Communication and Migration: How Communication Influences the Human Economy

Carol Napolitano

University of Nebraska at Omaha

Follow this and additional works at: http://digitalcommons.unomaha.edu/studentwork

Recommended Citation
http://digitalcommons.unomaha.edu/studentwork/775
Communication and Migration:
How Communication Influences the Human Economy

A Thesis
Presented to the
Department of Communication
and the
Faculty of the Graduate College
University of Nebraska
In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
University of Nebraska at Omaha

by
Carol Napolitano

November 1999
Thesis Acceptance

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts, University of Nebraska at Omaha.

Committee

Name

Department/School

Chairperson

Date November 18, 1999
Communication and migration are tied through the common concept of community. Communication is the nervous system of a community, transmitting shared ideals, goals, and norms among citizens. Communication also is the process by which a community projects its identity or image to the outside world to attract new individuals who will nourish it economically and socially.

Despite this deep connection between communication and community, migration research seldom incorporates communication theory. Likewise, communication scholars rarely look at the process of migration. The purpose of this thesis was to establish those theoretical links between communication and migration, look at how communication has influenced migration in Nebraska, and assess the impact migration has had on the state. A qualitative analysis of interviews with 13 recent migrants
to the Omaha area found that interpersonal communication had more influence over their decision to migrate than did mass media and that the positive images migrants had of Nebraska were mostly that of a state with a lower cost of living and ample job opportunities. Interviews with officials responsible for promoting Nebraska’s image determined that most of their efforts are aimed at selling the economic benefits of the state to businesses and high technology workers. There is no widespread, organized campaign to lure migrants as a whole. Finally, a statistical analysis of six years of migration data found a net out-migration large enough to erode the overall value of Nebraska’s human capital, as measured by educational attainment and earnings.

The study concluded, among other things, that Nebraska officials must broaden their view of desired capital to include all migrants, not just businesses and high-tech workers, and that the state and private sector must integrate their efforts to attract new residents if Nebraska is to reduce or stop the loss of human capital due to out-migration.
Acknowledgments

I wish to thank Dr. Jeremy H. Lipschultz, my thesis adviser, who taught me how to think like a scholar and whose valuable advice and perspective enhanced this thesis immeasurably. Dr. Hollis F. Glaser, I thank you for teaching me how my life experiences and situations influence my research and how important it is to recognize and acknowledge that fact. Dr. Dennis W. Roncek, you have my eternal gratitude for the many hours you spent helping me shape and interpret the quantitative analysis for this study and for your infinite patience when teaching.

Thank you also to my mother, Marcia Napolitano, and to my siblings, Laura Napolitano, Daniel Napolitano and Susan Napolitano, whose support and cheerleading helped me make it through some difficult times.

Finally, I wish to acknowledge the very special contribution of my husband, Whit Andrews. During my three years of graduate school, he cooked, he cleaned, he did the laundry. He spent late nights beside me proofreading research papers. His confidence in me never wavered. Without him I could not have made it. I love you Whit. Thank you.
# Table of Contents

Abstract ........................................................................................................................................ iii

Acknowledgments ......................................................................................................................... v

List of Tables ................................................................................................................................. viii

List of Figures ............................................................................................................................... ix

I  Introduction ................................................................................................................................. 1

II Review of the Literature ............................................................................................................. 6

- Economic Theory and Migration ................................................................................................. 9
- Social and Cognitive Theory and Migration .............................................................................. 15
- Communication and Migration: The Community Link ........................................................... 19
- Communication Theory in Structuring Community .................................................................. 24
- Persuasion Theory and Interpersonal Influence ....................................................................... 26
- Persuading Migration through Mass Communication .............................................................. 30
- Communication and Migration in Nebraska .............................................................................. 37

III Methodology .............................................................................................................................. 41

- The Qualitative Study ................................................................................................................. 41
  - The Subjects and the Settings ................................................................................................. 42
  - The Instrument ...................................................................................................................... 48
  - The Analysis of Data ............................................................................................................ 48
  - Limitations of Qualitative Data and Analysis .................................................................... 49
- The Quantitative Study .............................................................................................................. 53
  - The Data .............................................................................................................................. 54
  - The Analysis ......................................................................................................................... 57
List of Tables

Table I: Channels of Communication ................................................................. 79

Table II: Adjusted Years of Education for In-Migrants .................. 92

Table III: Adjusted Reported Total Earnings for In-Migrants ................................................. 98
List of Figures

Figure 1: Descriptive Statistics and Histogram Distribution for Total Educational Attainment of In-Migrants ..................... 87

Figure 2: Descriptive Statistics and Histogram Distribution for Total Educational Attainment of Out-Migrants ................... 88

Figure 3: Descriptive Statistics and Histogram Distribution for Total Earnings of In-Migrants ........................................... 94

Figure 4: Descriptive Statistics and Histogram Distribution for Total Earnings of Out-Migrants .......................................... 95
Man is a mobile creature, capable of enquiring, susceptible to suggestion, and endowed with imagination and initiative. This explains why, having conceived the notion that his wants might be satisfied elsewhere, he may decide not merely on going there but also on the means by which his project can be achieved. (Beaujeau-Garnier, 1966, p. 171)

Perhaps no better framework exists for this thesis than Jacqueline Beaujeau-Garnier’s assessment of human migration. The propensity to dream and imagine, to seek out information and to be persuaded, demonstrates why communication is pivotal to the migration process.

Communication and migration are tied through a common concept - that of community. While economics often is considered a catalyst for migration, researchers in the fields of sociology and psychology have linked the decision to move to issues of community also.

Migration decisions can be influenced by our social networks and ties, and by our desires to be among equals, to be accepted into a community, and to participate in that

Communication is vital to both the internal structure and the external image of a community. It is the nervous system of a community, transmitting shared ideals, goals, and norms among what might otherwise be a sea of disconnected individuals (Carey, 1992; Cooper, 1932; Stamm, 1985). Communication also is the process by which those commonalities of a community, community identity, and civic image are projected to the outside world. It is a means by which a community attracts new individuals who will nourish it economically and socially.

Certainly, from the earliest times, people have persuaded each other to come and go. In colonial America, pamphlets and books were written specifically to lure Europeans across the Atlantic. As the United States expanded, community leaders and newspapers urged migration to the western reaches. During the early 20th century, newspapers such as the Chicago Defender blatantly encouraged blacks to migrate north while others, such as The Star of Zion in Charlotte, North Carolina, actively discouraged the migration (DeSantis, 1998; Jones, 1986;
Despite this deep connection between communication and community, migration literature seldom incorporates communication into its framework. Likewise, communication literature is nearly void of research that pulls together theories of interpersonal and mass communication to explain the process of migration.

The purpose of this thesis is to establish those theoretical links between communication and migration, then look at how communication has influenced migration in Nebraska, and what impact migration has had on the state.

An estimated seven million Americans each year migrate from one state to another (Manson & Groop, 1996) and migration is becoming increasingly influential in the growth of cities and nations (De Jong & Gardner, 1981; Lewis, 1982). Here in the United States, for example, one quarter of the population growth during the 1980s was attributable to migration (U.S. Department of Commerce Bureau of the Census, 1992).

In this climate of rising mobility, with the social and economic health of communities on the line, the link between communication and migration is a critical one. A community’s failure to understand this link and to use communication to effectively influence the migration
process could result in profound, unwelcome economic and social consequences. As a community loses more residents than it gains, per capita costs for services such as utilities, health care and education rise. Real estate sits empty. Jobs dry up and people move away to find work. Finally, the birth rate drops, exacerbating the effects of the out-migration.

The toll can be seen in "near-empty classrooms, boarded-up shops, and vacant houses" (Rowley, 1998, p. 4). It also can be measured in the loss of better-educated residents - a trend commonly called "brain drain." When more educated and skilled working-age residents go, they leave behind older and less skilled workers who are ill-equipped to start their own businesses and who are unattractive to businesses looking for a community in which to locate.

Evaluating or measuring the extent of such changes to a community that result from migration do not necessarily have to be conducted under a single dominant paradigm. As McQuail (1994) notes, alternative paradigms can be complementary, as well as alternative. Accordingly, this thesis employs an integrated approach, mixing dominant and
critical communication theory and economic and social paradigms of migration.

Evaluation of how communication plays a role in the migration process will be based on individual interviews with migrants in the Omaha metropolitan area, and with state and local officials whose responsibilities include promoting the community of Omaha and the state of Nebraska.

The effects of migration will be judged by a quantitative analysis of Nebraska data extracted from the U.S. Bureau of Census’ Current Population Surveys of 1990 through 1997. The method for this analysis will be based on the neoclassical Human Capital Theory. Rather than conducting simple counts of how many people are flowing into and out of a community, Human Capital Theory measures loss on a microeconomic level by examining potential or earned income, education level and other traits of those coming and going.

It is this author’s hope that the conceptual framework and analyses presented here will provide Omaha with useful ideas for influencing migration and will furnish the academic community with a theoretical foundation that will inspire the continued study of communication and its critical role in migration.
Migration means life and progress; a sedentary population stagnation.

Ravenstein (1889, p. 288)

When populations are altered by substantial migration, the socioeconomic characteristics of places losing and gaining people may be altered as well. A net loss of residents can mean higher per capita costs for education and government services. Capital investments and real estate become under-used. Fewer people mean fewer jobs, causing even more people to leave town to find work elsewhere. Birth rates drop. Potential businesses, uninterested in the resultingly older, less-educated workforce, choose another place to locate (Lewis, 1982; Rowley, 1998; Sahota, 1968). The result can be seen in places such as Goner, Nebraska where a large out-migration forced the town to sell its school at auction for $20,000 ("Fruitless Plains," 1998).
Sizeable in-migration also can burden communities (Chan, 1995). In the late 1970s, for example, the Atlanta Chamber of Commerce launched a $1 million migration campaign urging people to move to the "city without limits" (Burd, 1977, p. 133). The campaign was so successful that even now, two decades later, the Atlanta metropolitan area just recorded one of its largest annual population jumps ever. But the city does not have enough public transportation or other alternate methods of travel to serve its burgeoning 20-county metropolitan area. As a result, Atlantans drive a combined 113 million miles a day, shrouding the city in heavy smog that obscures the skyline, makes people sick, prompts residents to move away, and hurts the city’s image (Levs, 1999).

The consequences of human mobility, such as those in Goner and Atlanta, have made migration a widely studied phenomenon. No one theory in any single discipline can explain the human decision to move. The explanation, instead, must be constructed by pulling together research and theoretical frameworks from geography, economics, communication, sociology and psychology.

The earliest research into migration emerged in the fields of geography and economics where, by the late 1800s,
spatial analysis and theory and economic principles were applied, often together, to explain and forecast migration flow. British economist Ravenstein’s (1885, 1889) “laws” of migration became a classic framework for research by geographers and economists (Lewis, 1982). Some of the major conclusions of Ravenstein’s laws are as follows:

- Migration proceeds step-by-step, like the “movement to that which is produced in a cistern of water after the tap has been turned on” (Ravenstein, 1889, p. 286). Citizens of rural areas near a town flock to that town, then people in more remote areas move to those rural areas at the town’s edge, and so on.
- Most migrants travel only a short distance.
- Every main migration current produces a counter-current of lesser strength.
- The primary direction of migration is from agricultural or rural areas to industrial centers.
- As industry and commerce grow and transportation improves, migration increases.

Ravenstein's laws reflect the restrictive way in which early researchers interpreted migration. Economic and
spatial or geographic theories were the primary frameworks for analysis. There was little attention, if any, given to social or behavioral explanations for why people move.

Alternative theories of migration, such as those examining community ties and quality of life issues, have become more popular in the past few decades. Nevertheless, economics has remained the dominant paradigm in migration research during the 20th century.

**Economic Theory and Migration**

Ravenstein’s laws, with their statements about what attracts migrants, such as “great centres of commerce and industry” (1885, p. 198), inherently recognized variables that push people to move from one place and pull them to their new destination. By the 1930s, works of researchers such as Ravenstein, Redford and Herberle had resulted in the widespread use of a formal Push-Pull Theory, also referred to as the Theory of Economic Determinism (De Jong & Fawcett in De Jong & Gardner, 1981; DeSantis, 1998; Lewis, 1982; Sahota, 1968). Push-Pull Theory asserts that migration is caused by a series of forces which encourage an individual to leave one place (push) and attract him to another (pull). In other words, if an individual’s needs
cannot be satisfied at his present location, then a move elsewhere may be considered. On the other hand, despite being satisfied with his or her present situation, information about greater opportunities elsewhere may persuade the individual to move. For each migration, however, several push and pull forces may be operating and interacting, so that the move cannot be attributed wholly to either force (Lewis, 1982, p. 100).

Defined economic push forces include, but are not limited to, poverty or low wages, unfavorable trade conditions, unequal distribution of income and property, the mechanization of agriculture and other industries, and unemployment. Pull forces include, among other things, a higher employment rate, better transportation, a larger income or better job, higher quality housing and lower housing prices (Bailey, 1993; Brown & Sanders in De Jong & Gardner, 1981; Davis & Donaldson, 1975; DeSantis, 1998; Ellis, Barff, and Renard, 1993; Goodwin, 1990; Lewis, 1982; Lowry, 1966; Sahota, 1968; Shryock, 1964).

Push-Pull Theory plays a particularly important role in explaining the "Great Migration" of blacks from the south to the north between 1915 and 1920 (Davis & Donaldson, 1975; DeSantis, 1998; Drake & Cayton, 1945;
Goodwin, 1990; Haynes, 1924). That approach, though, has its critics. Levine (1977) said to accept a purely economic explanation of migration was to view blacks “once again not as actors capable of affecting at least some part of their destinies, but primarily as beings who are acted upon – southern leaves blown north by the winds of destitution” (p. 265).

Push-Pull Theory also was the foundation for studies by Long and Hansen (1980) and Long (1988) that found the most common reasons overall for interstate migration were job-related – job transfers, new jobs, or looking for jobs. Crown (1991) established that between 1970 and 1987, manufacturing growth was either a push or pull predictor of migration, depending on the rate of growth.

McHugh and Gober (1992) looked at whether statewide or regional economic changes were related to migration patterns and found such a relationship between the 1980s energy crisis – a push factor – and out-migration in the oil and mining states such as Texas, Louisiana, Oklahoma and West Virginia. Frey (1994) also tied net migration losses in Ohio, Michigan, Oklahoma, Louisiana and Iowa to push factors such as the “declining economies of the ‘oil
patch, 'rust belt' and 'farm belt' regions in the late 1980s" (p. 48).

Cebula (1979) found that a higher level of welfare was a pull factor for black migrants, but not whites, while anecdotal evidence showed welfare benefits were a pull factor for Chicago residents migrating to Wisconsin (Johnson, 1995). Hsing (1995/96) concluded that tax burdens acted as both push and pull factors, encouraging in-migration if they dropped below a certain rate and spurring out-migration if they surpassed a particular rate.

A second widely used economic explanation for migration is the neoclassical Human Capital Theory (Schultz, 1961; Sjaastad, 1962; Becker, 1964). Human Capital Theory views migration as a personal investment where the perceived benefits must outweigh the costs of moving. Therefore, people in diverse circumstances - having varying incomes and education levels, being of different ages and skill levels - will weigh their options and, if they decide to move, will choose a place that has the highest perceived net value to them (Basu, 1997; De Jong & Gardner, 1981; Izraeli & Lin, 1984; Kottis, 1972; Krieg, 1991; Schultz, 1961; Sjaastad, 1962).
But different people have different thresholds in terms of what it will take for the rewards of moving to outweigh the costs. As Lee noted: "For some individuals, there must be compelling reasons for migration, while for others little provocation or promise suffices" (1966, p. 51). Consequently, it is not a given that only the best-schooled people or the highest wage earners will decide to move. Migrants have varying capital value in terms of their education, their income or projected income, and other assets or drawbacks they bring to a community.

Men are not created equal, nor would they be likely to stay so if they were. A 10 per cent inmigration of highly skilled persons (with few children) may improve...per capita income more than a larger but less selective outflow (Sjaastad, 1962, p. 81).

Studies integrating human capital ideology have looked both at the process of weighing a move and the result of migration's net economic impact on communities, states or regions (Basu, 1997; Frey, 1994; Gilchrist & Wardell in Jobes et al., 1992; Goss & Schoening, 1984; Kottis, 1972; Krieg, 1991; Sahota, 1968; Shryock & Nam, 1965; Suval & Hamilton, 1965). One of the most popular
implementations of Human Capital Theory is in the study of a phenomenon called “brain drain,” which is the net loss of better-educated residents through migration. Though his work came a few years before Human Capital Theory formally emerged, Hamilton (1959) was using that same approach to determine that white and black populations were not equally affected by brain drain. While the more educated blacks were migrating to other states, Hamilton found that the heaviest out-migration in the white community was that of persons with a fourth-grade education or less. Tornatzky et al. (1998) concluded that larger, more populous states and those with fewer people commuting to work across state lines retained a higher percentage of graduates and, thus, had a lesser chance of experiencing brain drain.

