

INTRA-URBAN MIGRATION
IN THE KANSAS CITY METROPOLITAN AREA

by

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Chapter 1

INTRODUCTION TO STUDY

People often experience conditions which lessen the desirability of their current residence causing them to make adjustments and seek a new residential site. This type of spatial mobility involving a change in residence can be defined as migration. The purpose of this research is to investigate the forces explaining intra-urban migration in the Kansas City metropolitan area. The importance of migration in affecting the growth and decline of populations and in modifying the demographic characteristics of the areas of origin and destination has long been recognized.

The migration process involves households or individuals making decisions about moving their residences to other locations. A single individual moving from one apartment to another, a married couple expecting a child moving from an apartment to a house, parents - now without children - moving to a smaller home, all can be thought of as part of the intra-urban migration process. There are numerous circumstances surrounding individuals' moves whereby a household adjusts its location in order to fulfill its changing needs and desires.

There are basically two types of approaches used to explain intra-urban migration: cognitive approaches based on behavioral constructs and economic based approaches. Although discussions of the movement process may integrate these approaches, as this study attempts to do, most empirical studies can be categorized into one or the other of these groups.

The decision to migrate from one place to another is not only a decision to change a specific residential environment (house, yard, neighborhood) but is a decision to relocate the "home base" for the households' activity space, that set of places with which the household interacts on a

regular basis for work, shopping recreational, social, or educational purposes.¹ The decision, therefore, represents a change in both the specific site of the household as well as its relative location.

The decision to move is often a very ordinary, as well as expected, part of life. At key points in the life cycle, decisions to move are very common. An individual often leaves home upon graduation from high school or college to form a new single-person household or marries and forms a new two-person household. As a family expands, housing needs often change, again resulting in a decision to move. Young couples typically move from an apartment to a house when they have children, and even to larger homes if their family continues to expand. When children grow up, older couples may move to smaller homes as a result of their changing housing needs. Separations and divorces or other changes in family situations similarly lead to one or more moves.

The procurement of an initial job upon college or high school graduation, lay-offs, transfers and even promotions can be directly related to residential movement. Finally, retirement removes one big element of activity space - the place of work - from a person and provides additional leisure time, often stimulating thoughts of migration.

Still other decisions to move are related to perceived neighborhood conditions. Threats to property values, to neighborhood safety, or to school quality have put some families in a position or feeling little choice but to move. Thus, it can be seen empirically that economic forces as well as cognitive forces influence the decision to move.

Many trends and patterns of urban population movement have been identified in the past, but the propensity to migrate has continually increased since the 1930's.² In the United States, between the years 1965 and 1970, forty-two percent of all American households relocated.³ Consequently, the importance of migration, when assessed in terms of the large

¹Curtis Roseman, "Changing Migration Patterns Within the U.S.," Resource Papers for College Geography, A.A.G., Washington (1977).

²James P. Allen, "Changes In The American Propensity to Migrate," Annals A.A.G., Vol. 67 (1977), p. 587.

³Frank Barrett, "The Search Process in Residential Relocation," Environment and Behavior, Vol. 8 (1976), p. 169.

numbers of people that move, its social and economic impact on origins and destinations, and on the nation as a whole cannot be over-emphasized.

Through the years, geographers have studied migration between urban areas,⁴ but little has been done with regard to the residential changes that occur within the confines of greater Kansas City. Intra-urban moves are a significant percentage of the total moves recorded for urban areas. In greater Kansas City, for the year 1970, fifty-one percent of the residents occupied a different household site than they did in 1965.⁵ Fifty-eight percent of these household relocations⁶ occurred within the Kansas City metropolitan area enabling them to be classified as intra-urban migration. The rate of intra-urban migration is likely to rise in the future as population growth, modernization and improvements in the areas of communication and transportation continue to take place. Migration influences the social and economical order of a place, and it is for this reason that social scientists, geographers included, are conducting more research on the topic of intra-urban migration. The largest increase in intra-urban migration research has occurred over the past decade, but as W.A.V. Clark pointed out in 1969: "The interrelationship of residential mobility and urban structure has remained elusive and unspecified."⁷ Despite the work to date, Clark's statement still rings true.

Review of Literature

Of all the components of population change, intra-urban migration is one of the most difficult to classify and examine. Past studies reveal dichotomous approaches for identifying the processes, causes and effects of

⁴For Example, see Ronald Boyce, "Mobility and Its Implication for Urban Change," Proceeding of A.A.G., Vol. 1 (1969), p. 22-26; and Gordon DeJong, "Residential Preferences and Migration," Demography, Vol. 14 (1977), p. 169-178, and Stephan E. White, "Action Space, Human Needs and Interurban Migration," Professional Geographer, Vol. 29 (1977), p. 47-52; and Julian Wolpert, "Distance and Directional Bias in Interurban Migration Streams," Annals A.A.G.; Vol. 57 (1967), p. 605-616.

⁵Calculated from: U.S. Department of Commerce, 1970 Census of Population and Housing, U.S. Government Printing Offices, Washington, D. C. (1972).

⁶Ibid.

⁷W.A.V. Clark, "Information Flows and Intra-Urban Migration: An Empirical Analysis," Proceedings A.A.G., Vol. 1 (1969), p. 38-42.

intra-urban migration. As mentioned earlier, one research path taken suggests economic determinism,⁸ while the other courses of inquiry focuses upon the behavioral or psychological components of intra-urban migration.

Economic Approaches. The first group of studies places an emphasis on the economic elements of migration origins and destinations. Borrowing from Lee,⁹ factors entering into the relocation process are:

1. Factors associated with the origin.
2. Factors associated with the destination.
3. Intervening obstacles.
4. Personal factors.

Migration origins and destinations have "push" (negative) factors and "pull" (positive) factors. These elements draw migrants to some areas while repelling them from others. These "push-pull" factors need not be only economic in nature, they may also be cognitive, but following the economic argument, Clark¹⁰ concluded that intra-urban migration is a function of the economic structure of the city manifested in "push" and "pull" variables. In his study "Migration in Milwaukee," Clark evaluates the impact of economic components of the urban structure or intra-urban mobility. He maintains that economists such as Greenwood¹¹ and Herrick¹² have developed reasonable predictive models of migration based on wage rates and job opportunities. He argues that both income and housing costs are direct constraints upon the residential site a household

⁸Economic determinism is the line of thought which argues that the economic structure of the city is solely responsible for stimulating such activities as migration.

⁹Everet Lee, "A Theory of Migration," Demography, Vol. 3 (1966), p. 45-57.

¹⁰W.A.V. Clark, "Migration in Milwaukee," Economic Geography, Vol. 52 (1976), p. 48-60.

¹¹M. J. Greenwood, "An Analysis of the Determinants of Geographic Labor Mobility in the United States," Review of Economics and Statistics, Vol. 51 (1968), p. 189-204.

¹²B. Herrick, Urban Migration and Economic Development in Chile, Cambridge, Mass., M.I.T. (1965).

chooses. Clark would certainly agree with the statement: "Differences in net economic advantage, chiefly differences in wages, are a main cause of migration,"¹³ as presented by Raimon.

In a corroborating inquiry Boyce also found a direct relationship between economic variables (income, value of home, and rent) and intra-urban migration. He argues that movers reflect the constraint of income, expressed in terms of house value or rent paid rather than social areas or socioeconomic status. Boyce states that more research should be done with respect to economic indicators such as value of housing, income and size of family. Simmons¹⁴ states that the move serves to minimize satisfaction of the households' requirements. Selection of a new home depends upon demand conditions, supply constraints and the search procedure utilized by the household.

Simmons, Boyce, Raimon, and Clark argue strongly in favor of economic determinants of intra-urban migration; they also argue strongly against cognitive determinants. Accordingly, they see behavioral-psychological investigations of residential mobility as only implicitly spatial. Residential relocation is the result of a decision-making process, but it is this decision-making that receives emphasis in the behavioral-psychological approach. They believe that examination of the decision-making process should be kept separate from examination of its spatial expression. According to Clark, concern with mental maps has led research away from the more obvious and important role of basic economics in the choice process.¹⁵ To summarize, the economic viewpoint states that housing needs and costs (market forces) are more important than perceived neighborhood environment in the residential search process.

¹³D. Raimon, Migration, University of Michigan Press, (1962), p. 48.

¹⁴James Simmons, "Changing Residence in the City," Geographic Review, Vol. 58 (1968), p. 622-651.

¹⁵W.A.V. Clark, "Migration in Milwaukee," Economic Geography, Vol. 52 (1976), p. 48-60.

Behavioral Approaches. The second approach (and most recent to Geography) is concerned with the potential migrant's decision to change residence and the methods by which selection is made. Much of this research utilizes the concept of "mental maps," which can be defined as a migrant's mental image of a city which serves as their spatial frame of reference. These maps represent not only what the migrants know about places, but also their evaluation of place attributes (perceptions). Mental maps are formulated by potential migrants through the accumulation of information and experiences within the city. Some of the places they know from direct experience, particularly those close to where they live or work, or those places visited either for business or pleasure. The migrant's knowledge about other parts of their mental map, however, is based upon more tenuous connections: information and impressions gathered from friends and acquaintances, and from the mass media. According to Downs and Stea, this spatial frame of reference is based on:

1. "Whatness" components¹⁶
 - a. Specific attributes of a location.
2. "Whereness" components¹⁷
 - a. Action space - The most general contact area; a space about which people have information or knowledge.
 - b. Activity space - That space where routinized contact occurs: intra-urban work travel patterns, for example.
 - c. Direct contact space - Physical contact is made with a location but not on a regular basis.
 - d. Indirect contact space - Contact is made through a communication network involving: friends, relatives, newspapers, radio, etc.

¹⁶Downs and Stea, Maps in Mind, Harper and Row Publishers, New York (1977).

¹⁷Under the whereness components heading, action space, activity space, direct contact space, and indirect contact space are discussed by Horton and Reynolds in "An Investigation of Action Spaces--A Progress Report," Proceedings A.A.G., Vol. 1, (1969), p. 70-75. Reference to search space can be found in Frank Barrett's article, "The Search Process in Residential Relocation," Environment and Behavior, Vol. 8, (1976), p. 169.

- e. Search space - Contained action space and comprises those locations within the urban area which the migrant household perceives as being likely to satisfy its aspirations with regard to a new residence.

Attributes of a resident's movement field (movement patterns) are especially helpful in defining mental maps. Adams obtained information pertaining to the mental maps of State College, Pennsylvania, residents.¹⁸ He did so in order to show that the distribution of housing opportunities is filtered by the knowledge and preferences of the migrant (the awareness space). He develops this in some detail during his study of intra-urban migration in Minneapolis. Knowledge, at least in the initial stages of search, is related to awareness space, which in turn is linked to the action space, the locations made familiar by regular trip patterns. The mental map provides a vital frame of reference for locational details and spatial relationships. When a change of residence is contemplated, the search for a new home will be confined by the mental map. The supply of housing available to a household depends on the amount of information it is willing and able to collect. Formal information sources are ignored unless they describe housing in known or desirable areas. Whatever their form, images control spatial activities including all kinds of movements, searches and locations.¹⁹

Through various cognitive processes, people learn about the attributes of potential places to live. Wolpert uses the concept of place utility to describe the basis upon which people made migration locational decisions.²⁰ It is the value (or utility) assigned to various places as potential migration destinations.²¹ Through this process an individual weighs the place utility value for alternative places about which information is known, compares to the current residential site and migrates to one of the alternatives if it has sufficiently higher (comparative) place utility or stays if not.

