Influences of rapid growth on residential satisfaction and community attachment: a case study

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Influences of rapid growth on residential satisfaction and community attachment: A case study

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Influences of rapid growth on residential satisfaction and community attachment: A case study

by

Yu Shi Li

A Dissertation Submitted to the Graduate Faculty in Partial Fulfilment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

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CHAPTER I

INTRODUCTION

A great deal of research has focused on the factors which affect the attachment of local residents to their communities. According to Kasarda and Janowitz (1974), the systemic model using Park's ecological theories (1925), and other studies such as those by Janowitz (1967) and Thomas (1966), focuses on ecological, institutional, and normative variables. The reason, according to Kasarda and Janowitz (1974:328-329), for characterizing this model as systemic is:

the local community was not a residue but a social construction which had its own life-cycle and reflected ecological, institutional and normative variables.

From Kasarda and Janowitz's viewpoint, local community is seen as "a complex system of friendship and kinship networks" and also "formal and informal associational ties" rooted in local residents' family life and the socialization process (Kasarda and Janowitz, 1974:329).

According to Kasarda and Janowitz (1974), and Goudy (1990), community attachment refers to individuals' involvement or commitments to their neighborhoods and neighbors (Gerson et al., 1977). Community attachment is measured by local social bonds and local social sentiment. The independent variables in the systemic model, measured by indicators,
such as home ownership, socioeconomic status, age and length of residence, are the most influential ones affecting community attachment.

In recent years, scholars have studied the influence of rapid community growth on community satisfaction and community attachment (Gerson et al., 1977; Baldassare, 1986; Bach and Smith, 1977; Brown et al., 1989; Krannich and Greider, 1990; Speare, 1974; England and Albrecht, 1984; and Rojek et al., 1975). Rapid community growth refers to "rapid population growth, and often, an immediate immersion into the complexities of advanced industrial society" (Krannich and Greider, 1990:62). Selected studies of boomtowns (Brown et al., 1986) have found that accelerated community change toward an industrialized area and rapid population growth result in social disruption. They point out that sociologists should study not only the possible disruption in community satisfaction and social integration in boomtown communities, but also "which specific aspects of a community are negatively impacted and to what degree" (Brown et al., 1986:569).

Krannich and Greider (1984) suggest that rapid growth leads to social and psychological dislocation and dissatisfaction. Residential satisfaction is defined by Baldassare (1986:139) as an "individual's subjective evaluations of his or her residential environment". Some scholars (Bach and Smith, 1977) suggest that the different degree of residential
satisfaction with the living area will influence the decision of residents to remain in or leave their community. This means that a different degree of satisfaction or dissatisfaction will affect residential attachment or involvement with their community. Bach and Smith (1977) point out that variables, such as home ownership, age, income, and length of residence bear a direct relationship to residential satisfaction. Brown et al. (1989) suggest that, as a result of rapid growth, community service satisfaction appears to decline.

Questions remain as to the relationship between rapid growth and length of residence, age, socioeconomic status, and community attachment; whether rapid growth has any impact on community satisfaction; and whether this kind of rapid growth has any impact on local social bonds and local social sentiment, since a small community as it becomes larger, may no longer provide a setting in which residents know each other as they did before.

This research is going to study how residents' attitudes and behavior in a rapidly growing community are influenced by these rapid changes, and how these changes affect local residents' satisfaction levels, and thus, residential attachment to their community.

This research will use the city of Madison, Alabama as a case study. Prior to 1969, Madison was a small rural community with only several hundred people. With the rapid
industrial development of the city of Huntsville (Madison is located immediately to the west of Huntsville), Madison has been experiencing rapid population growth and severe problems of public services, such as water and sewer problems. In 1986, the city had an active debate over whether Madison should be annexed into Huntsville. In the meantime, Madison had already begun to consider making changes to solve the service problems in the community (Madison—Our Town, 1986). Since 1986 great change has taken place in Madison, and some problems, such as water and sewage problems, have been solved by the city.

In a study of community attachment, Taylor (1985) concludes that some people are more attached to their local community than others. This research will focus on the factors related to community attachment and will attempt to explain why certain people in Madison are more attached to their local community than others and whether rapid growth in Madison has had any observable effect on the attitudes of the local residents' satisfaction and attachment to their community. The objectives of the study are as follows:

1. To retest the systemic model in the context of a rapidly growing community.

2. To assess the effects of intervening attitudinal variables toward rapid growth on residential satisfaction and community attachment.

