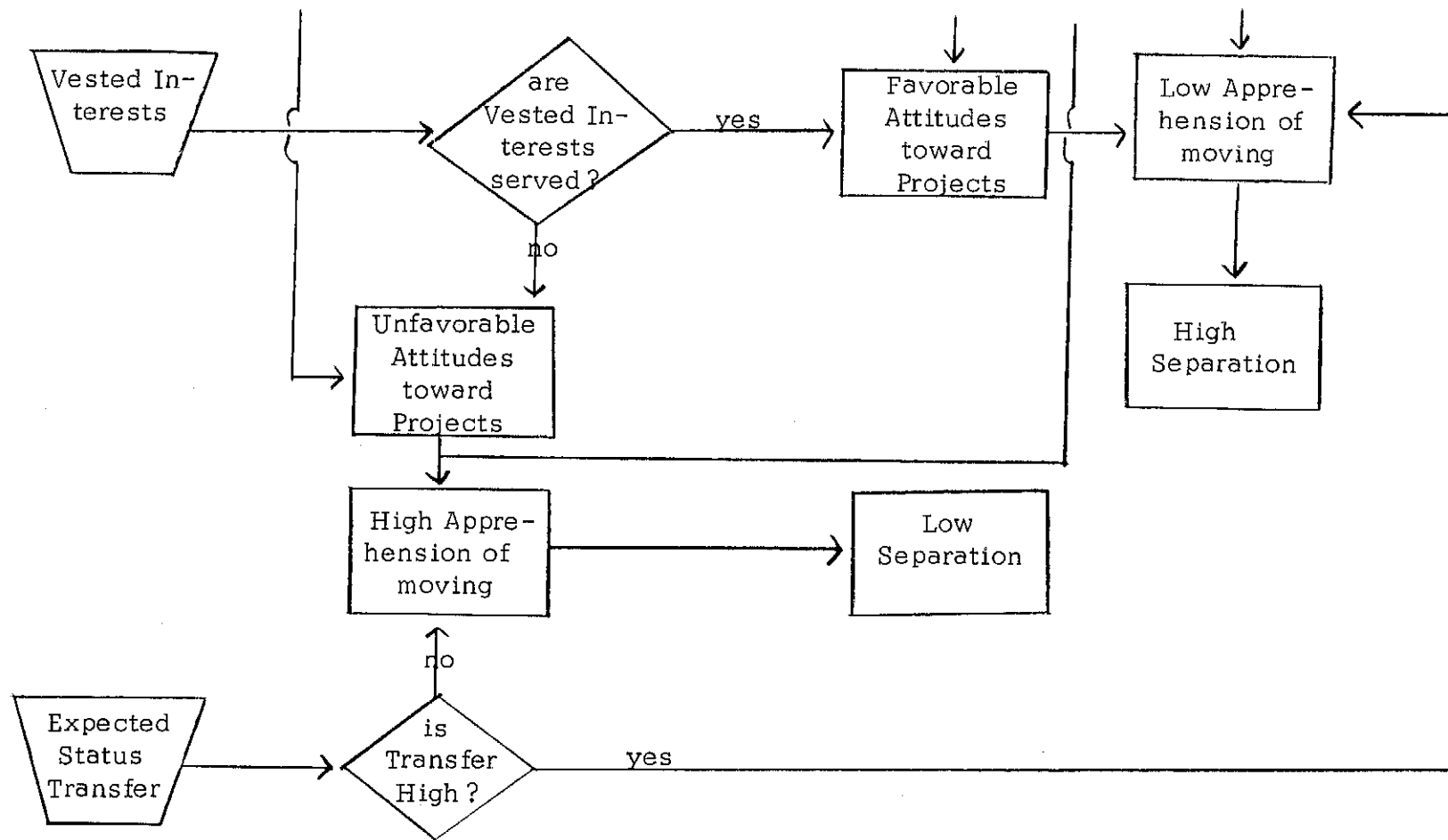


= Products of antecedent developments, i.e., effects of sequential processes.



= Decision box--points of departure.





BASIC DETERMINANTS: Knowledge of Projects, SES, Vested Interests and Expected Status Transfer

BASIC RESULTS: Apprehension and Separation

status determine attitudes which affect apprehension over moving.

Apprehension will in turn affect migration plans.

This general model of forced migration contains several sub-models which are conceptualized as being logically interrelated. First, the basic concepts of the model are derived from both consensus and conflict orientations. In the present study the orientations of conflict and consensus are viewed as complementary, both being present in social systems and both contributing to differential human behavior.¹ Concepts derived from a consensus orientation, such as status transfer, may be viewed as reducing apprehension and facilitating separation from membership systems. The vested interest concept, although derived from the conflict perspective, could either increase or decrease apprehension over moving. The exploratory concept, identification with place, is a social psychological variable and does not represent a type of conflict, but rather represents an effort to introduce a new avenue of analysis.

It should be pointed out that most studies of migration have been confined to "post-movement" populations. Post-movement characterizes the populations used in those studies from which the concepts and empirical generalizations for the present study were derived. The purpose of the

¹ This view is in correspondence with the position set forth in Pitirim Sorokin, Society, Culture and Personality (New York: Cooper Square Publishers, Inc., 1962), pp. 93-110.

pre-movement model in this study is the prediction of migratory behavior under conditions of force. The concepts and empirical generalizations are transferred in terms of their temporal positions to facilitate the explanation of migration behavior from a before perspective. Basically, the argument is that the dissociative character of the event migration is perceived in advance of the actual occurrence of the event, yielding what might be termed anticipatory dissociation. Given this anticipatory experience, the same factors that facilitate adjustment after migration are expected to operate to facilitate adjustment prior to migration or even to convert the migratory behavior into adjustive behavior itself.

It is in recognition of these points that the general model of free compelled migration is set forth and subject to empirical testing.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter presents the statement of hypotheses derived from the model and the research design utilized to test these hypotheses. Appropriate populations and measures of the empirical concepts which bear correspondence to the theoretic concepts are delineated. Research works from theoretical concepts to empirical concepts and at the same time demonstrating correspondence among measures at each level. Once adequate measurement is obtained, analytical and statistical procedures are then selected to fit the level and strength of the measurement employed.

Statement of Hypotheses

The following hypotheses were derived from the theoretical model presented in chapter II. Each was derived directly from the model or are derived deductively by combination of two or more of the basic propositions.

Apprehension

H₁ The more apprehensive people are over moving, the less separation from their present community they will be willing to accept.

Attitudes Toward Projects

- H₂ The more favorable people's attitudes toward the flood control projects which will force them to move, the less apprehensive they will be about moving and, as a consequence, will accept greater separation from their present community.

Status Transfer

- H₃ The more general status transfer people expect, the less apprehensive they will be of moving and, as a consequence, will accept greater separation from their present community.
- H₄ The greater the number of structured relationships people expect to transfer, the less apprehensive they will be over moving and, as a consequence, will accept greater separation from their present community.
- H₅ The more people expect to transfer their primary statuses, the less apprehensive they will be over moving and, as a consequence, will accept greater separation from their present community.
- H₆ The higher their socio-economic status, the more people expect to transfer their general statuses and structured relationships. The lower their social economic status, the more people will expect to transfer primary status.

Community Stability

- H₇ The more stable people's present community, the more apprehensive they will be over moving and, as a consequence, will accept less separation from their present community.

Vested Interests

- H₈ The more people expect to have their interests served by flood control projects, the more favorable attitudes toward the project they will have and as a consequence the less apprehension they will be over moving.

Knowledge

- H₉ The more knowledge people have about the flood control projects affecting them, the more favorable will be their attitudes toward the projects and, as a consequence, the less apprehensive they will be over moving and will accept greater separation from their present community.

Socio-economic Status

- H₁₀ The higher people's socio-economic status, the more favorable will be their attitudes toward the projects and, as a consequence, will be less apprehensive over moving and will accept more separation from their present community.

Identification with Place

H₁₁ The more people identify with their present place of residence, the more apprehensive they will be over moving and, as a consequence, will accept less separation from their present community.

Research Design

The ideal for any research design is the classical experimental design in which the experimenter controls the application of the experimental variable among matched experimental and control groups.¹ Variations in this ideal design allow the researcher alternatives to adapt the research design to different field conditions. The basic design for this study is that of a cross-sectional survey; experimentally referred to as an "after-only" group.²

The after-only design used in this research basically becomes a non-experimental design that is in many ways analogous to an experimental design, but lacks randomization and physical control over the independent variable. In such research designs, the effects of the independent variable are already present in the study population. The assignment of respondents into groups is made statistically rather than physically and inferences are made on the basis of statistical manipulations. This design has the

¹ William J. Goode and Paul K. Hatt, Methods in Social Research (New York: McGraw-Hill Book Company, Inc., 1952), pp. 76-78.

² Ibid., p. 85.

advantage of being relatively elastic, allowing the simultaneous measurement of several independent or dependent variables. It also includes a hazard, in that mathematical manipulations provide an elasticity that permits errors in analysis.

The Study Areas

The setting of this research involves two areas in which reservoirs are to be constructed and large tracts of land are to be inundated. Several considerations made this type of research setting appropriate for testing the model. First, all people whose homes and land lie within the flood pool are aware in advance that they will have to move. This satisfies the criterion that the move must be compulsory. Secondly, the design is for a pre-migration study, directed at the explanation of intended or expected separation from current social groups. In such areas the people are aware of their impending moves and have had time to reflect on them. The situation affords a pre-migration study of a population that lives in awareness of their impending move. This is in contrast to circumstances in which spontaneous events compel population movements but do not allow either the population time for reflection or the researcher time for measurement. The final consideration is of a more pragmatic nature. The type of migration studied frequently is of a nature that requires the removal of very small numbers of people, as in the case of highway construction. Reservoirs tend to displace rather large numbers of persons and also tend

to take land that represents the economic base for many of the residents. A population of sufficient size could be obtained among those to be displaced by reservoirs and that the displacement would involve social groups larger than neighborhoods.

Two reservoir areas were selected as appropriate areas in which the model could be tested. Both of the areas selected are administered through the Louisville District of the United States Army Corps of Engineers. The two areas were selected after conferring with the District Engineer and determining that the projects were both approved by Congress and would eventually be completed. The difference in the anticipated time of completion allows the introduction of time as a variable in the analysis.

New Burlington, Ohio

One of the areas studied was the Caesar Creek Reservoir located in southwest Ohio, approximately fifty miles northeast of Cincinnati and thirty-five miles southeast of Dayton. This reservoir will be built on Caesar Creek, a tributary of the Little Miami of Ohio River. The project site is approximately ten miles northeast of Lebanon, Ohio, bordering the village of Harveysburg and inundating the village of New Burlington. This reservoir site will affect land in Warren, Clinton and Greene counties. The population to be displaced in the Caesar Creek Reservoir area lives primarily in the village of New Burlington which lies at the northeast edge of the reservoir. The office of the District Engineer estimated that

seventy-six dwellings, six commercial buildings, one Masonic lodge and three churches would be affected by the construction of this reservoir.¹

Taylorsville, Kentucky

The second area studied was the Taylorsville Reservoir area, located in north central Kentucky, approximately thirty-five miles southeast of Louisville. The Taylorsville Reservoir will be built on the Salt River, covering land in Spencer, Nelson, and Anderson counties. The reservoir will border the town of Taylorsville on the west and the village of Glensboro on the west edge.² The office of The District Engineer estimated that 110 residents, four commercial properties and one church would be inundated.³ The inundated area will require the relocation of the entire village of Van Buren and several homes on the edge of Glensboro. There is also a fairly large farm population and one recently constructed school affected by the Taylorsville project.⁴

¹ Personal correspondence with Col. Wessels, District Engineer, Louisville District, U. S. Army Corps of Engineers.

² U. S. Army Corps of Engineers, Louisville District, Pertinent Data and Plans Considered: Taylorsville Reservoir, Salt River, Kentucky. A pamphlet, January 2, 1965.

³ Personal correspondence, op. cit.

⁴ This was determined by observation and was not included in the maps available at the office of the District Engineer.

Selection of Areas

Both populations are located near major metropolitan areas, which suggests that the metropolitan influence through mass media would be quite similar. However, the roads between New Burlington and Dayton are considerably better than are those between the Taylorsville project and Louisville.

At the time of the study, land acquisition in the Caesar Creek area was about to begin, while the Taylorsville project was in the advanced engineering stage. This placed the completion of the Taylorsville project approximately eighteen months behind the Caesar Creek project.

The Study Population

All adults residing in the areas designated for flood pools in the Taylorsville and Caesar Creek reservoir areas were enumerated for purposes of this study. Adults were defined as those persons who were no longer attending school or were above the age of eighteen. This allowed for the inclusion of younger persons who were gainfully employed and/or maintaining their own households as well as those young persons living at home but not completely dependent upon their parents. Unmarried young adults are reasonably autonomous units and their migration patterns are likely to differ from those of their parents.

The enumeration was quite complete as it nearly equaled the estimated total population from the two areas (Table 1). The population

totals were estimated, as no complete lists of the affected populations were available. Lists made available to the researcher included only property owners and as such were inadequate for determining the population size. The totals were estimated by adding to the number of completed schedules those persons who refused the interview and the number of persons who could not be contacted. These estimates are assumed to be reasonably accurate although in not at home cases it was not always possible to determine the number of adults present. In such cases it was assumed that two adult persons on the average were present in each household.

TABLE 1
USABLE SCHEDULES, DISCARDED SCHEDULES AND
ESTIMATED TOTAL ADULT POPULATION BY AREA

Area	Usable Schedules	Discarded Schedules	Estimated Total Adult Population
Caesars Creek	101	2	116
Taylorville	160	2	176
TOTALS	261	4	292

The completed questionnaires were almost equally distributed between farm and nonfarm residents, with 121 farm residents and 140 nonfarm residents. The age distribution of the population could best be described as "aging." The "over sixty-five" age category included 16 percent of the

respondents. This is of particular interest when contrasted with the low percentage of persons receiving any pension or welfare support. Only 5.4 percent of the respondents reported any support from pensions or public assistance agencies. One eighty-two year old respondent had just finished setting his annual tobacco crop.

Data Collection

Data for this study were obtained by means of a personal interview schedule. Several considerations precipitated the use of this interview technique. The most important consideration was that no existing lists and/or addresses were available for the populations of the two reservoir areas. This consideration alone precluded the use of mailed questionnaires. Also, the education of the study populations was so low that significant numbers possibly would not be able to complete a mailed questionnaire. Finally, the size of the total population was small and there was consequently a need to minimize attrition. Therefore, it was decided that these data could best be collected by the use of personal interviews.

The logistics of locating the affected populations in each area was encumbered by the absence of any adequate listings. The District Engineer provided maps of the two areas which were developed by combining U. S. Geological Survey quadrangle maps and blocking out those areas to be inundated. A real estate map for the village of New Burlington was

also provided, but this map listed property by owner rather than residents and could only be used to locate buildings.¹ The Geological Survey maps plots all buildings, cemeteries and roads but are generally out of date. These maps were produced in 1953 and 1954. Several of the residences plotted had been torn down and a few new residences had been built. Respondents were all persons living within the boundaries of the flood pool and the property to be used for recreation development. It was difficult to determine whether or not the homes of those persons living near the borders of the reservoir would be affected. These people were asked prior to the interview if their homes were included among those to be flooded. The people in both study areas knew exactly which areas were to be purchased for the reservoir. Many of those living near the borders of the reservoir could point out the survey stakes and indicate by land marks the high levels of the seasonal flood pool. This method of identifying the study population provided to be quite effective and provided a reasonably complete enumeration of the study population.

The schedule used for the research interview included both structured and open-ended questions (Appendix I). The questions were alternated such that a group of structured questions was followed by open-ended questions. This technique minimized fatigue on the part of the respondents

¹ These maps were developed on request by the U. S. Corps of Engineers, Louisville District.

and helped avoid the development of response sets. Interviewers were instructed to allow elaboration on any of structured items, and to make notes in the margins of the schedule, recording direct quotes when possible.

Six sociology graduate students, one senior sociology major and the author made up the interviewing team. The interviewers were instructed in the techniques of interviewing and were familiarized with the schedule prior to actual data collection. Group discussions were held concerning problems of establishing rapport with the study population and problems of consistent interpretation of items in the schedule after each days interviewing. The major advantage of using a team of interviewers is that it enabled the rapid completion of interviewing in each area and cut down the amount of communication among the respondents prior to interviewing. Discussion of questions in the schedule with other respondents might contaminate the responses of those persons interviewed late in the survey.