¹⁸John Adams, "Directional Bias in Intra-Urban Migration," Economic Geography, Vol. 45 (1969), p. 304.

¹⁹Ibid.

²⁰Julian Wolpert, "Distance and Directional Bias in Inter-Urban Migration Streams," Annals A.A.G., Vol. 57 (1967) p. 605-616.

²¹Curtis Roseman, "Changing Migration Patterns Within the U.S.," Resource Papers for College Geography, A.A.G., Washington (1977).

In a related study, Lawrence Brown and Longbrake found that aspirations of migrants, formulated from "whatness" components, are very important in determining migration flows. These aspirations are based on "a measure of attractiveness or unattractiveness of an area relative to alternative locations as perceived by the individual decision-maker."²²

Intra-urban migration is viewed as a process whereby a household seeks to adjust its location in order to fulfill its needs and desires.

Most of the literature to date concerning mental maps and intra-urban migration agrees that a household located at a given residential site may experience stress, such as that incurred by a growing family, which forces the decision to migrate.²³ For example, Lawrence Brown and Moore state that passage through the life cycle creates stress on an individual or household.²⁴ The household adjusts by moving to a more satisfactory environment. The process begins with the household being subjected to stress coming from either changes in the family structure or socioeconomic changes. Behavioral adjustments are made changing the household needs which may necessitate a move. Once the decision to eliminate stress by relocation is made, an area is defined within which a new residence may be found. A search is conducted and ultimately a decision is made. However, the search, and ultimate decision, is guided with respect to a new residential site, the migrants' awareness space or information with respect to available vacancies and their quality.²⁵ The "world" inside the migrants' head helps influence both the decision to migrate and the search process.

²²Adams, op. cit., p. 304.

²³Adams, op. cit., p. 302-323. In addition see L. A. Brown and J. Holmes, "Intra-Urban Migrant Lifelines: A Spatial View," Demography, Vol. 8, (1971), p. 103-120; and K. W. McCracken, "Household Awareness Spaces and Intra-Urban Migration Search Behavior," The Professional Geographer, Vol. 27, (1975), p. 166-170.

²⁴Larry Brown and Eric Moore, "The Intra-Urban Migration Process: A Perspective," Geografiska Annaler, Vol. 52, (1970), p. 1-13.

²⁵Lawrence Brown, Frank E. Horton, Robert I. Wittick, "On Place Utility and the Normative Allocation of Intra-Urban Migrants," Demography, Vol. 7, (1970), p. 175-183.

Daily and weekly movement patterns introduce the resident to a set of places or modes on a set of routes or paths within the city. The paths, modes and areas included in the mental maps are sharply in focus. For places less well known, images are blurry or non-existent. Certain areas are likely to be excluded immediately from consideration regardless of their actual suitability. In many cases a preconceived idea of the suitability of an area or a few areas is formed and search for a specific site is concentrated there. Perceptions continually change through time as the individual experiences a continuous learning process and receives a continuous input of information from the city environment, much of which is economic in nature. This search process as described by Brown and Moore is compatible with the theme of "self-selection" developed by urban sociologists such as Bell²⁶ and Michelson,²⁷ in which a household chooses a residence (within its budget) which suits its lifestyle. Consequently, for these reasons action spaces (mental maps) are viewed to play a major role in intra-urban migration.

Separate attention has been given to the roles of mental maps and economics in the intra-urban migration process. I maintain that economic considerations and mental maps do not possess mutually exclusive roles in the relocation process. A logical relationship exists because many times a person's perception of an area ("whatness" component of mental map) is based on attributes of the community's economic structure. A deficit of knowledge currently exists regarding this relationship and its function in the spatial dynamics of urban areas.

²⁶W. Bell, "The City, the Suburbs, and a Theory of Social Choice," in S. Creer, D. McElrath, and D. Minar, (Eds.), The New Urbanization, St. Martins Press, New York (1968), p. 132-168.

²⁷W. Michaelson, Man and His Urban Environment, Addison Wesley, Reading, Massachusetts, (1970).

Problem Statement

The purpose of this research is to investigate the role of mental maps (consisting of "whatness" and "whereness" components) and economic variables as forces explaining intra-urban migration in the Kansas City metropolitan area. I hypothesize that perceptual variables, expressed in terms of people's mental maps, explain intra-urban migration more completely than economic variables. In addition I plan to show that the two elements (economic and perceptual variables) are interrelated (i.e., do not possess mutually exclusive roles in explaining intra-urban migration), since residents' socioeconomic characteristics affect attitudes which are a fundamental part of mental map formulation. To do this in a comprehensive manner, five questions will be answered:

1. How strongly are economic variables (median gross rent, per capita income, median value home, percent families below poverty level) associated with household relocation in Kansas City?
2. How well do mental maps explain Kansas City's intra-urban migration?
3. How much additional migration explanation is furnished by economic variables beyond that accounted for by mental maps?
4. How much additional explanation is furnished by mental maps beyond that accounted for by economic variables?
5. Is there a degree of interrelationship between mental maps and economic variables?

In this study migration is defined as spatial mobility which results in a permanent change in residence. Migration is the number of actual moves, from origin to destination measured on a per capita basis with respect to the origin. This migration occurred between portions of the Kansas City metropolitan area from 1974 to 1978. It is the contention of this analysis that movers specifically reflect the confines of a mental map which provides the basis for the household relocation decision. Mental maps are not directly measurable, but attributes of movement fields²⁸ can be examined to yield, by implication, information about the mental constructs.

²⁸A movement field is set up through a household's daily and weekly movements within a city as well as through residential changes within the city.

In this study mental maps will be measured in terms of ten specific attributes. They are: service quality, housing quality, commercial quality, safety, visual attractiveness, desirability, number of friends, number of relatives, visitation, and job opportunities. Similarly, economic factors can be operationally defined by six variables. These are: percent of families below the poverty level, media gross rent, educational attainment, age, average household income, and median value of homes. The selection of these variables will be discussed in detail in the next chapter.

Hopefully, the questions delineated previously will contribute to an understanding of the factors that generate intra-urban migration and help eliminate some of the confusion regarding intra-urban migration. Unfortunately, as stated by Maamary..."A review of the literature reveals that migration phenomena are still little understood, poorly conceptualized and lack adequate theoretical orientation."²⁹

Justification

With the adoption of the scientific framework for problem-solving, geography became nomothetic; the search for laws, regularity, and order in spatial structure became the principal objective. Along this line, the movement of people from one place to another has gained popularity among human geographers as a focus of research. Justification for migration studies within geography comes from the spatial tradition. It is within this branch of geography that researchers seek to understand the "movement," "positioning," and "layout" of a variety of phenomena.³⁰ Migration is a process that affects the character of different regions; in an effort to better understand the dynamics and character of urban space, more attention must be paid to intra-urban migration.

²⁹Samir Maamary, Attitude Towards Migration Among Rural Residents: Stages and Factors Involved in the Decision to Migrate, R and E Research Associates, San Francisco, (1976), p. 114.

³⁰William Pattison, "Four Traditions of Geography," Journal of Geography, Vol. 63, (1964), p. 54.

The study of residential relocation is related to housing cost, housing needs and neighborhood environment. These elements can be expressed in terms of both--economic variables and mental maps. What makes this study different from previous studies is that it recognizes a fundamental relationship between the "whatness" component of mental maps and the economic structure of the city.

Outline of Study

This investigation into intra-urban migration is divided into four parts. The first chapter of this report served as the introduction to the study. It provided the background information on the intra-urban migration process and a review of existing geographic literature on the subject. This chapter presented the problem statement and justified the research's geographic importance. The second chapter covers the methodology involved in this analysis. It discusses the variable selection, study area selection, data selection and the statistical technique to be used. The third chapter is concerned with data analysis and results. Finally, the fourth chapter summarizes and draws conclusions about intra-urban migration in the Kansas City metropolitan area.

Chapter 2

METHODOLOGY

This research was conducted during the years 1978 and 1979. The migration universe examined consists of six municipalities forming thirty-six pairs of places between which migration could occur. Observed directional flows between each pair of places are related to measures of economic opportunity differences and the perception of origin and destinations as well as size of place and intervening distance. The variables chosen to measure economic opportunity and perception are discussed later in this chapter. Population is expressed in terms of the destination and distance measured in miles. Conceptually, the research is summarized in FIGURE 1 which illustrates the hypothesized relationships.

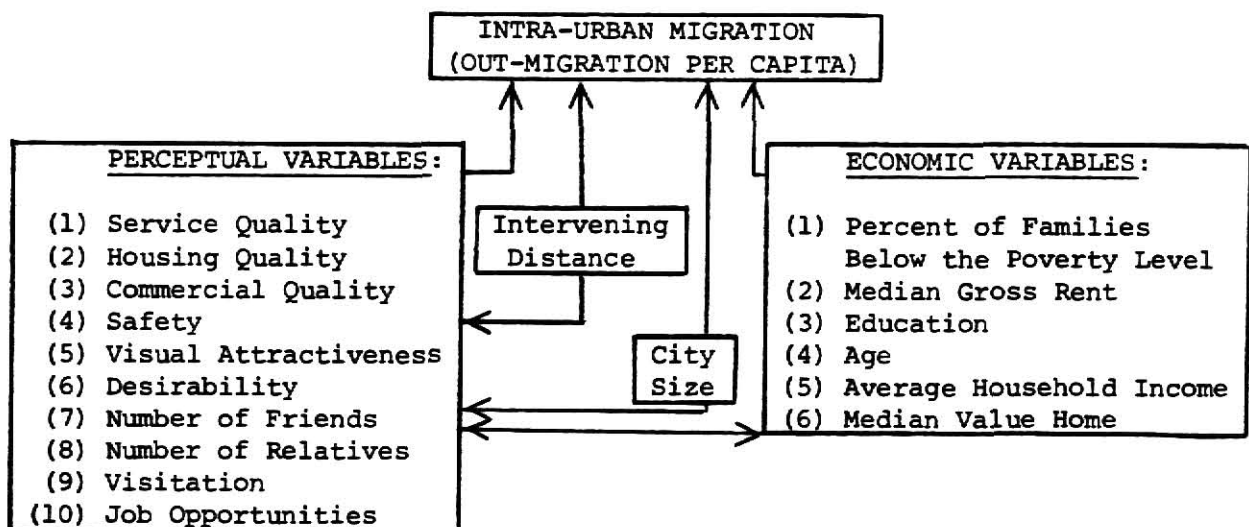


FIGURE 1.

CONCEPTUAL OVERVIEW

Figure 1. helps to illustrate the relationships that exist between the variables used in this study. Intra-urban migration is directly influenced by the perceptual variables, economic variables, intervening distance and city size. In addition, some indirect relationships exist. Intervening distance and city size both influence migrants' perceptions of alternative destinations and therefore influence migration indirectly through cognitive processes. The final indirect relationship exists between the economic variables and the perceptual variables. This occurs when a migrant's cognitive processes are influenced by the economic character of a destination thus influencing their perceptions and ultimately the volume of migration to the location under consideration.