In the following chapter, the literature relating to the topics will be reviewed.
CHAPTER II

LITERATURE REVIEW

Overview of the Systemic Model

A great deal of research has focused on the factors which affect community attachment. According to Kasarda and Janowitz (1974), there are generally two models. One of the models, called the linear development model (Kasarda and Janowitz, 1974), is based upon theories, such as Gemeinschaft and Gesellschaft by Toennies ([1883] 1957), Durkheim's analysis of the division of labor ([1893] 1933), Simmel's study ([1905] 1964) of the effect of the urban environment on individuals' attitudes and behaviors, Redfield's model (1941) of the folk-urban continuum, and Wirth's theory (1938) of the social effects of urbanism. This model generally points to a linear relationship between population size and density of human communities and social behaviors. Kasarda and Janowitz (1974:328) characterized it as a linear development model, because linear increases in the population size and density of human communities are assumed to be the primary exogenous factors influencing patterns of social behavior.

Toennies (1887) postulated the existence of two different types of social organization: Gemeinschaft and Gesellschaft. Gemeinschaft is translated as community, an organizational
form with strong social solidarity based on traditional and close personal relationships. Gesellschaft is translated as association, a form with weak social solidarity resulting from cultural pluralism and impersonal social relationships. From Toennies' viewpoint, urbanization and industrialization are the social forces which alter the essential characteristics of social life from one based primarily upon communal attachment to one based primarily upon association.

From Durkheim and Simmel's viewpoints, the advancing division of labor has changed the society from one where people are all alike to one where people are different and interdependent on each other (Durkheim [1893] 1933). Also, the urban environment is seen as having significant influences on city people's attitudes and behavior (Simmel [1905] 1964).

Influenced by Toennies' analysis of the transformation of society from Gemeinschaft to Gesellschaft, Wirth (1938) suggested three distinctive characteristics of the modern city: population size, density of settlement, and social diversity, which, he argued, tended to make urban life impersonal and transitory. He believed that increases in population size, density of settlement and heterogeneity of settlements had weakened the social bonds which tie people together in primary groups and communities, and created a kind of social life which was very different from that in
small communities (Wirth, 1938). According to Wirth, these three features of urban community are the primary causes of social disorganization and personality disorders. The erosion of social bonds together with weakened social control has resulted in high rates of deviant behavior, high levels of stress and alienation.

The studies of Toennies, Wirth and other scholars have provided a solid foundation for the linear-development model of community attachment. Christenson (1979) suggests that increased population size and density in urban communities has had some negative impacts in social psychological dimensions related to local social bonds (Christenson, 1979). Thus, it limits and influences people's attachment to their communities (Fisher, 1972). Later scholars of community, such as Baldassare (1986), and Tsai and Sigelman (1982), based upon recent empirical evidence, discovered that variables such as density and population size had significant influences on community attachment.

Another model, named the systemic model by Kasarda and Janowitz (1974), questions the underlying assumptions of Toennies' Gemeinschaft and Gesellschaft. Kasarda and Janowitz (1974:329) point out that:

The systemic model is, in part, based on historical and anthropological materials which question the existence of a Gemeinschaft in preindustrial societies because of their internal discontinuities,
complexity, and especially of their dependence on some variant of bureaucratic or associational institutions.

Kasarda and Janowitz (1974) argue that the fundamental problem with Toennies' approach is that "it fails to explain the extent and forms of community organization found in modern society" (Kasarda and Janowitz, 1974:329).

In the systemic model, Kasarda and Janowitz (1974:329) point out that:

community organization is treated as an essential aspect of mass society. It is a structure which has ecological, institutional, and normative dimensions. The local community is viewed as a complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and on-going socialization processes.

Kasarda and Janowitz (1974:329) further argue that community:

manifests diffuse boundaries and exhibits different intensity and scope of participation depending, among other factors, on a person's position in the social structure and life cycle stage. One can identify the social fabric of communities in systemic terms by focusing on local social networks and abstracting out those relations that are directly linked to the occupational system.

The systemic model, based on the work of Park (1925), Thomas (1966) and Janowitz (1967), emphasizes the importance of individual level data, such as length of residence, life-cycle (age), home ownership and social position in relation to the attachment of residents to their local community.