Between 1975 and 1980, Nebraska suffered brain drain with a net loss of 7,280 college graduates and a net gain of 360 persons who had an eighth-grade or lower education (Nebraska Department of Economic Development, 1984). Another study of migrants between 1990 and 1996 (Napolitano, 1998) found the brain drain continuing, with more four-year-college-educated residents moving out of Nebraska than moving into it.
Social and Cognitive Theory and Migration

Even the major economic frameworks of migration, such as the Push-Pull and Human Capital Theories, do not completely ignore the existence of social and cognitive reasons for migration. Over the years, researchers have incorporated into these economic models some social and cognitive variables, including age, race, gender, risk avoidance, neighborhood quality and attitudes toward climate and pollution (De Jong & Fawcett in De Jong & Gardner, 1981; Kottis, 1972; Schachter & Althaus, 1982; Stimson & Minnery, 1998). But the use of pure social or cognitive theory to predict migration was slow in coming. "The tendency to overemphasize economic motivations...has quieted many who would otherwise go beyond the conventional framework in attempting to understand the meaning of the movement of Black Americans from the South," noted Goodwin (1990, pp. 45-46).

One of the most significant benchmarks in the emergence of social theory in migration research came when Lee modified Ravenstein’s laws to recognize the more subtle, subjective and social elements of a decision to migrate, including the effects of time, ethnic diversity, and life events (Lee, 1966). During the 1970s, the study of
social variables in migration was further promoted when the first sets of extensive data on quality of life issues were collected (Greenwood, 1985). Consequently, in the past 25 years, researchers have found many social factors to be strong predictors of migration (Cebula, 1979; Fuguitt & Beale, 1978; Heaton, Clifford & Fuguitt, 1981; Cordes, Allen, Filkins, Hamilton & Spilker, 1996; Hemmasi, 1995; Kenkel, 1965; Kosinski & Prothero, 1975; Long, 1988, 1990; Long & Hansen, 1980; Murdock, Parpia, Hwang & Hamm, 1984; Schachter and Althaus, 1982; Shelley & Koven, 1993; Sofranko & Williams, 1980; Sommers, 1981; Swanson, 1986). Several themes have dominated this research: the existence of strong social ties and networks – such as the presence of friends or relatives; the opportunity for social equality; the chance to live among those who share similar norms and values; and a desire to participate in the community. These factors not only explain why people migrate, but also why they sometimes choose not to migrate, how they integrate into a community once they are there, and why they might leave a community but then later return to it (Cordes, 1996; De Jong & Fawcett in De Jong & Gardner, 1981; Guest & Stamm, 1993; Hagan, 1998; Ritchey, 1976; Stinner, Tinnakul, Kan & Toney in Jobes et al., 1992;
Speare, Kobrin & Kingkade, 1982; Stimson & Minnery, 1998; White, 1992).

A dominant social theory of migration that encompasses many of these factors is the Socio-Emotional or Sentimental Theory. It emerged as an explanation for the Great Migration, asserting that blacks migrated to join relatives and friends who already had moved north and to find communal ties, social networks and community participation that was denied to them because of the racial injustices of the South (DeSantis, 1998; Goodwin, 1990; Levine, 1977).

"It was a decision Negroes made to leave the South, not an historical imperative," noted Jones (in Levine, 1977, p. 267). The same social ties and networks that might attract migrants also might constrain them from moving. This is known as the hypothesis of affinity (Hugo in De Jong & Gardner, 1981; Ritchey, 1976).

Another rationale relevant to migration is Reference Group Theory. The first use of reference groups was by Hyman in 1942 who defined them as "groups that consistently anchor the person’s experience and behavior in relevant situations" (in Wade, 1998, p. 349). Sherif (1962) proposed that a reference group need not be a physical entity, but simply a psychological one. "In the way of definition,
reference groups are those social units to which the individual relates himself or aspires to relate himself psychologically....They may be groups with which he is not actually associated. He may even have no direct contact with them” (p. 801).

The role of reference groups in conveying shared norms and in persuading individuals to action is well documented (Hovland, Janis & Kelley, 1953; Katz & Lazarsfeld, 1955; Merton & Kitt in Merton & Lazarsfeld, 1950; Smith, 1982). Yet, there is little, if any, migration research conducted from a reference group perspective. It is not difficult, however, to see how this theory is applicable to the migration process and to the migrant’s choice of a community. Whether searching for a bigger paycheck or a village of political soul mates, the migrant searches for a community to which he or she can relate. Notes Suttles (1972): “The quest for a good community is, among other things, a quest for a neighborhood where one does not fear standing an arm’s length from his neighbor, where one can divine the intent of someone heading down the sidewalk, or where one can share expressions of affect...” (p. 234).
Communication and Migration: The Community Link

As illustrated by the research already mentioned, the decision to migrate is linked to issues of community: a community’s image, a community’s norms, a community’s quality of life and a community’s social ties. How, though, does a potential migrant assess these characteristics when making a decision whether to move? How does that migrant learn about the quality of life in a community, or its norms, or what that place looks like, or how receptive its social network might be toward a new citizen? The answer is communication.

Communication is the means by which these aspects of a community are ascertained, whether the information comes through word of mouth or through the television, the Internet or other channels of mass media. Communication, however, still does more than transmit a community’s image to potential migrants. Before there can be an external image, there first must be an internal image or a culture to project and that also relies on communication. Communication is the nervous system of a community, transmitting and reinforcing the shared values and norms of a community (Carey, 1992; Cooper, 1932; Greer in Janowitz,

Throughout history, scholars have recognized this integral link between communication and the fabric of a community. From Plato and Aristotle through Rousseau and Montesquieu, and indeed up until the end of the 18th century, there was a belief that a community had to be limited in population and geographic size because the communication networks of those days could only provide so much cohesiveness (Carey, 1992). When oral debate and discussion were the primary means of communication, Plato theorized that the perfect democracy would consist of precisely 5,040 citizens (Dahl & Tufte 1973).

“...The number displays the fallacy of misplaced concreteness, but it expresses the democratic desire for universal participation. Greater numbers would make democratic debate and discussion impossible. Democracies or republics were limited, then, by the range of the foot and the power of the tongue.” (Carey, 1992, p. 4)
In the 1700s, as the United States expanded westward and as improved transportation and other technologies promoted mass communication, James Madison (1787), in The Federalist Papers, assured critics of the proposed Constitution that communication would promote a united, cohesive democracy despite the geography and distance. The 20th century brought with it a vibrant interest by sociologists and other scholars in communication’s role in shaping and maintaining communities. Chicago sociologist Robert Park, in his book Society, described the relationship between communication and community in this way:

It is a social-psychological process by which one individual is enabled to assume, in some sense and to some degree, the attitudes and the point of view of another; it is the process by which a rational and moral order among men is substituted for one that is merely physiological and instinctive. Communication “spins a web of custom and mutual expectation which bind together social entities as diverse as the family
group, a labor organization, or the haggling participants in a village market" (1955, p. 314).

In his 1929 journal article *Urbanization As Measured By Newspaper Circulation*, Park noted that "culture...is based finally on communication" (p. 60). Carey (1992) had this to say about communication and community:

Communication is...the basis of human fellowship; it produces the social bonds, bogus or not, that tie men together and make associated life possible. Society is possible because of the binding forces of shared information circulating in an organic system (p. 22).

Dewey (1917) also elucidated this integral link between communication and community:

There is more than a verbal tie between the words common, community and communication. Men live in a community in virtue of the things which they have in

* This extended passage from Park's *Society* is within double quotations in the book, but with no note or citation attached to it. Therefore, it is unknown whether Park was using a quote from someone else and a citation was omitted, whether he enclosed his own words within quotation marks for emphasis, or whether it is a printing error. A check of this same work re-published in "Perspectives In Social Inquiry" edited by Merton and Halberstam (see bibliography for full citation) found the same passage within double quotes and no citation or other explanation for the quotation marks.
common; and communication is the way in which they come to possess things in common. What they must have in common in order to form a community or society are aims, beliefs, aspirations, knowledge - a common understanding - like-mindedness as the sociologists say. (p. 5)

This cultural and sociological perspective of communication put forth from the days of Plato to the days of Park and beyond, makes it clear that without communication, humans lack the means by which to transmit to each other those things that they share - beliefs, opinions, morals, goals, and more. Communication is the glue that binds an otherwise disparate group of human beings into a community with a shared identity. That internal shared identity is critical to the migration process, because it is upon that internal identity that an external image of the community is constructed and projected to those outside the fold. How effectively that image is constructed and transmitted and how attractive that image is to others influences a community’s ability to entice migrants who not only will sustain it economically but socially and culturally as well.
Communication Theory In Structuring Community

The cultural and sociological views of communication held by Park, Dewey, Madison and Carey fall within the ritual or expressive model of communication. The ritual model, in Carey's words, views communication as:

Linked to terms such as “sharing,” “participation,” “association,” “fellowship,” and “the possession of a common faith”....A ritual view of communication is directed not toward the extension of messages in space but toward the maintenance of society in time; not the act of imparting information but the representation of shared beliefs (1992, p. 18).

The ritual model is one of four major models of communication (McQuail, 1994). A second of these - the transmission model - also has direct application to the role of communication in the structure and promotion of community. The transmission model is at the heart of the dominant paradigm in communication research. Its view of the communication process is functional and can be captured by the classical Lasswell question of "Who Says What In Which Channel To Whom With What Effect?" (Lasswell in Bryson, 1948, p. 37).
Within a transmission model framework are two theories applicable to communication and community - the Two-Step Flow Theory and the Diffusion Theory. In their Two-Step Flow Theory, Katz & Lazarsfeld (1955) showed how communication flows within a community, helping to shape and sway opinions on a wide range of issues, from what we wear, to which movies we choose to see, to how we vote in a political election. The theory maintains that information moves in two distinct stages. The first stage is comprised of a primary group of people who pay frequent attention to mass media and the messages of those media. These can be friends, family members, co-workers, elected officials, members of clubs and organizations, or others. They are what Katz and Lazarsfeld call “opinion leaders” or “primary groups.” The opinion leaders then pass on their own interpretation of those messages to others. These primary groups, Katz and Lazarsfeld hypothesized, “actively influence and support most of an individual’s opinions, attitudes and actions” (p. 48).

Within the context of migration, opinion leaders and primary groups might control what parts of a community image are projected to outsiders, or if any image at all is projected. They might choose which channels of
communication are used to project this image. When a person is considering a move, these opinion leaders or primary groups might influence the decision of whether to migrate. And when potential migrants visit a community, opinion leaders or primary groups might influence where a person chooses to live within a community and how they participate in that community.

A second communication theory with application to the structuring of a community is the Diffusion Theory, which builds also on the gatekeeping theories of Lewin (1947) and White (1950). Among other things, Diffusion Theory focuses on the communication process and how it influences social change and the acceptance of new ideas or practices. Opinion leaders still influence people, but an additional group of “gatekeepers” can control what information gets out to the opinion leaders and others (Infante, Rancer & Womack, 1997; Lewin, 1947; Littlejohn, 1992; McQuail, 1994; Rogers & Kincaid, 1981; Rogers, 1995).

Persuasion Theory and Interpersonal Influence on Migration

The Two-Step Flow Theory and the Diffusion Theory, while functional in terms of how they map out the flow of communication, also provide some insight into the process
of persuasion. In the study that led to their Two-Step Flow Theory, Katz and Lazarsfeld (1955) asked people what it was that changed their vote intentions during a campaign. "Their answer was: other people. The one source of influence that seemed to be far ahead of all others in determining the way people made up their minds was personal influence" (p. 32).

The success of persuasion can rely on whether the recipient of the message trusts the source, considers him to be of good character, or considers him to be expert in the subject of which he speaks (Hovland, Janis & Kelley, 1953; Infante et al., 1997; McQuail, 1994). The foundation for this approach goes back to Aristotle and his theory of ethos:

The character [ethos] of the speaker is a cause of persuasion when the speech is so uttered as to make him worthy of beliefe [sic]; for as a rule we trust men of probity more, and more quickly, about things in general, while on points outside the realm of exact knowledge, where opinion is divided, we trust them absolutely....It is not true, as some writers on the art maintain, that the probity of the speaker
contributes nothing to his persuasiveness; on the contrary, we might almost affirm that his character [ethos] is the most potent of all means to persuasion (Aristotle in Cooper, 1932, pp. 8-9).

Aristotle’s theory was supported by the Yale Studies of communication and persuasion (Hovland et al., 1953; Infante et al., 1997). Hovland and his colleagues “believed that the potential success of a persuasive effort depended on the credibility of the source” (Infante et al., 1997, p. 520) and their research supported that theory (Hovland et al., 1953; Infante et al., 1997). The Yale studies also placed persuasive communication within the framework of the Cognitive Learning Theory, asserting that an individual’s existing opinion on a matter will persist until that person undergoes new learning experiences through persuasive communication (Hovland et al., 1953; Infante et al., 1997). This framework, when applied to the migration process, raises the question of whether stereotyped or other entrenched images that potential migrants have of a community can be changed through persuasive messages.

The success of persuasive messages, however, does not depend just on the credibility of the messenger. Success
also depends on the contents of the message itself. Hample
(1977, 1979) developed a cognitive theory of argument that
concludes the power of evidence in a persuasive argument is
a significant predictor of attitude change. McCroskey
(1969) found that evidence presented in a persuasive
message "has little, if any, impact on immediate audience
attitude change...if the audience is familiar with the
evidence prior to exposure to the source's message" (p.
175). Florence (1975) concluded that the effectiveness of
evidence in a persuasive message relies, at least in part,
on whether the person hearing that message finds the idea
that the evidence supports to be personally desirable.

Persuasion, through interpersonal communication, is
vital to the migration process. Migrants find relatives and
friends to be more credible than other sources of
information (Hugo in De Jong & Gardner, 1981) which is
consistent with the theories advanced by Aristotle and the
Yale Studies. In the United States' pioneer days, migration
fever was spread through personal visits and correspondence
with family members who lived west (Bogue, 1994). Goodman
concluded that "movers are more likely to act upon
information from friends and relatives than upon
information from other sources" (In De Jong & Gardner,
Rossi (1980) found a higher ratio of migrants chose destinations touted by interpersonal contacts than by any other source. Also, when migrants found potential destinations to be analogous in all other respects, they favored the community in which they had friends, family or other personal contacts who provided “high quality, dependable information” about that community (Gustavus & Brown, 1977, p. 546).

Persuading Migration Through Mass Communication

In the autumn of 1681, Gabriel Thomas, a 21-year-old Welshman, sailed from London with a group of others to settle William Penn’s colony of Pennsylvania. After fifteen years there, Thomas returned to London and in 1697 published “An Historical and Geographical Account of the Province and Country of Pensilvania; and of West-New-Jersey in America” (Potter, 1966). He wrote: “The Air here is very delicate, pleasant, and wholesom; the Heavens serene, rarely overcast, bearing mighty resemblance to the better part of France...the Fruit so good, and the Earth so fertile” (Potter, 1966, p. 33). Thomas’ book was designed to encourage further migration to the colony. In fact, the Welshman quarreled bitterly with Penn over the reward he
felt was due to him for a book which had “proved to the province’s great advancement by causing great numbers of people to go over to those parts” (Potter, 1966, p. 32).

The strategy of using civic image or community identity to lure migrants, undoubtedly practiced long before Thomas’ day, was refined and elevated to an art on the American frontier. “Westerners were keenly aware of the importance of attracting settlers. If others joined them, western economies would thrive; emigrants would be not only comrades in state building but also consumers and producers,” noted Bogue (1994, p. 285). In the late 1800s, various estimates were computed for the per capita cash value of an immigrant. Friederich Kapp, commissioner of immigration for New York state, calculated that a healthy male immigrant was worth $1,500 to the state’s economy (Emmons, 1971).

The immigrant was thus considered a part of a complicated system of commercial exchange. His value to the state which attracted him was one of its principal sources of revenue and growth, especially if he arrived, as did the Mennonites in Nebraska, with “well-filled wallets.” But even if he arrived with an
empty wallet he was a treasure to be prized and admired. He provided relief from the heavy tax burdens necessary in all new commonwealths. His coming meant better schools and roads, more and improved state services, expanding markets and more complete development of natural resources (Emmons, 1971, p. 49).

To successfully attract residents from Eastern states, they had to be "disabused of the notion that the Plains were subject to drought and grasshoppers..." (Emmons, 1971, p. 50). Frontier newspapers took up the challenge. The 19th century marked the emergence of the booster press and its nearly singular mission to attract migrants to the American West (Boorstin, 1965; Burd, 1969, 1977; Dagenais, 1967; Startt & Sloan, 1994; Strauss, 1961). Enveloped in civic enthusiasm, pioneer papers "sometimes represented things that had not yet gone through the formality of taking place" (Boorstin, 1965, p. 127). Plainly put, newspapers on the frontier had to create a population to serve. "They started by advertising the nonexistent town where they hoped to make a vigorous life. Seeking settlers from all
over the country, they were probably our earliest media of national advertising” (Boorstin, 1965, p. 125).