There were essentially six steps completed during the data collection and processing portion of this study. They were:

1. Identifying and delineating the study area.
2. Defining the economic and perceptual variables believed to influence intra-urban migration.
3. Constructing and delivering questionnaires to the residents of the study area in order to obtain the perceptual data.
4. Obtaining migration data from a telephone directory analysis. Migration was defined as per capita mobility (in terms of the origin) per unit time.
5. Construction of the variable matrices to determine the differences of the economic variables between each city. Economic differential will be related to the migration variable in regression analysis.
6. Utilizing multiple regression analysis to test the degree to which attributes of mental maps and the economic variables explain migration. This was done in five regressions. The first involved regressing all of the independent variables on the dependent variable migration. Three regressions involved the economic variables, the perceptual variables, size and distance, each in turn being regressed on the migration variable to determine the degree of their relationships. The final regression involved utilizing both the cognitive and economic variables forcing the cognitive variables in first.

These six steps were the foundation of the study. Once completed, analyses of the various statistics were conducted and conclusions drawn concerning the variables' relationship to intra-urban migration in Kansas City.

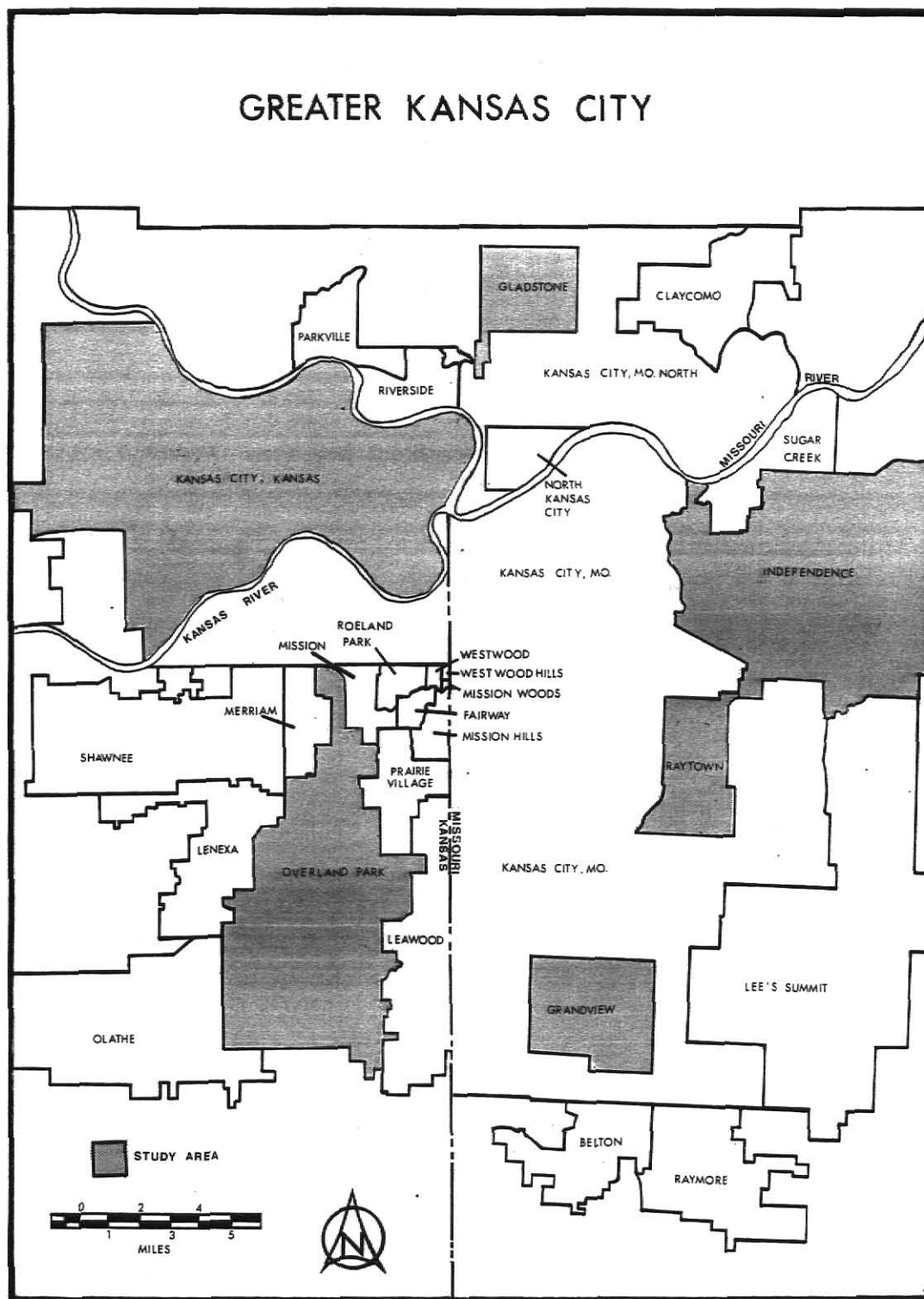


FIGURE 2.

MAP OF STUDY AREA

Selection of the Study Area

The study area for this analysis consists of portions of the Kansas City Metropolitan Region (KCMR) (see map). The KCMR is located within 250 miles of the geographic center of the continental United States, where the Missouri and Kansas Rivers meet. It is a two-state region composed of eight counties and 114 municipalities.³¹ Four of these counties (Wyan-dotte and Johnson in Kansas, and Jackson and Clay in Missouri) contain the six municipalities chosen for investigation in this study. These cities are: Overland Park and Kansas City in Kansas, and Gladstone, Independence, Raytown, and Grandview in Missouri.

The initial step of this research was to choose the six communities from the metropolitan area to serve as the study sample. The methods utilized to obtain the migration data (telephone directory search) severely limited the number of municipalities chosen. Kansas City, Missouri, had to be eliminated from the list of possible candidates primarily due to its size which would make the telephone directory search very difficult and cumbersome. Six were selected since this number provides thirty-six potential migration linkages allowing enough measurement categories to permit the implementation of regression techniques.

The cities chosen for this analysis have similar trends, identities and images of the counties in which they are located. Each is diverse enough to have unique migration "push" and "pull" factors as well as "what-ness" and "whereness" attributes. Additionally, these six are located throughout the metropolitan area providing good geographic representation of greater Kansas City.

Municipal Demographic Overviews

Overland Park, Kansas. Overland Park, Kansas, experienced the metropolitan area's strongest city-wide growth and prosperity. Although its population growth has slowed substantially from the "boom" activities of the 1960's, it still enjoys a rate of growth well above that for the Kansas City area as a whole. Household income is unusually high in both the city

³¹Mid-America Regional Council.

and Johnson County in which Overland Park is located. Its population currently stands at 87,419³² (1979), a ten percent increase since 1970. Its average family income is \$28,292, just under the county figure of \$30,528.³³

Overland Park's population demonstrates the same trends in aging that are currently reflected in national statistics, i.e., a decrease in adolescents and young adults (0-24 years), and increased population representing the "peak family formation" ages of 25-34 years, and increases in the maturity age group represented by those over 55 years of age.

Since it is difficult to meaningfully discuss growth in income levels due to the continual effects of inflation, a comparison of 1969 and 1979 dollar income is not explored in detail here. It suffices to say that between 1969 and 1979 the rate of inflation in the Kansas City area was exactly 100%; and since Overland Park's average household income increased 105.6% during the time period, Overland Park households have kept pace with and exceeded area inflation rates.

The remainder of the economic and demographic information (selection of these variables is discussed in the following section) utilized in the statistical analysis is as follows:

1. 1978 population - 87,419.³⁴
2. 1978 average household income - \$28,292.³⁵
3. 1978 median gross rent - \$186.³⁶
4. 1978 median number of school years - 13.0³⁷
5. 1978 median (assessed 1969) value home - \$24,500.³⁸
6. 1978 percent of families below the poverty level - 1.9%.³⁹
7. 1978 median age - 30.1.⁴⁰

³²Mid-America Regional Council unpublished table.

³³Ibid.

³⁴Ibid.

³⁵Ibid.

³⁶Conversations with local realtors.

³⁷Mid-America Regional Council unpublished table.

³⁸Conversations with local real estate appraisers.

³⁹Mid-America Regional Council unpublished table.

⁴⁰Mid-America Regional Council unpublished table.

Kansas City, Kansas. Kansas City, Kansas, located in Wyandotte County, is a center of heavy industrial activity; it is growing into suburbia while declining in the urban core; and it is racially mixed. Kansas City's overriding image is that of a city built by turn-of-the-century immigration, but not the leader in later population growth. It has played a lesser role in business and government because of domination by the Kansas City, Missouri, central business district. It has seen Johnson County and Overland Park first raid sectors of its population and second enjoy a lion's share of new growth on the Kansas side of the metropolitan area.

Between 1960 and 1970, Kansas City had a static population with very little growth. In 1970, its total population stood at 168,213. In the nine years which followed, it lost nearly four percent of this population, and is currently estimated to have approximately 161,960 persons. The city is projected to continue losing population to 1984, when a total population of 149,735 (seven and one-half percent) is forecasted.⁴¹

Of the six cities under study, Kansas City has the lowest levels of household and per capita income. Its average household income is estimated at \$18,330 which represents a growth of 103.5%, just over the area rate of inflation for the 1969-1979 time period (100%).⁴²

Kansas City has an older population and fewer "family formation/mature family" aged persons than does Overland Park.

Specific data used in this analysis is:

1. 1978 population - 161,960.⁴³
2. 1978 average household income - \$18,330.⁴⁴
3. 1978 median gross rent - \$100.⁴⁵
4. 1978 median number of school years - 11.6.⁴⁶

⁴¹Ibid.

⁴²Ibid.

⁴³Ibid.

⁴⁴Ibid.

⁴⁵Conversations with local realtors.

⁴⁶Mid-America Regional Council unpublished table.

5. 1978 median (assessed) value home - \$11,500.⁴⁷
6. 1978 percent of families below the poverty level - 10%.⁴⁸
7. 1978 median age - 31.2.⁴⁹

Independence, Grandview and Raytown, Missouri. Independence, Grandview and Raytown, Missouri, are all located in Jackson County. It is a diverse urban county experiencing simultaneous population decline in the inner city and population growth in suburban and semi-rural bedroom communities such as Blue Springs, Lee's Summit and East Independence. Jackson County is racially mixed with growing black and Hispanic populations. With its urban core and suburban growth and its concentration of business and industry, it is the least homogeneous of the four counties in this study, and by far the largest in size. This is the primary reason three cities were selected from Jackson County.

In the last 20 years, the County has experienced nearly equal growth (1960-1970) and decline (1970-1979) in population, with a net decline of approximately 5,000 persons. Independence, the largest of the three cities, experienced a loss of less than one percent of its population during the same period. Grandview experienced slightly more than three percent loss in its population resulting in 33,632 residents. Similarly, Raytown experienced nearly a two percent population loss.⁵⁰

Independence, Raytown and Grandview currently have average household income estimated at \$21,574, \$20,744 and \$24,478 respectively. In 1979, Jackson County's average household income was estimated at \$20,076, one-third less than that of Johnson County (\$30,528), yet nearly \$2,300 or thirteen percent higher than Wyandotte County's average household income. This income measure has kept pace with inflation since 1969, due possibly to a growth in newer, middle-income housing in the eastern portions of the county during the 1970's.⁵¹

⁴⁷Conversations with local real estate appraisers.