The population was for the most part quite receptive to the project, and most people were both willing and eager to be interviewed. One respondent tried to secure a second interview with a different interviewer indicating that he "wanted to make sure his opinions counted." The Kentucky population was slightly more receptive to the project than was the Ohio population. Several reasons may account for this differential. First, the survey was being conducted in Ohio by an out-of-state university group and respondents wanted to know why Kentucky people would be interested in Ohio residents. However, of more importance

some respondents felt that since they were about to lose their property they could see no benefit in this study for them. Several people wanted to know why this survey was being conducted now rather than last year when it could have helped them.

Construction of Indices

Most measures utilized in this study were designed explicitly for this research. Other relevant measures which had met the criteria of validity and reliability were also used. The criteria for all measures created and/or used in this project was to provide at least ordinal measures of the variables involved. Problems encountered in establishing measurement equivalence for subgroups of the population on select measures will be discussed later in this chapter.

Apprehension and Attitude Toward Resource Development

The scale items for apprehension and attitudes toward resource development were subjected to a series of pre-test procedures prior to the final selection of individual items. A list of items relating to each of the dimensions to be measured was first given to a group of graduate students and faculty familiar with the research problem. These judges were asked to select the items which they felt best measured apprehension and attitudes toward resource development. Based upon the suggestions and selections of the judges, a pretest form containing two sets of apprehension items and one set of attitude items was prepared. This pretest

form was completed by eighty students enrolled in freshman agriculture courses at the University of Kentucky. This population was considered the closest approximation of the study population available for pretesting. This pretest formed the basis for developing scales of apprehension and attitudes toward resource development.

Apprehension over moving was designated as containing two basic dimensions: apprehension over leaving the membership systems within the community of origination, and apprehension toward new communities. Each of these dimensions was measured separately, using a Likert-type summated rating scale. The pretest utilized thirteen items for each dimension, of which eight items for each dimension were selected for the final scale. The t-scores for these items were all significant at the .001 level both in the pretest and in the study population. Split-half reliability tests using the Spearman-Brown prophecy formula were conducted for both scales of apprehension yielding a coefficient of .91 for apprehension of leaving and .96 for apprehension of new communities.¹

A scale measuring attitudes toward water resource development was developed which determined if the respondents were generally favorable to reservoir construction, its purposes and effects. The scale developed for the measure of this attitude was a Likert-type summated rating scale. A twenty-five item scale was given to the pre-test population from which

¹Goode and Hatt, op. cit., p. 230.

ten items that had t-scores significant at the .001 level were selected for the final scale (Appendix I). An item analysis of the items given to the study population indicated that the discriminatory power of all items was maintained. A split-half test of reliability using the Spearman-Brown formula yielded a reliability coefficient of .98.¹ This correlation was considered indicative of an adequately reliable scale.

Status Transfer

Expected General Status Transfer

General statuses are those maintained by individuals with recognition being general throughout the community rather than peculiar to specific formal or primary groups. How different people transfer these general statuses from one community to another is a concern of this research. The measurement of status transfer presents some difficulties among rural populations in that the number of community wide statuses are limited by the relative homogeneity of rural populations.

The technique used to develop an index of general status transfer was as follows. Early in the interview, information was collected about each respondent's occupation, part-time jobs, spouses employment, political offices held (if any) and home ownership. Later in the interview, the respondents were asked about their future expectations for each of

¹Ibid.

these items. The extent of correspondence between present and expected responses provided a measure of expected general status transfer. Type of residence is sometimes used as a major status differential, but was not used in this index as it is a component of social separation and would have built a misleading negative correlation between expected general status transfer and social separation.

For subsequent analysis, responses were classified into three categories, those who transferred less than one third of the general statuses, those who transferred between one third and two thirds and those who transferred more than two thirds of the general statuses. This procedure was used to accommodate differences in the numbers of statuses for sex groups.

Expected Transfer of Structured Relationships

Structured relationships refer to those statuses specific to local or society wide voluntary associations which may or may not be transferred. To measure the extent of transfer of this type of status, the respondents were asked to list their present organizational memberships. They were then asked whether or not they could expect to continue being a member of such organizations after moving. The final measure of expected transfer of structured relationships utilized the number of memberships which the respondent expects to continue in the new residence. For purposes of analysis these data were classified into three groups: no transfer, one transfer and two or more transferred memberships.

Expected Primary Status Transfer

Primary statuses are those maintained in the close network of friendship and kinship groups. The transfer of primary group status requires the presence of relatives or friends at the point of destination. Respondents were asked if they had such persons present at the intended destination or if the presence of such persons would be important in the choice of a future residence. For research purposes it was assumed that equivalence exists between persons with plans and persons without plans in the necessity for primary group memberships at the place of destination. The measure derived provides a dichotomous response on the basis of whether or not the respondent would expect to relocate in areas where primary relationships already exist.

Community Stability

The relation of community stability to apprehension and social separation was conceptualized as important because of its significance in maintaining consistent status-role definitions in a single social setting. The measurement of such stability with the study population is, however, confronted with some rather severe obstacles. Any attempt to adjudicate either of the communities involved as being more stable than the other is automatically contaminated by a temporal factor. The Kentucky community was approximately eighteen months behind the Ohio community in time of completion of the dam. As a consequence, the Ohio community was

much closer to actually moving than was the Kentucky community.

In view of the nature of the theoretical significance of community type, two questionnaire items were thought valid indicators of stability. These were the extent of commuting to places of work and, the amount of previous residential mobility experienced by the residents of the communities. Unfortunately, using these indicators, the two communities in the study population could not be differentiated. Forty percent of the Kentucky household heads commuted to work, as compared with fifty-two percent of the Ohio group. Residential mobility during the ten proceeding years, indicated the reverse with twenty-eight percent of the Kentucky population and twenty-one percent of the Ohio population having lived in another community. Thus, no empirical distinction on community stability could be established.

Because of these empirical differences, it was decided to treat each of the components of community stability as individual measures. These individual correlations may have advantages over the ecological correlations initially proposed.¹ The measures are dichotomous categories of whether the heads commute and whether the respondents have lived in any other communities during the past ten years. The measure of community stability was, for the present analysis, reduced to an individual level.

¹W. S. Robinson, "Ecological Correlations and the Behavior of Individuals," American Sociological Review, XV (June 1950), pp. 351-57.

Vested Interests

The private interests of people directly affected by the construction of projects, though the sale of their property and involuntary movements are affected differently. In order to measure these differences a series of possible future consequences were provided. Each respondent was asked to indicate whether he would experience these consequences positively, negatively or not at all. Each respondent was allowed to add to this list any benefits or detrimental effects that were not included (Appendix I). To develop an ordinal measure, the benefits were scored +1, the detrimental consequences were scored -1 and those not applicable were scored 0. The items were then summed to yield the net vested interest score of each respondent and a constant of 10 was added to eliminate negative numbers. Thus the scores are derived by a formula: the sum of the positive, minus the sum of the negative, plus ten. For example, if a person indicated three benefits and two detriments, he would receive a score of eleven ($3 - 4 + 10$). Each respondent was asked to indicate whether they had an overall feeling of gain or loss due to the project. Responses to this question correlated very highly (.90) with the measure of vested interest.

Knowledge

Knowledge here refers to knowledge about the development of reservoirs. This variable was measured by a twelve item "test" based on the proceedings of the public hearings held at each site. To avoid making the respondents sensitive over a lack of information, they were advised that this was not designed to test them, but rather to find out how adequate the information programs were informing the people. If the respondents became uneasy during this phase of the interview, they were reminded that they weren't expected to know all of the answers. This procedure helped the interviewer maintain rapport with the respondent through an otherwise sensitive section.

The knowledge scores were accumulated as one would with an academic test, giving partial credit for partially correct answers. The scores were then divided into high, moderate and low knowledge levels based on the positioning of the respondents in a frequency distribution.

Socio-economic Status

The measure of socio-economic status selected for use in this study was developed by Sewell in 1943¹ (Appendix 1). Respondents score status points on such items as education, formal organization

¹William H. Sewell, "A Short Form of the Farm Family Socio-economic Status Scale," Rural Sociology, VIII (1943), pp. 161-170.

membership, newspaper subscription, and the presence of various household equipment items. The Sewell scale particularly useful on populations which have the same or similar status occupations. Belcher conducted an evaluation of the Sewell scale in an attempt to determine whether the items in the scale would be rendered inappropriate over time. Belcher restandardized the scale and found a .986 correlation between the restandardized version and the original. Based on these results Belcher concluded that the original form was still adequate based on the positive results of a rather exhaustive series of validity checks.¹ Although much more time has elapsed since this evaluation, the populations in which the scale was used were such that the scale was judged to be appropriate in spite of the time lapse since the origination of the measure. The present study population was a rural population with about half of the respondents farmers. Empirically, several of the items from the original Sewell scale that failed to provide Belcher with sufficient distributions did distribute themselves in the present study population.² For example, 40.6 percent of the households did not have telephones and one-fifth of the study population had less than eight years of school. In effect, the use of

¹ John C. Belcher, "Evaluation and Restandardization of Sewell's Socio-economic Scale," Rural Sociology, XVI (1951), pp. 246-255.

² Belcher, op. cit., pp. 246-55.

this scale is best vindicated as being appropriate for application on economically retarded populations .

Identification with Place

The measure for identification with place was designed to determine the extent to which people maintain affective attachments to their places of residence . The items used in measuring this phenomena were not pre-tested because this variable represented a late addition to the design . A large number of items were included in the interview schedule to allow selection of the best items for a final scale . The scale developed was a Likert-type summated rating scale , using items with five response categories . Twelve of the thirteen items in the schedule were considered adequate , having t-scores that were significant at the .001 level (Appendix I) .

The reliability of this scale was determined by application of a split-half test , using the Spearman-Brown formula to compensate for the reduction in scale size attendant to using two halves.¹ The coefficient of reliability for this scale was .99 , which provides some evidence that the scale is a reliable indicator of identification with place .

¹ Goode and Hatt , op. cit. , p. 230 .

Separation

Separation from current membership systems was the dependent variable in this study. Separation here refers to social separation rather than physical distance. The two measures used in this study for social separation are: (1) the presence or absence of expected contact with current neighbors after moving and (2) whether or not the respondents intended to move to communities of different population and cultural make-up than their present residence. This latter measure was a judgment by the researcher as to whether or not current residence and the future residence (or expected residence) were the same. Distance was not used as a measure of the dependent variable, but rather it was used as an internal measure of validity for persons who were able to specify distance of their move. Distance among those persons who were decided on their new locations related negatively to the expectations of contact with current neighbors ($\gamma = -.52$). This finding suggests a moderately strong inverse relation between distance and expectations of contact with old neighbors and provides support for the validity of the measure of social separation. A similar finding was present among those persons who did not have definite plans for the move, but did indicate whether they would move out of the area, county or state ($\gamma = -.62$). These results suggest support for the validity of the measure of separation from contact, and complements the face validity of the items.

The measure of contact with current neighbors may be considered

adequate Guttman scale and was used for control purposes. Adequate reliability and validity were assumed because of its previously demonstrated adequacy on different populations.

Leisure Orientation

Past studies suggest that those persons who were leisure oriented were more favorable to public projects which provide recreation opportunities.¹ If one's leisure orientation affects his attitudes toward public recreational projects, then apprehension over moving for such a project should be less. A Likert-type leisure orientation scale which has been extensively tested on both urban and rural populations² was utilized to measure people's attitudes toward leisure and work. The application of this control is relevant for those sequences containing attitudes toward resource development.

Proclivity for Change

This final control variable was limited in application to the farm population. The measure used to determine one's proclivity for change was a farm practice adoption index developed for this study. This index is a ratio of the number of practices adopted by the farmer to the

¹ Rabel J. Burdge, Rural-Urban Differences in Leisure, a paper presented at the Rural Sociological Society meetings, August 1961.

² Ibid.

number applicable to his farming operation. This measure provides a gross index of orientations to new practices and proclivity for change. As a result of an unanticipated diversity of farming operations, the number of persons having each practice was too small to procure a distribution over time such as would normally be used to categorize the respondents on a continuum from innovators to laggards. This variable was used as a control on the sub-population of farm operators, on the rationale that a person's technological innovativeness might extend into social events. That is, the innovator or frequent adopter may be more willing to move and more willing to try different community types.

Analysis Design

The analysis of data in this study involves an application of Blalock's techniques for making causal inferences from non-experimental data.¹ This technique provides a methodological fit with models that entail a sequential process such that a chain-like series of phenomena produce a given result. Blalock's method also conforms to the general procedures of multivariate analysis discussed by Lazarsfeld.² The conceptual apparatus of multivariate analysis

¹ Blalock, op. cit.

² Paul F. Lazarsfeld, "Interpretation of Statistical Relations as a Research Operation," The Language of Social Research, Paul F. Lazarsfeld and Morris Rosenberg, eds. (Glencoe: The Free Press of Glencoe, 1955), pp. 115-25.

supplements the technique for making causal inferences and is used when discussing the research findings.

Blalock constructed his technique for causal inference on the basis of previous work in econometrics, using specifically a type of system referred to as a recursive system.¹ Recursive systems are systems in which two way causation is ruled out, yielding a pattern without reciprocal causation or feedback. This is an acknowledged simplification necessary for analysis and no imputations are made that this is the definitive nature of social systems. There is no single dependent variable in a recursive system. The system involves an initial variable, labeled the exogenous variable, caused by unknown factors outside the system. Using this exogenous variable as a starting point, the variables that follow sequentially may be dependent or independent. That is, they are caused by the preceding variables, making them dependent or causal (independent) for the variables that follow them. Only the concluding variable of the system is seen strictly in terms of being a dependent variable. For example, in the hypothetical four variable model $(X_1 \longrightarrow X_2 \longrightarrow X_3 \longrightarrow X_4)$ X_1 is exogenous, determined by unknown factors outside the system. Variables X_2 and X_3 may be considered independent or dependent and X_4 considered strictly as a dependent

¹ Blalock, op. cit., p. 54.

variable. This is essentially the nature of a recursive system.

Testing specific causal models basically requires the satisfaction of two criteria. First, the largest correlations should occur between variables adjacent in the system. The rationale for this is that in a developmental sequence the variables are separated by time, and the greater the separation or time lag, the less perfect the association should be. In terms of the hypothetical model used above, the largest correlations would be (r_{12}) , (r_{13}) , and (r_{34}) . The next largest correlations would be expected in those separated by one step (r_{13}) and (r_{24}) , followed by the smallest correlation in the relation (r_{14}) which has the greatest time lag.

The second criterion is that the partial correlations, holding the intervening factors constant, should approximate zero. The disappearance of these partials indicates the presence of an indirect effect for the independent variables through a causal sequence. In the hypothetical model, the partials $(r_{13.2})$, $(r_{24.3})$ and $(r_{14.23})$ should all approximate zero. The algebraic relations among the intercorrelations of all the variables in the system allows one to substitute prediction equations for the predicted disappearance of partials. These equations simply establish the size of the expected correlations between separated variables as the product of the adjacent variables in the process. For example, the partial $r_{14.23} = 0$ is comparable to the equation $r_{14} = r_{12}r_{23}r_{34}$. If the observed correlation r_{14} approximates that

predicted above, the partial observed, were one to test it, would approximate zero.¹

Statistics

The measure of association used for analysis in this study was Goodman and Kruskal's measure for ordinal association, gamma.² When theoretical propositions are of the form "the greater the A, the greater the B," a monotonic relationship is implied. That is, it implies that an increase in A will produce an increase in B. In selecting a statistic, one must seek a test that will provide a test for such a monotonic relationship and yet not be too stringent for the data. Leik and Gove suggest that three measures for ordinal association may be appropriate depending on whether a weak, intermediate or strong test is desired. These measures are gamma, d_{yx} and d'_{yx} respectively.³ Gamma is generally used when the measurement is imprecise and there is a legitimate reason

¹ For a more detailed discussion of the technique used for evaluating causal models, see chapter three of Blalock, op. cit.

² Leo Goodman and William H. Kruskal, "Measures of Association for Gross Classifications," Journal of the American Statistical Association, XLIX (December 1954), pp. 732-754.

³ Robert K. Leik and Walter R. Gove, "The Conception and Measurement of Asymmetric Monotonic Relationships in Sociology," The American Journal of Sociology, LXXIV (May 1969), pp. 696-709.

to expect that the cross-sectional nature of observations for both the independent and dependent variables at the same time may minimize observed association. Such is the case in the present study. The measurement is frequently imprecise and all of the observations were collected at one point of time, so that individual attitudes and apprehensions may well have been affected prior to measurement.