Descriptions like this one of Kansas from the Caldwell Commercial in 1880 were commonplace:

Dimly in the north beyond the rising and falling billows of the flower-spangled prairie, may be seen a dark line of timber skirting the sandy shores of the Chicaskia, with here and there a white speck upon its rich bottoms, showing that the husbandman has found a land which, if not now flowing with milk and honey, is destined at no distant day to become richer and fairer than Canaan (Emmons, 1971, p. 64).

Dary (1998) described the role of a newspaper editor in a new town in the West like this:

An editor had to proclaim his town’s bright future by praising and giving encouragement to residents, businesses and schools. The editor had to promote reform and civic development to help alleviate his readers’ hardships and give them hope. To attract new settlers an editor had to rely on exaggeration. Many did so without hesitation, since the success of their
newspapers depended on the growth of their towns....To succeed, an editor had to be optimistic and believe that his town was destined to become an important and influential place in the West (p. 79).

Boosterism could be a difficult calling, as illustrated by this passage published by the Watonga (Oklahoma) Republican in 1893: "Hell is full of newspapermen who killed themselves blowing for some little one horse town....We have decided that it is a sin to lie anyway, and in the future we'll be found telling the truth" (Dary, 1998, p. 79).

Newspapers were not alone in the quest to communicate positive images of the West to potential migrants. Land speculators advertised their holdings through handbills and pamphlets; the American travel account became a popular literary form; and guidebooks were created to describe the frontier’s natural resources and surface features (Bogue, 1994). Railroad companies printed handbills, books, and pamphlets, organized excursions, and sent agents and lobbyists around the nation and abroad to persuade people to migrate (Bogue, 1994; St. John, 1998). Minnesota established a State Board of Immigration in 1855, and other
western states followed suit. By 1864, Kansas was sending emissaries abroad.

The West was not the only region to benefit from boosters. After the Civil War, travel accounts, government pamphlets, and newspaper reports played a vital role in helping to repair the tattered reputation of the South and attract immigrants “with ready purses and willing hands” (Clark, 1966, p. 463; see also, Gaston, 1970). Noted Burd (1977): “Newspaper editors were salesmen for the South and West long before irrigation and air-conditioning made the deserts and swamps palatable” (p. 130). Early in the 20th century, newspapers such as the Chicago Defender and The Star of Zion in Charlotte, North Carolina, played a prominent role in encouraging or discouraging blacks from the South to migrate to the industrial centers of the North (DeSantis, 1998; Jones, 1986).

Newspapers are not the only channels used to convey the communication of civic image and community identity to potential migrants. Migrants are wooed through media advertisements and articles (Murphy, 1996), such as magazine rankings of the best places to live or work, (Saporito, 1992); through brochures circulated by businesses, travel agencies and chambers of commerce
(Bogue, 1994; Burd, 1977); by propaganda campaigns (Chan, 1995; Young, 1982); by movies and television shows (Laborde, 1997; Messaris and Woo, 1991), through sports broadcasts (Ey, 1977; “Ongoing 500 Feud,” 1997) and through the lyrics of popular music (Marsh, 1977; Young, 1969). The Sears, Roebuck and Company catalog, which was mailed all over the world, projected an image of life in the U.S. It was reported “that President Franklin Roosevelt once remarked that Soviet propaganda might profitably be countered by bombing the Russians with Sears, Roebuck catalogues” (Jeuck, 1966, p.558). Even artwork on consumer goods, such as utopian pictures on the labels of a Texas company’s cotton bales processed in Eastern Europe, communicate to less fortunate foreign residents images of a better life (Ewen & Ewen, 1992). Magazines such as Southern Living, Texas Monthly, and Arizona Highways exist for the sole purpose of promoting the image of those places (Burd, 1977, p. 134). Entire books have been written about using community image-building to attract new residents and businesses (e.g., Ashworth & Voogd, 1990).

Not surprisingly, cities and states all over the nation are working to improve their self-image, or the image seen by others (Braico, 1998; Buxbaum, 1997;
Chevrant-Breton, 1997; City beat, 1998; Daugherty, 1998; Elder, 1996; Fink, 1997; "Fresno’s image," 1998; "Getting out," 1998; "Have recent public," 1997; "Image builder," 1996; Maynard, 1997; "Mixed use," 1993; "Residents’ attitudes," 1996; "Safety," 1997; Vale, 1995; Waco Mayor, 1993). Businesses and governments are joining forces to toss out images of dirty manufacturing cities (Kawa-Jump, 1998), party towns (Rutledge-Jones, 1998) and wastelands (Roush, 1993). Small rural towns, struggling to maintain population, also capitalize on images such as this one: "A warm summer evening with a brass band in the courthouse square bandstand playing just off key...a tree lined street filled with front porches and neighbors sitting and talking to one another" (Fazio & Prenshaw, 1981, p. 4).

Mass dissemination of community image is important to attracting migrants. Research shows that perceptions or images of places, and quality of life factors promoted through those images, do sway migrant’s decisions (Cromartie, 1998; Macrae & Carlson, 1980; Rowley, 1998).

Communication and Migration in Nebraska

Nebraska has an image problem. A survey by Roseman (1977) found a sample of University of Illinois
undergraduate students ranked Nebraska as one of the 10 places where they would least like to live. Another study, this one of new migrants to Omaha, found Nebraska’s image consists of cornfields, bad weather, and Mutual of Omaha, but nothing more (Cooper, 1998; Leadership Omaha, 1998).

Perhaps unsurprisingly, Nebraska has suffered net migration losses more often than not for over 100 years. Shryock (1964) showed Nebraska losses as far back as 1890. During the 1920s, Nebraska had one of the highest out-migration rates in the nation with 33.9 percent of those born in the state having moved away. That ranked Nebraska eighth out of the nation’s then 48 states (Winston, 1930). Long and Hansen (1977), in a study of migration data from 1955-60 and 1965-70, found that Nebraska and the surrounding states of Minnesota, Iowa, the Dakotas, Missouri, and Kansas - as a region - had one of the lowest in-migration rates and one of the highest out-migration rates. A study by the Nebraska Department of Economic Development (1984) showed varying degrees of net migration losses between 1950 and 1980. Research by Rathge and Highman (1998) found a majority of the Nebraska counties analyzed showed either continuous decline or a mix of growth and decline.
Leaving Nebraska in these out-migrations are some of the state’s best minds, entrepreneurs, and more highly skilled workers. During the 1980s, the highest out-migration rates were among the unemployed with college degrees. During that same time period, Nebraska had a net loss of 1,760 entrepreneurs - people who owned their own businesses. And, out-migrants mainly worked in the managerial, professional, sales/administrative support, and skilled labor areas, while in-migrants largely worked in the unskilled labor and service occupations (Nebraska Department of Economic Development, 1984). During the current decade, the losses continue (Gober and McHugh, 1996) or, at best, growth is miniscule (Deming, 1996). And Nebraska continues to lose some of its best-educated people, as well as workers in technical occupations (Napolitano, 1998).

With Nebraska’s long history of net out-migration and its negative civic image, the question arises of whether the state is using communication effectively to influence migration. In this case, effective communication can be studied both by looking at the interpersonal and mass media channels through which the communication flows and is diffused - such as those laid out in the Two-Step-Flow and
Diffusion Theories - and by determining the content of the messages migrants receive and if those messages are persuasive.

Additionally, there is some evidence that Nebraska, particularly the Omaha metropolitan area, is suffering from a net loss of better-educated and more highly skilled people or, as defined through the work of Sjaastad (1962) and others, a net loss of human capital.

This thesis, therefore, advances the following five research questions:

**RQ1:** Which communication channels are officials using to disseminate information about Omaha and the state of Nebraska to attract migrants?

**RQ2:** Which communication channels are migrants using to gather information about Omaha and Nebraska before making a decision to move here?

**RQ3:** Which of the communication channels being used by migrants most influences their migration decision?

**RQ4:** What images of Nebraska are being transmitted to potential migrants through mass communication and interpersonal communication channels?

**RQ5:** Is Nebraska experiencing a net loss of human capital?
Chapter III

Methodology

This study blended both qualitative and quantitative methods. To answer the first four research questions about the role of communication in the migration process, qualitative interviews were conducted with migrants and with state and local officials responsible for promoting Omaha and Nebraska. To answer the fifth research question of whether Nebraska is experiencing a net loss in human capital, a quantitative analysis was conducted of education and earnings data collected on migrants by the U.S. Bureau of Census. Approval from the university Institutional Review Board was obtained for both analyses.

The Qualitative Study

The qualitative portion of this thesis followed the Grounded Theory approach (Creswell, 1994; Strauss & Corbin, 1994). Data, generated through interviews, were analyzed through the constant comparative method. This approach maximizes the inductive aspects of qualitative research (Creswell, 1994, pp. 95-96). There is a heavy emphasis on designing and asking generative questions that will
identify interrelated concepts and produce substantive conclusions about communication and migration that is directly applicable to Omaha and Nebraska.

**The Subjects and The Settings:** This study was based on interviews with two distinct groups. The first group was comprised of local and state officials who are responsible for promoting the images of Omaha and Nebraska. These interviews were conducted in August 1998 as part of a preliminary study by this author titled *The Human Economy: Nebraska Migration, 1990-1996*. This initial study, a deliberate precursor to this thesis, was presented in August 1998 in fulfillment of the requirements for an independent study course. For these interviews, a first round of telephone calls was made to the Nebraska governor's office in Lincoln, the Omaha mayor's office, the Greater Omaha Chamber of Commerce and the Nebraska Division of Travel and Tourism. These are the most obvious of the opinion leaders and gatekeepers in Nebraska and Omaha who might create, disseminate and otherwise influence messages to potential migrants. The offices of the mayor, governor and the travel and tourism division referred all questions to specific individuals at the Greater Omaha Chamber of Commerce and the Nebraska State Department of Economic
Development and those are the officials who were interviewed for this study. They were: Vicky Krecek, vice president of communications for the Greater Omaha Chamber of Commerce; Stu Miller, deputy director of the Nebraska State Department of Economic Development; and Lou Lamberty, vice president of labor availability for the Omaha Chamber of Commerce. Interviews with these three officials were conducted over the telephone while they were at their places of business. The conversations focused on the communication methods used to promote Omaha’s image (RQ1). Each official was told his or her comments would be used for both the preliminary study and in this thesis and all the officials said that was acceptable.

The second group of interviews was conducted with 13 people who migrated to the Omaha area between 1996 and 1999. None of the officials or migrants interviewed was randomly selected, but instead were a convenient sample chosen purposefully. Babbie (1995) notes that such purposive or judgmental sampling is suitable in these cases.

Occasionally it may be appropriate for you to select your sample on the basis of your own knowledge of the population, its elements, and the nature of your
research aims: in short, based on your judgment and the purpose of the study....In some instances, you may wish to study a small subset of a larger population in which many members of the subset are easily identified, but the enumeration of all of them would be nearly impossible (p. 224).

In this case, it would have been inappropriate to select a random sample of government officials for interviews as only a specific group of officials would have the knowledge necessary to contribute to the study. Therefore, judgmental sampling was employed to choose those officials who would have the most to contribute toward the topic under study.

With regard to the recent migrants chosen for interviews, it would have been impossible to identify the population of all recent migrants and then randomly select a group. There is no comprehensive list of recent migrants in existence and no other reliable method of identifying such a group. Additionally, the limited amount of time available to locate migrants and interview them severely curtailed the scope of the effort. Therefore, the migrants were chosen purposefully and from a convenient sample.
To locate recent migrants, telephone calls were placed to several real estate companies, half a dozen corporations in the Omaha metropolitan area, a “welcome wagon” service for new residents, the Northern States Beef Co., the Nebraska Association of Farmworkers and Our Lady of Guadalupe Church. The last three groups were chosen specifically for their connection to the Hispanic community. Hispanics are the largest minority group in Nebraska.

Each organization was informed of the thesis and asked for help in locating recent migrants from outside Nebraska who had come to work for them or had used their services. Some of the companies and agencies declined to help, but many did help by providing names and contact information for recent migrants. The author also searched among classmates at the University of Nebraska at Omaha for recent migrants or for assistance in finding recent migrants. The result was a list of 19 migrant candidates.

Out of the 19 candidates, three could not be contacted despite repeated efforts. When migrants were contacted, they were informed immediately that the author was a graduate student at the University of Nebraska at Omaha who was conducting research for an academic thesis into communication and its role in the migration process. They
were told their names had been received from a particular company, agency or person and asked if they would be willing to participate in an interview. Three of the remaining 16 candidates declined to participate. The other 13 agreed to an interview.

Three of the 13 migrants were born outside the United States. The remainder were born in the United States. Of the three foreign-born migrants, one had moved from Mexico to California and then to Omaha, one had moved from El Salvador to California and then to Omaha, and the third had moved from Colombia to Omaha. Of the migrants born in the United States, three each were from the Northeast, Midwest and West and one was from the South.

The household income for most of the migrants fell above the last estimated median household income for Douglas County, Nebraska, including Omaha, which was $38,852 in 1995 (U.S. Department of Commerce Bureau of the Census, 1999). Two migrants had household incomes that fell below $10,000 a year; two fell between $20,000 and $29,999 a year; one fell between $30,000 and $49,999; two fell between $50,000 and $74,999; three fell between $75,000 and $99,999 and three were $100,000 or more.
One migrant has a ninth-grade education; three are high school graduates; seven have four-year college degrees or the equivalent in their native countries and two have post-graduate degrees. Nine of the migrants are white; one is African-American, and three are Hispanic. Eight are men and five are women. Their ages ranged from 18 to 50 at the time they were interviewed.

The demographic makeup of the 13 migrants is skewed toward the skilled middle-class and upper-middle class because many of the sources chosen by the author for finding migrants - corporations, real estate agencies, and a university campus - are not places that deal with a large, non-skilled underclass. This choice of sources, and the resulting choice of migrants, were influenced by two factors: the author’s own upper-middle-class background and the very limited amount of time available in which to locate migrants. More about the issue of class, and its influence on this thesis, can be found in the limitations section to follow and in Chapter V covering discussion and conclusions.

The 13 subjects were interviewed at their homes, their places of businesses, or at neutral settings chosen by the subjects. The interviews ranged from 20 minutes to one hour
in length. At the onset of each interview, the subjects were told once again that they were part of a study about migration and their comments would appear in this thesis. They were told their names would remain confidential. Each interview was recorded on tape and transcribed verbatim. 

The Instrument: There were no instruments or structures used for the interviews with the three public officials.

An interview guide (Appendix B) directed each interview with the migrants. The guide was not repeated verbatim to each subject. It was used as an outline to ensure consistency among the interviews and maximize the opportunities to identify patterns in the data.

Comments and subjects outside the guide were permitted, particularly when they offered further insight into the process of communication during the migration decision.

The Analysis of Data: Interviews with the public officials were transcribed onto a computer as the conversations were being held.

\[1\] One migrant was not sufficiently fluent in English to conduct the interview without a translator. Therefore, this migrant’s spouse was present during the interview to translate responses and provide additional explanation when needed.
Interviews with each of the 13 migrants were taped and transcribed, then an open line-by-line coding process was used on the transcripts. Patterns and thoughts emerging from that initial coding then were recorded on paper and selected themes were chosen for the focus of this study. Those themes included what channels of communication were used to obtain information about Omaha before making a decision to move (RQ2), which channels of communication were most influential in their decision to move (RQ3), and the images of Omaha they had acquired through communication channels (RQ4). A focused coding then was conducted for the selected themes using a coding key (Appendix C).

Limitations of the Qualitative Data and Analysis

The limitations of this study fall into two primary categories: results influenced by sample size and quality and results influenced by interaction of the researcher.

The racial, gender and income mix of the sample is not ideal. Difficulties in scheduling interviews within a limited time frame resulted in an inability to pick and choose respondents for an optimum socioeconomic mix. Additionally, two of the respondents attended college together and moved to Omaha together - a fact of which I
was unaware until nearly the end of the interview process. By then, not enough time remained to discard one of those interviews and find a replacement. The two respondents, however, were living apart and leading separate and very different lives at the time of their interviews. Finally, while 13 interviews are better than one (as in the case study approach), that still may not be a large enough sample to produce a theory that can be applied over a larger population.

My own interaction in the interview process and the continued comparison and interpretation of data also influenced the outcome of this study. At the most basic level, my own status as a white, upper-middle-class woman influenced the procedure I used to locate migrants. I went searching for subjects at corporations, real estate agencies, a "welcome wagon" service and the university. None of these are places that routinely cater to unskilled, underclass migrants. When it became apparent my sample was lacking two important characteristics - migrants of Hispanic origin and migrants who are unemployed or earning very little money - I made a conscious effort to find additional subjects who fell within one, or both, of those categories. I turned to several agencies that do deal with
the Hispanic underclass in Omaha and, with their help, found additional subjects for my study.