⁴⁸Mid-America Regional Council unpublished table.

⁴⁹Ibid.

⁵⁰Ibid.

⁵¹Ibid.

Jackson County has not exhibited any unusual age fluctuations since 1970. The County's increases and decreases in age groupings are consistent with KCMR and national trends, and the three municipalities under investigation have similar median ages.

The pertinent data collected for each municipality is as follows:

<u>1978</u>	<u>Independence</u>	<u>Grandview</u>	<u>Raytown</u>
1. Population ⁵²	110,825	22,593	32,350
2. Average household income ⁵³	\$21,574	\$20,744	\$24,478
3. Median gross rent ⁵⁴	\$ 113	\$ 138	\$ 158
4. Median number of school years ⁵⁵	12.2	12.5	12.4
5. Median (assessed) value home ⁵⁶	\$16,400	\$22,250	\$18,800
6. Percent of families below poverty level ⁵⁷	4.6	4.0	2.1
7. Median age ⁵⁸	30.6	30.3	30.5

Gladstone, Missouri. Gladstone, Missouri, located in Clay County, has the least distinctive identity of the six cities in consideration. Gladstone, and more specifically Clay County, has one of the most rapid growth rates in the metropolitan area exceeded only by Overland Park and Johnson County. Despite this fact, the city is not perceived to be a source of economic or population growth, perhaps due to its location north of the River.

⁵²Ibid.

⁵³Ibid.

⁵⁴Conversations with local realtors.

⁵⁵Mid-America Regional Council unpublished table.

⁵⁶Conversations with local real estate appraisers.

⁵⁷Mid-America Regional Council unpublished table.

⁵⁸Ibid.

Gladstone has the third highest income level of the six cities under study. The current average household income is estimated at \$24,140 which represents a ten-year growth rate (100.6%), just slightly over the current rate of inflation. This is slightly more than eight percent higher than Clay County's average household income of \$22,336.⁵⁹

Gladstone has a younger population than the five other cities. Its median age is 29.6, a little higher than Clay County's 28.5.⁶⁰ The specific economic data for Gladstone is as follows:

1. 1978 population - 29,524.⁶¹
2. 1978 average household income - \$24,140.⁶²
3. 1978 median gross rent - \$168.⁶³
4. 1978 median number of school years - 12.5.⁶⁴
5. 1978 median (assessed) value home - \$18,250.⁶⁵
6. 1978 percent of families below the poverty level - 2.5%.⁶⁶
7. 1978 median age - 29.6.⁶⁷

Variable Selection and Definition

Previous research has demonstrated that, typically, persons who move differ from those who do not move. They have identifiable characteristics and specific variables influence their movements. Mental maps, as defined by lifestyle aspirations, the spatial configuration of the city (as

⁵⁹Ibid.

⁶⁰Ibid.

⁶¹Ibid.

⁶²Ibid.

⁶³Conversations with local realtors.

⁶⁴Mid-America Regional Council.

⁶⁵Conversations with local real estate appraisers.

⁶⁶Mid-America Regional Council.

⁶⁷Ibid.

well as its level of awareness to the inhabitants) and economic influences are the foundation of the intra-urban residential migration process.⁶⁸

The variable selection process for this study began with the examination of lifestyle aspirations. There are basically four types.⁶⁹ The first is consumption-oriented and is typical of affluent, young, single urbanites. Emphasis is placed on a household's enjoyment of amenities and material benefits of an urban area. The second type of aspiration involves social prestige. In this case, one's job and position in the community are emphasized. The third type is family-oriented. This aspiration involves the provision of the right type of environment for the children and family unit. Finally, there is the community-oriented aspiration which places emphasis on the nature of interaction with others who have the same set of values. Seven variables were selected to help gain the qualitative information related to these aspirations and the "whatness" components of an individual's mental map. They were used in survey form to evaluate the six communities and are as follows:

1. Service quality (fire, utilities, library, etc.).
2. Housing quality.
3. Commercial quality (availability of retail activities).
4. Safety.
5. Visual attractiveness.
6. Desirability as a place to live.
7. Job opportunities (both availability and access to).

The commercial quality and job opportunity variables were selected on the basis of the first type of lifestyle aspiration. They are variables related to the household's emphasis on the amenities and material benefits of an area. The social prestige aspiration led to the selection of the housing quality and visual attractiveness variables. A household's family orientation, the third type of aspiration, is represented by the variables concerning service quality and safety. Finally, the community-oriented aspiration helped determine the selection of the desirability variable, which also is related to the other three lifestyle aspirations.

⁶⁸R. Gollege, "Conceptualizing the Market Decision Process," Journal of Regional Science, Vol. 7, (1967), p. 239-258.

⁶⁹Bola Ayeni, "Intra-urban Residential Migration: An Entropy Maximizing Approach," Journal of Regional Science, Vol. 19, (1979), p. 331-342.

The most common way to obtain information about a location is through relatives and friends who live there, as well as direct visits to the city. Consequently, the number of friends and relatives an individual has in a given city and how often the cities are visited are important variables to be considered in this investigation. It is important since each individual defines their urban environment in terms of the "whatness" and "whereness" components of mental maps. The "whereness" component involves the collection of all urban areas about which the individual has information and has direct contact with in day-to-day activities. Visiting friends and relatives enables an individual to gather information about various locations and helps form portions of their mental maps.

To help resolve the question concerning the degree of association between economic variables and intra-urban migration, some indicators representing the economic characteristics of the communities were chosen. The level of educational attainment was the first to be selected. Education contributes to mobility by reducing the costs of moving, both psychic and economic.⁷⁰ Since college-educated persons usually have higher salaries, they can more easily afford moving costs. People with college degrees are more likely to have information about alternative destinations in terms of labor markets, social and recreational amenities, and housing availability. This greater degree of information about other areas makes it easier for the more educated person to consider moving as an alternative to staying in the present area.

Age, similar to education, can usually give an indication of a household's migration potential. The highest mobility rates are usually found for persons in their twenties.⁷¹ Many are establishing their own households, starting new jobs, finishing school, or have been recently married. In the later twenties, many are buying a house or moving to larger living quarters because of the addition of children to the family, or are moving to housing more convenient to schools rather than to social and recreational amenities that attract single persons and young childless couples.

⁷⁰Reio Reynolds, "On the Move," American Demographics, (July/August, 1979), p. 40-41.

⁷¹P. Rossi, Why Families Move, The Free Press, Glencoe, Illinois, (1955).

In addition to age and educational attainment, four other variables were selected for this study. They are:

1. Average household income.
2. Median (assessed) value home.
3. Percent of families below the poverty level.
4. Median gross rent.

These variables were chosen because of their value as economic indicators as well as social indicators. Average household income gives an indication of a household's economic condition. Wealthier families tend to be able to migrate easier than poor families. Percent of families below the poverty level was chosen to give another indication of the different economic levels between the six cities. This variable also helps to offset any problems which may be involved in using average household income (as opposed to median household income) a figure which may be influenced by the highs and lows of the income distributions. Median value home and median value rent were selected due to their value in determining housing quality from an economic standpoint.

Survey Construction and Distribution

The next step in this study involved the design and distribution of a questionnaire to gather the qualitative data necessary for analysis. The final questionnaire (see Appendix) was designed to collect information pertaining to a respondent's mental map of the KCMR and more specifically the six communities under investigation. The mental maps are not directly measurable, but data concerning the "whatness" and "whereness" components can be obtained through the variables chosen in this study. Some basic demographic information such as income, education level, sex, race, and age were also asked in order to determine if the sample population is representative of the municipal and county population.

The survey was distributed to 600 households, 100 per municipality. The sampling technique involved plotting a grid system on a street map of the entire metropolitan area. A random systematic sample was then taken in order to select the grid squares within which surveys would be delivered. Four grids per city were selected, meaning twenty-five households per grid square received questionnaires. After the sites were selected, the questionnaires were hand-delivered to households within the grid boundaries. Self-addressed, stamped envelopes were included and survey responses were mailed back.

Migration Data

Since migration research is interested only in movers (and not stayers), it is inefficient to use random samples of the entire population to obtain migration statistics. The migration data used in this investigation was obtained through a telephone directory search between the years 1974 and 1978. This time period was selected because the 1974 telephone directory was the earliest one that could be found. The migration flows used in this study are from origins (1974) to destinations (1978) with migration defined as per capita mobility per unit time. The purpose of this search was to determine the number of households (a name and number being considered a household) that utilized any of the thirty-six alternative migration channels during the four-year period of 1974 to 1978. Table I shows outmigration per capita for the six communities as determined from the data collection process.

TABLE I
MIGRATION DATA

<u>ORIGIN</u>	<u>DESTINATION</u>					
	Glad.	Grnd.	Indep.	KC, Ks.	O.P.	Ray.
Gladstone	.0146	.0008	.0016	.0012	.0016	.0028
Grandview	.0010	.0053	.0064	.0016	.0016	.0042
Independence	.0006	.0009	.0067	.0011	.0011	.0022
Kansas City, Ks.	.0007	.0002	.0010	.0041	.0016	.0007
Overland Park	.0004	.0004	.0004	.0006	.0115	.0015
Raytown	.0022	.0022	.0059	.0030	.0022	.0134

Variable Matrices

Matrices were utilized to transpose the economic data of the six communities into a form more suitable for regression analysis. Basically there are thirty-six types of moves that would occur, so the economic data was put into a form that demonstrates directional flows. For example, in the case of income the matrix was designed to show the income differential between the pairs of places that migration could occur:

$$A - B = C$$

Where

A = Income of Destination

B = Income of Origin

C = Income Differential

When the income of the destination was higher than the income of the origin, a positive value was recorded. This technique transforms the data into a form which then can reflect the repelling or attractive nature of any of the alternative destinations. This type of procedure was done for all of the economic data and along with the cognitive data entered into the regression equations (Table II).