A second consideration in the selection of gamma as the measure of association is that it qualifies as a proportional reduction of error statistic.¹ Proportional reduction of error statistics have the property of being analogous to the coefficient of determination (r^2) and as such are readily interpreted as proportions. Proportional reduction of error statistics also have the advantage of providing uniform interpretations for different sample sizes.

The principle partialling technique used in this study involved the net partial coefficient for gamma.² This net partial coefficient allows one to assess the net effect of one or more control variables, thus providing an advantage over the more traditional subgroup analysis. The net partial is based on contingency tables for subgroups and, because of this, faces the same limitations of sample size confronted when subdividing the

¹ Herbert L. Costner, "Criteria for Measures of Association," American Sociological Review, XXX (June 1965), pp. 341-53.

² James A. Davis, "A Partial Coefficient for Goodman and Kruskal's Gamma," Journal of the American Statistical Association, LXII (March 1967), pp. 189-93.

sample to obtain conditional gamma coefficients for subgroups. When using recursive models, however, prediction equations may be substituted for the net partial in the event that the sample size limits the computation of a net partial.

Measures of association allow the researchers to evaluate the relative importance of each variable. Verbal descriptions are often substituted for the numerable coefficients to describe the relative strengths of observed relationships. In the absence of any standard criterion, four categories were arbitrarily constructed to describe the statistical relationships in this study. Relationships below $-.15$ to $.29$ were considered slight, relationships from $.30$ to $.49$ were considered moderate and any coefficient above $.50$ was described as strong.

Tests of Significance

Tests of significance were not used in the analysis as the population was enumerated rather than sampled. Not all researchers share the opinion that tests of significance should not be used on total population. There are basically two positions advocating the use of significance tests on total populations. One argument is that a "population" is considered a sample of hypothetical universe of possibilities.¹ The purpose of tests of significance from this view appears to facilitate

¹ Margaret Hagood and Daniel Price, Statistics for Sociologists (New York: Henry Holt and Company, Inc., 1952), pp. 193-95, 287-94 and 419-23.

generalization beyond the population, a purpose which this researcher views as being misplaced. The confusion centers around the question of the general applicability of research findings to similar situations rather than limiting one's findings to a particular instance. That our models are generally applicable to similar populations is demonstrable, but not by the application of significance tests in a single study. Rather, we accept models as accurate based on uniformity through replication and assume those models we have accepted to be generally applicable. Thus, we generalize our models to cover similar situations, but we do not base this generalization on significance tests.

The remaining argument for the application of tests of significance is that they provide an indicator of whether "chance" could have produced the same observation in a given set of data.¹ The source of chance would seem in question with an enumerated population. By enumerating a population, any probability that the "sample" in which the observations are found could not be a product of chance as would have been the case were a random sample used.²

¹ David Gold, "Statistical Tests and Substantive Significance," American Sociologist, IV (February 1969), pp. 42-46.

² These arguments largely parallel the arguments in Denton E. Morrison and Ramon E. Henkel, "Significance Tests Reconsidered," American Sociologist, IV (May 1969), pp. 131-40.

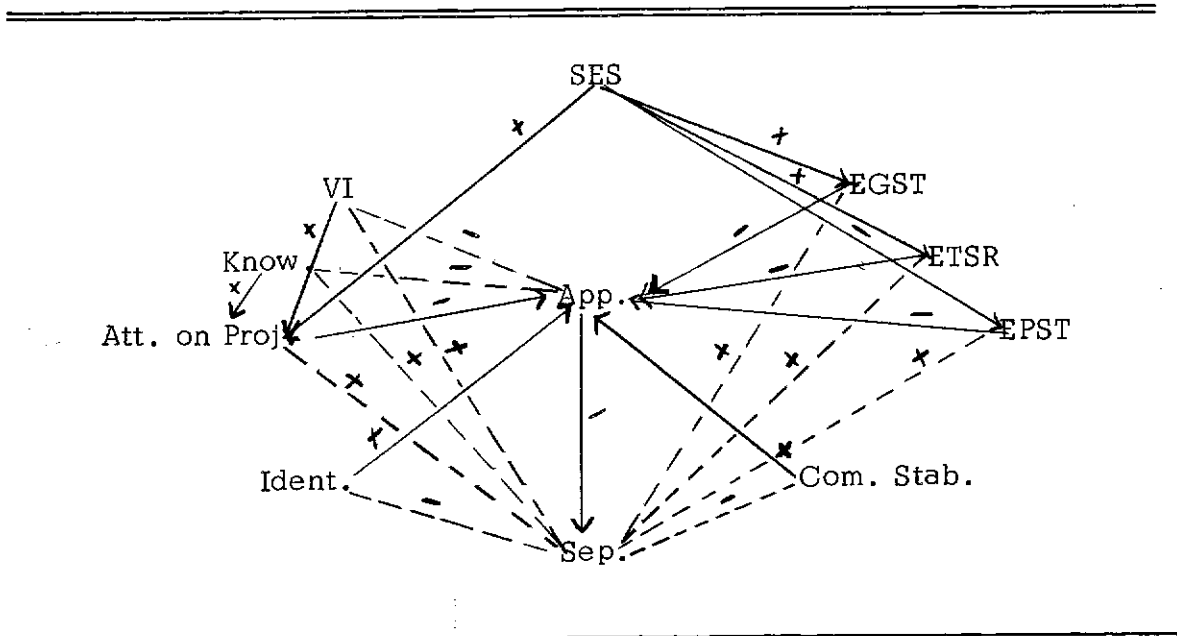
Tests of "fit" for the model have been discussed in a previous section of this chapter.¹ The determination of adequacy for the proposed model is not reliant upon tests of significance, but rather on the measures of association and the subsequent partialling techniques.

¹ See, Analysis Design in this chapter.

CHAPTER FOUR

FINDINGS

Figure 4.--Theoretically Predicted Relationships*



* Solid lines indicate direct relationships; dotted lines indicate indirect relationships as they were predicted by the hypotheses.

The theoretical relationships contained in the hypotheses are summarized in figure 4. Those hypotheses, most central to the model where initially examined followed by a consideration of the remaining hypotheses in the context of causal models. No global test of the entire

model was conducted because of the large amount of variables involved. Rather, a series of sub-models, each containing unique determinants, were tested and recombined to provide an overview of the testing and to recast the model. The zero-order gamma coefficients used in these tests are shown in table 2.

Apprehension Over Moving

According to the theoretical model, apprehension is the variable through which all other variables produce their effects. Two measures of apprehension over moving were employed to tap conceptually different aspects of apprehension. These two dimensions were labeled apprehension of leaving and apprehension of new communities. An examination of the zero-order relationships indicates that these two measures are strongly associated (gamma = .61). However, they are not identical but overlapping measures. That is, persons who are apprehensive over leaving their present communities may also be apprehensive over new places of residence, but the two types of apprehension are distinct.

Because of the strategic position of apprehension in the model, the test of the first hypothesis is crucial.

H₁ The more apprehensive people are over moving, the less separation from their present community they will be willing to accept.

TABLE 2

MATRIX OF ZERO ORDER RELATIONSHIPS

Variables	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄
X ₁ Apprehension of Leaving		.61	-.48	.11	.01	-.04	-.27	.12	-.65	.14	.20	.65	-.40	-.12
X ₂ Apprehension of New Communities			-.51	.05	-.17	-.05	-.34	.11	-.52	-.03	-.02	.63	-.42	-.20
X ₃ Attitudes Toward Projects				-.15	-.02	.06	.33	-.14	.73	.01	.06	-.50	.38	+.13
X ₄ Expected General Status Transfer					.14	.22	-.04	-.24	-.12	.02	.06	.04	.01	-.16
X ₅ Expected Transfer of Structured Rel.						-.21	-.41	-.13	-.17	.74	.70	.30	.08	-.44
X ₆ Expected Primary Status Transfer							.03	.07	-.11	.04	-.11	.09	-.65	-.10
X ₇ Previous Residential Mobility								-.08	.36	-.42	-.30	-.54	.14	-.06
X ₈ Commuting to Work									-.31	.11	-.17	.001	-.26	-.25
X ₉ Vested Interests Served										.06	-.10	-.65	.54	.19
X ₁₀ Knowledge of Project											.45	.13	.06	-.20
X ₁₁ Socio-economic Status												.14	.22	-.09
X ₁₂ Identification With Place													-.54	-.30
X ₁₃ Separation of Contact														.13
X ₁₄ Change in Type of Residence														

Separation was measured with two instruments designed to tap two different aspects of social separation. These measures were expected separation from present contacts and expected change in residence type (i.e., from farm to non-farm, small town to city, etc.). The two dimensions of separation do not statistically correlate to any appreciable degree ($\gamma = .13$).

Both apprehension of leaving and apprehension of new communities were found associated with expected separation from present contacts yielding moderate gammas of $-.40$ and $-.42$ respectively. These results suggest the common sense conclusion that the more anxious people are by the thought of losing old friends, or facing new situations, the less likely they will want to move.

Apprehension of leaving and apprehension of new communities were also correlated with expected change in residence type. Apprehension of leaving did not yield any appreciable relationship ($\gamma = -.12$), and apprehension over new communities related slightly ($\gamma = -.20$) with expected change in type of residence. This finding suggests that while the anxiety over leaving the familiar does not apparently affect the type of residence people choose, their apprehension over new communities does.

In view of these findings, it appears that people's apprehension over moving are important factors in determining the amount of separation they are willing to accept. Apprehension appears to be a more important

variable when related to people's willingness to sever social relations than when related to severing the cultural bonds represented by a community type.

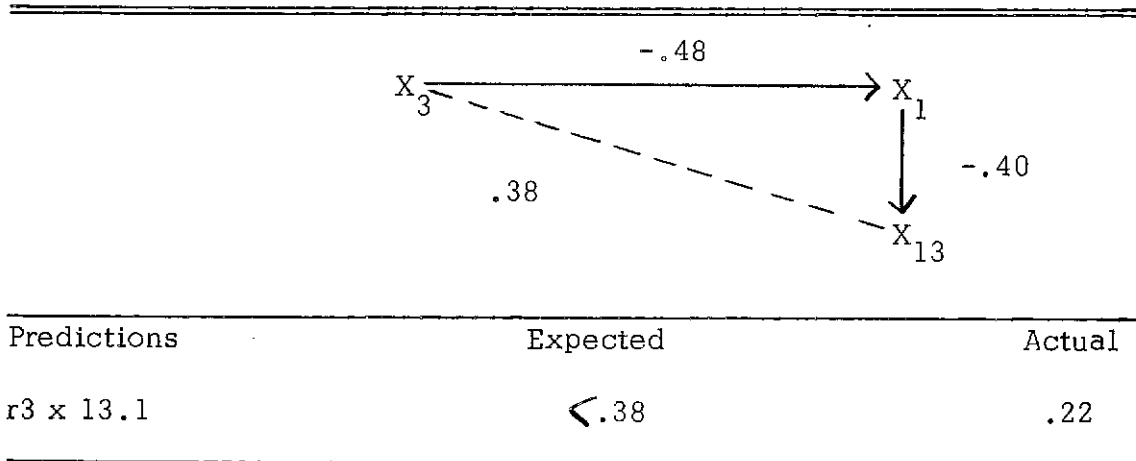
Attitudes Toward Projects

People's attitudes toward reservoir projects acts as a mediating variable through which the effects of some independent variables were predicted to operate. Because of the significance of this variable to the model, it deserves early study.

H₂ The more favorable people's attitudes toward flood control projects which will force them to move, the less apprehensive they will be about moving and, as a consequence, will accept greater separation from their present community.

Four tests of this hypothesis were made utilizing each of the two measures of apprehension and separation. Figure 5 shows the results involving people's apprehension of leaving their present communities and expected separation from current friends. These coefficients indicate moderate support for the hypothesis (H₂). Persons with favorable attitudes toward projects do experience less apprehension of leaving and consequently will likely accept greater separation from their present friends. Apprehension over leaving mediates the strength of positive attitudes toward the project as indicated by the results of the partialling shown in figure 5.

Figure 5.--Attitudes Toward Projects (X_3), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})*



* Unless indicated otherwise, solid lines indicate theoretically predicted relationships in all figures throughout the remainder of this text.

The results using apprehension of new communities as a measure of people's apprehension over moving is shown in figure 6. Again, there is moderate support for the hypothesis, with people's attitudes toward projects reducing their apprehension of new communities and increasing their willingness to accept greater separation from present contacts.

When studying people's expectations of change in type of residence, the tests using apprehension of leaving were excluded since it shows the same coefficient with attitudes toward projects as change in residence type. The result using apprehension of new communities is presented in figure 7. This coefficient shows moderate support for the hypothesis, indicating a path through which favorable

attitudes toward the project reduce apprehension of new communities and enhance people's willingness to change to a new type of residence.

Figure 6.--Attitudes Toward Projects (X_3), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})

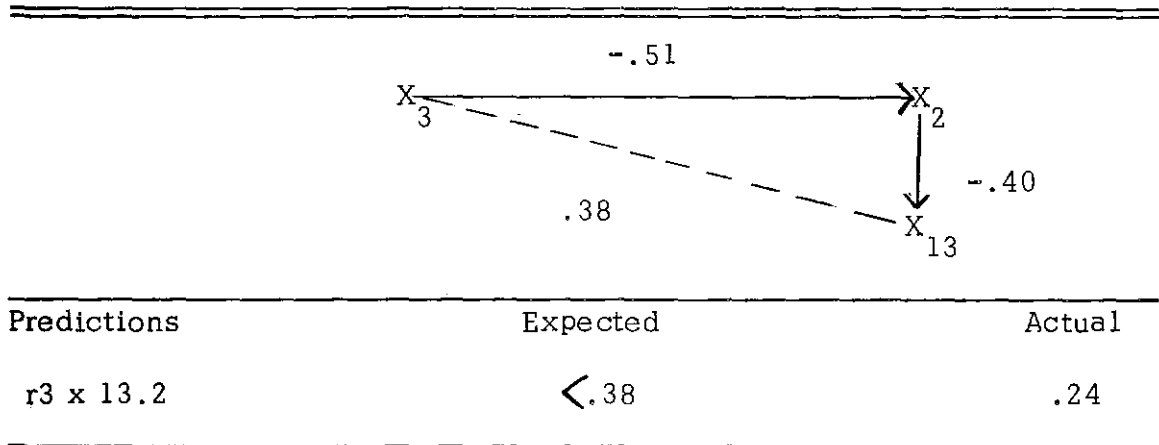
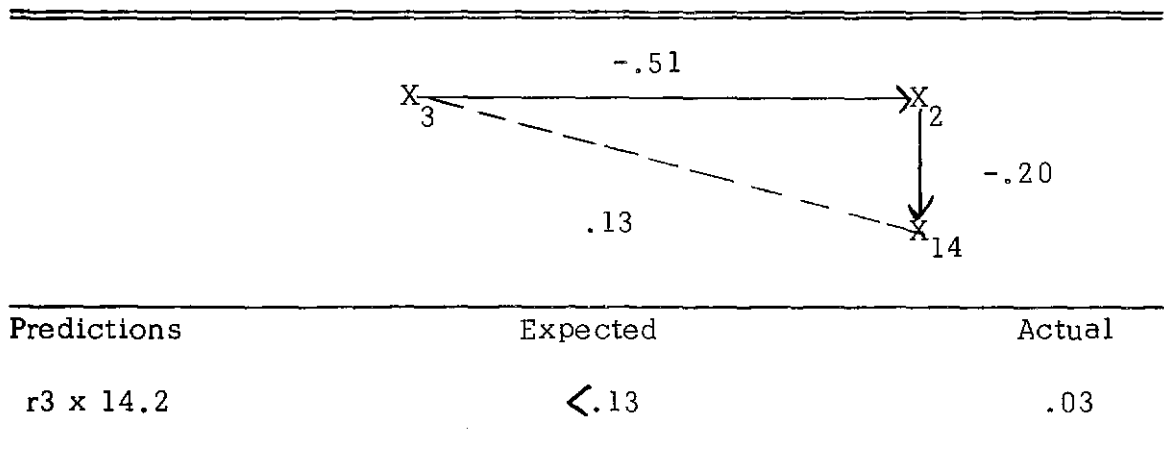


Figure 7.--Attitudes Toward Projects (X_3), Apprehension of New Communities (X_2) and Change in Residence Type (X_{14})



The tests shown in figure 5, 6 and 7 generally provide empirical support for the hypothesis (H_2) that favorable attitudes toward reservoir projects reduce levels of apprehension and increase individual willingness to engage in social separation.

Status Transfer

All of the hypotheses relating to the three types of status transfer predict that the greater the transfer of statuses people expect, the less will be their apprehension over moving and the greater separation from their present socio-culture context they will be willing to accept. The hypotheses also pointed out that socio-economic status would determine which type of status a person would transfer. As such, the effects of socio-economic status must be observed and partialled out when necessary in order to present a more clear description of the effects of the various types of status transfer.