I could have influenced the study in other, more subtle ways. Responses during interviews may have been affected if I asked leading questions, or if I communicated through my face, my mannerisms or my voice varying degrees of enthusiasm for a particular subject being discussed. During repeated reviews of the interview transcripts, I found a few spots where I made a statement that could have affected a response. For example, when one of the subjects, Mr. G, told me he was “cranking out C++ code” in his new job, my immediate and unrestrained reply was “Hmm. That doesn’t sound like very much fun.” I revealed my personal distaste of his job description and possibly influenced the way he interacted with me, including the level of detail or honesty he provided, for the remainder of the interview. It is difficult to tell. From the very first question, Mr. G, by far, was the most remote and least loquacious of all the interviews.

In general, I have a deep personal interest in the topic of migration. As a migrant myself (I moved to Omaha in 1995), I often can relate to the impressions and perceptions, the experiences and the frustrations, that the
migrants in this study revealed during their interviews. At times, perhaps, I inserted my opinion a little too much. An example is when Mr. A, who moved from upstate New York, commented that he didn’t realize it got quite as cold in Omaha as it did. Here is the conversation that followed:

Carol: Probably not much colder than upstate New York.

Mr. A: No, not upstate New York.

Carol: And considerably sunnier.

Mr. A: Yeah, I would say so.

There also was at least one place where I may have been perceived by the person I was interviewing as being defensive in my remarks. One of my personal irritations is people who insist Omaha is flat as a pancake. Ms. O didn’t quite go that far, but in reviewing my interview with her, I saw my hackles rise somewhat over her insistence that Omaha was flat.

Carol: You think it’s flat?

Ms. O: Oh definitely, having come from New Mexico. I mean, maybe if I had come here from somewhere else, but it’s flat.

Carol: Compared to New Mexico.

Ms. O: I haven’t seen a mountain.
Carol: This might be about perception. This is hillier than New Jersey.

Ms. O: (She laughs.) Huh.

Carol: New Jersey is coastal flat.

Ms. O: Well, there are a couple of hills here. But I’ve driven down to that outlet mall, which is about 20 miles out of here and that’s flat."

It is difficult to gauge whether my appearance, personality, questions, responses or other interaction in the interview process affected the outcome of the study. But the influence of the human researcher on what they are studying, to whatever degree, is a foundation principle of the qualitative paradigm and, thus, always a limitation.

The Quantitative Study

The methodology used in this analysis falls within the framework of Human Capital Theory. Under this approach, net migration is not determined through a pure count of individuals, but rather by comparing the human capital value of those moving into and moving out of Nebraska. Human capital values will be computed using existing Census data on migrants to determine if Nebraska is suffering a net loss of human capital (RQ5).
Migration or the value of migrants often is examined or assessed through variables such as an individual’s years of education, earnings and/or other demographic factors (see Izraeli & Lin, 1984; Kottis, 1972; Schultz, 1961; Shryock & Nam, 1965; Sjaastad, 1962; Suval & Hamilton, 1965; Winston, 1930). This approach, while widely used and accepted in migration studies throughout much of this century, does have a class bias that cannot be disregarded. It assigns the highest value to migrants with more education, who make more money. A basic assumption underlying Human Capital Theory is that a community is better off when its in-migrants are more educated and wealthier than its out-migrants. More about the issue of class, and its influence on this thesis, can be found in Chapter V covering discussion and conclusions.

The Data: This analysis uses microdata on CD-ROM from the annual March supplement of the Current Population Survey (CPS) by the U.S. Bureau of the Census for the years 1991-1994 and 1996-1997. The data file also is known as the Annual Demographic File.

Questions in the CPS survey are asked with regard to the previous year. Therefore, the period being studied is always one year earlier than the date of the CPS survey.
For example, the 1991 CPS actually measures migration movement from 1990 and the 1997 CPS measures what happened in 1996. Therefore, the period of study is 1990-1993 and 1995-1996, even though the surveys are dated 1991 through 1997.

The universe sampled by the data is the civilian, non-institutional population of the United States living in housing units. It also includes a relatively small number of Armed Forces personnel who are living in civilian housing units with their families, on or off a military base. Members of the Armed Forces living in barracks and civilians living in institutional or group quarters are not part of the CPS sample.

The CPS provides information about the civilian labor force (Armed Forces respondents are not asked labor force questions), including demographic characteristics (race, gender, marital status, etc.) and information about work experience, education level and income.

The CPS establishes migration patterns through a series of questions posed to individuals within each sampled household. The questions cover each person in the household who is one year of age or older. The questions asked include what state the respondent lived in the
previous year and in what state they currently reside. These questions identified those respondents who have migrated to or from Nebraska so they could be isolated from the remaining data for this analysis.

Each annual CPS covers roughly 2,000 counties and cities, representing every state and the District of Columbia, and producing between 136,000 and 163,000 records for each year’s sample. The CPS survey consists of a disproportionate stratified cluster sample, with sampling in each state being independent from the others. In stratified cluster sampling, individuals living in states and even in different cities in the same state have varying rates at which they are selected into the sample. As a result, individuals living in densely populated areas may have fewer people in the sample than those in sparsely settled areas and, consequently, a larger number of respondents may be selected from a less populous area. To correct for these potential imbalances, differential weighting is used. For the CPS data to be used correctly, the weighting must be applied before analysis begins to correct the sampling imbalances and to allow the data to be used to calculate estimates for the entire population of
the United States, for a particular region, or for a particular state.

The Analysis: The analysis was conducted using SPSS statistical software. The data analyzed included all records for those adult persons who had moved into or out of Nebraska during the previous year. All analysis is conducted with the weighted sample and results are shown in their weighted form.

There are two classifications of migrants defined for this study: in-migrants and out-migrants. In-migrants are those persons who moved into Nebraska from another state or from abroad during the period studied. Out-migrants are those persons who moved from Nebraska to another state or abroad during the period studied. Net migration for an area, in this case the state of Nebraska, is determined by subtracting the number of out-migrants from the number of in-migrants. A net migration loss means more people are moving out of the state than moving into it. A net migration gain indicates more people are moving into the state than are moving out of it.

This migration study provides a textbook example of the importance of weighting these data before analysis, as just discussed. Because samples from each state are drawn
independently and because these data are not collected primarily as predictors of migration, the raw sample numbers are not intended to reflect net migration for Nebraska, or any other state and, indeed, they do not. Although Nebraska has experienced a net out-migration for most of the past century, the raw sample used for this study consists of 263 Nebraskans who lived in another state the year before they were surveyed (in-migrants) and 177 respondents from 33 other states who had lived in Nebraska the year before they were surveyed (out-migrants). Using these raw numbers, Nebraska would have a net in-migration. Once the weights are applied to correct for the various imbalances caused by the sampling procedure, the picture changes. The weighted sample consists of 227,798 in-migrants and 281,897 out-migrants - a net out-migration.

This study, however, does not judge migration effect through a pure count of in-migrants versus out-migrants. Rather, subscribing to the premise of Human Capital Theory, the study calculates net human capital loss or gain by comparing the human capital value of those moving into and moving out of Nebraska. The use of ratios to measure human capital is a method employed by Krieg (1991) in his study of interstate migration. Following Krieg’s lead, but
modifying his approach somewhat, human capital value for this thesis is determined through four ratio measures. They are:

**HC1:** The ratio of total years of education of in-migrants to out-migrants. This is a simple ratio calculated by dividing the total number of years of educational attainment of in-migrants by the corresponding total for out-migrants. The formula is as follows:

\[
\frac{\sum X_i}{\sum X_o} = \text{Ratio of educational attainment}
\]

Where:

- \(X_i\) = Years of education for each in-migrant
- \(X_o\) = Years of education for each out-migrant

A ratio describes the relationship of one number to another and can be translated into percentages. So, for example, if the ratio of total educational attainment of in-migrants to out-migrants was 2.5:1, that can be interpreted to mean that the total educational attainment of in-migrants is 150 percent greater than the total educational attainment of out-migrants.

**HC2:** The ratio of total years of education of in-migrants to out-migrants, adjusted for the difference in
size of the two migration flows. When the number of in-migrants exceeds that of out-migrants, or vice versa, the simple difference in those numbers can influence the outcome of the ratio measurement and make it difficult to tell how much the result is affected by a true difference in education level rather than by a difference in the size of the migration streams.

The HC2 measure adjusts for that size difference and will show whether a net loss or gain of more highly educated migrants still would exist if the numbers of in-migrants and out-migrants were equal. If the difference still exists, it can be assumed that there is a true difference in educational attainment between the two groups. Being able to make this distinction is important within the tenets of Human Capital Theory, which would not view a net loss of migrants with, say, fourth-grade educations as a true economic loss to a community. It is the level of education of in-migrants and out-migrants, not the numbers of each, that is central to this theory. The formula for HC2 is based on there being more out-migrants than in-migrants in the weighted sample and is expressed as follows:
\[ \frac{\sum (P_i \times N_o) \times X_i}{\sum X_o} = \text{Adjusted ratio for educational attainment} \]

Where:

\( P_i \) = The proportion of in-migrants with a given number of years of education.

\( N_o \) = The total number of out-migrants in the weighted sample.

\( X_i \) = The given number of years of education of the in-migrant.

\( X_o \) = The years of education for each out-migrant.

HC3: The ratio of reported total earnings of in-migrants to out-migrants. This is a simple ratio calculated by dividing the reported total amount of earnings of in-migrants by the corresponding total for out-migrants. Earnings include all wages or salary reported earned during the prior calendar year while working for another, or through self-employment or farming. The formula is as follows:

\[ \frac{\sum X_i}{\sum X_o} = \text{Ratio of total earnings} \]

Where:
$X_i = \text{Total earnings for each in-migrant}$

$X_o = \text{Total earnings for each out-migrant}$

**HC4:** The ratio of reported total earnings of in-migrants to out-migrants, adjusted for the difference in size of the two migration flows. The HC4 measure will show whether a net loss or gain of migrants having higher earnings still would exist if the numbers of in-migrants and out-migrants were equal. The formula for HC4 is based on there being more out-migrants than in-migrants in the weighted sample and is expressed as follows:

$$\frac{\sum (P_i * N_0) * X_i}{\sum X_o} = \text{Adjusted ratio for total earnings}$$

Where:

$P_i = \text{The proportion of in-migrants with a given amount of earnings.}$

$N_0 = \text{The total number of out-migrants in the weighted sample.}$

$X_i = \text{The given amount of earnings of the in-migrant.}$

$X_o = \text{The total earnings for each out-migrant.}$

A post hoc analysis on the education data also was conducted after histograms and descriptive statistics
revealed some substantial differences in distribution of that variable between in-migrants and out-migrants. In particular, there was a large difference between the two migration streams for those with at least 20 years of education. The post hoc analysis consisted of a z-score test to detect whether that difference was statistically significant.

Limitations of the Quantitative Data and Analysis

The Sample: Much of the CPS survey, particularly the demographic and migration questions, applies to all persons aged one or older and the labor questions are asked of all persons aged 15 or older. This analysis, however, is confined to those respondents aged 18 and older because children and adolescents usually follow the migration decision of the adults caring for them. Therefore,

1 Although there was a similarly noticeable difference in the upper levels of earnings between in-migrants and out-migrants, a z-score test was not conducted for earnings because earnings cannot be categorized as meaningfully as can years of education. For example, the meanings and distinctiveness of educational levels such as eighth grade, high school graduate, college graduate, and postgraduate are widely recognized, accepted, and understood. The same is not true for earnings. There are no clearly demarcated breaking points. The z-score test depends on the proportions of respondents in each category. Thus, the results of this test will depend on how earnings are categorized into levels. Changing the earnings categories will change the results of the test. Without well-defined and socially accepted categories for earnings, z-score results are solely an artifact of the categories into which earnings are placed.
confining this study to those persons who are legal adults helps the sample more accurately reflect independent migration choices.

**Age Measures:** Some of those in the CPS sample, most particularly those between the ages of 18 and 21, may have been attending college at the time they were interviewed and, therefore, would not have reached their ultimate educational attainment. As a result, the human capital measures for those individuals would be based on their current education level rather than an ultimate education level. One approach might have been to eliminate from the analysis the data from those subjects below the age of 21, under the assumption that most adults have reached their ultimate educational attainment by then. That method, however, could have resulted in a severe undercount of young adults who went into the workforce right out of high school, so the decision was made to include in the analysis those aged 18 or older.

**Residence Measures:** The questions about previous and current residence were asked uniformly in the CPS for 1991 through 1994 and 1996 through 1997. However, the CPS of
1995 (covering 1994 migrants), did not ask about residence the previous year. Instead, it asked respondents where they had lived five years earlier. Because the migration question asked in the 1995 CPS was not comparable to those from the other years, and because that question is so central to this analysis, the CPS data for 1995 were excluded from the analysis. Therefore, the findings of this research are based on six years of data during the 1990 to 1996 migration period covered, instead of the full seven years.

**Education Measures:** There also was an inconsistency in the way the CPS determined educational attainment during the period studied. The 1991 CPS survey (covering 1990 migrants), asked for both the highest grade *attended* and the number of years of school completed. After 1991, respondents were asked only for the highest grade *completed*. Some of the grade categories in 1991 also differed slightly from those categories used in later years.

The HC1 and HC2 measures use a continuous educational attainment variable, meaning each individual surveyed should have a specific number of years of educational
attainment listed for them. The 1991 CPS, because it asked for the number of years of school completed, provided this continuous measure. The CPS for 1992 and later, however, did not always provide a continuous measure. Some levels of educational attainment are grouped into categories rather than recorded as individual years. For example, those who have a ninth-grade education are separately designated from those who have 10th-grade, 11th-grade or 12th-grade educations. But all those with first-grade, second-grade, third-grade or fourth-grade educations are grouped together under a single code, making it impossible to discern which individuals had finished first grade, which second grade, etc. This grouping results in 2.6 percent of those in the analyzed sample having no specific educational attainment listed. For that small percentage, the highest grade in the group was assigned to each individual.

Those who entered 12th-grade but did not earn a diploma (0.7 percent of the analyzed sample), were credited with having completed 11 years of education.

Additionally, the CPS does not provide total years of education beyond the 12th grade. After that point, it groups subjects into various categories of college and postgraduate work, without providing a specific number of years.
of educational attainment for each category. Thus, for this thesis, the author made the following decisions:

- All those who fell into the category of having "some college but no degree" (17.6 percent) are credited with 12 years of educational attainment, because it is impossible to determine whether they completed three months of college or three years of college.
- Those with associate degrees (8.2 percent), which normally take two years of full-time work to complete, are credited with 14 years of educational attainment.
- Those with bachelor’s degrees (22.9 percent), which normally take four years of full-time work to complete, are credited with 16 years of educational attainment.
- Those with master’s degrees (4.6 percent), which normally take two years or less of full-time work to complete, are credited with 18 years of educational attainment.
- Those with professional degrees such as law, medicine, etc. (1.8 percent), which normally take three to four years of full-time work to complete
and usually do not require a master's degree beforehand, are credited with 20 years of educational attainment.

- The time it takes to complete a doctorate degree varies greatly, depending on the field of study. Additionally, some Ph.D. programs require a master's degree be earned first while others do not. This makes it difficult to assign a specific number of years to these persons. Thus, those with doctorate degrees (1.1 percent) are credited with the same educational attainment as those with professional degrees - 20 years. The author acknowledges, however, that those earning doctorate degrees usually have more than 20 years of education. Thus, the 20-year category is referred to throughout this study as those with at least 20 years of education.

**Sampling Adequacy:** Finally, it should be noted that the Census Bureau discourages use of the CPS for analysis of individual metropolitan areas, particularly those with a population under 500,000. Therefore, this analysis was not taken down to the city or metropolitan level. Following the
1980 census, the CPS was redesigned to improve the accuracy of state-level data and the estimates derived from those data, making this state-level analysis more accurate than it would have been in the past. State-level analysis, however, still is not as reliable as national-level analysis because the larger sample can provide more accurate estimates of population characteristics because it has smaller sampling errors. The CPS, though, is the only comprehensive source of annual data available for isolating states’ migration populations and analyzing their socioeconomic characteristics.
Chapter IV

Results

The results of the qualitative analysis provides some support of the literature examining Nebraska’s image (Cooper, 1998; Leadership Omaha, 1998; Roseman, 1977). Some of the migrants interviewed felt the images of Nebraska first communicated to them were negative or unappealing. However, the study also found many of the migrants viewed Nebraska as a state with economic opportunity and a good quality of life.

The quantitative analysis found a raw net migration loss, a pattern established through much of the century (e.g., Winston, 1930; Shryock, 1964; Nebraska Department of Economic Development, 1984). But when this net out-migration was studied from a human capital perspective, it was found that despite losing people, Nebraska experienced virtually no net loss of total education or total earnings in its migrant stream.