Thomas (1966:8), in discussing the concept of social
reorganization, points out that the decay of the traditional community occurs because of the development of new attitudes and activities which "do not comply with the socially recognized and sanctioned schemes of behavior." Thomas (1966:8) points out:

The problem of social reconstruction is to create new schemes of behavior—new rules of personal conduct and new institutions—which will supplant or modify the old schemes and correspond better to the changed attitudes, that is, which will permit the latter to express themselves in action and at the same time will regulate their active manifestations so as not only to prevent the social group from becoming disorganized but to increase its cohesion by opening new fields for social cooperation.

Thomas emphasizes that with the increasing disorganization of the traditional community, a new range of social solidarities has emerged in urban areas. The result of the development of new attitudes, which lead to new activities discussed by Thomas (1966), are new rules for personal behavior and new organizations, which increase social cohesion and cooperation in the communities. From Thomas' viewpoint (1966), with the change from rural to urban, communities face new problems and need to readjust their personal relationships, behavior and attitudes. In order to study the change and readjustment, it is very important to study individual level data, which Thomas (1966:13) labeled as personal life-records, including individual values and attitudes. According to Thomas (1966), individual level data can offer social researchers a better view of community and
residents' attitudes toward community. Thomas (1966:13) points out:

A social institution can be fully understood only if we do not limit ourselves to the abstract study of its formal organization, but analyze the way in which it appears in the personal experience of various members of the group and follow the influence which it has upon their lives.

Park (1925) argued that urbanization held great importance in the attachment and sentiment of the residents to their community. Park (1925:40) found that transportation and communication influenced "mobilization of the individual man," changing the relationships of people from primary to secondary. Park also pointed out that transportation and communication offered individual opportunities to contact and associate with other people, "but they have made these contacts and associations more transitory and less stable". Park (1925:40), when discussing the influences on people's relationships, pointed out:

A very large part of the populations of great cities, including those who make their homes in tenements and apartment houses, live much as people do in some great hotel, meeting but not knowing one another.

What Park (1925) emphasized is that the places, such as tenements and apartment homes people choose to live in have influences on their relationships with others.

Janowitz (1967:211), in the study of the community in an urban setting, explains that with the changes and development of urban communities, the local residents' attitudes and
attachment to their communities had also changed. He suggests a new concept to study community, which is called "the individual's commitment of limited liability." Janowitz (1967:211) argues that community is not "one of completely bureaucratized and impersonalized attachments." He (1967:211) points out:

The extent and character of these attachments are in good measure linked to individual resident's predispositions and acts. Raising a family and, to lesser extent, length of residence and local contacts predispose him to an acceptance of local community institutions and social controls... individuals vary in the extreme; some are more capable than others of developing this orientation.

Janowitz (1967) points out that to study local residential attachment, individuals should be studied. He suggests that certain variables, such as a person's length of residence in a community and local social contacts might have a strong influence on community attachment. Janowitz suggests that individual level data is an appropriate measure for the study of community attachment, because the individual is (Janowitz, 1967:212):

likely to demand more from his community than he will invest. But more significantly, his relation to the community is such... that when the community fails to serve his needs, he will withdraw.

From Janowitz' viewpoint (1967), the withdrawal of the individual also emanates from other reasons, such as older people, moving away or lack of involvement. He (1967) suggests that withdrawal might differ from class to class,
and individual to individual. Therefore, individual level
data, such as length of residence, age, socioeconomic status,
and social bonds are very important variables to study in at
tempting to understand community attachment.

Based on the work of Park, Thomas and Janowitz, Kasarda
and Janowitz (1974) suggest that the systemic model, as an
alternative approach, views:

the local community as a complex system of friend­
ship, kinship, and associational networks into which
new generations and new residents are assimilated
while the community passes through its own life­
cycle.

In the following section, a review of empirical studies
guided by the systemic model will be presented. The relative
influence of the independent variables, such as length of
residence, home ownership and other systemic variables
related to community attachment will be examined.

Discussion of the Systemic Model

Discussion of Dependent Variables in the Systemic Model

Gerson et al. (1977:139) suggest that the definition of
community attachment is "individuals' commitments to their

1 The reason for not testing the linear development model in
this study is because this model relates to the community
level of analysis (Sampson, 1988), which is used by scholars
of community studies to compare the differences between
neighborhoods and neighbors." Commitment means that residents are willing to stay in their community indefinitely, and they are predisposed to work for the improvement of their community and are willing to be involved in community action. Lackey et al. (1987) point out that this is one of the measures of a healthy community.