TABLE II

VARIABLE MATRIX

Cities	Outmig.	Pref.	Visit	Frnds.	Rel.	Comm.	Serv.	Safe	Job	Att.
Raytown to Raytown	.0134	6.3	--	16.50	1.00	5.0	5.8	6.2	4.0	6.0
Raytown to Gladstone	.0022	3.7	13.00	3.00	.17	3.8	4.0	4.3	3.0	4.7
Raytown to Independence	.0059	3.2	75.50	4.80	.17	6.2	4.3	3.3	4.3	4.0
Raytown to Grandview	.0022	4.3	11.20	2.80	.17	4.2	4.2	3.7	2.7	4.0
Raytown to Overland Park	.0022	4.7	44.20	1.80	.00	6.7	4.8	4.7	4.8	6.0
Raytown to Kansas City	.0030	2.2	2.80	.17	.00	4.8	3.5	2.7	2.8	3.8
Gladstone to Gladstone	.0146	5.3	--	15.70	.78	5.0	5.4	5.8	4.2	5.4
Gladstone to Raytown	.0028	5.0	25.80	3.20	.44	3.9	4.2	3.9	3.8	4.4
Gladstone to Independence	.0016	4.4	3.90	5.40	.44	4.2	4.1	3.3	3.7	3.9
Gladstone to Grandview	.0008	3.8	2.10	1.30	.78	3.2	3.8	4.0	3.6	4.0
Gladstone to Overland Park	.0016	5.3	28.50	25.80	.33	5.2	5.4	4.7	4.3	5.7
Gladstone to Kansas City	.0012	3.4	2.80	4.90	.22	2.1	3.1	1.8	3.8	2.1
Independence to Independence	.0067	5.9	--	25.40	3.25	5.6	5.4	5.4	3.8	4.7
Independence to Raytown	.0022	4.7	24.10	7.40	.13	3.9	5.0	4.8	3.7	4.5
Independence to Gladstone	.0006	3.8	5.40	.31	.06	3.9	4.3	4.8	3.2	3.8
Independence to Grandview	.0009	4.4	4.60	1.30	.06	2.9	4.1	4.4	3.7	3.8
Independence to Overland Park	.0011	4.9	3.00	3.00	.13	5.9	5.1	4.9	4.5	5.9
Independence to Kansas City	.0011	1.9	3.40	.56	.25	3.2	4.0	2.8	4.1	2.8
Grandview to Grandview	.0053	5.2	--	27.80	.21	3.4	4.8	5.8	3.6	3.8
Grandview to Gladstone	.0010	3.5	1.10	.30	.00	3.5	4.2	4.0	3.2	3.9
Grandview to Independence	.0064	3.6	7.60	1.80	.43	5.1	4.7	4.0	4.0	4.2
Grandview to Raytown	.0042	4.9	18.90	6.40	.14	4.4	4.6	4.3	3.7	4.9
Grandview to Overland Park	.0016	4.4	9.40	7.10	.07	5.9	5.2	4.7	4.1	5.8
Grandview to Kansas City	.0016	2.6	2.20	1.80	.07	3.6	4.0	3.0	4.4	3.6

TABLE II (Continued)

Cities	Outmig.	Pref.	Visit	Frnds.	Rel.	Comm.	Serv.	Safe	Job	Att.
Overland Park to Overland Park	.0115	7.0	--	27.30	1.30	6.9	6.6	6.1	5.5	6.4
Overland Park to Raytown	.0015	3.4	4.60	2.50	.13	2.9	4.1	4.1	4.3	3.9
Overland Park to Gladstone	.0004	3.1	.88	.50	.13	3.5	4.0	4.5	3.9	4.3
Overland Park to Independence	.0004	3.4	4.50	1.80	.13	4.8	4.1	4.4	4.4	4.1
Overland Park to Grandview	.0053	3.5	18.50	7.80	.00	3.6	4.3	4.5	4.5	3.9
Overland Park to Kansas City	.0006	2.0	5.60	3.10	.00	2.9	3.3	2.5	2.8	2.5
Kansas City to Kansas City	.0041	4.2	--	.55	15.40	3.7	4.4	3.6	3.7	3.3
Kansas City to Raytown	.0007	3.9	.44	.33	.22	4.3	4.3	4.0	4.0	4.0
Kansas City to Gladstone	.0007	4.3	1.00	1.80	.22	4.3	4.1	4.0	4.0	4.0
Kansas City to Independence	.0010	4.1	3.90	1.70	.44	4.7	4.3	4.0	4.3	4.2
Kansas City to Grandview	.0002	4.3	.20	.78	.22	4.3	4.0	4.0	4.0	3.7
Kansas City Overland Park	.0016	4.6	17.00	9.30	.56	5.6	4.9	4.0	4.3	5.3

Cities	Housing	Pop	Per Cap Income	Med Gr Rnt	School	MV Home	% Fam Pov	Age
Raytown to Kansas City	4.5	161,960	\$-6,148	\$-58	-.8	\$- 7,300	-7.9	.7
Raytown to Raytown	6.3	32,350	0	0	0	0	0	0
Raytown to Gladstone	4.7	29,524	- 338	10	.1	100	-.4	-.9
Raytown to Independence	4.2	110,825	-2,904	-45	-.2	- 2,400	-2.5	.1
Raytown to Grandview	4.5	22,593	-3,704	-20	.1	3,700	-1.9	-.2
Raytown to Overland Park	6.8	87,419	3,814	28	.6	5,700	.2	-.4
Gladstone to Gladstone	5.7	29,524	0	0	0	0	0	0
Gladstone to Raytown	4.0	32,350	338	-10	-.1	- 100	.4	.9
Gladstone to Independence	3.8	110,825	-2,566	-55	-.3	- 2,500	-1.9	1.0
Gladstone to Grandview	4.1	22,593	-3,426	-30	.1	3,350	-1.5	.7
Gladstone to Overland Park	5.7	87,419	4,152	18	.5	5,600	.6	.5
Gladstone to Kansas City	2.6	161,960	-5,810	-68	-.9	- 7,400	-7.5	1.6

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TABLE II (Continued)

Cities	Housing	Pop	Per Cap Income	Med Gr Rnt	School	MV Home	% Fam Pov	Age
Independence to Independence	4.8	110,825	\$ 0	\$ 0	0	\$ 0	0	0
Independence to Raytown	4.6	32,350	2,904	45	.2	2,400	2.5	- .1
Independence to Gladstone	3.9	29,524	2,566	55	.3	2,500	2.1	-1.0
Independence to Grandview	3.9	22,593	- 860	25	.3	6,100	.6	- .3
Independence to Overland Park	5.7	87,419	6,718	73	.8	8,100	2.7	- .5
Independence to Kansas City, Ks.	4.2	161,960	-3,244	-13	- .6	- 4,900	-5.4	.6
Grandview to Grandview	4.3	22,593	0	0	0	0	0	0
Grandview to Gladstone	4.6	29,524	3,426	30	0	- 3,600	1.5	- .7
Grandview to Independence	3.9	110,825	860	-25	- .3	- 6,100	- .6	.3
Grandview to Raytown	4.9	32,350	3,704	20	- .1	- 3,700	1.9	.2
Grandview to Overland Park	6.0	81,419	7,578	48	.5	2,000	2.1	- .2
Grandview to Kansas City, Ks.	3.6	161,960	2,384	-38	- .9	-11,000	-6.0	.9
Overland Park to Overland Park	6.8	87,419	0	0	0	0	0	0
Overland Park to Raytown	3.6	32,350	-3,814	-28	- .6	- 5,700	- .2	.4
Overland Park to Gladstone	3.9	29,524	-4,152	-18	- .5	- 5,600	- .6	- .5
Overland Park to Independence	3.6	110,825	-6,718	-73	- .8	- 8,100	-2.7	.5
Overland Park to Grandview	4.3	22,593	-7,578	-48	- .5	- 2,000	-7.9	.2
Overland Park to Kansas City, Ks.	2.5	161,960	-9,962	-86	-1.4	-13,000	-8.1	1.1
Kansas City to Kansas City	3.0	161,960	0	0	0	0	0	0
Kansas City to Raytown	4.0	32,350	6,148	58	.8	7,300	7.9	- .7
Kansas City to Gladstone	4.0	29,524	5,810	68	.9	7,400	7.5	-1.6
Kansas City to Independence	4.0	110,825	3,244	13	.6	4,900	5.4	- .6
Kansas City to Grandview	4.0	22,593	2,384	38	.9	11,000	6.0	- .9
Kansas City to Overland Park	4.7	87,419	9,962	86	1.4	13,000	8.1	-1.1

Multiple Regression Analysis

In order to answer the questions posed in this research, tests of association between migration, urban economic structure and mental maps are completed through the use of correlation analysis and regression techniques. Multiple regression involves the association between the dependent variable, migration (per capita mobility per unit time) and the cognitive and economic data which will be considered the independent variables. For regression purposes: y (migration) = b_1X_1 (size) + b_2X_2 (distance) + b_3X_3 ... b_nX_n (independent variables). It is necessary to enter size and distance into the equation since they are additional variables that have been shown to affect migration. Through the use of regression techniques it is possible to control for the effects of these two variables, statistically rendering their influence on migration neutral. Additionally, the degree of association between the dependent variable y and an independent variable X_1 , controlling for the effect of X_2 , X_3 and X_4 can be measured. This procedure yields a single measure summarizing the degree of relationship between two variables (migration and an independent variable), controlling for the effects of all the others.⁷² This will show to what degree each independent variable explains migration. Analysis of this type will enable conclusion to be drawn concerning the importance of economic structure and mental maps in explaining intra-urban migration and insight will be gained into their relationships.

The regression equations used in this study are:

$$\text{Eq. \#1. } y = c + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10}$$

Where:

y = Migration (per capita mobility per unit time).

c = A constant

b_{1-10} = Beta coefficients

x_1 = Service quality

x_2 = Housing quality

x_3 = Commerical quality

x_4 = Safety

⁷²Norman Nie, et al, Statistical Package for the Social Sciences, McGraw-Hill Book Co., New York (1975).

- x_5 = Visual attractiveness
- x_6 = Desirability as a place to live
- x_7 = Number of friends
- x_8 = Number of relatives
- x_9 = Number of times visited
- x_{10} = Job opportunities

Eq. #2. $y = c + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6$

Where:

- y = Migration
- c = A constant
- b_{1-6} = Beta coefficients
- x_1 = Percent of families below the poverty level
- x_2 = Median gross rent
- x_3 = Education
- x_4 = Age
- x_5 = Average household income
- x_6 = Median value home

Eq. #3. $y = c + b_1x_1 + b_2x_2$

Where:

- y = Migration
- c = A constant
- b_{1-2} = Beta coefficients
- x_1 = Size
- x_2 = Distance

$$\text{Eq. \#4. } y = c + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11} + b_{12}x_{12} + b_{13}x_{13} + b_{14}x_{14} + b_{15}x_{15} + b_{16}x_{16} + b_{17}x_{17} + b_{18}x_{18}$$

Where:

y = Migration

c = A constant

b₁₋₁₈ = Beta coefficients

x₁ = Service quality

x₂ = Housing quality

x₃ = Commercial quality

x₄ = Safety

x₅ = Visual attractiveness

x₆ = Desirability

x₇ = Number of friends

x₈ = Number of relatives

x₉ = Number of times visited

x₁₀ = Job opportunities

x₁₁ = Percent of families below the poverty level

x₁₂ = Median gross rent

x₁₃ = Education

x₁₄ = Age

x₁₅ = Average household income

x₁₆ = Median value home

x₁₇ = Distance

x₁₈ = Size

$$\text{Eq. \#5. } y = c + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11} + b_{12}x_{12} + b_{13}x_{13} + b_{14}x_{14} + b_{15}x_{15} + b_{16}x_{16}$$

Where:

y = Migration

c = A constant

b₁₋₁₆ = Beta coefficients

x₁ = Service quality

x_2 = Housing quality
 x_3 = Commercial quality
 x_4 = Safety
 x_5 = Visual attractiveness
 x_6 = Desirability
 x_7 = Number of friends
 x_8 = Number of relatives
 x_9 = Number of times visited
 x_{10} = Job opportunities
 x_{11} = Percent of families below the poverty level
 x_{12} = Median gross rent
 x_{13} = Education
 x_{14} = Age
 x_{15} = Average household income
 x_{16} = Median value home

Chapter 3

ANALYSIS AND RESULTS

In order to obtain the perceptual data, 600 questionnaires were distributed to a random systematic selection of households within the six communities under investigation. A total of 124 completed and usable questionnaires were returned, coded, and submitted to data processing. This is an overall response rate of twenty-one percent (Table III). The highest response rate (32%) came from Independence, while the lowest was from Raytown. The total sample size can be considered significant with a reliability of at least 95% and a precision of $\pm$ one-third standard deviations.⁷³ Each of the six individual samples can be considered reliable at the 90% level with equal precision to the total sample.