The Qualitative Analysis

Official Communication Channels (RQ1): Interviews with officials responsible for promoting the city of Omaha and
the state of Nebraska emphasize two points: First, that they are acutely aware that Nebraska has no image or a negative image, and second, that official efforts to attract migrants are narrowly focused and limited in reach. "Our experts all tell us that the collective perception (of Nebraska) is that there isn’t one," said Lou Lamberty, vice president of labor availability for Greater Omaha Chamber of Commerce. "We’re not on the radar screen of most people and if we are it’s that place kind of out there in the prairie. So one of our challenges is how to get Omaha out there with the names of other cities people think of when relocating."

Despite such acknowledgment that Omaha and Nebraska need to do a better job attracting migrants, much time and effort is spent on trying to retain existing residents, particularly youth, and attracting businesses, according to Stu Miller, deputy director of the Nebraska State Department of Economic Development. "We don’t have an image-creating strategy," Miller said. "We’ve had one for business recruitment, we’ve had one for tourism purposes but we’ve not had one for recruitment of people." Not surprisingly, therefore, the money and people dedicated to promoting Nebraska are limited, prohibiting the type of
intensive marketing campaigns some other cities have conducted. "You’re not going to be looking at ABC News on Sunday evening and see an ad from Nebraska asking people to come here," Miller said. Vicki Krecek, vice president of communications for the Greater Omaha Chamber of Commerce, concurred. "We don’t have enough money to change the image of Omaha like you would a beer," she said. "But we do have some resources to do it editorially and in some other very selected ways." The state and Chamber therefore concentrate their efforts on selling Omaha as a high-tech area and Nebraska in general as a place where the quality of life is good, Miller and Krecek said. "We are very affordable. The result is you have more...money left over in your pocket than you would in another city. The schools and the education system – one of the tops in the nation. The family-friendly image," Krecek said. "There is an expectation that you’ll do well here, whether you’re a company or an individual. There’s still a place where you can achieve and afford your goals and dreams and that’s Omaha."

The channels they have used to disseminate these messages include printed advertisements in high-tech trade publications such as Computerworld and InformationWeek,
television commercials, a CD-ROM distributed by the Chamber and Internet web sites maintained by the Chamber and the state.

The magazine advertisement showed a hand holding an ear of corn, the leaves peeled back and glowing fiber optic strands, instead of cornsilk, are revealed. Krecek said that research showed the Nebraska ad was the second most read and remembered in InformationWeek and, in the category of economic development ads, it was the most read and remembered one.

The first television advertisement, aired during a Fox Network broadcast of a football game between the University of Nebraska-Lincoln and Louisiana Tech in 1998, Miller said, billed Nebraska as “a place to live, play and stay.”

The CD-ROM, now in its fifth year, has 2,000 photos, 50 video clips and extensive information about Omaha. More than 10,000 copies have been distributed, Krecek said.

Both the chamber and the state maintain web sites on the Internet. The chamber site, http://www.accessomaha.com, bills Omaha as the city “where you can have your cake and eat it” and tells visitors that Parenting Magazine has named Omaha as one of the top 10 cities in the nation for raising a family. The site stresses the city’s growing role
as a computing and telecommunications hub, its universities, its Fortune 500 companies, its quality of life and affordability and its job opportunities.

The Nebraska Department of Economic Development site, http://www.ded.state.ne.us/, is heavily geared toward attracting business. It does, however, contain information or links for people interested in finding out more about travel and tourism, schools and real estate in Nebraska.

**Migrant Communication Channels (RQ2):** Most of the migrants, eight of the 13 interviewed, used both mass communication and interpersonal communication channels to gather information about Omaha or Nebraska. Two used just mass communication and the remaining three migrants made their decisions based solely on information obtained through interpersonal communication. The three migrants who used interpersonal communication exclusively all were Hispanic and were unemployed or earning less than the median household income. None of them had access to the Internet or had contact with real estate agents or the Chamber of Commerce. Nor were they courted by big corporations which might have taken time to provide them with information.
Interpersonal channels were used by nearly all the migrants (11 of the 13). Family and friends were among the most common sources of information.

"I have my friend here. I called him from Colombia and he gave me information for the jobs, for the study, for the place," said Ms. L. "He said to me, 'It's a good economy here, it's a good place, it's a nice city, not a big city. It's very tranquil.'"

Mr. O, who lived in California before moving to Omaha, said, "My uncle he told me about it. He said, 'Do you want to come out here?' I said, 'Let me think about it. Explain to me, how's Omaha?' He told me, 'Good jobs, they pay you more money.' And I think, 'Well, well, I've got to go.'"

Ms. S, before deciding whether to move, had conversations with former college pals living in Omaha. "I felt a little more comfortable, in the fact that I would know some people here already... and that made a big difference also," she said.

The Internet, articles in newspapers and magazines (not, however, the trade magazines in which the chamber and the state are advertising), and literature provided by the Greater Omaha Chamber of Commerce or local real estate
agents were the channels of mass communication used most often.

"This is interesting," said Mr. A, in beginning the story of how he discovered Omaha. "I was an assistant instructor in an economics theory class and I told the students that I was looking to relocate. And a couple of days later one of them brings me an article in the New York Times about Omaha and how it’s just a great city to retreat to and a lot of people seem to be doing that. And at that time I was just mostly considering the East Coast - Atlanta. But Atlanta has just as many problems as New York does, at least the things I was trying to avoid. Charlotte, probably would have been my second choice. But Omaha just seemed to have the best combination of everything."

Mr. A, who was raised in Queens, N.Y., then turned to the Internet to gather more information about Omaha. "Unlike a lot of other New Yorkers, I didn’t come out here and expect to see cows and farms and cornfields and all that. I did a lot of research on the Internet. It turns out actually that Omaha, per capita, has more Internet sites than any other city. At least it did at the time. There are so many illustrations and things to see on the Internet
about Omaha that I had a pretty good idea of what I was getting myself into.”

Ms. O went to the Internet to research Omaha, but also received printed information from the Chamber of Commerce that she found very impressive. “It is the best, bar none, hands down best that I’ve ever seen put out by anybody across the country. It’s profoundly comprehensive, it’s done on very expensive paper and the color in it! I mean, that was an expensive proposition to put together and well done, I have to say,” Ms. O said. “I would say that the city very definitely has a fine publication and that makes a huge difference. When you are living in another part of the country and getting ready to make a decision, that is something very worthwhile to send to somebody because it is so well done.”

Also used to a lesser extent was information provided by prospective employers, books, television, and library resources. Ms. P learned about Omaha after she came across an article in Parade Magazine in her Sunday newspaper that discussed the best places to live. “In that article were a few pieces of literature that were mentioned - books that you could check into, Web sites. And so I went to the book store, like the following day. I don’t remember the name of
the book...but it’s a book that’s about an inch and a half thick. What that book did was it broke down by category - by cost of living, crime rate, education, health care, housing, transportation - it broke down everything that I wanted to know about a variety of cities. And I had some ideas as far as where I would like to live and so I read that book from front to back several times,” Ms. P. said. “Omaha was in there and Omaha was ranked - where was it? It was among the top 50 best places to live in the United States and ranked probably right in the middle. Our first pick was Kansas City and, just by luck, my husband’s company had opportunities in Kansas City and Omaha. And we took this opportunity because of family (living in Grand Island, Nebraska).”

Table I shows the frequency with which each channel of communication was used by the migrants interviewed.

The Most Influential Communication Channel (RQ3): As evident in Table I, interpersonal communication - conversations with family, friends, co-workers and other trusted sources - was the most popular channel used by the migrants. It was the only channel used among those migrants
TABLE I
Channels of Communication

<table>
<thead>
<tr>
<th>Communication Channel</th>
<th>Number of Migrants Who Used This Channel</th>
<th>Percent of Total Migrants Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERPERSONAL COMMUNICATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conversations with family, friends, other individual sources</td>
<td>11</td>
<td>84.6</td>
</tr>
<tr>
<td>MASS COMMUNICATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Internet</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Newspaper articles</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Magazine articles</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Greater Omaha Chamber of Commerce CD-ROM or other literature</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Literature provided by local real estate agents</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Literature provided by prospective employer</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Books</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Television</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Library resources</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>BOTH MASS MEDIA AND INTERPERSONAL COMMUNICATION</td>
<td>8</td>
<td>61.5</td>
</tr>
</tbody>
</table>

who made less than $30,000 per year and among those of Hispanic origin. It was, without doubt, the most singularly influential channel of communication (RQ3), with three of the migrants citing interpersonal communication as their only source of information and another eight using
interpersonal communication in conjunction with various mass communication channels.

Many of the migrants stressed how much of a difference it made in their impressions of the city when others took the time to share personal insights and feelings about Omaha or to give a personal tour of the city. In many of these cases, the persons responsible for generating these positive impressions were business associates or employees at the company or institution where the migrant was considering taking a job. Mr. E, one of the migrants interviewed, said a conversation with a business associate who worked in Omaha helped reverse negative perceptions he held about Omaha as a cold, drafty place teeming with smelly slaughterhouses and pig farms. “I was kind of overwhelmed at how much he liked Omaha,” Mr. E recalled. “He bragged about it and said, ‘Boy, it’s a nice place to live, good quality of life, very low unemployment and reasonable cost of living.’ And, although it does get cold in the winter, he wouldn’t live anywhere else in the country. And that kind of stuck with me. There wasn’t the complaints about the place. Now, that was an impression.” Mr. D said he gathered vital information about the quality and suitability of different schools when he called school
principals. Mr. W, a university educator, credits a university employee with his positive impression of Omaha. "We came to visit and brought our two boys to see the city. "The department chair...gave us a tour of the city, took us out to eat, took us down to the Old Market, took us over to South O," Mr. W said. "Basically what I found out about Omaha was that it had the same type of things that New York had, only on a very scaled down basis, right to the traffic jams. The variety of restaurants, the variety of recreational activity, it was basically perfect. Everything we were looking for three years prior, we stumbled on in Omaha."

Ms. Y, who moved from California, expected Omaha to look like picture postcards she had seen of the middle of the nation - vast tracts of open space, buried in waist-deep snow, with a house or farm dotted here or there. But her mother changed that image for her. "She said, 'It's a small town - a small town compared to California, to Los Angeles. It's very quiet, boring. But it's a good place to live,' and she said she liked it."

The day Ms. O flew into Eppley Airfield to interview with a major corporation in Omaha, an employee of the company took her on a tour. Somehow, Ms. O said, this
person had discerned she was a lover of quaint old areas and drove her through older neighborhoods, including Happy Hollow near Memorial Park. Ms. O said she was smitten. "That’s when I thought, ‘Oh, I can live here. Street lights, planters on all of the street lights, curbs, fabulous houses. This is not a problem.’ They wanted me to appreciate Omaha. I have to say they are all very proud of living here.”

The Images Transmitted Through Communication (RQ4):

One of the core roles mass communication and interpersonal communication played for the migrants interviewed was to create for them an image or perception of Omaha or Nebraska. There was Ms. Y’s image, painted by picture postcards, of Omaha as a vast, open, snowbound land. Mr. E imagined the city was overflowing with slaughterhouses and pig farms, based on descriptions from a co-worker who had not seen Omaha in more than 20 years. Mr. D said television shows gave him the impression that Nebraska was just cornfields. When he was thinking of moving to Omaha, he began monitoring television and other types of news about the area, and found “smatterings of cows loose on the highway reports along with urban gang problems.” Mr. F also
experienced that type of dueling image. He had friends who told him Omaha was mostly corn, but "I saw something on MTV about guns in Omaha a few years before. So I figured, I don’t know, it’s got to be something (other than cornfields) if it has crime," Mr. F said.

Joining these images of corn, snow and slaughterhouses were perceptions of a place that offered economic opportunity and a good quality of life. Twelve of the 13 migrants said a new job or their impression that Omaha has an abundance of job opportunities was the major reason they moved to Nebraska. Ten said they believed Omaha offered a lower cost of living and seven said they had the impression that there was a low unemployment rate. Mr. G, who moved from New Mexico, chose Omaha because of the lower cost of living. "I was open to leaving Albuquerque, but I would have liked to have stayed somewhere closer nearby," he said. "I was actually looking for something in Colorado or Arizona and I was considering California, but things cost way too much there."

Mr. A, who was raised in Queens, N.Y., said his laid-back college years in rural upstate New York whetted his appetite for a dramatically different way of life. "I didn’t want to live in a rat race when it came to finding
decent employment opportunities. And Omaha, at the time, seemed to have a booming economy and a lot of opportunity," he said.

Quality of life impressions the migrants gathered through various communication channels included the presence of a diversity of cultural offerings, good neighborhoods and homes, good schools, friendly and helpful people and traditional Midwestern values, including a robust work ethic. Ms. O, who moved from Santa Fe, New Mexico, said information on the Internet that she reviewed before interviewing with an employer in Omaha placed substantial emphasis on the symphony, playhouse, ballet, opera, and Joslyn Museum. "Everybody talked about the Joslyn. And, of course, living in an artistic community, I began to track down a little bit about the Joslyn and their reputation is respected," Ms. O said. The impressions that Omaha has both excellent schools and a wide range of cultural offerings played a significant role in Mr. E's decision to leave Melbourne, Florida for a job in Omaha. "I didn't have to take a job. I had a very nice career and people seriously questioned my judgment leaving Florida and going to Omaha," he said. "But one of the things is the school systems...have an excellent reputation and appear to
be very well thought of. The other one was the cultural side. You have the museum, the zoo, the orchestra. My daughter is a clarinet player and there was an opportunity to advance herself in her music career. And so I thought it had a good cultural base."

For some of the migrants, how good life could be in Omaha depended largely on what side of 72nd Street they chose to live. The city’s mild but persistent estrangement between its east and west populations insinuated itself into these migrants’ impressions. It emerged in their discussions about where to buy homes, how to pick schools, and where they will be safest from crime. Ms. P said when she moved with her family from California and began looking for a house in Omaha, they were steered west by a real estate agent who told them that’s where they’d find the best schools. Mr. L, who moved from Minneapolis, admitted that most of the people he talked to at the company where he was interviewing in Omaha told him to live in the western part of the city where housing was nice, crime was lower and he could keep his children out of the Omaha school district’s (now defunct) desegregation busing plan. "I tried not to let that cloud my thinking," Mr. L said. But, in the end, he moved west.
The Quantitative Analysis

As already noted, in the tradition of human capital theory, net migration is not measured by simply subtracting the number of in-migrants from the number of out-migrants. Instead, net migration is viewed from the economic value of migrants and that economic value can be measured in a variety of ways. Two of the most popular measurements are a migrant’s educational attainment and earnings.

**HC1:** The first human capital measure conducted for this thesis, HC1, is a ratio of educational attainment. It is the total years of education of in-migrants divided by the corresponding total for out-migrants. Figure 1 provides the descriptive statistics and a histogram of distribution for the educational attainment of the estimated 227,798 Nebraska in-migrants during the years studied. Figure 2 provides the descriptive statistics and a histogram of distribution for the educational attainment of the estimated 281,897 Nebraska out-migrants during the years studied. While the means and medians for the two groups are close, there are strong differences. First, as evident in the histograms, there is a substantially larger number of out-migrants than in-migrants with advanced educations,
Figure 1

Descriptive Statistics and Histogram Distribution For Total Educational Attainment of In-Migrants

<table>
<thead>
<tr>
<th>EDU</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Deviation</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>227,798</td>
<td>13.42</td>
<td>12.00</td>
<td>2.48</td>
<td>3,057,864</td>
</tr>
</tbody>
</table>

![Histogram and Descriptive Statistics]
Figure 2

Descriptive Statistics and Histogram of Distribution For Total Educational Attainment of Out-Migrants

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Deviation</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>281,897</td>
<td>13.58</td>
<td>12.00</td>
<td>2.70</td>
<td>3,828,184</td>
</tr>
</tbody>
</table>
particularly among those with at least 20 years of education (professional and doctorate degrees). This is confirmed by running frequencies in SPSS on the two migrant streams. The frequencies showed an estimated 12,196 migrants with at least 20 years of education left Nebraska during the six years studied and comprised 4.3 percent of all out-migrants during that time. Meanwhile, just 2,586 migrants with at least 20 years of education entered the state, constituting 1.1 percent of all in-migrants during that period. That is a 78.8 percent difference between the estimated number of migrants in the two streams. A post hoc analysis of the difference in the proportions of these highly educated migrants between the two streams produced a z-score of 67.499, meaning that the difference between in-migrants and out-migrants with at least 20 years of education is statistically significant at <.001. One factor that may be contributing to the out-migration of these most highly educated migrants is a practice at many universities of not hiring graduating doctoral students as professors in the department where they received their training. The logic is that different schools of thought would not be represented within a given department unless there were diverse views and obtaining diverse views means hiring
professors from doctoral programs elsewhere. Consequently, those with doctorate degrees likely must move elsewhere to find a job.