Sociological research on community has yielded a great deal of evidence about the determination of community attachment in the systemic model, including the suggestion of several critical dependent variables, such as local social bonds, local social involvement, and local social sentiment (Gerson et al., 1977; Kasarda and Janowitz, 1974; Baldassare, 1986).

Stinner et al. (1990) suggest that there are three dimensions of community attachment, they are: a) involvement, which refers to the extent of a person's participation in his or her community; b) amity, which refers to an individual's friendship with others in his or her community; and c) sentiment which addresses residential perceptual attachment to his or her community.

communities on the residential attachment to their localities. For example, in 1990, Goudy studied the linear development model and did a comparison of 27 communities in north-central Iowa. Since this research is going to study only one small community with 14,904 people, the linear development model is not considered as an appropriate model to be used in this study.
Kasarda and Janowitz (1974) suggest some variables, such as local social bonds, local social involvement and local social sentiment that can be used to measure community attachment. They also suggest that in the systemic model, some independent variables, such as length of residence, a person's social position and stage in the life-cycle are strongly related to local social bonds and local social sentiment in community.

Gerson et al. (1977:139) suggest that attachment to a place depends upon a variety of factors. Basically, attachment depends upon different personal needs and opportunities. They point out that some variables, such as personal socioeconomic status and age are strongly related to personal attachment to a place. The rationale for these relationships is that variables, such as economic position and age affect "how dependent people are on the local area and their opportunities for local or extra-local involvement" (Gerson et al., 1977:142).

Gerson et al. (1977) suggest that when a person moves to a place, the local environment, the relationships with neighbors, all such factors would influence the satisfaction of this person with the place and the desire to stay or leave. Gerson et al. (1977:143) continue by stating that attachment to a place is multidimensional and could be studied by seven measures:
1. Institutional ties—the extent to which the respondent's family was formally involved in the neighborhood through church, school, or work.

2. Sociable neighboring—a scale measuring the degree to which members of the respondent's family talked, dined, and spent leisure time with neighbors.

3. Organizational involvement—membership and activity in a neighborhood organization.

4. Kin in neighborhood—whether various relatives lived in the neighborhood.

5. Friends in neighborhood—presence of at least some of the respondent's friends in the neighborhood.

6. Happy with neighborhood—how happy the respondent feel to live with neighbors.

7. Unhappy to leave—how unhappy the respondent would be if he or she had to move.

According to the above discussion of community attachment, three concepts, local social bonds, local social sentiment, and local social involvement connecting to the level of community attachment will be discussed in the following section.

Local Social Bonds

Speare (1974:176) suggests that duration in a place has effects on local social bonds, because "social bonds take time to build, and the longer people live in an area, the more friends they are likely to have".

Kasarda and Janowitz (1974) explain that community attachment in mass society can be measured by the presence or
absence of local social bonds. According to Kasarda and Janowitz (1974), local social bonds are measured by friendships and kinship of a resident in a local community.

Stinner et al. (1990) used two components to study friendship. The first is the density of an individual's local friendship network. The second component is the total friendship network in the whole community.

Goudy (1990) used local social bonds as a measure to study community attachment. He explains that local social bonds are the primary social factor in the analysis of community attachment. Goudy (1990) suggests that the questions used to study local social bonds should include the proportion of friends and relatives living in a respondent's local area, and the proportion of local people known by the respondent.

Local Social Sentiment

Kasarda and Janowitz (1974) suggest that local social sentiment can also be tapped by examining whether the residents are interested in their local community affairs and whether they are willing to live in and identify themselves with their local community.

Christenson (1979:389) defines local sentiment as "a subjective measure of individual well-being aggregated in a community context". He also (1979) suggests that the measure
of local social sentiment should be subsumed under the measure of quality of life.

Stinner et al. (1990:496) define sentiment as "residents' subjective feeling toward each other and their community as a whole".

However, Goudy (1990) suggests that local social sentiment is the primary social psychological factor in the analysis of community attachment. Goudy (1990) suggests that questions tapping this dimension should include whether a respondent feels at home in his or her community, whether he or she is interested in what is going on in the community, and whether he or she would feel sorry to move out of the community.

Local Social Involvement

Kasarda and Janowitz (1974) suggest that the definition of community attachment also includes local social involvement, independently measured as the respondent's membership involvement in local organizations.