H_6 The higher their socio-economic status, the more people expect to transfer their general statuses and structured relationships. The lower their socio-economic status, the more people will expect to transfer primary statuses.

As a consequence, the relationships predicted in hypotheses, four and five will be strengthened when the effect of social class is eliminated.

An examination of the zero order relationships indicates that

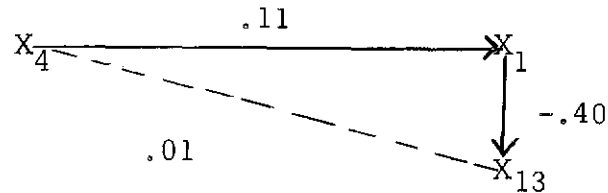
socio-economic status did relate strongly ($\gamma = .70$) to the expected transfer of structured relationships. However, socio-economic status did not appear to be a determinant of the use of either primary status transfer or general status transfer (γ of $-.11$ and $.06$, respectively). Perhaps these low associations are due to the widespread intentions of respondents to transfer primary and general statuses.

Expected General Status Transfer

Expectations of general status transfer refers to people's anticipations of continuing statuses that are generally recognized in a community such as occupation or religious affiliation.

H₃ The more general status transfer people expect, the less apprehensive they will be of moving and as a consequence, will accept greater separation from their present community.

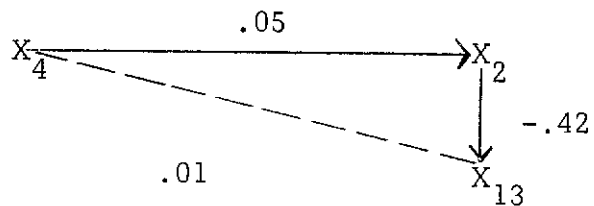
Figure 8.--Expected General Status Transfer (X_4), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



The evidence in figure 8 do not lend support for the hypothesis when apprehension of leaving and separation of contact are used as

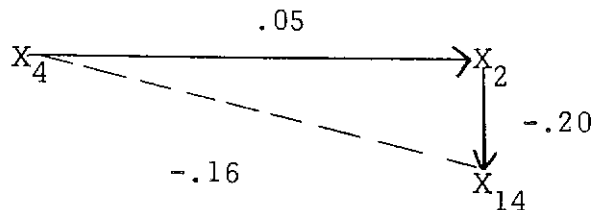
measures. The test utilizing apprehension of new communities rather than apprehension of leaving is presented in figure 9, again failing to support the hypothesis.

Figure 9.--Expected General Status Transfer (X_4), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})



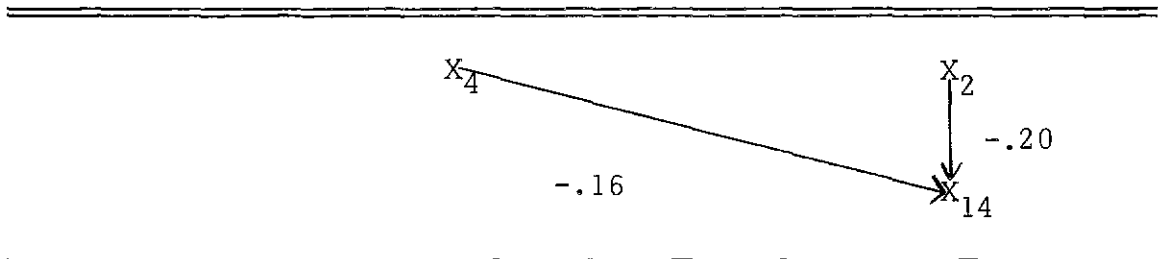
The secondary measure of separation, change in type of residence, related only to apprehension of new communities. These measures were used in the test in figure 10.

Figure 10-a.--Expected General Status Transfer (X_4), Apprehension of New Communities (X_2) and Change in Type of Residence (X_{14})



These data do not support the path predicted in the hypothesis, but rather show a slight negative association between expected general status transfer and change in residence type ($\gamma = -.16$). This indicates that people who expect to transfer more general statuses will be less likely to expect a change in their type of residence, and that this effect is not mediated by apprehension. The revised model is presented in figure 10-b.

Figure 10-b.--Reconstructed Alternative to the Model in Figure 10-a: Expected General Status Transfer (X_4), Apprehension of New Communities (X_2) and Change in Type of Residence (X_{14})



In general, these data do not support the hypothesis (Figure 9-b). The only acceptable level of association involving expected general status transfer was with change in type of residence ($\gamma = -.16$). This finding did not fit the sequence hypothesized, but rather provides a slight direct relationship in a direction opposite to the theoretical prediction. Since expected general status transfer relates negatively with anticipated changes in type of residence, it appears that the capacity for general status transfer operates differently than the actual

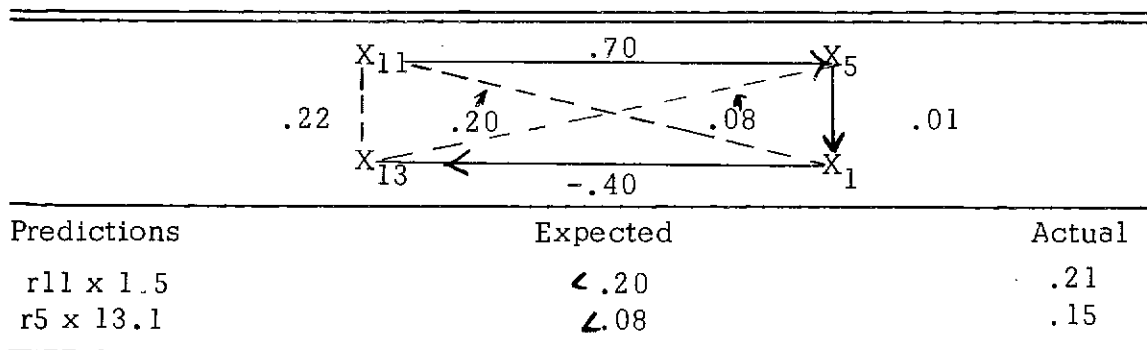
transfer of such statuses. Tilly found general status transfer to facilitate adjustment after migration and made moving easier.¹ These findings suggest that general status transfer would tend to retard the magnitude of change involved in migration. It may be that persons who have greater capacities for general status transfer fit very well in their present cultural system and are disinclined to leave it, but if they do leave, they have a greater facility for adjustment in a new subculture.

Expected Transfer of Structured Relationships

When people expect to continue their memberships in formal associations such as lodges or churches after moving, they are expecting to transfer structured relationships. The theory predicts essentially the same sequence for this variable as it did with all forms of status transfer.

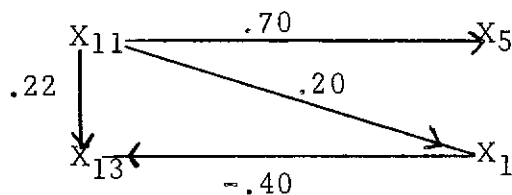
H₄ The greater the number of structured relationships people expect to transfer, the less apprehensive they will be over moving and, as a consequence, will accept greater separation from their present community.

Figure 11-a.--Socio-economic Status (X_{11}), Expected Transfer of Structured Relationships (X_5), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



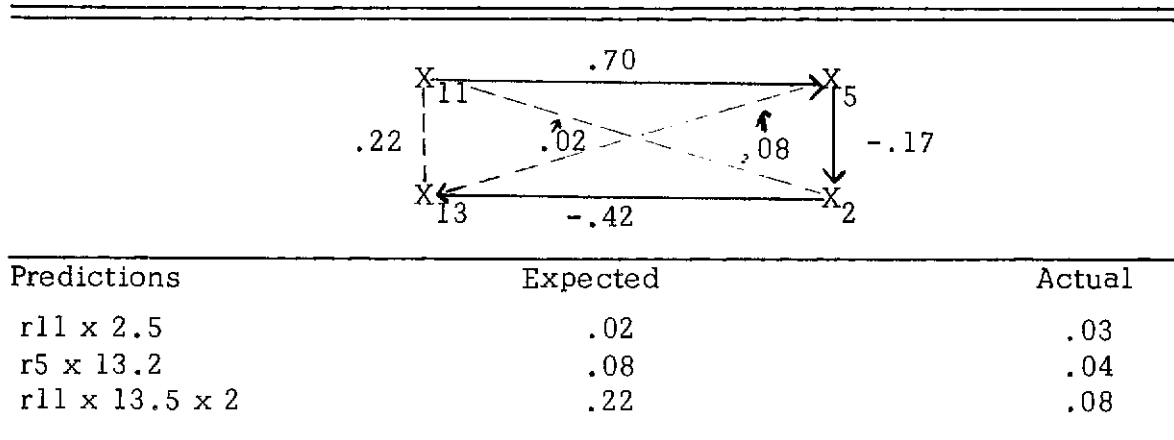
The test presented in figure 11-a uses apprehension of leaving and separation from present contacts as measures. The predictions made were based on the expectations in hypothesis six. Since socio-economic status was strongly related to the expected transfer of structured relationships, hypothesis six would predict that the relations predicted in hypothesis four above, would be strengthened. The results of the test suggest that controlling for socio-economic status does produce the predicted effect, but that the levels of association involving the expected transfer of structured relationships do not achieve acceptable magnitudes.

Figure 11-b.--A Reconstructed Alternative to the Model in Figure 11-a: Socio-economic Status (X_{11}), Expected Transfer of Structured Relationships (X_5), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



In the reconstructed alternative in figure 11-b, the expected transfer of structured relationships is seen as a product of socio-economic status, but not as a determinant for any of the other variables in the model.

Figure 12-a.--Socio-economic Status (X_{11}), Expected Transfer of Structured Relationships (X_5), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})



When apprehension of new communities is used as the empirical measure of apprehension, the theoretical model bears more correspondence with the empirical data (Figure 12-a). A path is established in which people of higher socio-economic status expected to transfer more structured relationships and in turn experience less apprehension, followed by a greater willingness to separate themselves from their present friendships. The relationships involving the expected transfer of structured relationships are strengthened when the influence of socio-economic status is controlled.

A revised model is presented in figure 12-b. This model indicates a sequential process as was predicted by the hypothesis and suggests that socio-economic status does not relate to separation solely through its influence on people's expectations of transferring organizational ties. The

effects of socio-economic status on apprehension through additional intervening variables is a continuing focus of this study.

Figure 12-b.--A Reconstructed Alternative to the Model in Figure 12-a: Socio-economic Status (X_{11}), Expected Transfer of Structured Relationships (X_5), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})

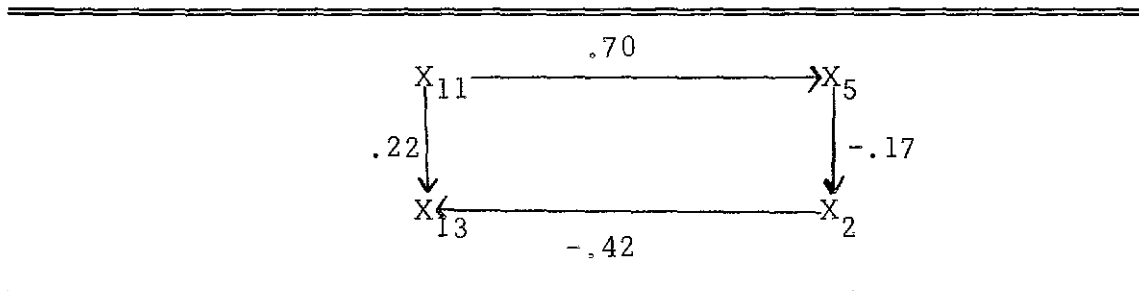
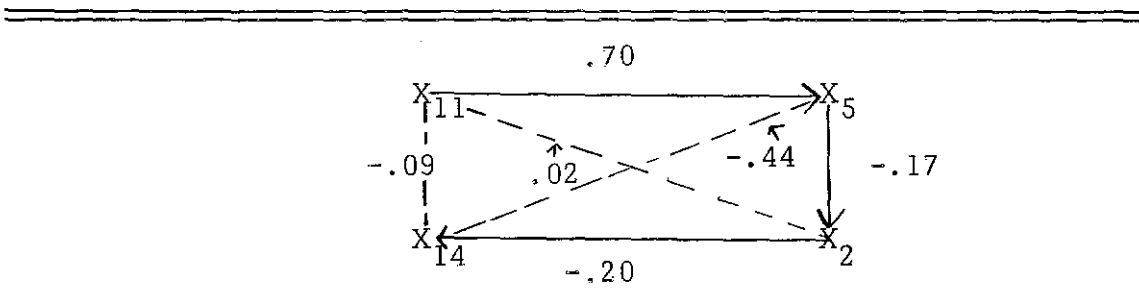


Figure 13.--Socio-economic Status (X_{11}), Expected Transfer of Structured Relationships (X_5), Apprehension of New Communities (X_2) and Change in Residence Type (X_{14})



Predictions	Expected	Actual
$r_{11 \times 2.5}$.02	.02
$r_{5 \times 14.2}$	-.44	-.47
$r_{11 \times 14.5 + 2}$	-.09	-.13

The results shown in figure 13 suggest both support for a developmental sequence and a contradictory sequence. The sequence shows that people's socio-economic status does affect their expectations for transferring structured relationships. The effects of this expectation for transfer of structured relationships in turn produces contradictory results. Indirectly, through influencing people's levels of apprehension, the results of the expected transfer of structured relationships is to increase people's willingness to change the nature of their residence. At the same time, a direct relationship which appears stronger indicates that people who expect to transfer more structured relationships will be less willing to change the type of their residence. Both the indirect and direct relationships are strengthened when socio-economic status is controlled.

A similar observation may be made with respect to socio-economic status. In this case, socio-economic status operates as predicted by facilitating the transfer of structured relationships, reducing apprehension of new communities and making people more willing to change their community type. At the same time, a second path is retained in which another influence of socio-economic status serves to reduce people's willingness to change community types.

The explanation of these seemingly contradictory findings is in the application of deductive logic. Deductive logic is perfect only when the correlations among the variables involved are perfect. Thus, when

imperfect correlations are used, the findings may accurately produce contradictory effects from a given variable. In this case it seems plausible to suggest that some people who anticipate continuing memberships do so only because they intend to continue the associations in a similar type of rural community. Others find comfort in knowing that their associations, such as masonic organizations or churches will be present everywhere and are not as selective on type of community.

These data lend support for the hypothesis only when apprehension of new communities is used as the empirical measure of apprehension. People who are of higher socio-economic standing do expect to transfer more structured relationships and consequently have less apprehension of new communities and are more willing to separate from their present social ties. In this sense, organizational ties that are readily transferred may serve as a palliative in the case of free compelled migration. The effects of expectations for the transfer of structured relationships on people's willingness to change the type of their residence is mixed, with the strongest associations retarding people's willingness to change residence types.

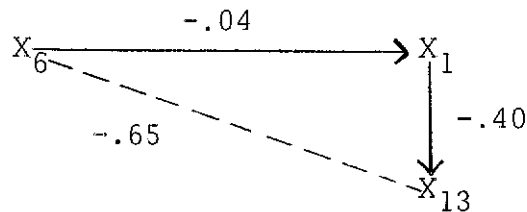
Expected Primary Status Transfer

Expected primary status transfer refers to the extent to which people expect to have friends and/or relatives present at their areas of destination. This type of status transfer was hypothesized to operate in

a pattern similar to that predicted for the other types of status transfer.

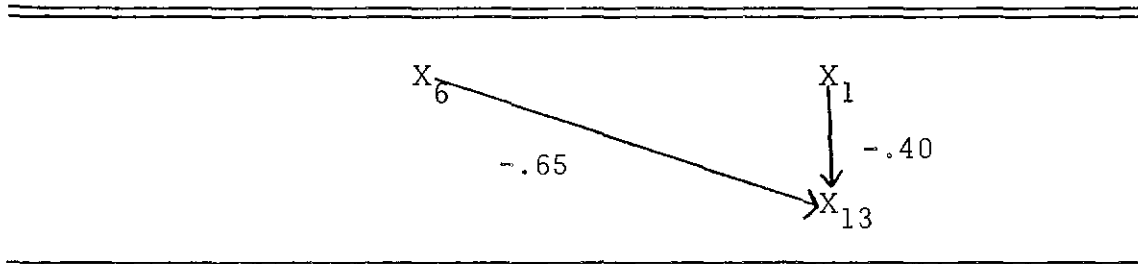
H₅ The more people expect to transfer their primary statuses, the less apprehensive they will be over moving and, as a consequence, will accept greater separation from their present community.