Another difference between the migrant streams is in the total years of education of in-migrants versus the corresponding total for out-migrants. The total for out-migrants is higher. What influences that difference may be one of two things, or a combination of both. First, the Census Bureau estimated there to be more out-migrants than in-migrants or, simply put, its weighted sample showed a net out-migration for Nebraska during the years studied. Second, those comprising that net out-migration generally had higher, rather than lower, levels of educational attainment. Had the net out-migration been a more poorly educated group, the results might have been different.

The measure HCl is calculated using the sum of educational attainment for the in-migrants and out-migrants. The sum of the in-migrants (A), is divided by the sum of the out-migrants (B). \( A/B = \frac{3,057,864}{3,828,184} = 0.80 \). This ratio can be interpreted as follows:
1. Nebraska in-migrants had 0.80 of a year of education for each 1.0 year of education of Nebraska out-migrants.

2. Nebraska in-migrants had 20 percent less education than Nebraska out-migrants.

3. Nebraska out-migrants had 25 percent more education than Nebraska in-migrants.

**HC2:** The second human capital measure, HC2, is the adjusted ratio of educational attainment. As seen in the descriptive statistics for HC1, there is a difference in size between the in-migration and out-migration streams, raising the question of whether there is a true difference in the overall educational attainment between the groups. Table II shows the breakdown of in-migrants in the sample by their years of education and the adjustment made to those years. The measure HC2 is calculated using the adjusted sum of the years of education for the in-migrants, as it appears in the “totals” row of Table II, and the sum of the years of education for the out-migrants, which remains the same as it did in the HC1 ratio.
TABLE II
Adjusted Years Of Education For In-Migrants

<table>
<thead>
<tr>
<th>Years of Education $X_i$</th>
<th>Proportion of In-Migrants $P_i$</th>
<th>Adjusted Years of Education $(P_i * N_o) * X_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.006</td>
<td>6,766</td>
</tr>
<tr>
<td>6</td>
<td>0.011</td>
<td>18,605</td>
</tr>
<tr>
<td>8</td>
<td>0.005</td>
<td>11,276</td>
</tr>
<tr>
<td>9</td>
<td>0.008</td>
<td>20,297</td>
</tr>
<tr>
<td>10</td>
<td>0.010</td>
<td>28,190</td>
</tr>
<tr>
<td>11</td>
<td>0.022</td>
<td>68,219</td>
</tr>
<tr>
<td>12</td>
<td>0.511</td>
<td>1,728,592</td>
</tr>
<tr>
<td>14</td>
<td>0.140</td>
<td>552,518</td>
</tr>
<tr>
<td>15</td>
<td>0.004</td>
<td>16,914</td>
</tr>
<tr>
<td>16</td>
<td>0.197</td>
<td>888,539</td>
</tr>
<tr>
<td>18</td>
<td>0.075</td>
<td>380,561</td>
</tr>
<tr>
<td>20</td>
<td>0.011</td>
<td>62,017</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>1.000</strong></td>
<td><strong>3,782,494</strong></td>
</tr>
</tbody>
</table>

The sum of the in-migrants (A), is divided by the sum of the out-migrants (B). $A/B = \frac{3,782,494}{3,828,184} = 0.99$. This ratio can be interpreted as follows:

1. Nebraska in-migrants had 0.99 of a year of education for each 1.0 year of education of Nebraska out-migrants, making the total or overall educational attainment of the two groups virtually equal.
2. Nebraska in-migrants had just 1 percent less education than Nebraska out-migrants, a substantially different outcome than the 20 percent difference in the unadjusted ratio.

3. Nebraska out-migrants had just 1 percent more education than Nebraska in-migrants, again a substantially different outcome than the 25 percent difference in the unadjusted ratio.

**HC3:** The third human capital measure, HC3, is a ratio of the total earnings of in-migrants divided by the corresponding total for out-migrants. Figure 3 provides the descriptive statistics and a histogram of distribution for the earnings of the estimated 227,798 Nebraska in-migrants during the years studied. Figure 4 provides the descriptive statistics and a histogram of distribution for the earnings of the estimated 281,897 Nebraska out-migrants during the years studied. One conspicuous feature of these earnings data that cannot go unacknowledged is the relatively high number of respondents who reported zero earnings for the previous year. Among this group, 89.2 percent said they did not work the previous year. The remaining 10.8 percent
Figure 3

Descriptive Statistics and Histogram Distribution For Total Earnings of In-Migrants

<table>
<thead>
<tr>
<th>EARNINGS</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>227,798</td>
<td>$18,095</td>
</tr>
</tbody>
</table>

Annual Earnings in Dollars
Figure 4

Descriptive Statistics and Histogram of Distribution For Total Earnings of Out-Migrants

<table>
<thead>
<tr>
<th>EARNINGS</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>281,897</td>
<td>$18,654</td>
</tr>
</tbody>
</table>

Annual Earnings in Dollars
reported they had worked but said their work resulted in no earnings. The percentage of those reporting zero earnings within each migration stream was nearly even. Those with zero earnings comprised 15.4 percent of the in-migrants and 15.6 percent of the out-migrants.

Unlike educational attainment, which had a fairly normal distribution for both in-migrants and out-migrants, earnings are not normally distributed for either group. They are skewed and, thus, the means and medians within each group are substantially different. Given the skew, the median is a better measure of central tendency for each group, and it can be seen that the median income of out-migrants exceeds that of in-migrants during the period studied.

What influences differences in earnings may be the net out-migration, the slightly larger number of out-migrants than in-migrants who earned more than $100,000, or both.

The measure HC3 is calculated using the sum of reported total earnings for the in-migrants and out-migrants. The sum of the in-migrants (A), is divided by the sum of the out-migrants (B). \[ \frac{\$4,121,964,997}{\$5,258,515,407} = 0.78. \]

This ratio can be interpreted as follows:
1. Nebraska in-migrants earned 0.78 dollars for every dollar earned by Nebraska out-migrants.

2. Nebraska in-migrants earned 22 percent less than Nebraska out-migrants.

3. Nebraska out-migrants earned 28 percent more than Nebraska in-migrants.

**HC4:** The fourth and final human capital measure, HC4, is the adjusted ratio of reported total earnings. Table III shows the breakdown of in-migrants in the sample by their reported total earnings and the adjustment made to those earnings. The table displays the results in categories for ease of reading, but the earnings adjustment was calculated for each individual in-migrant before the categories were established. The entire table for all reported earnings can be found in Appendix D.

The measure HC4 is calculated using the adjusted sum of reported total earnings for the in-migrants, as it appears in the “totals” row of Table III, and the sum of reported total earnings for the out-migrants, which remains the same as it did in the HC3 ratio. The sum of the in-migrants (A),
### TABLE III
**Adjusted Reported Total Earnings For In-Migrants**

<table>
<thead>
<tr>
<th>Reported Total Earnings $X_i$</th>
<th>Proportion of In-Migrants $P_i$</th>
<th>Adjusted Total Earnings $(P_i \cdot N_0) \cdot X_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>0.47</td>
<td>$371,789,161</td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>0.24</td>
<td>$932,329,506</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>0.12</td>
<td>$792,106,045</td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>0.07</td>
<td>$642,581,111</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>0.03</td>
<td>$318,730,790</td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>0.03</td>
<td>$383,978,951</td>
</tr>
<tr>
<td>$60,000 to $69,999</td>
<td>0.01</td>
<td>$120,933,813</td>
</tr>
<tr>
<td>$70,000 to $79,999</td>
<td>0.02</td>
<td>$476,405,930</td>
</tr>
<tr>
<td>$80,000 to $89,999</td>
<td>0.004</td>
<td>$98,100,156</td>
</tr>
<tr>
<td>$90,000 to $99,999</td>
<td>0.01</td>
<td>$253,704,763</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>0.01</td>
<td>$679,777,702</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>1.00</strong></td>
<td><strong>$5,070,437,927</strong></td>
</tr>
</tbody>
</table>

* This is the total before aggregation into categories. If you were to add the proportions for each category above, you'd actually get 1.014 due to rounding error that occurred when the categories were created.

** This is the adjusted total before aggregation into categories. If you were to add the earnings for each category above, you'd get $5,070,437,928 due to rounding error that occurred when the categories were created.

is divided by the sum of the out-migrants (B).

\[
A/B = \frac{\$5,070,437,927}{\$5,258,515,407} = 0.96
\]

This ratio can be interpreted as follows:

1. Nebraska in-migrants earned 0.96 dollars for every dollar earned by Nebraska out-migrants.
2. Nebraska in-migrants earned 4 percent less than Nebraska out-migrants, far different than the 22 percent figure from the unadjusted HC3 measure.

3. Nebraska out-migrants earned 4 percent more than Nebraska in-migrants, compared to the 28 percent figure from the unadjusted HC3 measure.

Is Nebraska Experiencing a Net Loss in Human Capital? (RQ5): During the six years studied, Nebraska suffered a net loss of residents. The outcomes of the first two human capital measurements showed that those who left Nebraska, as a whole, had more years of education and higher earnings than those who came into Nebraska. This difference in educational attainment and earnings, however, was not due to the fact that the out-migrants, overall, were more highly educated or had higher earnings than the in-migrants during that period. Instead, the last two human capital measures show that the difference can be attributed to the simple fact that, across the board, Nebraska lost more people than it gained during that six years and so the sum of the education and earnings of those out-migrants exceeded the sum for those attributes of the in-migrants.
Thus, the sheer number of out-migrants, combined with Nebraska’s failure to attract an equal or higher number of in-migrants, eroded the overall value of Nebraska’s human capital as measured by educational attainment and earnings.
Chapter V

Discussion and Conclusions

The deep connection between communication and migration demonstrated here has been written about rarely this past century. Migration literature seldom discusses the importance of communication and, likewise, communication literature rarely looks at the migration process. Yet, human mobility is increasing and it is influencing the social and economic health of communities (e.g., Chan, 1995; De Jong & Gardner, 1981; Lewis, 1982; Manson & Groop, 1996; Rowley, 1998). This makes the link between communication and migration a critical one. Communities must understand how communication affects migration streams and then must learn to use communication effectively to attract new residents. Failure to do so could result in unwanted economic and social consequences, such as those experienced in Goner, Nebraska (Fruitless Plains, 1988) or Atlanta, Georgia (Levs, 1999). The vitality, and even the survival, of a city hinges on convincing people that they want to live there. For these reasons, this thesis has both important theoretical and applied implications.
Theoretical Discussion and Conclusions: This thesis pulls together, perhaps for the first time, theoretical links between communication and migration that have been scattered throughout the literature of several disciplines. Migration is not just an economic or geographic phenomenon, but a social one as well, fueled to a great degree by communication, particularly by persuasive communication. First, communication maintains the internal structure of a community, acting as a cultural and social agent and facilitating the sharing of beliefs, norms, attitudes and rituals among what might otherwise be a disparate group of individuals. Playing a significant role in this process are opinion leaders - individuals, groups or organizations - who persuade people to support and adhere to desired ideologies and norms. From this cohesiveness arises a community’s image and this is where communication plays its second important role. Communication projects that image to others, through mass media and interpersonal contact, and persuades people to relocate, providing the community with new individuals who will nourish it economically, socially, and culturally.
A common assumption that ties together all theory about migration across disciplines is that since humans first appeared on earth, people have moved in search of a better life. The definition of “a better life” varies from person to person. It may be a bigger paycheck, or a better education system, or more friends and stronger social ties. It may be a place that offers social justice and equality, or more cultural events, or provides a prettier view from the living room window. In Human Capital Theory, variables such as these are among the things people consider when weighing a move. Migration is a personal investment where the perceived benefits must outweigh the perceived costs of moving. But how that human capital process works in any given case is influenced by, among other things, the complexities of economics, lifestyle, culture and education. Migration for people who are poorer or who are searching for work often may be different than migration for the highly educated, even if both have been motivated to move by economic opportunity. For low-income or unemployed migrants, there may be no job waiting for them on the other end - just the promise or hope that finding a job will be easier or that the pay will be better than where they currently live. Additionally, their choice of
where to move may be contingent upon having friends or family in the community who can assist them financially, furnish them with a place to live, provide child care or offer other types of assistance. On the other hand, for those who are highly educated or who have higher incomes, there often will be another job waiting for them when they arrive and they might move to a community where they don’t know anybody, because they don’t need the support system.

We can see these differences in this study. Among the 13 migrants interviewed, those who had the lowest incomes, or who were unemployed, or who had little education, all had friends or family in Omaha providing them with money and/or a place to live, or other significant support. Among those migrants with higher incomes and/or more education, none had family in Omaha and six of the 10 had jobs waiting for them when they arrived. All but one of the remaining four found jobs within a few months of moving here and the fourth said she made a conscious decision not to work because she was pregnant.

Whatever the better life may be for any particular migrant, the question that must be posed is this: How do we know it is better somewhere else? Unless we’ve been there, we rely on communication to provide us with that
information. We rely on the opinions and facts proffered by family, friends and others we trust. We rely on images we see and descriptions we read or hear from television, the Internet, movies, books, magazines, newspapers, brochures and other mass media. Communication is our tool for gathering the information we need to make a migration decision. Therefore, how and why communication flows, what information is transmitted, and the subsequent effects all are central to understanding migration.

Much of the communication process in migration falls within the dominant paradigm of communication theory, which assumes that communication works toward the integration and continuity of society. Within this paradigm is the transmission model, illustrated by Lasswell’s “Who says what in which channel to whom with what effect?” (Lasswell in Bryson, 1948). But to look at communication’s role in migration strictly this way does not provide a thorough understanding of the process. Communication in migration also can be considered within the alternate paradigm – the cultural approach. In this model, scholars such as Carey (1975, 1992), Dewey (1917), Park (1955) and Stamm (1985) view communication as the basis of human fellowship and
that which ties an otherwise disparate group of individuals together into a society.

The theoretical intricacy of the communication process in migration is mirrored in the reality of migration. Communicating images that successfully attract migrants is not always easy; there are many subtleties and complexities. What attracts people to a community, what cinches that decision to migrate, cannot always be attributed to obvious political or economic motivation. There are cultural motivators as well. This can be evidenced by the work of Goodwin (1990), DeSantis (1998) and others who found the Great Migration of blacks early in the century could be attributed not just to the desire for a better job but a desire to escape the social injustices they faced in the South. Suttles (1972) also touched on some of the intangibles that drive people to migrate, such as the search for a community where “one does not fear standing an arm’s length from his neighbor, where one can divine the intent of someone heading down the sidewalk, or where one can share expressions of affect...” (p. 234). This cultural aspect of migration cannot be ignored, particularly when crafting the image of a community. The data from the interviews with migrants for this study
showed some imagined Nebraska as a giant cornfield, or smothered in snow, or as a state where all anyone cares about is Husker football. Those images might repel potential migrants who are looking for a community with some sophistication or a dedication to art and culture. Those potential migrants might never spend the time to find out about the museums Omaha has to offer, or the opera, or dance, or theater.

The findings of this thesis, however, also show stereotypes can be changed, suggesting Cognitive Learning Theory (e.g., Hovland et al., 1953) has applicability to the migration process. Cognitive Learning Theory asserts that an individual’s existing opinion will persist until that person undergoes new learning experiences through persuasive communication. This raises the question of whether stereotyped or other entrenched images that potential migrants have of a community can be changed through persuasive messages. The findings of this study suggest that the answer is yes. Take Ms. Y’s image of Omaha as a snowbound land or Mr. E’s perception that the city was overflowing with slaughterhouses and pig farms. Both of these stereotypical notions were erased and replaced with
more positive images after the migrants had discussions about Omaha with family, friends or other trusted sources.

The data collected from the interviews with migrants for this study also allude to a circular relationship between mass media and interpersonal channels of communication in the migration process. The data provide evidence that mass media has swayed migrants’ opinions of Nebraska and/or Omaha and that interpersonal communication has changed those opinions. Then, there is the case of Mr. F, whose friends led him to believe Nebraska was nothing but cornfields, but who learned otherwise after he saw a report about guns and crime in Omaha on MTV. In this instance, an image from mass media supplanted one created by interpersonal communication. This interplay between mass media and interpersonal communication has been established in persuasion literature. Katz & Lazarsfeld (1955), in their Two-Step Flow Theory, found that it is “opinion leaders” in a community who often use interpersonal influence to sway others. Those opinion leaders, the theory says, have increased exposure to mass media and pay more attention to mass media content. But they found that the role mass media played as a catalyst for interpersonal influence varied. Whether that variation in the influence
of mass media exists among those opinion leaders who sway migrants is undetermined and a viable subject for future research.

Finally, it is worth discussing how the principles of Human Capital Theory might affect the nature of communication aimed at potential migrants and, thus, the success or failure of a community to attract new residents. At issue, here, is whether community leaders and others who are in a position to influence the migration stream can embrace a primary tenet of Human Capital Theory, which is that human beings are a form of capital. Schultz (1961) explores the reluctance of people to accept this viewpoint.