Fernandez and Dillman (1979) point out that one of the indicators of community attachment is resident's membership in voluntary associations. Stinner et al. (1990:496) define involvement as "the extent of one's participation in the community field".
Goudy (1990) considers that local social involvement should be included as one of the measures of local social bonds. Therefore, in a study of community attachment, Goudy (1990) uses numbers of organizational memberships, a similar indicator to that used by Kasarda and Janowitz (1974). Goudy (1990) found that organizational memberships are significantly related to interest in local community.

According to the definitions and three measures of community attachment discussed above, community attachment can be defined as individuals' commitments to their neighborhoods, neighbors and local environment. It includes two measures, according to Goudy (1990): local social bonds and local social sentiment. Goudy (1990) suggests that both local social bonds and local social sentiment be used as indicators. He points out that local social bonds represent the social dimension, and local social sentiment, the social psychological dimension in the analysis of community attachment. According to Baldassare (1986), local social sentiment can be subsumed under the more general measure of local residents' quality of life. Local social involvement in the study of community attachment is treated by Kasarda and Janowitz (1974) as a separate measure, and by Goudy (1990) as a variable in the measure of local social bonds. Based on Goudy's study of community attachment, in which he used only two measures of community attachment, local social bonds and
local social sentiment, as well as the situation in Madison, which is considered as a bedroom community where residents confine many of their activities to Huntsville, such as shopping and work, this study will exclude one of the three concepts, local social involvement.

Discussion of Independent Variables in the Systemic Model

Several independent variables in social research on community attachment have come to dominate the study of the systemic model, for example, the length of residence, socioeconomic position, home ownership, and age (Kasarda and Janowitz, 1974; Goudy, 1990).

Independent Variable 1: Socioeconomic Status

Goudy (1990), in studying community attachment in a rural region, suggests that some demographic variables, such as income, length of residence, and age play important roles relating to the study of community attachment. When discussing how income influences the residents' attachment to their community, Goudy (1990:179) points out that:

In theory, higher social standing should allow individuals to select the social ties that they wish to stress; such positive selectivity would enhance the social psychological aspects of well-being, including community sentiment.

Bach (1977:153) used individual educational achievements which "are operationalized in terms of years of education and
weekly income." Bach discovered that education and income actually restricted a resident's "range of migration opportunities."

Gerson et al. (1977) also suggest that individual socioeconomic status positively influences a resident's community attachment. They (1977:142) point out:

socioeconomic positions and stage in the family cycle affect how dependent people are on the local area and their opportunities for local or extralocal involvement.

Stinner et al. (1990:497) also point out:

Different social positions present varying opportunities for or impose varying constraints on community attachment. Therefore, persons in some social positions might be expected to exhibit relatively higher levels of attachment than persons in other social positions.

According to Goudy (1990) and Gerson et al. (1977), different level of socioeconomic status will provide people different opportunities and different social ties, which will influence those people's different degrees of attachment toward their local community. In his study Goudy (1990) uses income to measure a resident's socioeconomic status. The measures used by Stinner et al. (1990) are income and educational attainment. They found socioeconomic status has a positive influence on residential attachment to their community.
Independent Variable 2: Length of Residence

Stinner et al. (1990) argue that the length of residence can be treated as a dominant independent variable in most studies of community attachment. This is because different durations in a community will differentially affect people's attitudes toward their local area. Myers et al. (1967) point out that duration of residence has been shown to have a significant impact on a resident's evaluation of the community (see also Land, 1971; Speare et al., 1974). Goudy (1990) discovered in his study that the length of residence significantly influenced community attachment. The results of his study shows that the longer the length of residence, the stronger the community attachment.

Kasarda and Janowitz (1974) also suggest the reason why they place emphasis on length of residence as one of the major exogenous factors in the systemic model. They (1974:330) point out that:

Since assimilation of newcomers into the social fabric of local communities is necessarily a temporal process, residential mobility operates as a barrier to the development of extensive friendship and kinship bonds and widespread local associational ties. Once established, though, such bonds strengthen community sentiments.

Kasarda and Janowitz (1974) discovered that length of residence was positively related to individual local friendships, community sentiment, and social involvement in local
Riger and Lavrakas (1981) point out that local social sentiment is related to length of residence, because the longer people live in a place, the more likely they feel attached (see also Hunter, 1975).

Gerson et al. (1977) point out that length of residence can be a result of local social involvement as well as a cause. They suggest that length of residence positively influences a resident's community attachment. Goudy (1990) also points out that "greater time in the community would produce more positive evaluations of local attachment" (1990:179).