⁷³According to Dr. Elaine Tatham in her article entitled "Sample Size for Random Sampling Without Replacement," for the Customer Satisfaction Research Institute, studies which present data in the form of means - either obtained means or satisfaction type scale measurements - are usually dealing with the problem of knowing what is the accuracy of the obtained means. In general, a random sample of 35 for any population size will be adequate to insure 95% reliability for a precision of $\pm$ one-third standard deviation. For example, an obtained mean satisfaction score of 3.6 with a standard deviation of 0.9 and a precision of .03 (or one-third standard deviation) the population mean can be expected to be between 3.3 and 3.9 with 95% reliability.

TABLE III
SURVEY RESPONSE RATE BY CITY

CITY	NUMBER DISTRIBUTED	NUMBER RETURNED	RESPONSE RATE
Gladstone	100	18	18%
Grandview	100	28	28%
Independence	100	32	32%
Kansas City, Ks.	100	18	18%
Overland Park	100	16	16%
Raytown	100	12	12%
TOTAL	600	124	21%

Two-thirds of the respondents are female and the median age is 35 (the mean age is 45). The overwhelming majority (97%) classified themselves as Caucasian while only 3% of the total are black. This is an obvious over-representation of the true population proportion. Most of the respondents have lived within their present community for a long time, the average length of residence is 29 years. They averaged just under one move (.7) per respondent within the Kansas City metropolitan area during the period from 1974 to 1978. On the average they have at least some college education and their average income falls within the \$18,000 to \$24,999 range. In comparison to the metropolitan population under investigation, the survey population is slightly older and has a greater percentage of females, but has comparable income and education levels. Overall, the sample should be representative of the true population.

Anticipated Variable Associations (Hypotheses)

The data presented in this analysis will allow several conclusions to be drawn about the intra-urban migration process. Before plunging into the main data analysis, it will first be useful to identify the anticipated variable associations.

Desirability. Through various information systems people formulate opinions and gather information about various portions of the greater metropolitan area. These perceptions allow judgments to be made on the desirability of a city as a place to live. Consequently, it is expected that the variable measuring a destination's desirability as a place to live should have a positive correlation to migration.

Safety. Safety to neighborhoods is typically one item which either contributes to outmigration or influences immigration. If an individual begins feeling threatened in their own neighborhood or perceives another location to be safer, then migration could occur. The safety variable should have a positive correlation with migration as defined in terms of the destination.

Service Quality. People wish to locate in areas where there are adequate police, fire and other emergency services. This contributes to their overall feeling of safety and welfare. So this variable should possess a positive association with the migration variable.

Housing Quality. As people move through age and job cycles their needs change. Sometimes they try to match the status of their house and neighborhood to their new job. Housing quality is seen as a reflection of their status and as a contribution to the overall desirability of a neighborhood as a place to live. Therefore, the cities scoring high on the variable of housing quality should show a positive association with migration.

Commercial Quality. The quality as well as quantity of commercial establishments should be positively associated with migration. Many times the first contact people have with a city comes through patronizing its commercial strip or visiting popular stores. Today, with the price of gas and the desire for convenience it would be expected that this variable would also demonstrate a positive correlation with migration.

Visual Attractiveness. The visual appeal and physical attractiveness of a municipality certainly acts as a deterrent to or generator of migration. If a potential migrant does not perceive a location as a city within which they would feel comfortable (i.e., doesn't match their image) then migration is unlikely to occur to this site.

Job Opportunities. The place of work of the household may be used as a reference point around which a maximum radius is defined for including locations in their "search space." Consequently, proximity to job opportunities would be a positive attribute for a destination to have.

Number of Times Visited. Certainly the number of yearly visits to a city would be strongly associated to the migration variable. Clearly, the more visits a person makes to a city the more information they have about it and the better equipped they become to judge its desirability as a place to live.

Friends and Relatives. Two other sources of information about destinations are friends and relatives of the potential migrant. It would be expected that the number of friends and relatives at a location would be positively related to the migration variable.

Percentage Below Poverty Level. As the percentage of people below the poverty level at the destination rises the migration to the site would be expected to fall.

Average Household Income. Since the average household income is measured in terms of the difference between the origin and destination it would be expected that as the difference increases migration between these pairs of places would decrease. In other words, a negative association is anticipated since grandiose differences in income levels indicate major differences in social and economic makeup. People may move to "better" neighborhoods, but usually not out of their economic means.⁷⁴

Median Value Home and Median Gross Rent. Similarly, it would be expected that median value home and median gross rent would exhibit a negative association. If there is too large a difference between the origin and destination migration probably would be deterred. Most moves are to slightly more expensive homes and areas, but a substantial change is rare. Consequently, as origin and destination differentials increase, migration between the two will decrease.⁷⁵

Education and Age. Education and age should show a positive association with the migration variables since they both reflect career and life cycle changes. Younger, more educated people generally exhibit higher degrees of mobility.

Distance. As the distance between two cities increases, the amount of information and general contact a potential migrant has about the destination decreases and hence migration will decrease.

Size. Larger cities are perceived to be less desirable by most migrants, so city size should be negatively associated with migration.

⁷⁴James Simmons, "Changing Residence in the City," Geographic Review, Vol. 58, (1968), p. 642.

⁷⁵Ibid.

Multiple Regression Equations

The purpose of this research is to determine the role of mental maps and economic variables as forces explaining intra-urban migration in the Kansas City metropolitan area. One of the fundamental ideas behind this research is that alternative destinations compete with one another for shares of the stream of outmigration from any given location. The regression analysis described below and the resultant statistics are utilized to help "explain" intra-urban migration and the resultant migration streams in the KCMR.

Multiple regression was used to describe the relationship between the dependent variable (outmigration) and the independent variables. Stepwise multiple regression was used since this technique enters each variable, one at a time, into the regression equation in order of its contribution to the total variance in the dependent variable, the greatest contributor being entered first.⁷⁶ Table IV shows the simple correlation, R square, R square change, and multiple R, obtained from the multiple stepwise regression process.

The multiple correlation coefficient R, which measures the degree of association between the 18 independent variables and the dependent variable has a value of .85480. Consequently, all of the independent variables taken together "explain" (R^2), seventy-three percent of the variation in the migration between pairs of places. The stepwise technique "searches out" the greatest contributors to the total variance and effectively rank orders them. The perceptual variable service quality was entered into the equation first. In total, the perceptual variables account for over fifty-three percent of the variation in the dependent variable (53 divided by 73). Consequently, the economic variables, distance and size, contribute the remaining twenty percent of the total variation. When the perceptual variables are forced into the regression process first, followed by the economic variables, R square is .65. This means that the economic variable explains only twelve percent additional variation in the migration variable (Table V) above and beyond the perceptual variables.

⁷⁶Hubert Blalock, Social Statistics, McGraw-Hill Book Co., Inc., New York, (1960), p. 54.

TABLE IV
SELECTED REGRESSION STATISTICS

VARIABLE	SIMPLE CORRELATION	R SQUARE	R SQUARE CHANGE	R	ORDER ENTERED INTO EQUATION
Service Quality	.67*	.44781	.44781	.66919	1
% Below Poverty Level	-.24	.58166	.13385	.76267	2
Distance	-.59*	.65758	.07592	.81091	3
Median Gross Rent	-.17	.66550	.00792	.81578	4
Education	.01	.67278	.00728	.82023	5
Age	.02	.67999	.00721	.82462	6
Population	-.09	.68359	.00366	.82680	7
Average Household	-.14	.69057	.00698	.83101	8
Commercial Quality	.40*	.69560	.00503	.83403	9
Visual Attractiveness	.46*	.70295	.00735	.83842	10
Visitation	.01	.70787	.00492	.84135	11
Desirability as a Place to Live	.57*	.70934	.00150	.84222	12
Housing Quality	.51*	.71081	.00147	.84310	13
Median Value Home	-.17	.71334	.00253	.84460	14
Job Opportunities	.29*	.72914	.00158	.85390	15
No. of Relatives	.09	.72960	.00046	.85417	16
No. of Friends	.48*	.73028	.00068	.85456	17
Safety	.58*	.73068	.00040	.85480	18

*Correlation coefficient significant at .05 level.

TABLE V
SELECTED REGRESSION STATISTICS

Variable	R Square Change
Desirability	.32378
Visitation	.00033
No. of Friends	.04657
No. of Relatives	.00401
Commercial Quality	.02426
Service Quality	.08250
Safety	.00145
Job Opportunities	.00314
Visual Attractiveness	.02593
Housing Quality	.02325
Average Household Income	.09542
Median Gross Rent	.00636
Education	.00460
Age	.00320
Median Value Home	.00450
Percent Below Poverty Level	.00564
Total	.65495

When entered into the regression process by themselves, the economic variables account for ten and one-half percent of the variation in the migration variable, significantly less than the components of mental maps, while city size and intervening distance account for over thirty-five percent of the variation (Table VI). Interestingly, the economic variables were entered into the equation at a higher order indicating that they are strongly related to the dependent variable, but other factors (such as intercorrelation) may be masking their overall contribution.

TABLE VI
SELECTED REGRESSION STATISTICS

Variable Category	R Square Change
Perception:	
Service Quality	.08250
Commercial Quality	.02426
Visual Attractiveness	.02543
Desirability	.32378
Visitation	.00033
Housing Quality	.02325
No. of Relatives	.00401
No. of Friends	.04657
Safety	.00145
Job Opportunities	<u>.00314</u>
TOTAL	.53522
Economic:	
Percent Below Poverty Level	.04179
Median Gross Rent	.01281
Education	.01607
Age	.01321
Average Household Income	.01856
Median Value Home	<u>.00293</u>
TOTAL	.10537
Population	.34907
Distance	<u>.00462</u>
TOTAL	<u>.35369</u>

Interest in this study is focused primarily on the exploratory task of finding out which variables are related to intra-urban migration. The simplest measure of the degree or strength of these relationships are the correlation coefficients. Examination of these statistics will lend insight into intra-urban migration. This research hypothesizes that perceptual variables, expressed in terms of people's mental maps, explain intra-urban migration more completely than economic variables. However, it is

also the contention of this analysis that the two elements (economic and perceptual variables) are interrelated, since residents' socioeconomic attitudes are a fundamental part of mental map formation.

The perceptual variables chosen for this analysis represent an accumulation of information and experiences within the city. These perceptions are based on the specific attributes of a location and direct or indirect contacts with the municipalities. These form the "whatness" and "whereness" components of mental maps and help potential migrants measure the attractiveness or unattractiveness of an area relative to an alternative location. It stands to reason that the desirability of a city as a place to live hinges upon several things. First of all if a location fulfills the needs and aspirations of a potential migrant then it is perceived to be a desirable site. It is hypothesized that the quality of service delivery, quality of commercial establishments, safety, housing quality, accessibility to jobs, visual attractiveness and overall desirability of a city are perceptions that will contribute to the selection of migration destinations. Similarly, the number of friends, the number of relatives and the number of times a location is visited should have a positive correlation to the migration variable.