Figure 14-a.--Expected Primary Status Transfer (X_6), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



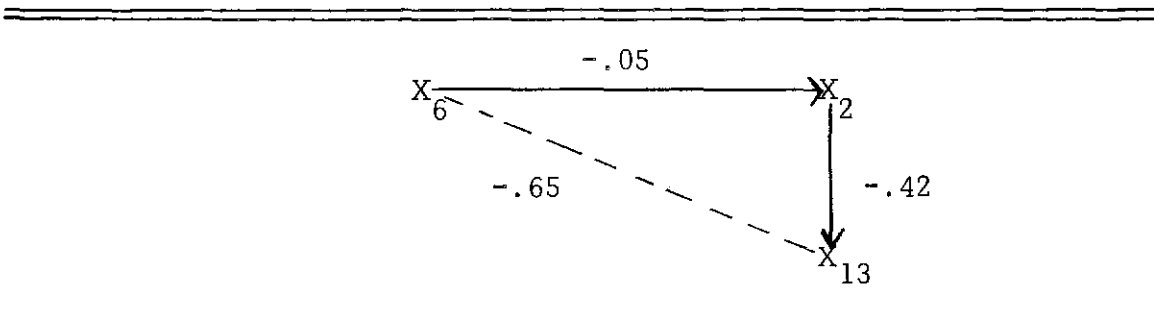
The empirical test using apprehension of leaving and separation of contact is presented in figure 14. This test does not support the hypothesized sequence. Rather, there is present a strong inverse relation between expected primary status transfer and separation of contact that does not appear to operate through apprehension of leaving. That is, people who expect primary status transfer would be disinclined to accept separation from their current membership groups. One might speculate that maintaining one's current membership groups upon moving is a method of adjustment in which continuing associations are a type of primary status transfer. By moving only a short distance, people can minimize their social separation while maximizing primary status transfer.

Figure 14-b.--Expected Primary Status Transfer (X_6), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



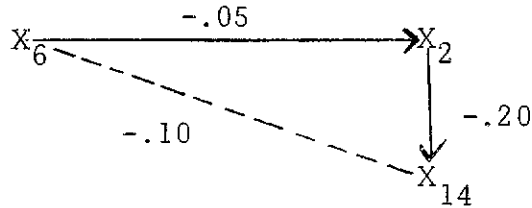
Replacing apprehension of leaving with the measure for apprehension of new communities in figure 15 does not change the relationship. The hypothesis is again not supported and the revised model would be identical to that shown in figure 14-b.

Figure 15.--Expected Primary Status Transfer (X_6), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})



Examination of this hypothesis using the secondary measure of separation, change in type of residence, yields no substantive findings which explain this type of separation. The zero order coefficients are contained in figure 16.

Figure 16.--Expected Primary Status Transfer (X_6), Apprehension of New Communities (X_2) and Change in Type of Residence (X_{14})



These data suggest that the influence of expected primary status transfer does not facilitate social separation, but on the contrary, produces a disinclination in people to sever social ties. These data do not permit any conclusions pertaining to the influence of expected primary status transfer on people's willingness to change the type of their residence, although the direction of the association suggests agreement with the test of separation from present social groups.

Factors of Community Stability

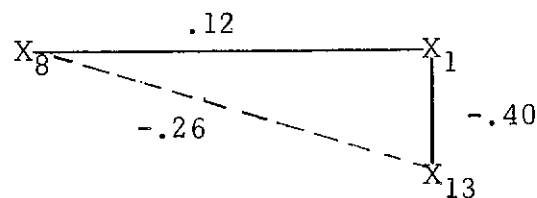
The measurement of community stability was reduced to the individual level and is a measure of the individuals stability within his residential community. The communities involved in the study failed to differ significantly on a composite measure of community stability, but the respondents did vary on the two components of such stability: those being whether they commuted to work or had experienced geographic mobility within the decade. The theoretical expectations for each of these attributes presented in the models follows the direction of the hypothesis related to community stability.

- H₇ The more stable a persons present community, the more apprehensive they will be over moving and, as a consequence, will accept less separation from their present community.

Commuting

The theory proposed that high community stability would create an atmosphere of comfort, generating apprehension over moving and the loss of such familiarity, thereby retarding social separation. Examining the measure of whether people commute or not, one would expect commuters to have less stability in their home community than the non-commuting residents and to exhibit both less apprehension and to expect greater separation from their present system when moving. Figure 17 contains the relations for an empirical test using apprehension of leaving and expected separation from present contacts as measures for apprehension and social separation respectively.

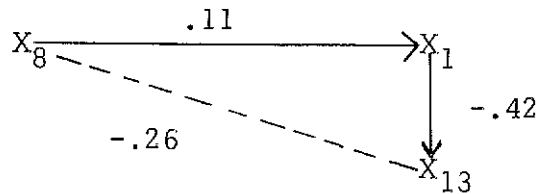
Figure 17.--Commuting (X_8), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



The presence of commuting to work from the rural communities studied bears no substantial relationship to apprehension of leaving and

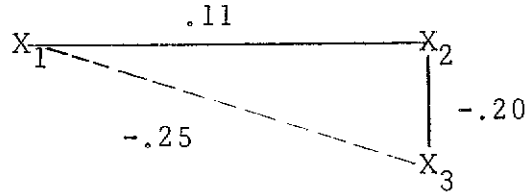
relates negatively to expected separation from present contacts. This later finding is contrary to the hypothesis based on community stability. This finding is corroborated when apprehension of leaving is used as the measure of apprehension. This evidence is shown in figure 18. Neither measure of apprehension yields a substantively important indirect relationship and even the direction of the relations between commuting and apprehension would indicate that commuters are less inclined to separate themselves from their present neighbors than are non-commuters. It is plausible that this inclination for preserving their residential system is the reason for commuting, although this study did not include data to test such a speculation.

Figure 18.--Commuting (X_8), Apprehension of New Communities (X_2) and Separation of Contacts (X_{13})



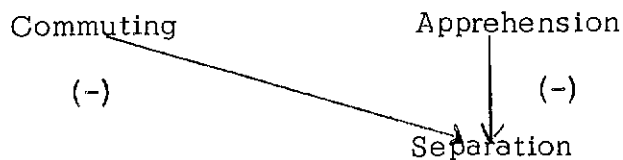
The final test for this model, using apprehension of new communities and expected change in residence type, supports the previous tests. Figure 19 contains the relations for this final test.

Figure 19.--Commuting (X_1), Apprehension of New Communities (X_2) and Change in Residence Type (X_{14})



Generally, the empirical tests of the model relating commuting to apprehension and indirectly to separation run contrary to the hypothesis based on community stability. The evidence uniformly indicated that commuters are disinclined to separate themselves from their present neighborhood associations or the rural type of residence. Apprehension over moving appears not to be contingent upon the status of commuters at a level worthy of consideration, but rather would best be considered a product of other factors and an independent factor in this model. The revised model in figure 20 demonstrates the model that is produced generally by the data for commuters.

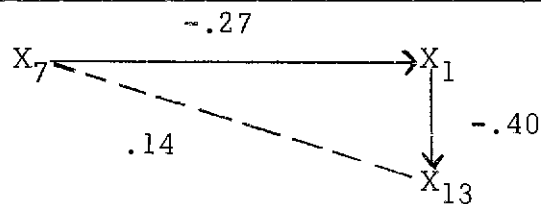
Figure 20.--Commuting, Apprehension and Separation



Previous Mobility

Previous mobility as the second component of community stability was measured in terms of whether the respondent had changed communities with the previous decade. As a component of community stability, the hypothesized model is that previous mobility would reduce apprehension over moving and facilitate greater separation.

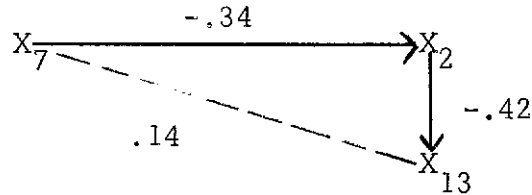
Figure 21, --Previous Mobility (X_7), Apprehension of Leaving (X_1) and Separation of Present Contacts (X_{13})



$$r_{7 \times 13.1} = -.05$$

Examination of the model using the measures of apprehension of leaving and expected separation from present contacts provides support for the hypothesized relations (Figure 22). Previous mobility does appear to reduce apprehension of leaving and appears to increase the willingness for separation from present contacts. The slight relationship between previous mobility and expected separation from present contacts nearly disappears when partialled for apprehension of leaving, indicating that this relation is explained by the influence of previous mobility.

Figure 22.--Previous Mobility (X_7), Apprehension of New Communities (X_2) and Separation of Contacts (X_{13})



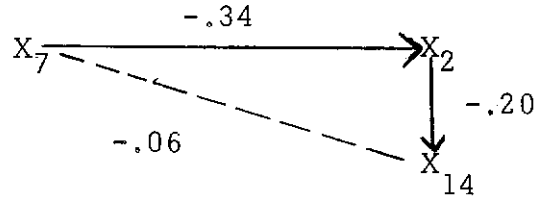
$$r_{7 \times 13.2} = -.02$$

The evidence using apprehension of new communities in figure 22, corroborates the previous test of this model. Again, previous mobility relates indirectly to expected separation from present contacts through its influence on apprehension of leaving. There is again no substantive direct effect from previous mobility when apprehension of leaving is controlled.

The alternate measure of separation continues to corroborate earlier tests, although the associations between apprehension and expected change in residence type are slight.

The evidence in figure 22 indicates that previous mobility reduces apprehension of new communities. This reduced apprehension would then facilitate one's change in the type of his residence. The relationship between previous mobility and change in residence type was not substantial enough to consider important, but the direction did run contrary to the prediction.

Figure 23.--Previous Mobility (X_7), Apprehension of New Communities (X_2) and Change in Residence Type (X_{14})



$$r_{7 \times 14.2} = .13$$

The tests appear generally uniform in supporting the hypothesized sequential relationships. In general, previous mobility does function to reduce people's apprehensions over moving and by so doing facilitates greater degrees of social separation.

The components of community stability do not exhibit uniform effects. Commuters appear to be disinclined toward separation and change. It should be pointed out, however, that the commuters are from rural, relatively isolated areas and may be commuting simply because of a desire to retain their home communities and/or style of life. Previous mobility, on the other hand, conforms quite adequately with the theory.

The conclusions based on the examination of commuting and previous mobility are limited to these individual variables. No conclusion can be drawn in support of the original theoretical variable, community stability. Community stability, had we been able to measure it adequately, would have been expected to affect all of the members of the community. In the case of the individual measures, they affect only those persons involved

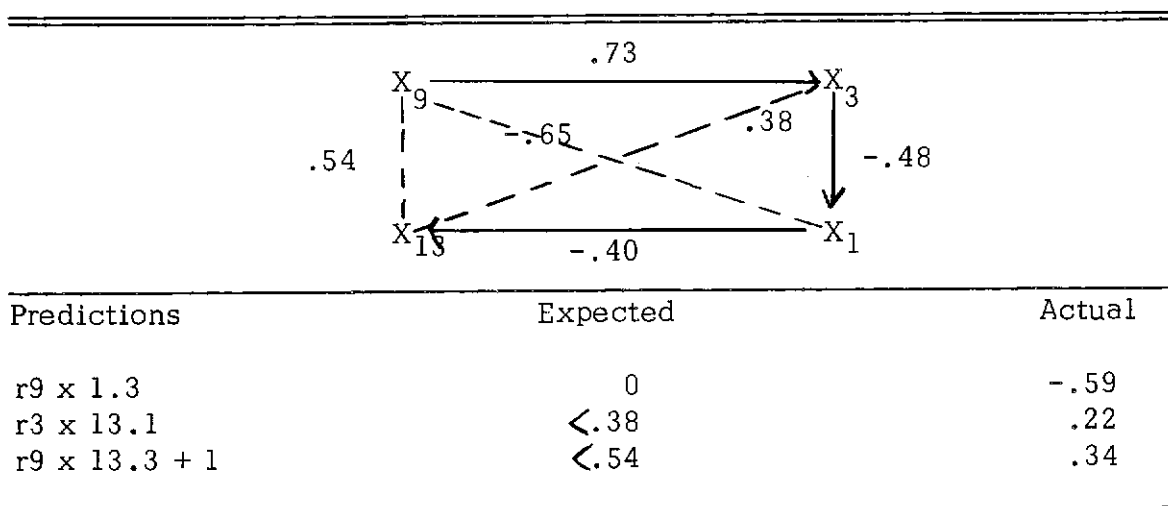
directly. Thus, while the measures used were based on the theoretical foundations of the concept of community stability, they do not reflect community properties.

Vested Interests

Vested interests refer to those personal interests that may either be served or damaged by the construction of reservoirs.

H₈ The more people expect to have their interests served by the flood control project, the more favorable attitudes toward the project they will have and, as a consequence, the less apprehensive they will be over moving and will accept greater separation from their present community.

Figure 24-a.--Vested Interests (X₉), Attitudes Toward Projects (X₃), Apprehension of Leaving (X₁), and Separation of Contact (X₁₃)



Examination of the coefficients in figure 24 reveals general support for the model. There is a strong relationship indicating that those persons expecting to benefit from the reservoir projects have more favorable attitudes toward the project. These favorable attitudes in turn appear to reduce people's apprehension over leaving and consequently enable them to accept separation from their current friendships. These latter relationships are all moderate in strength. Examination of the predictions made for the partialling equations suggests that although a path exists conforming to the hypothesis, that the measures involved in this test do not completely explain the influence of vested interests. It also must be noted that vested interests retained an apparent direct relationship with apprehension of leaving when the effects of attitudes toward projects were partialled out. The data suggest that both direct and indirect contributions are made to people's apprehension of leaving by vested interests.

The coefficients presented in figure 25, when apprehension of new communities is substituted are apparently both direct and indirect. The revised model for these findings is identical to that presented in figure 24-b.

Figure 24-b.--Reconstructed Alternative to the Model in Figure 24-a:
Vested Interests (X_9), Attitudes Toward Projects (X_3), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})

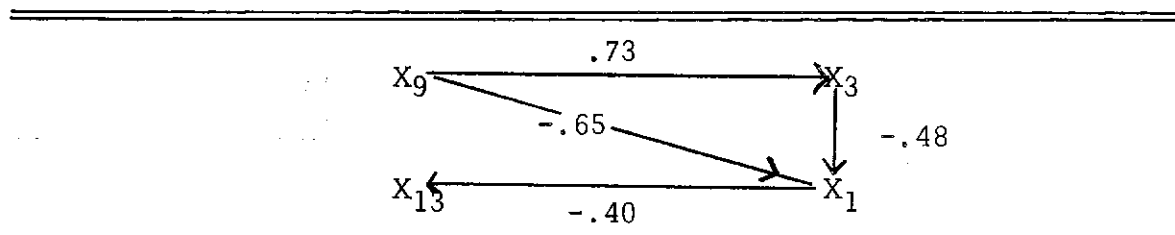
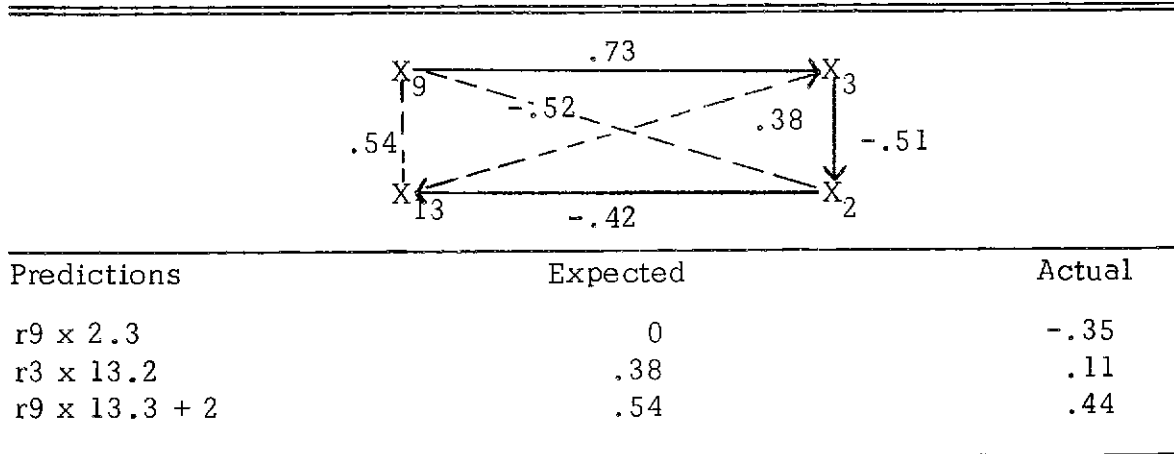
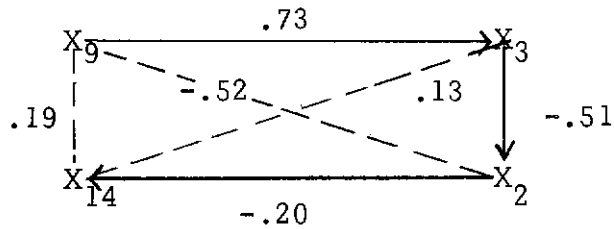


Figure 25.--Vested Interests (X_9), Attitudes Toward Projects (X_3),
Apprehension of New Communities (X_2) and
Separation of Contact (X_{13})



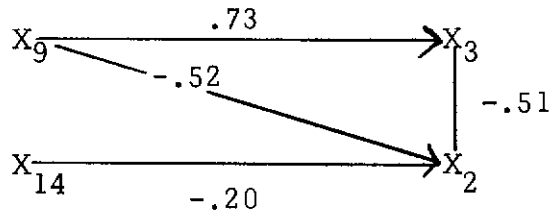
The introduction of people's anticipated changes in their type of residence presented in figure 26, continues to support the patterns found in earlier tests. The sequential pattern hypothesized is generally supported. Strong relations support the predictions that people expecting to have their interests served by the projects will have more favorable attitudes toward the projects and that those with favorable attitudes will experience less apprehension over moving. One might note, however, that vested interests explains the level of apprehension only partially through its influence on attitudes. Part of this relationship appears to present a direct influence from vested interests to apprehension of new communities. The final segment of the path is supported by a slight relationship. A revised model for this secondary test is presented in figure 26-b.