Deep-seated moral and philosophical issues are ever present. Free men are first and foremost the end to be served by economic endeavor; they are not property or marketable assets.... The mere thought of investment in human beings is offensive to some among us. Our values and beliefs inhibit us from looking upon human beings as capital goods, except in slavery, and this we abhor. We are not unaffected by the long struggle to rid society of indentured service and to evolve political and legal institutions to keep men free from bondage. These are achievements that we prize highly.
Hence, to treat human beings as wealth that can be augmented by investment runs counter to deeply held values. It seems to reduce man once again to a mere material component, to something akin to property. And for man to look upon himself as a capital good, even if it did not impair his freedom, may seem to debase him (p. 2).

When a community, for whatever reason, does not treat humans as capital, it may not then find attracting migrants as important as attracting those things that are more traditionally tied to capital, such as businesses or particular types of high-end workers. Therefore, if the priority of a community is to attract business or a particular type of worker, the image it projects to the world and the messages it sends through mass media and interpersonal channels may be very narrow and focused. The community may have abundant amenities that would easily lure new residents of all types, but those amenities may not be communicated because they are not crucial to attracting businesses or a certain brand of worker. This void of general information about a community - its culture, its climate, its quality of life - may be filled
instead with stereotypes or negative images that are perpetuated through mass media and interpersonal channels.

Both the qualitative and quantitative data analyzed for this study suggest that this scenario exists in Nebraska. The interviews with officials who handle the promotion of Nebraska reveal that much of their effort is aimed at retaining current residents, particularly youth, or attracting businesses and high-tech workers. Thus, it is not surprising that the migrants interviewed for this study often had negative images of Nebraska and those images that were positive were an economic message - a lower cost of living and easy availability of jobs. The analysis of the Census data revealed that Nebraska is losing far more residents than it is attracting and the consequence of that is the erosion of its human capital, as measured by educational attainment and earnings.

It is worth noting here that Nebraska’s loss of human capital through a large net out-migration and not much else is ironic given the theoretical underpinnings of this study. The class bias of Human Capital Theory prescribes more value to those migrants who are highly educated or have high earnings and promotes using those factors, as well as others, in calculating net migration losses or
gains. It frowns upon using a simple net migration calculation - the number of people who have left minus the number who have entered a community. Yet, the cause of Nebraska’s loss of human capital is the simple mathematical reality that more people left than entered the state. Therefore, the solution to Nebraska’s erosion of human capital may be to attract as many people as possible, regardless of their educational attainment, their earnings or other measures of their economic value.

In summary, this study supports the following theoretical conclusions:

1. The communication process in migration does not fall squarely into a single paradigm, nor can it be defined or explained within a single concept or construct. Portions of the process fall within the dominant paradigm of communication theory, which assumes that communication works toward the integration and continuity of society. Elements also fall within the alternate cultural paradigm, where communication is viewed as that which binds disparate individuals into a society.
2. Persuasive communication plays a large role in the migration process and some persuasion theory is relevant in this respect. One such theory that is applicable is Cognitive Learning Theory, which holds that existing opinion will persist until that person undergoes new learning experiences. The study does provide support for that theory, demonstrating that migrants have discarded entrenched or stereotypical images and replaced them with more positive images after being subjected to persuasive communication from a personal or mass media source.

3. Interpersonal communication is critical to the migration process. This study found that interpersonal communication influenced nearly all the migrants interviewed. It not only resulted in migrants forming opinions about Nebraska or Omaha, but it also resulted in some of those migrants changing opinions that had been gathered from some other interpersonal contact or from mass media.

4. The human capital equation for migration, as expressed in Human Capital Theory, cannot be uniformly applied. The process of weighing the pros and cons and of
evaluating personal investment is influenced by a variety of economic and social factors. Even if migrants from opposite ends of the social or economic spectrums both are moving because of improved economic opportunity, the variables that influence their decisions often are distinct and their situations once they arrive at their new destinations may be dramatically different.

5. The extent to which a community identifies human beings as capital may influence the image of that community, the messages it sends to potential migrants, and the success it has in attracting new residents.

Applied Discussion and Conclusions: Nebraska’s leaders, it appears, have not embraced the concept that people in general are capital. Their efforts to attract capital to the state are deeply geared toward economic development and business recruitment. Thus, the minimal resources Nebraska has dedicated to promoting its image are not being directed in any substantial way toward attracting migrants wholesale. The Nebraska State Department of
Economic Development has no image-creating strategy and has insufficient funding to conduct a wide-ranging and intensive campaign to attract migrants. The Greater Omaha Chamber of Commerce is producing high quality material to promote the city’s business climate and quality of life, but only 38.5 percent of the migrants interviewed for this study made use of that material when considering whether to move.

This lack of a high-level comprehensive strategy for promoting the state and attracting new migrants has resulted in a hodgepodge of well-meaning but disconnected efforts to spruce up Nebraska’s image with hopes of retaining current residents and attracting new ones. There is the Great Platte River Road Archway Monument, a $59.7 million steel arch rising eight stories and spanning Interstate 80 near Kearney (Silver Salute, 1999; Great Platte, 1999). In Omaha, Mayor Hal Daub and others are continuing their push to build a $275 million convention center and arena. An Omaha World-Herald editorial noted that the center would convey “a seriousness of purpose appropriate to the state's largest city, attracting entertainment and trade shows and conventions that add to the overall quality of life for locals and raising Omaha's
chronically low profile before the rest of the world” (Upbeat on Arena, 1999). The most recent effort to boost Nebraska’s image and its population is a proposal to dam the fragile Platte River and create a 7,000-acre lake between Omaha and Lincoln. Jean Dunbar, Omaha’s honorary historian, believes the lake will help the state retain and attract young people, but the idea is being criticized by environmentalists and others (Cooper & Ruggles, 1999). It remains to be seen whether these latest disparate efforts to attract and retain residents will be successful. The results of the quantitative survey for this study indicate that past efforts have not succeeded. During the six years studied, Nebraska’s sheer number of out-migrants, combined with the state’s failure to attract an equal or higher number of in-migrants, eroded the overall value of Nebraska’s human capital as measured by educational attainment and earnings.

There likely are many reasons why Nebraska has not succeeded in attracting migrants on a large scale. One, already discussed, may be its fragmented approach to promoting image and luring new residents. Another may be the fact that Nebraska is sending messages out through certain communication channels, but those channels aren’t
the ones being used by potential migrants. None of the migrants interviewed for this study, including those who came to Omaha to take executive or technical positions, mentioned looking at the trade magazines where the Chamber of Commerce and the state are advertising. None saw the television commercial. Though the Chamber of Commerce literature was praised by those migrants who used it as being sophisticated and informative, only a bit more than one third of the migrants interviewed used that channel of information. The Internet, while a growing medium and an appropriate channel for attracting migrants, was not a readily available resource for many of the migrants and fewer than half of them used it. Interpersonal communication, by far, was the most used and most influential channel of communication, employed by nearly 85 percent of the migrants. Of those who used interpersonal communication, more than half said some of the positive images of Omaha they had came from employees of companies and institutions in the city.

These substantive findings from the analysis of the data can be used to form theory that is directly applicable to Omaha and Nebraska. That theory is that Omaha and
Nebraska will measurably increase the number of new residents they attract if they do the following:

- Broaden their view of capital to include all migrants, not just businesses and high-tech workers.
- Integrate the efforts to attract migrants among government agencies, educational institutions, private businesses and mass media outlets.
- Agree on a broad uniform image of Omaha and Nebraska to project and focus on communicating that image.
- Provide opportunities for residents and employees of Omaha to interact with potential migrants, thus taking advantage of the huge influence of interpersonal communication on the migration decision.

Instead of waiting for the State Legislature to adequately fund the Department of Economic Development, the agencies and businesses that are conducting effective campaigns to attract migrants should combine their resources and lead the way. This should include the Greater
Omaha Chamber of Commerce, the University of Nebraska system, some of the leading businesses and corporations in the state and the major mass media outlets, particularly the *Omaha World-Herald* and its Internet property, Omaha.com. These leaders should pull in other companies and businesses, including high technology firms, as well as real estate agents and local and state government offices and agencies. The livelihoods of all these organizations rely heavily on Nebraska’s ability to attract new residents and to grow. Therefore, the organizations should pool their resources and form a joint strategic group with the sole purpose of attracting migrants to Nebraska. The group should do the following:

- Determine through existing research and, perhaps through an exhaustive survey of its own, what qualities most attract migrants and what will be the most effective ways of conveying those qualities to the world.

- Ensure that any promotional material developed as part of that effort should be available throughout the city or, if more applicable, the state. For example, none of the migrants received Chamber of
Commerce or real estate information through their employer. Making each agency's material available through the other will make it more likely that a prospective resident will get everything they need from the first agency they contact, regardless of the agency.

- Forge a cooperative agreement among the World-Herald, the Chamber and local companies where prospective residents would receive a week or month of newspapers so they can continue to gather impressions of the area. The cost of the subscriptions would be shouldered equally among the members of the joint strategic group.

- Create a Web site devoted to promoting the attributes of Nebraska. The site would be aimed specifically at selling the state to prospective residents and making it easy for them to find whatever information they need. The site's address would be distributed with literature or through phone conversations by any member agency of the strategic group.
- Recruit volunteers from local companies and organizations and from the community who are willing to donate some of their time each month to greeting prospective residents, taking them out to a meal and showing them around the community.

**General Limitations:** There are, as with any study, limitations to this work. In addition to limits of methodology and data, already discussed in Chapter III, there is a class bias present in this thesis. The two sources of this are the class bias inherent to Human Capital Theory, which is the foundation for some of the work here, and the class bias of the researcher. Inarguably, Human Capital Theory, when used to assess migration effects, assumes a class bias. Increased value is placed upon those migrants who are more highly educated and/or who have higher earnings. Schultz and Sjaastad, both early promoters of Human Capital Theory, acknowledged this bias. Schultz (1961) wrote:

The failure to treat human resources explicitly as a form of capital, as a produced means of production, as
the product of investment, has fostered the retention of the classical notion of labor as a capacity to do manual work requiring little knowledge and skill, a capacity with which, according to this notion, laborers are endowed about equally. This notion of labor was wrong in the classical period and it is patently wrong now (p.3).

Sjaastad (1962), who used Human Capital Theory to assess migration, was even more explicit in laying out this underlying assumption of inequality of class.

Men are not created equal, nor would they be likely to stay so if they were. A 10 per cent inmigration of highly skilled persons (with few children) may improve...per capita income more than a larger but less selective outflow (p. 81).

Also to be considered is my class bias as a researcher. While less deliberate than that bias of Human Capital Theory, my class bias has, nonetheless, shaped this study to some degree. My own upper-middle-class background influenced my search for migrants to interview. Most of my
migrants were found through corporations, real estate agencies, and the university campus. These are not places that deal with a large, non-skilled underclass. Thus, the demographic makeup of the 13 migrants interviewed is skewed toward the skilled middle-class and upper-middle class. This limitation, however, may not substantially influence the outcome of the study because extensive literature for the past century has demonstrated that similar factors motivate both poorer and wealthier migrants. Those factors include the migrants’ desires to improve their economic situation, find a better quality of life and move closer to family or friends (e.g., De Jong & Gardner, 1981; DeSantis, 1998; Goodwin, 1990; Ravenstein, 1885, 1889).

Suggestions for Future Research: Those in power - whether they be government officials or owners of the local newspaper or heads of powerful corporations - often are the opinion leaders in a community. One avenue of future research is to identify who opinion leaders might be in the migration process, much the same way Katz and Lazarsfeld (1955) did when looking at the personal influence process. Are opinion leaders government leaders, newspapers, and so forth, or are they friends, family and acquaintances of the
migrants? Is the flow of communication as hierarchical in the migration process as Katz and Lazarsfeld found it to be in the personal influence process? What role does trust play and how is trust defined? Is it trust of an individual, trust of their knowledge, or both? Additionally, to what extent do mass media and interpersonal communication influence the beliefs of the opinion leaders in the migration communication process and is it similar to what Katz and Lazarsfeld found?

Another area of future research might be to dissect the image of a community, assess whom that image might appeal to more (men versus women, whites versus non-whites, young versus old, etc.) and then break down the migration stream by socioeconomic traits. It also might be useful to look at who is in power, talk to those people, and determine if the image being projected is consistent with the values and views of that power structure.

The flow of communication in the migration process also provides plenty of opportunity for future research. This study found, to a limited degree, a circular relationship between mass media and interpersonal communication in the migration process. Future research might determine if that relationship exists within a larger
sample. Would that relationship, if present, be strengthened or weakened when considered within the framework of Florence’s (1975) theory that the effectiveness of persuasive communication relies, at least in part, on whether the person hearing that message finds the idea that the evidence supports to be personally desirable?

This study also found that interpersonal communication was the primary channel for messages and images in the migration process. Future research might examine whether interpersonal communication remains the dominant channel in a larger sample of migrants, certain socioeconomic categories of migrants and among migrants in cities with highly successful image campaigns.
References


microlevel studies in developed and developing
countries. New York: Pergamon Press.
population shifts in U.S. regions. *Monthly Labor
DeSantis, A.D. (1998). Selling the American dream myth to
black southerners: The Chicago Defender and the great
migration of 1915-1919. *Western Journal of
to the philosophy of education.* New York: The
Macmillan Co.
of Negro life in a northern city.* New York: Harcourt,
Brace and Company.
discuss concerns about national campaign. *Houston
Ellis, M., Barff, R. & Renard, B. (1993). Migration regions
and interstate labor flows by occupation in the United


Serving Fresno & the Central San Joaquin Valley, a
property of the Fresno Business Journal, Issue 322280,
22.
Demographics, 16, 40-48.
Fruitless Plains: The Vanishing American Heartland. (1998,
pattern of population change in the North Central
region. In J. Allan Beegle and Robert L. McNamara
(Eds.), Patterns of migration and population change in
America’s heartland (pp. 14-21), East Lansing, MI:
Michigan State University Agricultural Experiment
Station.
changes in metropolitan-nonmetropolitan migration
Gaston, P.M. (1970). The new South creed: A study in


Laborde, E. (1997, January 20). Locals have to get used to seeing their city on screen. New Orleans City Business, 17, 5.

Leadership Omaha (1998, February). Omaha...The young professional’s view. Presented to the Greater Omaha Chamber of Commerce.


migration: Noneconomic migration in America, (pp. 47-84), Lanham, MD: University Press of America Inc.


dependence: A theory of male identity. Counseling

White, D.M. (1950). The gatekeeper: A case-study in the

White, S.E. (1992). Interstate return migration: Regional
differences and implications. The Social Sciences

Winston, S.R. (1930). The relation of educational status to
interstate mobility. Social Forces, 8, 380-385.

The Iowa State University Press.

Young, E. (1969, October). Sing a song of cities: Musical
tributes can bring fame. Nation’s Cities, 7, 29-30.

Young, J.P. (1982, June). Intimate allies in migration:
Education and propaganda in a Philippine village.
Comparative Education Review, 26, 218-234.
Appendix A

Institutional Review Board Approval
October 14, 1999

Carol Napolitano
10411 N 60th St
Omaha, NE 68152
UNO -

IRB#: 400-99-EX

TITLE OF PROTOCOL: Communication and Migration: How Communication Influences the Human Economy.

Dear Ms. Napolitano:

The IRB has reviewed your Exemption Form for the above-titled research project. According to the information provided, this project is exempt under 45 CFR 46:101b, category 2. You are therefore authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project.

Please be advised that the IRB has a maximum protocol approval period of five years from the original date of approval and release. If this study continues beyond the five year approval period, the project must be resubmitted in order to maintain an active approval status.

Sincerely,

Ernest D. Prentice, PhD
Co-Chair, IRB

sm
Appendix B

Interview Guide

Introduction

Recap who I am and why I am doing this study. Remind them they are being tape recorded. Emphasize that this is for an academic study and some of their comments, as well as conclusions, gleaned from their interview, will be published in my thesis. Remind them that they will remain anonymous.

1. Please describe for me the place in which you previously lived. Feel free to include details about any aspect of that place, any impression you have of that place.

2. How long did you live in that area? If they were in their previous residence for fewer than 10 years, find out where they grew up and ask them to describe that area in the same way as they described their previous place of residence.

3. Please tell me the level of your formal education. For example, did you leave school before graduating high school? Did you graduate high school or get a GED and end your education there? Or do you have a college degree?

4. What were the reasons you decided to move to Nebraska?

5. How old are you?

6. I’d like you to think back to when you were contemplating your move. Tell me about your impressions of Nebraska, or Omaha, before you had a chance to see the area yourself.
7. Where did you get those impressions? Make sure to get details about their impressions from each source.

8. From where did you gather information about Omaha or Nebraska when deciding whether to move or when preparing to make your move? If they answer this question when discussing question #7, then rephrase this to ask about additional sources of information beside those they already answered.

9. How did your image of Omaha and/or Nebraska influence your decision to move here?

10. Now that you have lived here for awhile, please tell me how those first impressions of Omaha or Nebraska, compare to the reality of this region and of living here.