Independent Variable 3: Age

Stinner et al. (1990) point out that "the older age persons have higher levels of community involvement and greater local primary group concentration than younger persons." (see also McAuley and Nutty, 1985; Rank and Voss, 1982).

Kasarda and Janowitz (1974) suggest that an individual's age (stage of life-cycle) will influence a person's friendship, kinship, and associational ties in community. Goudy (1990) further points out that age as an independent variable in the systemic model is strongly related to local social bonds and local social sentiment.
Independent Variable 4: Home Ownership

Stinner et al. (1990) emphasize that the effects of other demographic variables, such as home ownership on community attachment should also be noted. Stinner et al. (1990) point out that home ownership has a positive effect on community involvement and satisfaction." (see also Tinnakul and Stinner, 1985; Henretta, 1979; Speare, 1970).

Taylor and Brower (1985:530-531)), when discussing the importance of using the variable, home ownership, point out:

owner status versus renter status is a crude but significant indicator of capital and probably emotional investment in an area.

Blum and Kingston (1984), in their study of the relationship between home ownership and social attachment, found that home owners are relatively "more apt to espouse traditional social values, join voluntary organizations, and to be enmeshed in local, neighborhood-based social networks" (Blum and Kingston, 1984:160).

According to the above literature, the independent demographic variables, such as the length of residence, age, social position and home ownership theoretically play very important roles in the study of community attachment. In the following section, the empirical studies relating to the systemic model will be discussed.
Empirical Studies of the Systemic Model

Kasarda and Janowitz (1974) report consistent support for the systemic model. One of the measures of community attachment they used is local social sentiment, measured by how sorry or how pleased a person would be if he or she had to move out of the community. Other indicators of this concept are level of interest that a local resident has in his or her home area and whether a local resident feels that he or she belongs to the community. Kasarda and Janowitz (1974) also use another indicator, local social bonds, in the study of the systemic model. Empirical measures of these bonds included how many people, friends and relatives a respondent has in his or her community. Finally, Kasarda and Janowitz (1974) test the third dependent variable, local social involvement, by measuring whether a respondent is a member of local social organizations. They discovered that local social sentiment, local social bonds and local social involvement have significant relationships with proposed systemic variables, such as length of residence, socioeconomic status, home ownership, and age. Since the original study by Kasarda and Janowitz in 1974, several sociologists have continued to examine this model.

Tittle (1989), in a study of influences on urbanism, uses variables, such as the strength of local social bonds to
measure community attachment. Tittle uses four items when measuring community attachment: the local resident's a) perception of the amount of community spirit, b) feeling of belonging, c) amount of interest in the community, and d) number of people a resident in a community knows personally. These four variables used to measure local social bonds in Tittle's study are similar to questions in the studies of local sentiment and social bonds used by Kasarda and Janowitz (1974) and Goudy (1990).

Goudy (1990) points out that community attachment can be measured by questions pertaining to local social bonds and local social sentiment. The results of his research indicate that the key independent variables, such as length of residence, income, and age, generally have significant relationships with the dependent variables of social bonds and local sentiment.

Stinner et al. (1990) conducted a survey to test the systemic model by focusing on the interplay of individual social positions and community attachment. The variables measuring social position include 1) length of residence; 2) socioeconomic status (educational attainment); 3) family life-cycle stage: respondent's age, marital status, the number of children and their age; 4) religious status, and 5) home ownership. They discovered that individual social position, measured by personal socioeconomic status, dominated
the explanation of community involvement, which is one of the measures of community attachment. Duration of residence is less important than socioeconomic status in urban areas. With regard to friendship density, age is a very influential factor in explaining community attachment.

Sampson (1988) studied local friendship ties and community attachment in the mass society. Some of the variables Sampson (1988) used are: 1) local friendship ties, which refer to the number of local friends a respondent has, and 2) collective attachment, which refers to the level of sentiment and attachment to community. The individual-level measures used by Sampson (1988) are length of residence, local friendship and some demographic background variables, such as age and marital status. Sampson (1988) discovered that the result of his study is consistent with the prediction of Kasarda and Janowitz (1974). Sampson (1988) points out that length of residence has direct effects on personal friendships and attachment to community.

Alford and Scoble (1968) discovered that homeowners were more likely to be involved in local politics. Sykes (1951) found that homeowners were more active in community affairs than were tenants.