Quality of service delivery, such as fire, police and hospitals, has the strongest association (.67) with the dependent variable migration. Safety (.58) also has a strong association. (Table VII) Since migration is defined in terms of the destination this means that as the quality of services of a municipality, and the safety (perceived) of a destination increase so does household movement to these locales. One of the questions in the perceptual survey asked the potential migrants to rate the six municipalities on their desirability as a place to live. As would be expected, this variable has a strong positive correlation to migration (.57). Housing quality (.51) and visual attractiveness (.46) also prove to be associated as hypothesized. The variable measuring perception of job opportunities demonstrates little (.07) correlation with the dependent variable--this could be because historical movements have been away from job centers and is not considered a key matter in the migration process due to the relative proximity to job already. Interestingly, the variables representing the "whereness" components of mental maps do not have as great a role in explaining migration as do the "whatness" components of mental maps. The number of friends in a city (.47) has the strongest association

with movements within the metro area. This shows that utilization of indirect contact space, a communication network involving friends, newspapers, etc., does have a positive relationship to migration. The number of relatives (.09) and the number of actual visits (.01) have little or no effect on migration.

Clearly, the space about which people have information or knowledge influences intra-urban migration. All of the perceptual variables in this study measure attributes of mental maps. Searches for new household locations are done within the confines of a mental map. The supply of housing available to a migrant depends on all of the information collected during past experiences within the metropolitan area. This information such as service quality, safety, visual attractiveness and housing quality all help to contribute to the desirability of a municipality as a place to live, and help explain migration in the Kansas City metropolitan area.

It is anticipated that the variables measuring average income of the household, median value of home and percentage of families below the poverty level all will be negatively associated with migration. These variables, along with median gross rent, measure poverty. The poorer, deteriorating areas of the city should experience less immigration than the wealthier areas. Overall, the economic variables have weak correlations with migration. In this study any correlation coefficient above .28 is significant at the .05 level. None of the correlation coefficients of the economic variables are significant at the .05 level, thus there is insufficient evidence to suggest that the economic variables influence migration. The strongest perceptual association is almost two and one-half times greater than the strongest economic association. The percent of families below poverty level (-.24) shows the strongest correlation and has the hypothesized association. Median gross rent (-.17), median value home (-.17) and average household income (-.14) all have the hypothesized sign, but show weak correlations. The education and age variables appear to have no association or correlation with migration at all.

The variable associations in this study demonstrate most of the anticipated correlations discussed in a previous section. Some, however, proved to be less influential than first expected. The following is a discussion of the results of testing the hypotheses.

Desirability. As expected this variable has a positive association with the migration variable. Its correlation (.57) is fairly strong indicating that a destination's desirability as a place to live influences intra-urban migration.

Safety. The safety variable has a positive correlation (.59) with migration. This association is as hypothesized. An individual's feeling of safety in a city can be disrupted and the perceived safety of another city could induce a change in residence.

Service Quality. It was hypothesized that people would wish to locate in areas where adequate police, fire, and other emergency services exist. The correlation between service quality and migration is .69 verifying the expectation that the quality of service at the origin and destination play a role in intra-urban migration.

Housing Quality. This variable has a .51 correlation with migration. The cities that scored high on the housing quality variable show a positive correlation indicating that the visual quality of housing can influence the selection of one site over another and affect outmigration.

Commercial Quality. This variable was also expected to have a positive correlation with intra-urban migration. It has a .40 correlation which means that the quality of and variety of commercial activities available at alternative destinations appear to influence migration within Kansas City.

Visual Attractiveness. The visual appeal and physical attractiveness of a municipality has a .46 correlation with migration. This variable can act as a deterrent to or a generator of migration. This is the anticipated association.

Job Opportunities. The proximity to work, the desire to be located closer to work, was hypothesized to have a positive association with migration. It demonstrates a .29 correlation with the dependent variable. This implies that the place of work of the household does indeed have an influence on migration within Kansas City.

Number of Times Visited. It was hypothesized that the number of yearly visits would be strongly associated with the migration variable. This, however, does not appear to be the case. The visitation variable correlates (.01) very weakly with migration. This could be due to the fact that desirability and information are not always correlated. Also, the

accuracy with which the respondents answered that particular question on the survey may be in doubt. It could be that it was too difficult for them to estimate how often they visit each city in a year. Perhaps a shorter time period should be used.

Friends and Relatives. As would be expected these two variables are positively correlated with migration. The friends variable (.46) shows a stronger correlation than the relatives variable (.09). It appears as though the number of friends at a particular location could have a greater influence on intra-urban migration than the number of relatives.

Percentage Below Poverty Level. The regression analysis shows a negative correlation of $-.24$ with migration for this variable. It was anticipated that, as the percentage of people below the poverty level at the destination rises, migration to this site would be expected to fall.

Average Household Income. Since the average household income is measured in terms of income differential (difference between the income of the origin and destination), it was anticipated that as the difference increased migration between those pairs of places would decrease. This was the association found through the statistical analysis with a correlation coefficient of $-.14$.

Median Value Home and Median Gross Rent. Both of these variables have a $-.17$ correlation with the dependent variable migration. This shows that if there is too large a difference in the rent or cost of housing of the origin versus the destination then migration would be less likely to occur between the two places.

Education and Age. These variables were expected to show strong positive associations with migration. The data in this study indicates that they have little influence on intra-urban migration in Kansas City. Education has a $.006$ correlation with migration while age has a $.09$ correlation. Younger, better educated people generally exhibit higher degrees of mobility since they are more likely to experience career and life cycle changes. In the case of intra-urban migration in Kansas City, they appear to have little effect. This could be made possible since very small differences exist in the levels of educational attainment and median age between the cities in question.

Distance. It was anticipated that this variable would have a negative association with migration. As the distance between two cities increases, the amount of information and general contact a resident has with

a potential destination decreases and would likely influence migration. The regression analysis shows that distance has a $-.59$ correlation with migration, which corroborates with the expected results.

Size. Since larger cities are generally perceived to be less desirable than smaller cities, it was expected that as city size increased migration could decrease. It was found to be true ($-.09$), but the relationship is not nearly as strong as would be expected.

The degree of interdependence among the independent variables can be examined by calculating the matrix of simple correlation coefficients between all possible combinations of pairs of variables. From Table VII it should be noticed that there is some intercorrelation between the "independent" variables which may mask the results obtained through analysis of correlation coefficients. It must be pointed out that low intercorrelations among the independent variables is a rarity in nearly all geographic research.

There is some degree of correlation between the perceptual variables and economic variables utilized in this study. Average household income is correlated with desirability ($.27$), commercial quality ($.41$), service quality ($.31$), visual attractiveness ($.38$) and housing quality ($.30$). Median gross rent exhibits correlations with the same perceptual variables as the previously mentioned economic variable. The educational attainment variable shows relationships with commercial quality ($.28$), safety ($.22$), visual attractiveness ($.20$) and housing quality ($.21$). Median value home is correlated with desirability ($.33$), commercial quality ($.37$), service quality ($.21$), safety ($.22$), visual attractiveness ($.35$) and housing quality ($.31$). The percent of families below the poverty level exhibits correlations with desirability ($.31$), commercial quality ($.31$), service quality ($.28$), safety ($.20$), and visual attractiveness ($.28$). It is empirically apparent, and the intercorrelations show, that residential relocation is not a mere follower of activities such as employment and economic opportunities. However, economic variables do influence residential change through cognition. Economic and cognitive variables do not possess mutually exclusive roles in the relocation process. There is a degree of interdependence since a person's perception of an area is based on attributes of its economic structure.

Not only do the economic and perceptual variables exhibit correlations, but there appears to be some correlation among themselves. The perceptual variable desirability shows a correlation with all of the perceptual variables with the exception of number of visits and number of relatives. As might be expected, the number of visits is correlated with commercial quality (.39) and job opportunities (.22). The variable representing the number of friends shows a relationship with the number of relatives (.63), service quality (.51), safety (.37), and visual attractiveness (.21). The number of relatives has a negative correlation with visual attractiveness (-.23). Commercial quality and job opportunities correlated with all of the other perceptual variables with the exception of number of friends and relatives. Quality of service delivery and safety are strongly correlated with all of the variables excluding number of visits and number of relatives. Visual attractiveness does not correlate strongly with number of visits, but is correlated to the remaining eight variables, correlating most strongly (.92) with housing quality.

The economic variables also exhibit some intercorrelation. Per capita income, median gross rent and education correlate strongly with all of the economic indicators, except age. Median value home exhibits intercorrelation with all the economic variables, but age's only correlation is with median value home (.32). The percentage of people below the poverty level is correlated with all of the economic variables except age. Low intercorrelations among independent variables is difficult to achieve and rarely found in geographic research. This demonstrates how difficult it is to select unrelated determinants of migration.

The Relative Importance of Each Variable

In this study there are a large number of independent variables. By relating the dependent variables to each independent variable, in turn controlling for the remaining variables, an indication of their relative importance can be gained.⁷⁷ The beta weights indicate how much change in the dependent variable is produced by a standardized change in one of the

⁷⁷Ibid.

independent variables when the others are controlled. Standardized beta weights are used since correction must be made for the fact that the independent variables are measured in different scales (i.e., dollar and years).⁷⁸ Other things being equal, beta weights indicate that one standard deviation unit change of median gross rent or percent of families below the poverty level would produce the greatest change in the migration variable⁷⁹ (Table VIII). This is a significantly different interpretation derived from the examination of correlation coefficients. Through the examination of beta coefficients it would appear that migration between pairs of places is related primarily to the economic differential of the origins and destinations as measured by median gross rent, per capita income, percent of families below poverty level, median value home, education and age, secondary to the perceptual variables. The economic variables have an average absolute value beta weight of .72 and the perceptual variables .22, the economic variables have over three times the influence of the perceptual variables.

⁷⁸Norman Nie, et al., Statistical Package for the Social Sciences, McGraw-Hill Book Co., New York (1975).

⁷⁹Maurice Yeates, An Introduction to Quantitative Analysis In Human Geography, McGraw-Hill Book Co., Ontario, (1974).

TABLE VIII

BETA COEFFICIENTS

Variable	Beta Coefficient
Percent Families below Poverty Level	-.64
Median Gross Rent	-.64
Per Capita Income	.62
Service Quality	.57
Distance	-.47
Population	-.35
Commerical Quality	.33
Housing Quality	-.24
Desirability	-.19
Median Value Home	.16
Education	.11
Age	.10
Visual Attractiveness	-.10
Friends	-.09
Safety	.09
Visitation	-.08
Job Opportunities	.07
Relatives	.07

Chapter 4

SUMMARY AND CONCLUSIONS

People use numerous criteria to judge places but these are always conditioned by the potential migrants' general knowledge of places and their ability to gather further information about the potential destination. People are continually acquiring and storing information about places. Some is locational information--where places are with reference to other places (whereness component of mental maps). Also stored is information about the content of places--what it is like to live there (whatness component of mental maps). These combine to form a total site and situation image of potential places to live.⁸⁰

It is apparent from this research that virtually all the elements that enter into relocation decisions in Kansas City reflect individual perceptions and evaluations of household needs and opportunities. The household evaluates the alternatives with which it is familiar: nearby places, communities where friends and relatives live, areas visited in travel, or places described by mass media. Households with similar economic and social characteristics, but different lifestyles, will prefer widely different housing and neighborhood conditions.