Figure 26-a.--Vested Interests (X_9), Attitudes Toward Projects (X_3),
Apprehension of New Communities (X_2) and Change in
Type of Residence (X_{14})



Predictions	Expected	Actual
$r_{9 \times 2.3}$	0	-.35
$r_{3 \times 14.2}$	<.13	.03
$r_{9 \times 14.3} + 2$	<.19	.09

Figure 26-b.--Vested Interests (X_9), Attitudes Toward Projects (X_3),
Apprehension of New Communities (X_2) and Change in
Type of Residence (X_{14})



The findings with respect to the influence of vested interests are uniform. The hypothesized sequence that people who have their interests served by the project will have more favorable attitudes toward the project and consequently will have less apprehension over moving and will be more willing to accept separation from their friends and/or way of life is

basically supported. The one addition is that vested interests also maintain a direct relationship by the influence of their interests on their attitudes. The strength of the associations in the foregoing tests also indicate that vested interests are an important variable to consider when seeking to explain people's migration plans under such involuntary conditions.

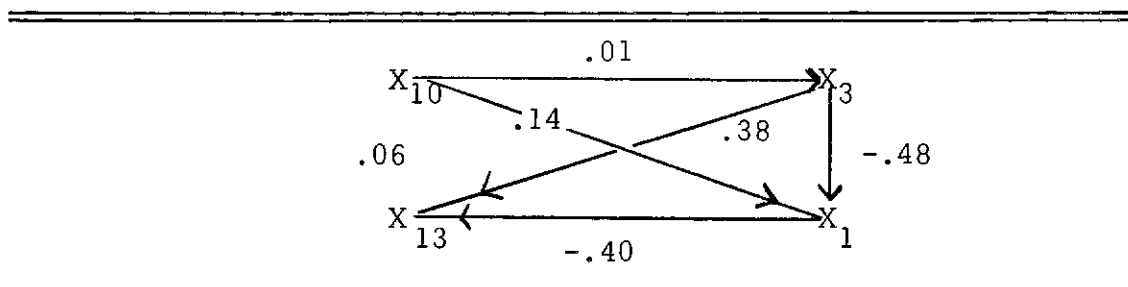
Knowledge

Knowledge, in the context of this study, refers to the levels of information people have about reservoir construction and sale procedures used by the Corps of Engineers. Knowledge was hypothesized as relating to separation through essentially the same variables that vested interests influenced.

H₉ The more knowledge people have about the flood control projects affecting them, the more favorable will be their attitudes toward the projects and, as a consequence, the less apprehensive they will be over moving and will accept more separation from their present community.

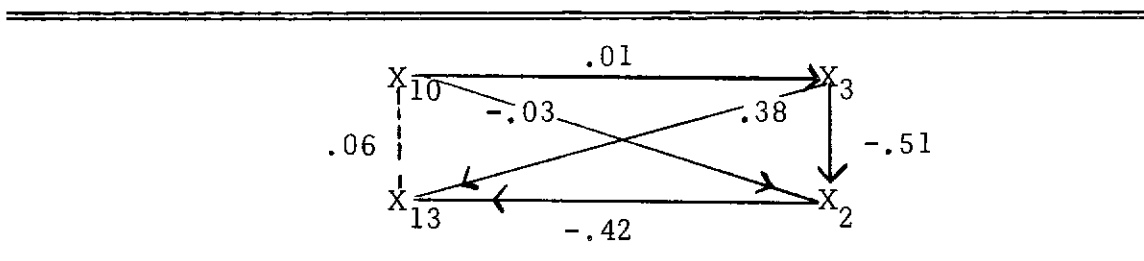
The test of this model in figure 27, using apprehension of leaving and expected separation from present contacts does not indicate that knowledge has either indirect or direct effect on expected separation from present contacts. The paths of the other variables were discussed earlier and need no further elaboration in view of the lack of any contribution made by the variable of knowledge.

Figure 27.--Knowledge (X_{10}), Attitudes Toward Projects (X_3),
Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



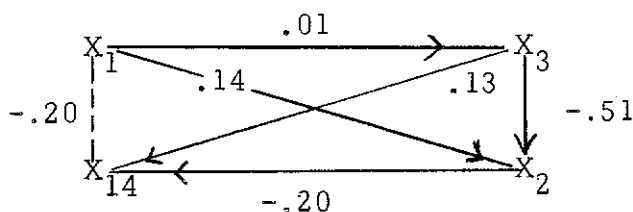
Changing the measure of apprehension to apprehension of new communities does not afford any change from apprehension of leaving. Knowledge remains essentially without effect, suggesting that people's levels of information about the factors surrounding their involuntary migrations do not contribute to their attitudes toward resource development, apprehension or expectations to separate themselves from their current membership groups.

Figure 28.--Knowledge (X_{10}), Attitude Toward Projects (X_3), Appre-
hension of New Communities (X_2) and Separation of Contact (X_{13})



Introduction of the alternative measure of separation, expected change in residence type, yields a difference in that knowledge relates negatively to expected change in residence type, as demonstrated in figure 29. Theoretically, it had been predicted that knowledge of the circumstances forcing migration would produce more favorable attitudes, less apprehension and indirectly more drastic changes in residence, both by type and location. The inverse relation between knowledge and expected change in residence type appears to contradict this theoretic model. This effect of knowledge can, however, be viewed as more realistically as the effect of length of residence. Previous mobility, the presence of geographic mobility during the past decade, relates negatively to knowledge ($\gamma = -.42$) and the relationship between knowledge and expected change in residence type disappears when previous mobility is controlled ($\gamma = .03$). More attention was given previous mobility in an earlier section of this chapter.

Figure 29.--Knowledge (X_{10}), Attitudes Toward Projects (X_3), Apprehension of New Communities (X_2) and Change in Type of Residence (X_{14})



The effect of knowledge upon separation would appear negligible according to this analysis. Information campaigns in other areas have indicated that information alone is not sufficient to produce changes in attitudes.¹ It would appear then, although previous research on watershed development has indicated a correlation between knowledge of the projects and attitudes toward the projects, that when persons are totally affected by being displaced, knowledge ceases to be an important consideration.

It could be that persons who hold extreme pro or con views toward the flood control project would be most likely to seek out information. Thus, their responses would have the effect of statistically cancelling each other.

Socio-economic Status

Socio-economic status was hypothesized to relate indirectly to separation in the manner predicted for vested interests and knowledge.

H₁₀ The higher people's socio-economic status, the more favorable will be their attitudes toward the projects and, as a consequence, the less apprehensive they will be over moving and will accept greater separation from their present community.

¹ See for example, Herbert H. Hyman and Paul B. Sheatsley, "Some Reasons Why Information Campaigns Fail," The Public Opinion Quarterly, XI (August 1947), pp. 413-423.

The discussion of status transfer contains an elaboration of the direct and indirect influences of socio-economic status which is part of the model suggested here. In this discussion it was noted that socio-economic status produced contradictory effects such that directly it facilitated separation and indirectly it retarded separation by producing increased apprehension.

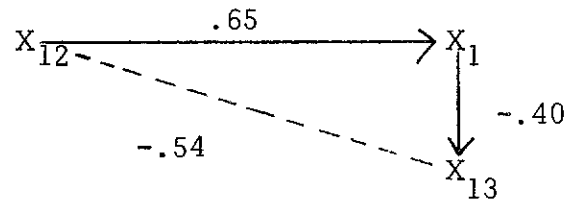
Socio-economic status does not relate to attitudes towards projects with sufficient strength to be considered important ($\gamma = .06$). In view of this lack of substantive support for the hypothesis, one must conclude that socio-economic status does not operate through attitudes to affect separation. The effect of attitudes on separation has reported in the section on vested interest and needs no further elaboration at this point.

Identification with Place

Identification with place was utilized in a somewhat exploratory vein, as no empirical generalizations were available to substantiate the inclusion of such a variable in a model of social migration. Identification with place is an affective attachment to home and region. This attachment was hypothesized as relating to separation and apprehension, with the effect on separation being through the intermediate variable apprehension. The basis for this hypothesis was conceptual, rather than an extension of previous research.

H₁₁ The more people identify with their present place of residence, the more apprehensive they will be over moving and, as a consequence will accept less separation from their present community.

Figure 30.--Identification with Place (X_{12}), Apprehension of Leaving (X_1) and Separation of Contact (X_{13})



$$r_{12 \times 13.1} = -.41$$

When using the measures apprehension of leaving and expected separation from present contacts, the variable identification with place appears to be quite significant and general in support of the hypotheses. Identification with place relates strongly to apprehension of leaving in the predicted direction. That is, the more strongly people identify with their present places of residence the more apprehensive of leaving they will be.

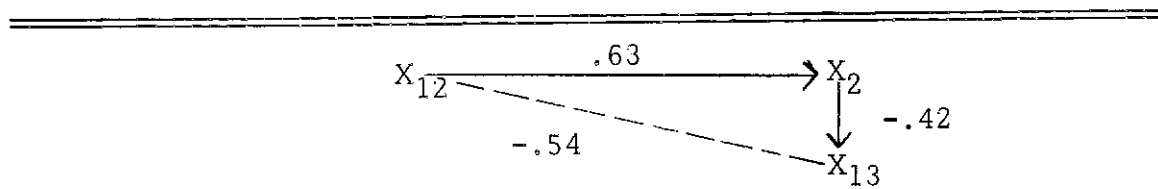
The presence of sequential pattern is supported by the net partial. The relationship between identification with place and separation of contact is reduced by partialling out apprehension of leaving. This reduction indicates the presence of an indirect relationship between identification with place and separation of contact, but also suggests that this path explains only a portion of the influence of identification with place.

The remaining portion may be explained by other paths.

Utilizing the measure apprehension of new communities yields results that basically parallel the above findings. Both the zero-order coefficients and the net partial in figure 31 provide support for H_{11} with approximately the same strength.

When the dependent measure is changed to examine expected change in residence type, the variable identification with place continues to yield strong coefficients. The nature of the relationships is largely the same as with expected separation from present contacts with one notable exception. Identification with place relates positively to apprehension of new communities and this apprehension relates negatively to expected change in residence type. Both of these relations correspond to the theoretical model. Identification with place also relates to expected change in community type inversely and this relationship does not reduce significantly when the effect of apprehension of new communities is partialled out. This indicates that identification with place contributes both directly and indirectly to expected change in type of residence. Figure 32 contains the model utilizing apprehension of new communities.

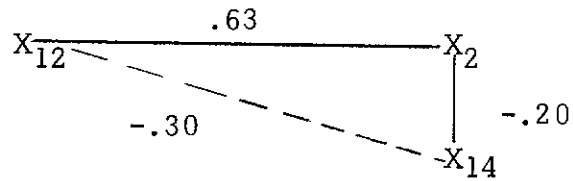
Figure 31.--Identification with Place (X_{12}), Apprehension of New Communities (X_2) and Separation of Contact (X_{13})



$$r_{12 \times 13.2} = -.44$$

Upon examination it is concluded that identification with place is an important variable to consider in the explanation of social migration. Persons who are strongly identified with the present homes and required to move will attempt to retain both their present circle of associations and type of residence. This finding supports the inclusion of identification with place as a variable relevant to the explanation of forced migration. It might also be suggested that this variable could be a relevant factor in explaining people's reluctance to move under totally voluntary conditions.

Figure 32.--Identification with Place (X_{12}), Apprehension of New Communities (X_2) and Expected Change in Residence Type (X_{14})



$$r_{12 \times 14.2} = -.26$$

CHAPTER FIVE

SOME RELEVANT CONTROLS

This chapter examines control variables that were not included in the causal model. Relevant control variables are described by Lazarsfeld as, ". . . those which do have or might have, a relationship with criterion 'y.' In the case of an irrelevant test factor, (ty) would be zero . . ." (y symbolizes the dependent variable in a two variable relationship). Control variables thought to be relevant in the present were included in the interview schedule. Determination of empirical relevance was made by an examination of the zero order coefficients in relation to variables included in the main model. These coefficients are shown in table 3.

The technique employed for purposes of controlling on relevant variables involves the continuing application of the net partial coefficient for gamma.² This technique was selected as representing an improvement over the conditional coefficients produced by sub-group

¹ Paul F. Lazarsfeld, op. cit., p. 119.

² James A. Davis, op. cit., pp. 189-93.

TABLE 3

ZERO ORDER COEFFICIENTS FOR CONTROL VARIABLES

	Lei- sure Orien- tation	Famil- ism	Age	Sex	Group Move	Pro- clivity for Change
Expected General Status Transfer	.02	.01	.11	.02	.15	-.37
Expected Transfer of Structured Rel.	.19	-.11	-.08	.11	-.02	.64
Expected Primary Status Transfer	.15	.04	.07	-.02	-.35	-.36
Vested Interests Served	.23	.07	-.49	.05	-.16	-.35
Identification with Place	-.13	.13	.24	-.14	.29	-.15
Socio-economic Status	.21	.01	.09	.08	-.26	.16
Attitudes Toward Projects	.03	.08	-.30	-.005	-.06	-.56
Apprehension of Leaving	-.08	.12	.23	-.05	.11	.17
Apprehension of New Com- munities	-.10	.02	.10	-.01	.17	.00
Commuting to Work	.34	.36	-.70	*	.14	.02
Previous Resi- dential Mobility	.03	-.02	-.54	.19	.16	-.18
Separation of Contact	.20	-.18	-.24	.03	.65	.13
Change in Type of Residence	.09	-.02	-.01	-.03	-.01	.12

* No relationship available due to selective application of commuting.

analysis. The technique of sub-group analysis has been criticized as producing ambiguous results, requiring overly large samples and being incapable of handling large numbers of variables.¹ The net partial for gamma does permit a relatively unambiguous assessment of the overall effect of control variables and in this way can be represented as an improved technique.

The relationships on which the controls were exercised were those between the exogenous variables (those independent of all the rest) and the intervening variables through which they operate. In those relationships where intervening factors were apparently not operating the appropriate tests were not applied.

Expected General Status Transfer

When testing the models containing expected general status transfer, only a slight relationship was observed ($\gamma = -.16$) between expected general status transfer and change in type of residence. Examination of the zero order coefficients reveals that no empirically relevant controls are present.

¹ For a discussion of this point see Chapter Ten, "The Shortcomings of Tabular Analysis," in Travis Hirshi and Hanan C. Selvin, Delinquency Research: An Appraisal of Analytic Methods (New York: The Free Press, 1967), pp. 162-173.

Expected Transfer of Structured Relationships

In tests for the models involving the expected transfer of structured relationships the exogenous variable was socio-economic status. In order to apply the controls to the initial relationships in the model, the control variables were applied to the relationship between socio-economic status and the expected transfer of structured relationships ($\gamma = .70$).