11. I’m going to give you some household income ranges. Household income includes any salary being earned by anyone in your home. Please tell me in which range your household income falls. Below $10,000; between $10,000 and $19,999; between $20,000 and $29,999; between $30,000 and $49,999; between $50,000 and $74,999; between $75,000 and $99,999, or $100,000 or more.

12. Leave this final question to cover any area brought up during the conversation that might give some additional insight into the impression the person has of this area. If nothing else needs to be pursued, thank the person for their time and close the interview.
Appendix C

Key for Sorted Fieldnotes & Focused Coding

1 = Where did people come from before they moved to Omaha?

2 = How were those areas similar or different to Omaha? Did previous residence have agricultural base? Does Omaha and previous residence have common topography, including presence of water?

3 = Are people drawn here by the differences or the similarities with their past place(s) of residence?

4 = What are their impressions of Omaha and where did they get those impressions?
a. Size and character of town
b. Weather
c. Topography
d. Economy and job opportunities
e. Cost of living (including taxes)
f. Culture
g. Type of people and their ethics and values
h. Quality of housing
i. Crime
j. Race relations, racial diversity and prejudice
k. Other quality of life issues

5 = East versus west Omaha issue.

6 = Did impressions play major role in move, or was something else - like job - the overriding determinant?

7 = Is Omaha close to their roots somehow?

8 = How did location of Omaha play a role in decision - close to other cities, sites of interest, family?

9 = Is there any indication that they are doing better in Omaha than their previous residence economically, quality of living? The whole Omaha wealth thing?
10 = Commonalties in what attracts them here? Old Market, zoo, culture, sports?

11 = Do they contrast Omaha and Nebraska, or characterize their relationship to each other? Do they see the state as a poor stepchild of the city?

12 = Anyone say Omahans seemed very proud or very ashamed of their town?

13 = Bias of the migrants toward a certain type of communication channel? Is there a pattern between bias and gender, age, occupation, education level, some other factor?

14 = Use of particular channels for particular kinds of information?

15 = Was communication for impression-forming used at different levels during different stages of the pre-migration period? For example, for people coming for job interviews, was there more or less communication to form impressions before the interview than after? Why would that be? Is it possible the deciding factor is whether the person is coming here no matter what, or whether they have other options?

16 = There were points in some interviews where I recall getting defensive or feeling astonished at some of the things people said. That showed up, actually, in conversations about whether Omaha was flat or not. (See Ms. 0) During focused coding, look for more instances of this.
### Appendix D

Adjusted Earnings Table for Reported Total Earnings (HC4)

<table>
<thead>
<tr>
<th>Reported Total Earnings $X_i$</th>
<th>Percent of In-Migrants $P_i$</th>
<th>Adjusted Total Earnings $(P_i * N_o) * X_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.15</td>
<td>0.0</td>
</tr>
<tr>
<td>200</td>
<td>0.00</td>
<td>225517.6</td>
</tr>
<tr>
<td>225</td>
<td>0.00</td>
<td>126853.7</td>
</tr>
<tr>
<td>252</td>
<td>0.01</td>
<td>355190.2</td>
</tr>
<tr>
<td>320</td>
<td>0.00</td>
<td>270621.1</td>
</tr>
<tr>
<td>500</td>
<td>0.01</td>
<td>1127588.0</td>
</tr>
<tr>
<td>600</td>
<td>0.00</td>
<td>507414.6</td>
</tr>
<tr>
<td>750</td>
<td>0.00</td>
<td>634268.3</td>
</tr>
<tr>
<td>765</td>
<td>0.00</td>
<td>646953.6</td>
</tr>
<tr>
<td>816</td>
<td>0.00</td>
<td>690083.9</td>
</tr>
<tr>
<td>1000</td>
<td>0.01</td>
<td>1409485.0</td>
</tr>
<tr>
<td>1116</td>
<td>0.00</td>
<td>943791.2</td>
</tr>
<tr>
<td>1120</td>
<td>0.00</td>
<td>947173.9</td>
</tr>
<tr>
<td>1200</td>
<td>0.01</td>
<td>1691382.0</td>
</tr>
<tr>
<td>1250</td>
<td>0.01</td>
<td>1761856.3</td>
</tr>
<tr>
<td>1300</td>
<td>0.01</td>
<td>4031127.1</td>
</tr>
<tr>
<td>1500</td>
<td>0.02</td>
<td>6765528.0</td>
</tr>
<tr>
<td>1600</td>
<td>0.01</td>
<td>3157246.4</td>
</tr>
<tr>
<td>2000</td>
<td>0.01</td>
<td>5074146.0</td>
</tr>
<tr>
<td>2400</td>
<td>0.00</td>
<td>1353105.6</td>
</tr>
<tr>
<td>2500</td>
<td>0.01</td>
<td>5637940.0</td>
</tr>
<tr>
<td>2600</td>
<td>0.00</td>
<td>2931728.8</td>
</tr>
<tr>
<td>2739</td>
<td>0.00</td>
<td>3088463.5</td>
</tr>
<tr>
<td>2875</td>
<td>0.00</td>
<td>3241815.5</td>
</tr>
<tr>
<td>3000</td>
<td>0.02</td>
<td>12685365.0</td>
</tr>
<tr>
<td>3120</td>
<td>0.00</td>
<td>3518074.6</td>
</tr>
<tr>
<td>3200</td>
<td>0.00</td>
<td>3608281.6</td>
</tr>
<tr>
<td>3500</td>
<td>0.01</td>
<td>4933197.5</td>
</tr>
<tr>
<td>3600</td>
<td>0.01</td>
<td>10148292.0</td>
</tr>
<tr>
<td>3700</td>
<td>0.00</td>
<td>4172075.6</td>
</tr>
<tr>
<td>3775</td>
<td>0.00</td>
<td>4256644.7</td>
</tr>
<tr>
<td>3895</td>
<td>0.00</td>
<td>3293966.4</td>
</tr>
<tr>
<td>3952</td>
<td>0.00</td>
<td>4456227.8</td>
</tr>
</tbody>
</table>

$N_o = 281,897$
<table>
<thead>
<tr>
<th>Value</th>
<th>Increment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000</td>
<td>0.00</td>
<td>3382764.0</td>
</tr>
<tr>
<td>4046</td>
<td>0.01</td>
<td>5702776.3</td>
</tr>
<tr>
<td>4500</td>
<td>0.01</td>
<td>8879755.5</td>
</tr>
<tr>
<td>4720</td>
<td>0.00</td>
<td>5322215.4</td>
</tr>
<tr>
<td>4896</td>
<td>0.00</td>
<td>5520670.8</td>
</tr>
<tr>
<td>5000</td>
<td>0.01</td>
<td>9866395.0</td>
</tr>
<tr>
<td>5005</td>
<td>0.00</td>
<td>5643577.9</td>
</tr>
<tr>
<td>6000</td>
<td>0.02</td>
<td>33827640.0</td>
</tr>
<tr>
<td>6120</td>
<td>0.00</td>
<td>1725209.6</td>
</tr>
<tr>
<td>6264</td>
<td>0.00</td>
<td>5297408.4</td>
</tr>
<tr>
<td>6274</td>
<td>0.00</td>
<td>7074487.1</td>
</tr>
<tr>
<td>6400</td>
<td>0.00</td>
<td>5412422.4</td>
</tr>
<tr>
<td>6500</td>
<td>0.01</td>
<td>18323305.0</td>
</tr>
<tr>
<td>7400</td>
<td>0.01</td>
<td>10430189.0</td>
</tr>
<tr>
<td>7500</td>
<td>0.01</td>
<td>19028047.5</td>
</tr>
<tr>
<td>7698</td>
<td>0.00</td>
<td>6510129.3</td>
</tr>
<tr>
<td>7821</td>
<td>0.00</td>
<td>6614149.3</td>
</tr>
<tr>
<td>8000</td>
<td>0.00</td>
<td>9020704.0</td>
</tr>
<tr>
<td>8385</td>
<td>0.00</td>
<td>9454825.4</td>
</tr>
<tr>
<td>8500</td>
<td>0.00</td>
<td>7188373.5</td>
</tr>
<tr>
<td>8588</td>
<td>0.00</td>
<td>7262794.3</td>
</tr>
<tr>
<td>8840</td>
<td>0.00</td>
<td>7475908.4</td>
</tr>
<tr>
<td>9000</td>
<td>0.01</td>
<td>32981949.0</td>
</tr>
<tr>
<td>9094</td>
<td>0.00</td>
<td>7690714.0</td>
</tr>
<tr>
<td>9368</td>
<td>0.01</td>
<td>15844866.6</td>
</tr>
<tr>
<td>9400</td>
<td>0.00</td>
<td>10599327.2</td>
</tr>
<tr>
<td>9480</td>
<td>0.00</td>
<td>8017150.7</td>
</tr>
<tr>
<td>10000</td>
<td>0.01</td>
<td>33827640.0</td>
</tr>
<tr>
<td>10400</td>
<td>0.00</td>
<td>8795186.4</td>
</tr>
<tr>
<td>10600</td>
<td>0.00</td>
<td>8964324.6</td>
</tr>
<tr>
<td>10646</td>
<td>0.00</td>
<td>12004301.8</td>
</tr>
<tr>
<td>10680</td>
<td>0.00</td>
<td>9031979.9</td>
</tr>
<tr>
<td>11000</td>
<td>0.01</td>
<td>37210404.0</td>
</tr>
<tr>
<td>11015</td>
<td>0.00</td>
<td>9315286.4</td>
</tr>
<tr>
<td>11440</td>
<td>0.00</td>
<td>9674705.0</td>
</tr>
<tr>
<td>11500</td>
<td>0.01</td>
<td>16209077.5</td>
</tr>
<tr>
<td>11520</td>
<td>0.00</td>
<td>6494906.9</td>
</tr>
<tr>
<td>11825</td>
<td>0.00</td>
<td>13333728.1</td>
</tr>
<tr>
<td>12000</td>
<td>0.04</td>
<td>118396740.0</td>
</tr>
<tr>
<td>12200</td>
<td>0.00</td>
<td>10317430.2</td>
</tr>
<tr>
<td>12300</td>
<td>0.00</td>
<td>10401999.3</td>
</tr>
<tr>
<td>12480</td>
<td>0.00</td>
<td>10554223.7</td>
</tr>
<tr>
<td>Value</td>
<td>Increment</td>
<td>Total</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>13188</td>
<td>0.00</td>
<td>11152972.9</td>
</tr>
<tr>
<td>13280</td>
<td>0.00</td>
<td>14974368.6</td>
</tr>
<tr>
<td>13500</td>
<td>0.00</td>
<td>11416828.5</td>
</tr>
<tr>
<td>13950</td>
<td>0.00</td>
<td>15729852.6</td>
</tr>
<tr>
<td>14000</td>
<td>0.01</td>
<td>55251812.0</td>
</tr>
<tr>
<td>14500</td>
<td>0.01</td>
<td>32700052.0</td>
</tr>
<tr>
<td>14600</td>
<td>0.00</td>
<td>12347088.6</td>
</tr>
<tr>
<td>14605</td>
<td>0.00</td>
<td>16468422.7</td>
</tr>
<tr>
<td>15000</td>
<td>0.02</td>
<td>101482920.0</td>
</tr>
<tr>
<td>15600</td>
<td>0.01</td>
<td>39578338.8</td>
</tr>
<tr>
<td>15900</td>
<td>0.00</td>
<td>13446486.9</td>
</tr>
<tr>
<td>16000</td>
<td>0.02</td>
<td>67655280.0</td>
</tr>
<tr>
<td>16840</td>
<td>0.01</td>
<td>23735727.4</td>
</tr>
<tr>
<td>17000</td>
<td>0.00</td>
<td>14376747.0</td>
</tr>
<tr>
<td>17780</td>
<td>0.00</td>
<td>15036386.0</td>
</tr>
<tr>
<td>18000</td>
<td>0.01</td>
<td>55815606.0</td>
</tr>
<tr>
<td>18300</td>
<td>0.00</td>
<td>20634860.4</td>
</tr>
<tr>
<td>18512</td>
<td>0.00</td>
<td>20873909.1</td>
</tr>
<tr>
<td>18700</td>
<td>0.00</td>
<td>21085895.6</td>
</tr>
<tr>
<td>19000</td>
<td>0.01</td>
<td>32136258.0</td>
</tr>
<tr>
<td>19420</td>
<td>0.00</td>
<td>21897759.0</td>
</tr>
<tr>
<td>20000</td>
<td>0.03</td>
<td>146586440.0</td>
</tr>
<tr>
<td>21000</td>
<td>0.00</td>
<td>17759511.0</td>
</tr>
<tr>
<td>22000</td>
<td>0.00</td>
<td>24806936.0</td>
</tr>
<tr>
<td>22540</td>
<td>0.00</td>
<td>25415833.5</td>
</tr>
<tr>
<td>23000</td>
<td>0.01</td>
<td>77803572.0</td>
</tr>
<tr>
<td>24000</td>
<td>0.00</td>
<td>27062112.0</td>
</tr>
<tr>
<td>25000</td>
<td>0.01</td>
<td>91616525.0</td>
</tr>
<tr>
<td>26000</td>
<td>0.01</td>
<td>51305254.0</td>
</tr>
<tr>
<td>26002</td>
<td>0.00</td>
<td>29319543.2</td>
</tr>
<tr>
<td>26500</td>
<td>0.01</td>
<td>37351352.5</td>
</tr>
<tr>
<td>27000</td>
<td>0.01</td>
<td>38056095.0</td>
</tr>
<tr>
<td>27800</td>
<td>0.00</td>
<td>31346946.4</td>
</tr>
<tr>
<td>27809</td>
<td>0.01</td>
<td>39196368.4</td>
</tr>
<tr>
<td>28000</td>
<td>0.00</td>
<td>23679348.0</td>
</tr>
<tr>
<td>29000</td>
<td>0.02</td>
<td>130800208.0</td>
</tr>
<tr>
<td>30000</td>
<td>0.02</td>
<td>126853650.0</td>
</tr>
<tr>
<td>30400</td>
<td>0.01</td>
<td>42848344.0</td>
</tr>
<tr>
<td>31000</td>
<td>0.01</td>
<td>43694035.0</td>
</tr>
<tr>
<td>31079</td>
<td>0.00</td>
<td>26283230.6</td>
</tr>
<tr>
<td>32000</td>
<td>0.01</td>
<td>54124224.0</td>
</tr>
<tr>
<td>32200</td>
<td>0.00</td>
<td>27231250.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>32500</td>
<td>0.00</td>
<td>274849575.5</td>
</tr>
<tr>
<td>33000</td>
<td>0.01</td>
<td>55615606.0</td>
</tr>
<tr>
<td>34000</td>
<td>0.01</td>
<td>105429478.0</td>
</tr>
<tr>
<td>34200</td>
<td>0.00</td>
<td>28922632.2</td>
</tr>
<tr>
<td>35000</td>
<td>0.01</td>
<td>59198370.0</td>
</tr>
<tr>
<td>39638</td>
<td>0.00</td>
<td>44695333.1</td>
</tr>
<tr>
<td>40000</td>
<td>0.02</td>
<td>214241720.0</td>
</tr>
<tr>
<td>40166</td>
<td>0.00</td>
<td>45290699.6</td>
</tr>
<tr>
<td>42000</td>
<td>0.01</td>
<td>59198370.0</td>
</tr>
<tr>
<td>50000</td>
<td>0.00</td>
<td>56379400.0</td>
</tr>
<tr>
<td>52800</td>
<td>0.00</td>
<td>59536646.4</td>
</tr>
<tr>
<td>53000</td>
<td>0.00</td>
<td>59762164.0</td>
</tr>
<tr>
<td>55000</td>
<td>0.00</td>
<td>46513005.0</td>
</tr>
<tr>
<td>55785</td>
<td>0.01</td>
<td>78628120.7</td>
</tr>
<tr>
<td>59000</td>
<td>0.01</td>
<td>83159615.0</td>
</tr>
<tr>
<td>60000</td>
<td>0.00</td>
<td>67655280.0</td>
</tr>
<tr>
<td>63000</td>
<td>0.00</td>
<td>53278533.0</td>
</tr>
<tr>
<td>70000</td>
<td>0.00</td>
<td>78931160.0</td>
</tr>
<tr>
<td>71000</td>
<td>0.00</td>
<td>60044061.0</td>
</tr>
<tr>
<td>74000</td>
<td>0.00</td>
<td>62581134.0</td>
</tr>
<tr>
<td>75000</td>
<td>0.01</td>
<td>274849575.0</td>
</tr>
<tr>
<td>87000</td>
<td>0.00</td>
<td>98100156.0</td>
</tr>
<tr>
<td>99999</td>
<td>0.01</td>
<td>253704762.9</td>
</tr>
<tr>
<td>165749</td>
<td>0.01</td>
<td>233620729.3</td>
</tr>
<tr>
<td>316539</td>
<td>0.01</td>
<td>446156972.4</td>
</tr>
<tr>
<td>TOTALS</td>
<td>1.00</td>
<td>5070437926.9</td>
</tr>
</tbody>
</table>