Clearly, the data presented in this analysis demonstrates the key roles that mental maps and economics play in the intra-urban migration process in Kansas City. The results of the multiple regression analyses and correlation analyses can be summarized as follows:

1. There is some degree of intercorrelation between the "independent" variables.

⁸⁰James Simmons, Patterns of Residential Movement in Metropolitan Toronto, University of Toronto Press, Toronto (1974).

2. All of the independent variables taken together explain 73% of the total variation in the migration variable.

3. The perceptual variables (.535) furnish 5.3 times more explanation of the dependent variable than do the economic variables (.105).

4. Fifty-three and one-half percent of the variation in migration between pairs of places can be explained by the perceptual variables. This means that the economic variables, population and distance, explain an additional nineteen and one-half percent (of the total variation in the dependent variable) above and beyond that already explained by the perceptual variables.

5. The economic variables alone furnish twelve percent additional explanation of the dependent variable.

6. The economic variables, on the average, are entered into the stepwise regression process at a higher order indicating a strong relationship to migration, but other factors may be diluting their overall contribution.

7. Beta weights indicate that one standard deviation unit change of median gross rent or percent of families below the poverty level would produce the greatest change in the dependent variable.

8. The economic variables have an average absolute value beta weight of .72 and the perceptual variables .27, the economic variables having over three times the influence of the perceptual variables.

Perceptual variables have been shown to have strong correlations with migration between the pairs of cities chosen within the Kansas City metropolitan area. Not only do they demonstrate strong individual correlations, but they work jointly to explain the most variation with the dependent variable. They explain a considerably larger portion of the total variation than do the economic variables. However, other things must be taken into consideration. Unfortunately, they are not truly "independent" variables. When examining the relative importance of each independent variable while holding the others constant, a better insight can be gained into their relationship with the dependent variable migration. Analysis of this sort indicates that on the average one standard deviation unit change in the economic variables would yield a larger change in the migration variables than one standard deviation unit change in the cognitive variables. This indicates that economic variables and cognitive variables do not possess mutually exclusive roles in the relocation process. There is a degree

of interdependence, since a person's perception of an area is based on attributes of its economic structure. Household movements, searches and locations are controlled by mental maps which reflect economic variables. Economic characteristics of origins and destinations in the context of mental maps act as repelling and attracting factors fundamental to the intra-urban migration process.

Movement between portions of the Kansas City metropolitan area are not random. Movers purposefully select one area of the city over another and this residential search behavior cannot be totally explained by fundamental market and economic forces. Daily gathering of information about the Kansas City metropolitan area helps residents formulate mental maps and images that control spatial activities such as household relocation. The perceptual variables contribute the greatest amount of explanation to the variation in the dependent variables, but one standard deviation unit change of the economic variables contributes the greatest change in the dependent variable. Consequently, it can be stated that both economic variables (such as housing cost) and attributes of mental maps (such as desirability) work together to explain intra-urban migration. These factors covary, suggesting that mental maps utilized by intra-urban migrants in their residential search process are highly influenced by the economic character of various neighborhoods.

Implications

The evidence presented in the research suggests that the total volume of migration between any of the six communities investigated depends more on the migrant's mental maps and structural properties of the resident population than on the level of economic opportunities at the destination. Given their propensity to move, the migrants must choose destinations. The regression data reveal strong tendencies to choose destinations based on attributes of mental maps. For example, a migrant may choose a destination based on the quality of housing, services or commercial establishments in an area. The household may be consumption-oriented, seeking social prestige, family-oriented, or community-oriented and select their ultimate destination based on these types of lifestyle aspirations. However, it is important to note that the perceptual variables and mental maps do not exclusively explain intra-urban migration. For instance, a destination may be selected based on perceived housing quality, but in reality the perception

is based on the cost of housing (i.e., the median value of homes) in the area. Clearly, there is a relationship between the two. This research indicates that in order to closely monitor and predict intra-urban migration between pairs of places attention must be given to the mental maps of residents and economics in terms of these perceptions.

Methodological Problems and Suggestions for Further Research

The first methodological problem encountered during the research was the collection of migration data. Ideally the records of utilities or phone companies would provide the most complete data. However, this is difficult to obtain if the researcher is a private individual without funding or an organizational backing to provide credibility. Problems also developed with selecting the variables for this study. There was little difficulty with the perceptual variables, but considerable difficulty in obtaining and choosing the economic indicators. The biggest problem arose in finding current economic data. The 1970 Census data is obsolete and much of the information it provides cannot be adequately updated by the planning departments of the various cities or by the regional planning office. In addition to the variables utilized in this study, three others should be given consideration. First, the addition of annual dollar volume of retail sales of the cities would be helpful. This information can be obtained from various private vendors, Sales and Marketing Management magazine, and the marketing departments of major newspapers to name a few. This would give an indication of the economic strength or weakness of a city. Another variable to consider would be annual volume residential building permits. This can be obtained from the county tax assessor's office, usually by census tract, address, municipality and county totals. These numbers would give an indication of the growth of a city. Finally, a measure of the employment base of the city would be helpful. All three of these together would give insight into the economic condition of the alternate destinations.

If this research were to be conducted again, (in addition to the changes above) this writer would recommend looking at county migration since these trends have historically been more closely monitored in the Kansas City metropolitan area. An abundance of data is available concerning the economic makeup of the eight counties in the metropolitan area.

Residents of Kansas City have clearly defined images of the various counties that could easily be captured in survey form. Finally, the migration data would be easier to obtain through a telephone directory analysis (if this is the source to be utilized) since the larger geographic areas would make movement easier to identify.

It is empirically obvious that residential relocation is not a mere follower of such activities as employment, but economic variables do influence intra-urban migration through cognition. The degree and exact nature of this relationship was not explored in this research. It was identified and recognized to be in existence. An important and necessary addendum to this research would be to investigate the exact way in which economics and perception are interrelated in the process of intra-urban migration. This could be done by using the statistical technique of Path Analysis. This technique would be of value since it is a method of interpreting and working out the logical consequences of hypotheses concerning the type of relationship existing between economic and cognitive variables.

There has been a rather limited inquiry into the nature of intra-urban migration. This is unfortunate since the investigation of residential movement is an important part of the careful examination of urban systems. Many significant urban phenomena operate through intra-urban mobility, such as social segregation, housing market and urban growth. Understanding intra-urban migration can help discern changes in the structural, social and economic characteristics of a city. Preference research when linked to migration would be of great interest to Planners, Economists, Developers, Public Utilities, and any other student of urban systems. Consequently, much can be gained in understanding the dynamics of urban space by focusing on residential mobility, as this research has done.

ILLEGIBLE DOCUMENT

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DOCUMENT(S) IS OF
POOR LEGIBILITY IN
THE ORIGINAL**

**THIS IS THE BEST
COPY AVAILABLE**

APPENDIX A.



KANSAS STATE UNIVERSITY

Department of Geography,
Thompson Hall
Manhattan, Kansas 66506

June 8, 1979

Sir or Madam,

As part of my Master's Degree Program at Kansas State University I am circulating a questionnaire which asks for your opinion of six communities within the greater Kansas City metropolitan area. The information you provide by filling out the survey will help me in my desire to understand migration within the metropolitan area. I would appreciate your assistance, since this survey is an important part of my research. If you would, please complete the survey and return it in the envelope that has been provided for your convenience.

Recognizing each individual's desire to protect his or her privacy, I can assure you that the information from this questionnaire will be used for statistical purposes only. In no way will your name be associated with any of the results, nor will the personal data be maintained by name.

I thank you for your help and cooperation.

Sincerely,

A handwritten signature in cursive script that reads 'Robin Moore'.

Robin Moore

1. Rate each community's desirability as a place to live on a scale

from one to seven, where 1 = very undesirable
 4 = average
 7 = very desirable

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

2. On the average how often do you visit each city in one year?

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

3. For each community indicate the number of households for which you have friends.

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

4. For each community indicate the number of households for which you have relatives.

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

-2-

5. Rate each community's quality of commercial establishments on a scale from one to seven, where 1 = poor quality
4 = typical
7 = excellent quality

Gladstone _____
Grandview _____
Independence _____
Kansas City, Ks. _____
Overland Park _____
Raytown _____

6. Rate each community's quality of services, such as: libraries, schools, fire departments, etc., on a scale from one to seven, where
1 = poor quality
4 = typical
7 = excellent quality

Gladstone _____
Grandview _____
Independence _____
Kansas City, Ks. _____
Overland Park _____
Raytown _____

7. On a scale from one to seven, rate how safe you feel in each community, where 1 = not safe
4 = average degree of safety
7 = very safe

Gladstone _____
Grandview _____
Independence _____
Kansas City, Ks. _____
Overland Park _____
Raytown _____

8. Rate each community's access to job opportunities on a scale from one to seven, where 1 = poor opportunities
4 = typical
7 = excellent opportunities

-3-

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

9. Rate each community's visual attractiveness on a scale from one to seven, where 1 = ugly community
 4 = typical
 7 = beautiful community

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

10. Rate each community's housing quality on a scale from one to seven, where 1 = poor quality
 4 = typical
 7 = high quality

Gladstone _____
 Grandview _____
 Independence _____
 Kansas City, Ks. _____
 Overland Park _____
 Raytown _____

Sex _____
 Age _____
 Race _____
 Marital Status _____

Indicate the education level you have completed.

Grade School or less _____
 Some High School _____
 High School _____

4

Some college _____
College _____
Post College _____

Indicate the total yearly income of your household

\$0 - \$11,999 _____
\$12,000 - \$17,999 _____
\$18,000 - \$24,999 _____
\$25,000 - \$49,999 _____
\$50,000 - over _____

How long have you lived in this community? _____

Over the period 1974 - 1978, how many times have you changed residence within the Kansas City metropolitan area? _____

" This survey is being conducted under guidelines established by Kansas State University. By cooperating, you will help the survey administrator find answers to important questions; however, your participation is strictly voluntary. You should omit any questions which you feel unduly invade your privacy or which are otherwise offensive to you. Confidentiality is guaranteed; your name will not be associated with your answers in any public or private report of the results."

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INTRA-URBAN MIGRATION
IN THE KANSAS CITY METROPOLITAN AREA

by

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AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

Recent research in intra-urban migration has focused on either the perceptual components of migration or the economic components. This study combines the two approaches. The migration universe consists of six municipalities in the greater Kansas City metropolitan area between which thirty-six potential migration channels exist. An examination of perceptual variables and economic variables indicate that past out migration from the six cities is associated with both groups. However, regression equations using the cognitive variables explain intra-urban migration better than separate regressions of the economic variables. When examining the relative effect of the variables it was found that one standardized unit change in the economic variables produces the greatest change in migration. This indicates that cognitive variables and economic characteristics are not mutually exclusive in explaining migration between pairs of places.