The test factors considered relevant for this relationship were leisure orientation, the presence of plans for a group move, and proclivity for change. An examination of the net partials reveals that none of these factors made an appreciable difference in the relationship. Leisure orientation and the presence of plans for a group move yielded net partials of .68 and .74, respectively. Proclivity for change was applicable only with the farm population. Treating only this sub-group with this test variable the relationship changed from an initial .21 to .25. This suggests that the relationship between socio-economic status and the expected transfer of structured relationships is valid.

Expected Primary Status Transfer

Expected primary status transfer was found related inversely with people's anticipation of separation from their current friends ($\gamma = -.65$). Sequential controls were exercised on this relationship for leisure orientation, familism, age and the presence of plans for a group move. None of these variables produced substantively important alternatives in the original relationship. The net partials produced were as follows:

leisure orientation ($\gamma = -.66$), familism ($\gamma = -.59$), age ($\gamma = -.66$), and group move ($\gamma = -.71$).

Commuting

In the initial test of the models utilizing the commuting variable, a slight inverse relationship was found between commuting and separation of contact ($\gamma = -.26$). Sequential controls were exercised for leisure orientation, familism, age and the presence of plans for a group move, all of which substantially reduced the level of association. The magnitude of the association for leisure orientation was reduced to a γ of $-.07$. Familism reduced the association to $-.09$ and age to $-.01$. These three factors can be viewed as determinants of commuting behavior, and serve as antecedent variables to establish a sequence of influence. They do not suggest spuriousness for the original relationship. The control for the presence of plans for a group move reduced the association to a $-.04$, and can be described as an intervening factor. Thus, while all of the control variables do affect the original relationship, they do not demonstrate spuriousness. Rather, leisure orientation, familism and age are viewed as factors which operate as determinants of commuting and commuting appears to predispose people to plan on group relocations and maintained social contacts. Relocating in a group would be a technique used to maintain social contacts and would by definition produce this effect.

Commuting also related inversely ($\gamma = -.25$) to people's willingness to change the type of community in which they live. No variables were used as controls in this relationship and the original relationship was accepted.

Previous Residential Mobility

Previous residential mobility related moderately ($\gamma = -.34$) with apprehension of leaving. Two control variables were tested on this relationship. Proclivity for change did not make an appreciable difference, yielding a net partial gamma of $-.41$. Age, however, did reduce the association substantially ($\gamma = -.13$) to the extent that the remaining association would be considered as reduced to substantive insignificance. In this case, it would appear that a sequence is present in which the older people have had more permanent residences and consequently are more apprehensive over leaving them.

A slight relationship also was found between previous mobility and apprehension of new communities ($\gamma = -.27$) in the initial test of the model. The presence of plans for a group move was the only control variable used on this relationship and yielded a very slight increase in the relationship ($\gamma = -.39$). This suggests that plans for a group move alters the influence of people's previous mobility upon their apprehension of new communities as an intervening factor.

Vested Interests

Vested interests were found to be one of the more important determinants of people's attitudes toward flood control projects and consequently their apprehension and willingness to accept social separation. A strong relationship was found between vested interests and attitudes toward projects ($\gamma = .73$). This relationship was maintained under controls for both age and proclivity for change. When age was held constant, the resulting association was a gamma of .69 which did not differ significantly from the .73 found in the original test. The control for proclivity for change was applicable only to farmers. The zero order gamma for vested interests and attitudes toward projects among farmers was .83 and under constant conditions of proclivity for change the relationship was .84. The lack of differences upon the application of these controls suggests that the original relationship is accurate and may be interpreted as a causal relationship.

Socio-economic Status

Socio-economic status was introduced at a variety of points in testing the various submodels. Its relevance in the case of the expected transfer of structured relationships has already been discussed. In other tests, socio-economic status appeared to produce contradictory results by relating positively to both apprehension of leaving and separation of contact. Increased apprehension of leaving would deter people from separating from their current friends.

Examining the relationship between socio-economic status and apprehension of leaving ($\gamma = .20$), two controls appeared in order. Exercising a control for age produced no significant change in the relationship ($\gamma = .18$). No change occurred when proclivity for change was controlled with the original zero order coefficient for farmers being .55 and the controlled coefficient being .56.

The relationship between socio-economic status and separation of contact ($\gamma = .22$) was found to merit three controls. Familism, age and the presence of plans for a group move were controlled sequentially, yielding gammas of .24, .25 and .15, respectively. None of these are indicative of an appreciable change in the original relationship and permit to conclude that the original relationship is valid.

The contradictory effects of socio-economic status evident in the original tests appear, in view of these controls, to be the correct results. It might again be worth noting that although such findings appear illogical, they are the products of incomplete associations.

Knowledge

In testing the models, knowledge related inversely with change in type of residence ($\gamma = -.20$). This was the only substantive finding with regard to the variable knowledge and none of the control variables could be termed relevant upon examination of the zero order relationships.

Identification with Place

Identification with place provided strong relationships with both measures of apprehension. Using the measure apprehension of leaving, the original relationship ($\gamma = .65$) was not affected by either age or proclivity for change. Controlling for age the resulting coefficient was .65, while the control using proclivity for change yielded a coefficient of .67, which when compared to a zero-order γ of .63, in the farm population, did not produce a significant change.

The original relationship between identification with place and apprehension of new communities ($\gamma = .63$) was not affected by controlling for the presence of plans for a group move. The resulting coefficient of this control was .60. No additional controls were suggested for this relationship.

The result of introducing test factors in the relationships between identification with place and the measures of apprehension was indicative of support for the original relationships. The effect of identification with place on apprehension does appear to be a direct causal effect.

CHAPTER SIX

SUMMARY AND CONCLUSIONS

In reviewing the findings of this research, two considerations should be kept in mind. First, this study was conducted prior to the actual moving and therefore is an assessment of pre-migration responses. Secondly, the involuntary character of the impending migration permitted a novel pre-migration study. This type of forced migration has been labeled "free compelled migration," being free in the sense of allowing each migrant selection of destination and compelled in that the areas to be flooded will no longer be habitable.

It was found that apprehension over moving relates inversely with people's willingness to separate themselves from their current friends and homes. This finding was basic to the general model and supported the contention that migration (or the anticipation of migration) is likely to provoke stress. This stress can be managed in part by planning a move that will minimize change. In planning such a move, people are using migration as an adjustive process, not simply moving and thereupon beginning an

adjustment process. Thus, under conditions of involuntary movement, people plan their moves and begin the adjustment process with the initial plans to move.

A second basic consideration for the model was the prediction that people's attitudes toward the flood control project would influence their levels of apprehension and by so doing would influence their willingness to leave current membership systems. This prediction was supported by the analysis. People with more favorable attitudes toward the projects were less apprehensive over moving and as a consequence were more willing to engage in moves that require greater degrees of separation from their current friends and types of residence.

One of the main independent variables, types of status transfer, was predicted to vary inversely with apprehension. The findings showed little support for this prediction. Only the expected transfer of structured relationships related to apprehension and then only slightly with the measure of apprehension of new communities. The status transfer variables did, however, relate to the measure of separation. The extent of transfer of primary relationships was strongly related, in a negative direction, with people's willingness to separation from their current friends. All three status transfer variables related inversely with people's willingness to change the type of community in which they lived. In short, the uniformity seems to suggest that those people having the greatest potential for transferring status to their next communities are those whose moves

will involve the least change in the character of their communities .

Differences in community stability could not be found between the two sample areas . Two measures of individual geographical stability were substituted and analyzed separately . These were whether or not people commuted to work and whether or not people had a recent history of residential mobility . The presence of commuting did not relate to apprehension, but commuters did appear less willing to separate themselves from either their friendship groups or type of community than non-commuters . People with a history of mobility, on the other hand, did appear to be less apprehensive over moving in general and more willing to separate from both friendship groups and their current community types .

The constellation of variables theoretically expected to affect attitudes and indirectly affect social migration yielded varying results . Vested interests proved to be an exceptionally powerful variable in support of the theory . Vested interests was found to relate to apprehension indirectly as the theory predicted, supporting the idea that those with interests enhanced by the reservoir project expect to engage in moves requiring the greatest amounts of social separation .

Knowledge had a negligible effect on people's attitudes toward the reservoir project and did not contribute to the explanation of social migration . Thus, under the involuntary conditions of a free compelled migration, knowledge of the project and its purposes does little to meliorate people's attitudes or to facilitate ease of moving . However,

there is some evidence to suggest that persons with strong pro or con feelings were cancelled statistically.

Socio-economic status also failed to relate to people's attitudes toward the reservoir project. However, socio-economic status did provide a contribution in explaining social migration. Separation was found to be directly facilitated by socio-economic status. However, persons of higher social status were more apprehensive of moving. The indirect influence of socio-economic status might be a product of the better integration of more affluent persons in their present membership systems.

The exploration of identification with place also provided strong support for the model. People do appear to identify with their homes with varying degrees of intensity. The responses to the scale items for "identification with place" were so varied that some respondents were moved to tears during the interview, while others broke out in laughter at the thought of being attached to their homes. The level of identification with place provided to relate consistently and strongly with apprehension and consequently produced indirect effects on social separation. Uniformly, the more intense the identification with place, the less inclined people were to engage in social separation.

Conclusions

At its present stage of development, sociology is primarily concerned with locating variables which are important for purposes of explanation.¹ In order to assess the importance of the variables, the relative size of the correlations is sometimes a criteria. In this study, the two variables vested interests and identification with place appear to provide considerable strength.

The submodels tested involving vested interests yielded strong and consistent results. People who have their interests benefited by the construction of such projects have more favorable attitudes toward the projects and consequently are less apprehensive over moving and more willing to accept social separation. It is also worth noting that although this variable was derived inductively from previous empirical generalizations, it is basically compatible with coercion (or conflict) theory as represented by Dahrendorf.²

Identification with place was introduced as an exploratory variable and proved to be of great explanatory significance. People who identify strongly with their present residences tend to be very apprehensive over moving and when required to move will seek to minimize the social separation involved.

¹ Hubert M. Blalock, op. cit., p. 50.

² Ralf Dahrendorf, Class and Class Conflict in Industrial Society (California: Stanford University Press, 1959).

Other variables contribute to the explanation of social separation, but with less strength than vested interests or identification with place. The expected status transfer variables uniformly appear to retard people's separation from their present type of community. People commuting to work are less inclined to accept social separation, and persons with a recent history of mobility are more likely to accept social separation. These findings are important, although weaker than those involving vested interests and identification with place.

It should be pointed out at this point that the accuracy of measurement cannot be assumed equal for all variables in this model and that observations of the relative strength of the variables must be tentative.

Implications for Further Research

This research was designed to test a deductive causal model. The logical form expressing the greater the A, the greater the B and the greater the B, the greater the C, is a deduction that the greater the A, the greater the C, and causal model $A \rightarrow B \rightarrow C$. Upon testing, one finds that the model would be accurate if perfect correlations existed between A and B, and B and C. Since perfect correlations are not usually present, the logic need not provide a uniformly accurate prediction. That is, A could be causally related to both C and its opposite. This point of logic suggests that a cautious approach in the application of deductive models in the social sciences is in order. Likewise, deductions based on

founded empirical generalizations may yield false conclusions about the effects of variables and should not be used prior to empirical testing.

The measurement of all three types of status transfer presents difficulty in a pre-migration setting. In this survey, the measures involved determining the expected degrees of transfer. More general indices are needed for these variables that provide measures of people's potential for transferring all three types of status. These could possibly be achieved using a projective technique assessing people's status transfer potential under given conditions.

As is generally the case with measures at an ordinal level, the analysis is confronted with limitations. Ideally, one would develop measures of an interval level and apply parametric tests. This limitation is of particular relevance to a study containing as many variables as did this one. With interval measures one would not be limited to the analysis of submodels and small numbers of variables.

As was suggested earlier, the accuracy of measurement is a contaminating factor when attempting to designate the relative importance of variables. The measures in this study all fall into a broad category called ordinal measurement. Thus some variables were classified more crudely than others and render the possibility that the size of the associations are in part a product of the imprecision of some of the measures.

This study is confronted with limitation in measurement and subsequently in analysis. Like all studies in the social sciences, it is

also in need of replication. In further investigations the limitations suggested can be more clearly defined and the confidence in the results increased.

Implications for Policy

The findings of this study include implications which could be taken into account by organizations required to move people for public projects.

Increased knowledge tends to reduce resistance has been the dictum accepted by most promoters of public projects. Once the public knows that a government agency is promoting the general good the resistance of the individuals affected is expected to crumble. Findings from the present study do not support this expectation. Rather knowledge has no effect on increasing willingness to move. Persons that are well informed about a project probably represent an equal division of pro and con opinions.

Rather than spending funds on large information programs the Corps of Engineers might develop vehicles for the orderly relocation of people. Much of the hostility presently directed to the Corp might be if such resettlement procedures were made available.

The importance of people's identifying with their residences is difficult to meliorate by direct means. There are, however, possibilities that merit exploration. Identification with place is not spontaneously created, but rather the product of a number of factors. In selecting areas

for public projects, attention could be paid to correlates of identification with place. Two factors evidenced by this survey are age and previous mobility. By selecting those areas with the highest rates of mobility and the "youngest" age structures, one could expect to minimize the extent to which the populations would be strongly attached to the area. In minimizing the attachment adjustment problems would also be minimized.

In any large public works development certain persons will gain, i.e., the vested interests of some people will be served. The Corps of Engineers could develop procedures to ensure that all lands and buildings were appraised fairly and that equal settlement was made. Too often, those persons who have knowledge of legal and demolition procedures are the ones who will have their vested interests best served.

APPENDIX I

RESERVOIR AREA PREMIGRATION STUDY

Respondent # _____

Type Home: ____ Farm ____ Non-farm

We are conducting a survey of people who would be effected by the construction of a reservoir in this area. The purpose of the study is to find out more about the people who will be most directly affected by having to move. We will be asking you questions about your attitudes and plans related to the reservoir and moving. The interview is quite short and should take only a few minutes of your time.

All the information will be strictly confidential and in no case will your name be identified with your answers. The only identification of your answers will be a number and all reports will be strictly of a statistical nature.

What, in general, do you think the response of the people in this area has been to the prospect of having a reservoir constructed here? _____

Has there been any formation of plans in the community to cope with the problems of moving or any other problems that might be brought about by having to move homes? _____

Before we get into the main questions of the interview, I would like to know a little about you and your background.

FOR MEN ONLY

1. What is your main present occupation? _____

2. a) Do you hold any part-time jobs? ____Yes ____No

b) If yes, what kind? _____

3. Are you self employed? Yes No
4. Do you travel any distance to your work? Yes No
5. a) Do you have any sources of income other than your work?
 Yes No
- b) If yes, what are they? _____
6. Does your wife work outside of the home? Yes No
7. Do you hold any political offices in the community? Yes
 No
8. Have you held any political offices in the past? Yes No
9. Do you own your present home? Yes No

FOR WOMEN ONLY

10. a) Do you work outside the home? Yes No
- b) If yes, what type of work do you do? _____
11. a) Are you trained for any job that you aren't using now?
 Yes No
- b) If yes, what is the nature of that training? _____
12. Do you own your present home? Yes No
13. a) Do you hold any political offices in the community?
 Yes No
- b) Have you held any political offices in the past? Yes
 No

ASK ALL RESPONDENTS

14. What is your age; as of your last birthday? _____
(NOTE: If the respondent is reluctant to give his age, ask him to just indicate the range in which he would fall. E.g., 45 to 50, etc.)
15. What is the construction of the house?
 Brick, Stucco, Painted Frame Unpainted Frame

16. a) How many people are living in this household? _____
b) How many rooms do you have? _____
17. What are the facilities for lighting in the house?
____Electric ____Gas Mantle or Pressure ____Oil or other means
18. Is water piped into the house? ____Yes ____No
19. Do you have an electric washing machine? ____Yes ____No
20. What kind of a refrigerator do you have?
____Mechanical ____Ice ____Other or none
21. Do you have any radios? ____Yes ____No
22. Do you have a telephone? ____Yes ____No
23. Do you have an automobile? ____Yes ____No
If yes, what year is it? _____
24. Do you receive a daily newspaper? ____Yes ____No
25. How many years have you gone to school? _____
26. How many years has your (husband, wife) gone to school? _____
27. Do you attend church regularly? ____Yes ____No
28. Would you say you attend more than 1/4 of the meetings?
____Yes ____No
29. Does your (husband, wife) attend church regularly?
____Yes ____No

Next, I would like to list the various communities in which you yourself have lived starting with this community and going back for ten years. (Include periods away working or looking for work. Consider each period of Armed Services assignment as one unit.) (Enter data in table.)

Now, when did you most recently move to this community?

Location			Period		Number of houses lived in during periods?	Why did you move to this community?	was this a 1 large city 2 med. city 3 small town 4 farm?
City, town, or P.O.	County	State	<u>From</u> Mo. Yr.	<u>To</u> Mo. Yr.			
a	b	c	d	e	f	g	h
30.							
31.							
32.							
33.							
34.							
35.							
36.							
37.							
38.							
39.							

In this section I will read a very short statement about a situation and then ask you some questions about how you would have felt in the same situation.

A national park was built that required the removal of several small farms and a few businesses such as garages and groceries. Because land was not available near the park, many people had to move away from the community to find jobs or to buy new farm land.

The following statements were made by people about to move, indicating how they felt at the time. We would like you to indicate, by telling us, whether you think you would feel the same in the same situation.

	Certainly	Probably	Don't	Probably	Certainly
	_____	_____	Know	Not	Not
	_____	_____	_____	_____	_____
40. Just getting a chance in life will be a rewarding experience.	_____	_____	_____	_____	_____
41. It is hard to leave all the businesses one has traded with for a long time.	_____	_____	_____	_____	_____
42. A chance to leave rural life is pleasing.	_____	_____	_____	_____	_____
43. It's hard to leave a place where you have spent most of your life.	_____	_____	_____	_____	_____
44. Leaving a place where everyone knows all about you is a comfortable feeling.	_____	_____	_____	_____	_____

	<u>Certainly</u>	<u>Probably</u>	<u>Don't Know</u>	<u>Probably Not</u>	<u>Certainly Not</u>
45. All the ties one establishes makes it difficult to leave the area.	_____	_____	_____	_____	_____
46. The help one can always get from his neighbors is bound to be hard to leave.	_____	_____	_____	_____	_____
47. The thought of losing contact with old friends is disturbing.	_____	_____	_____	_____	_____

The next statements were made by some of the people after they had just finished moving and were in new communities. Again, we would like you to tell us if you think you would feel the same way.

	<u>Certainly</u>	<u>Probably</u>	<u>Don't Know</u>	<u>Probably Not</u>	<u>Certainly Not</u>
48. Starting a new life in a new community is really a pleasant feeling.	_____	_____	_____	_____	_____
49. Living in a strange neighborhood is pretty nerve wracking.	_____	_____	_____	_____	_____
50. One feels as though he is all alone when he's among strangers.	_____	_____	_____	_____	_____

	<u>Certainly</u>	<u>Probably</u>	<u>Don't Know</u>	<u>Probably Not</u>	<u>Certainly Not</u>
51. Making a whole new set of friends is going to be an enjoyable experience.	_____	_____	_____	_____	_____
52. Having all new people around is quite enjoyable.	_____	_____	_____	_____	_____
53. The way everyone looks you over in a new town gets pretty irritating.	_____	_____	_____	_____	_____
54. Not knowing what to expect from the people who live here makes one a little nervous.	_____	_____	_____	_____	_____
55. It is easier to relax and be yourself when nobody knows who you are.	_____	_____	_____	_____	_____

In this section we are interested in the organizations that you might be a member of. Would you please tell me what organizations you belong to? (Interviewer: After listing organizations, ask the respondent if he is active and if he is an officer, the last column is to be used at the end of the interview.)

Name of Organization	Inactive	Active	Officer	<u>ASK LATER</u> Do you think you will continue this membership after you leave?
56.				
57.				
58.				
59.				
60.				
61.				
62.				
63.				
64.				
65.				
66.				
67.				
68.				
69.				
70.				
71.				
72.				

Now I am going to read a number of statements, and I would like you to indicate to me whether you strongly agree, agree, don't know, disagree or strongly disagree.

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Don't</u> <u>Know</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>
73. Of all the places I have been, I like this area the best.	_____	_____	_____	_____	_____
74. I would just as soon see my children move away from this place.	_____	_____	_____	_____	_____
75. People like me just belong in a place like this.	_____	_____	_____	_____	_____
76. This area is in my blood; it is really a part of me.	_____	_____	_____	_____	_____
77. I don't really feel any strong attachment to this place.	_____	_____	_____	_____	_____
78. Whenever I die, I would like to be buried in this area.	_____	_____	_____	_____	_____
79. I've seen a lot of places that I would really prefer to live rather than staying here.	_____	_____	_____	_____	_____
80. There might be things I would like to have, but this place is mine and I love it.	_____	_____	_____	_____	_____

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Don't</u> <u>Know</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>
81. I think that I could be at home in any number of places away from here.	_____	_____	_____	_____	_____
82. I've seen other places, but this is the only place I could ever call home.	_____	_____	_____	_____	_____
83. I think that one home is as good as another, so it doesn't make any difference where I live.	_____	_____	_____	_____	_____
84. The memories I have of this home are the best memories I have.	_____	_____	_____	_____	_____
85. I really feel that I'm a natural part of this place.	_____	_____	_____	_____	_____

HEALTH

I would like to ask you some questions about your health now. I simply want to know if you have any of the following complaints or troubles frequently, sometimes or not at all.

	<u>Often</u>	<u>Sometimes</u>	<u>Never</u>
86. Are you ever troubled by your hands or feet sweating so that they feel damp or clammy?	_____	_____	_____
87. Have you felt as though you were going to have a nervous breakdown?	_____	_____	_____

	<u>Often</u>	<u>Sometimes</u>	<u>Never</u>
88. Have you been bothered by your heart beating hard?	_____	_____	_____
89. Do you tend to feel tired in the mornings?	_____	_____	_____
90. Do you have trouble getting to sleep at night or staying asleep?	_____	_____	_____
91. How often are you bothered by an upset stomach?	_____	_____	_____
92. Do you ever have a loss of appetite?	_____	_____	_____
93. Are you ever bothered by weak spells?	_____	_____	_____
94. Do you ever have spells of dizziness?	_____	_____	_____
95. Are you ever bothered by nervousness?	_____	_____	_____
96. Do you smoke much?	_____ A lot		
	_____ Some (Less than a pack/day)		
	_____ None		
97. Are you troubled by any particular health problems at the present? What are they?	_____ Many		
<u>LIST:</u> _____	_____ Some		
_____	_____ None		

The following statements are about some of the effects of having a dam built that would flood this area. We would like you to indicate whether you think that these are good or bad for you personally. (Some of the questions may not be relevant to the respondent, if so just check the NA category.)

	<u>Good</u>	<u>Bad</u>	<u>NA</u>
98. The project will end periodic losses due to floods.	_____	_____	_____
99. In general, how will selling your property affect you?	_____	_____	_____
100. Water recreation facilities will be available in the area.	_____	_____	_____
101. Land not taken for the reservoir will probably become more valuable.	_____	_____	_____
102. Churches are going to be removed when the reservoir is built.	_____	_____	_____
103. Schools will be changed by the reservoir (i.e., redistricted, etc.).	_____	_____	_____
104. Reservoirs may break up families such as contact with cousins, etc.	_____	_____	_____
105. Do you feel that at your age it is either good to move or difficult to move? (Score difficult as being bad.)	_____	_____	_____
106. <u>Over all</u> , how do you feel about the prospect of moving from this area, having your home flooded and being able to sell your land?	_____	_____	_____
107. Are there any things that I haven't mentioned that make you feel bad about having the reservoir constructed in this area? Y N (If Yes) What are they?			

108. Are there any things about having the reservoir constructed here that make you feel good personally that haven't been mentioned?
Y N (If Yes) What are they?
-

KNOWLEDGE

109. Can you tell me where the proposed dam would be built? Y N
Where? (Indicate site described by respondent.)
-
110. What counties have land that would be affected by the reservoir if it is built?
-
111. Is the proposed dam supposed to be used as a source for generating electric power? Y N Don't know
112. Who will be building the dam, the federal government, the state or both together?
-
113. How many acres of land approximately would be flooded for the reservoir? _____ acres
114. Will people who own land that borders the reservoir be able to build private beaches and boat landing facilities? Y N
115. Do you know how much it will cost to build such a reservoir?
\$ _____
116. Will everybody have open access to the reservoir for water live-stock or will other arrangements have to be made?
-
117. Who is responsible for the final decision as to whether or not to build these reservoirs?
-
118. What will happen to the cemeteries that are located in places that will be flooded?
-

119. Does the Army Corps of Engineers provide for moving expenses for everybody affected? _____

120. What is done with the buildings purchased by the Corps of Engineers? _____

121. How would you rank the following five purposes which are connected to the building of reservoirs such as the one planned for this area? (Interviewer: Place the appropriate number by each of the purposes, i.e., 1 for first, etc.)

- _____ Flood Control
- _____ Water Supplies for Area
- _____ Improvement of Water Quality--pollution control
- _____ Fish and Wildlife Development
- _____ General Recreation

ATTITUDES

I am going to read a series of statements to you. I would like you to tell whether you agree or disagree with the statements. If you feel strongly about any of the statements, I would be interested in knowing that as well.

	<u>Strongly</u> <u>Agree</u>	Agree _____	Uncer- <u>tain</u>	Dis- <u>agree</u>	Strongly <u>Disagree</u>
122. More dams are being built today than are necessary for flood control.	_____	_____	_____	_____	_____
123. Money spent on building reservoirs exceeds the benefits that we get from them.	_____	_____	_____	_____	_____
124. Local people should have more to say about flood control in their areas.	_____	_____	_____	_____	_____

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Uncer- tain</u>	<u>Dis- agree</u>	<u>Strongly Disagree</u>
125. Reservoir construction often floods land that is worth more than the land it protects.	_____	_____	_____	_____	_____
126. Reservoir construction nearly always improves the areas in which they are built.	_____	_____	_____	_____	_____
127. Reservoirs should only be constructed where they won't take peoples homes or good farm land.	_____	_____	_____	_____	_____
128. Flood control projects always help more people than they hurt.	_____	_____	_____	_____	_____
129. Fish and wildlife development alone provide good reasons for reservoir construction.	_____	_____	_____	_____	_____
130. Since floods only occur once in a while, it is foolish to give up good farm land for reservoir construction.	_____	_____	_____	_____	_____
131. Reservoir construction is a good investment for reducing flood losses in the long run.	_____	_____	_____	_____	_____

132. Where would you plan to live when you leave this home?

FOR THOSE WHO SPECIFY A LOCATION

133. About how far is that from here? _____ miles

134. (If not self evident) Is that a ___Farm ___Small town ___City
(Check the appropriate one)

135. Have you looked this place over yet? ___Yes ___No

136. Have you decided where you would look for work? ___Yes ___No

137. Have you discussed this possible move with your family?
___Yes ___No

138. How long have you been thinking of moving there? _____

139. What arrangements would you plan for making the move (i.e.,
move self or use commercial movers)?

140. Have you decided what you will do with your possessions such as
furniture? _____

141. a) Do you have any relatives living there? ___Yes ___No

b) If Yes, how many? _____

142. a) Do you have any friends living there? ___Yes ___No

b) If yes, how many? _____

143. Do you expect to have much contact with your friends from here
after you move? ___Yes ___No

144. Are you planning on relocating in a group (i.e., with several
friends or relatives)? ___Yes ___No

FOR THOSE WHO DO NOT SPECIFY LOCATIONS

145. Even though you haven't any solid plans for moving, which of the following types of places do you think you would be most likely to move to?
____ A large city ____ A small town ____ A farm Other _____
146. If you were going to move soon, how far do you think you might move, i.e., out of the county, state, region? _____
147. Do you think it would be important for you to have friends or relatives already living wherever you were to move?
____ Yes ____ No
148. Do you think that you would try to move with a group of friends to a new community? ____ Yes ____ No
149. Do you feel it is important to keep near your present neighbors?
____ Yes ____ No
150. What do you think would be your most important considerations in choosing a new place to live? _____

FOR MALES ONLY

151. What type of an occupation do you expect to have after you leave here?

152. Do you expect to hold more than one job in the future?
____ Yes ____ No
153. Would you expect your wife to work in the future?
____ Yes ____ No
154. Do you think you might become politically involved in the next community you live in? ____ Yes ____ No
155. Do you plan on buying a new home or building after you leave this home? ____ Yes ____ No

FOR FEMALES ONLY

156. Do you plan to work outside the home after you leave here?

 Yes No

157. Do you plan to buy, build or rent your next home? _____

158. Are you planning on ever becoming involved in politics in the

future? Yes No

Return to the section on Organizations and ask ALL respondents if they expect to continue being a member of each of the organizations when they move from their present homes. Then complete the last sections of the schedule.

The following are a series of statements that have been made by people in this part of the country. We would like to know whether you agree or disagree with them.

	<u>Agree</u>	<u>Don't Know</u>	<u>Disagree</u>
159. My leisure activities are just as important to me as work activities.	_____	_____	_____
160. I would like to spend less time working in order to have more free time for other things.	_____	_____	_____
161. Most of the satisfaction I get out of life is from working.	_____	_____	_____
162. Unless I have worked first, I don't feel right about my leisure.	_____	_____	_____
163. I generally feel guilty when I enjoy leisure for more than a short time.	_____	_____	_____
164. The chief reason for work is to have money for leisure activities.	_____	_____	_____
165. Most people spend too much time enjoying themselves today.	_____	_____	_____

I am going to read four statements to you. I would like you to simply tell me whether you agree with each of them. (Check those agreed to.)

- 166. Generally, I like the whole family (husband, wife and children) to spend evenings together.
- 167. I want a house where family members can spend time together.
- 168. I want a location which would make it easy for relatives to get together.
- 169. I want a house with enough room for our parents to feel free to move in.

Continue only if the respondent is a farmer. If he is not a farmer, this concludes the interview. Be sure to thank the respondent for his cooperation.

FARM PRACTICES

170. What type of a farming operation do you have (i.e., tobacco, dairy, etc.)?

171. Have you engaged in any other types of farming operations during the past ten years? Yes No

If yes, what types? _____

Ask only those items that apply to the type of farming indicated in the answers to the above questions. Ask the respondent whether he has ever adopted each of the appropriate practices. If he has, ask him the year he adopted the practice. If he has not adopted the practice, ask him whether there is any particular reason for not having adopted the practice.

Practice	Year of Adoption	Reason for Non-adoption
<u>FOR SHEEP</u>		
172. Use of creep feeders		
173. Use of registered rams		
174. Flushing of Yews (extra feed before turning Rams in)		
175. Minimum sale weight of 95 lbs.		
<u>FOR TOBACCO</u>		
176. Chemical or gas bed preparation		
177. Fall bed preparation		
178. Rotate beds every three years		
179. Control for suckers with chemical spray, i.e., MH-30		

Practice	Year of Adoption	Reason for Non-adoption
<u>FOR BEEF CATTLE</u>		
180. Use of Bulls according to performance records		
181. Use short breeding season 60-90 days		
182. Vaccinate calves for black leg		
183. Dehorn and castrate before 4 months		
184. Cull non-breeders from herd		
185. Feed as much silage as possible		
<u>FOR SWINE</u>		
186. Inoculate with iron solution in first or second day		
187. Wean at 4 or 5 weeks		
188. Breed gilts at third estrus or about eight months		
189. Replace breeding bilt by measuring for backfat to determine worth		
190. Castration at two weeks		
191. Identify with ear notching for litter and pit number		
192. Regular spray for lice and mange		

Practice	Year of Adoption	Reason for Non-adoption
<u>FOR DAIRY</u>		
193. Use of forage analysis (submitting samples of forages for chemical analysis of feeding value)		
194. Participation in production testing programs (to determine the yield of cows)		
195. Have you been cutting hay at earlier times in terms of maturity recently?		
196. Use of artificial insemination		
197. Do you prepare the cows for milking by washing the udders and such?		
<u>FOR FORAGES</u>		
A) CORN		
198. Seeding corn early		
199. Use of fertilizer		
200. Harvesting corn late-- after full maturity		
201. Use of no tillage corn (corn seeded in sod)		
B) GRASS AND ALFALFA		
202. Elimination of bush clover		
203. Use of white ardrid clover		

Practice	Year of Adoption	Reason for Non-adoption
204. Introduction of legumes for grassland renovation		
205. Spray for weevil control		
206. Use of top dress fertilizer		

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The author was born in Lakota, North Dakota on July 3, 1941. He was educated in the public primary and secondary schools in Grand Forks, North Dakota, and was graduated from high school in 1959. He attended the University of North Dakota and St. Olaf College in Northfield, Minnesota, receiving a Bachelor of Arts in Sociology from the University of North Dakota with a minor in Psychology in 1964. In 1966 he was awarded a Master of Arts in Sociology with a philosophy minor, again from the University of North Dakota. During the year of 1966 he was married to the former Karen Larson of Minot, North Dakota and migrated to Lexington, Kentucky. The following three years were spent in residence at the University of Kentucky in Lexington in pursuit of a Doctor of Philosophy in Sociology with an Anthropology minor.

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