Consistent with the previous studies focusing on the systemic model, community attachment will be measured in this study as local social bonds and social sentiment (as dis-
cussed earlier, local social involvement will not be studied). The independent variables are length of residence, age, home ownership, and socioeconomic status, including income and educational attainment. The following model (Figure 2.1) will be used in this study.

Overview of Studies of Community Satisfaction

According to Gerson et al. (1977), certain factors, such as local environment and relationships with a person's neighbors will influence level of satisfaction with place and the desire to stay or leave. According to this view, the degree of satisfaction with a community can also have an influence on community attachment.

Kasarda and Janowitz (1974) suggest that regardless of the sentimental attachment to a place, other factors are also very important, such as whether residents are satisfied with the place they are living. Kasarda and Janowitz (1974:329) point out:

...people may participate extensively in local institutions and develop community attachments yet be prepared to leave these communities if local conditions fail to satisfy their immediate needs or aspirations.

Residential satisfaction (some scholars refer to it as community satisfaction) is defined by Baldassare (1986:139) as "the individual's subjective evaluations of his or her residential environment," such as housing and neighborhood.
Figure 2.1 Community Attachment Model
When studying community satisfaction and expectations of moving, Bach and Smith (1977) suggest using level of satisfaction as an intervening variable, when studying people's expectations of whether to stay or leave their community.

Speare (1974) also uses residential satisfaction as an intervening variable between independent demographic variables and mobility. The independent variables are age, length of residence, and home ownership. Speare (1974:173) discovered that those demographic variables are shown to "affect mobility through their effect on residential satisfaction".

Christenson (1976) suggests that the levels of satisfaction with social services are very important indicators of community level conditions.

Goudy (1977) suggests that many variables relate to community satisfaction, including "local social ties and personal characteristics", such as residents' age, length of residence, marital status, education and income. Goudy (1977:371) points out that one of the scales to measure community satisfaction is "general satisfaction with the community residence". He also points out that recent scholars of community have placed more interest in the study of the quality of services, which is considered as an alternate measure of community satisfaction. Fernandez and Dillman (1979) also found in their study that age relates to level of
community satisfaction.

Rodgers (1982) suggests that a set of demographic variables, such as age, income, and education, are correlated with several measures of life satisfaction and happiness. He (1984:840) points out:

The trends observed in this analysis for groups defined by socioeconomic status suggest that happiness has been rising faster for those at the bottom: those with the least education, the lowest incomes, and the oldest birth dates.

Speare (1974) also points out:

home owners tend to be more satisfied than renters both because of the pride in owning one's own home and the higher cost of moving from an owned home which increases the threshold for dissatisfaction.

Baldassare (1986:142) discovered that "rapidly growing communities usually have higher rates of overall dissatisfaction than other places." According to Baldassare (1986), data about satisfaction with community can be derived from a survey of the quality of residential life in local community.

Brown et al. (1989), in discussing the effects of rapid community change on residential satisfaction, point out:

Community satisfaction in boomtowns has been linked with the tendency for already limited rural service infrastructures to be overwhelmed by the demands of increased local populations.

Brown et al. (1989:570) discovered that satisfaction with community service "appears to decline as a result of rapid growth."

Murdock and Schriner (1979) point out that scholars of
community studies need to conduct additional analysis of different levels of community satisfaction. They (1979:109) focused on "how the levels and dimensions of community service satisfaction differ with stages of economic development and community population characteristics". The results of their study indicate that both new and old residents in developing communities are more dissatisfied with community services than residents in either pre- or post-development communities (see also Johnson and Wright, 1970).

Rojek et al. (1975) point out that in recent studies of community satisfaction, the emphasis has been shifted slightly from the satisfaction with the whole community to the quality of services as the primary indicator of community satisfaction. Rojek et al. (1975:178) conclude that the "assessment of perceived environment attributes", such as public schools, local taxes, and police-community relations, significantly affected the residents' sense of community satisfaction.

Consistent with the previous studies focusing on residential satisfaction, the relationship between the independent variables, such as length of residence, income, education, home ownership, and age, and the dependent variable, residential satisfaction, will be tested in the following model (Figure 2.2).
Figure 2.2 Residential Satisfaction Model
According to the several studies reviewed above, rapid community growth has a direct impact on community satisfaction and community attachment (Baldassare, 1986; Murdock and Schriner, 1979; Goudy, 1977). Different levels of evaluation of rapid community growth does impact the degree of community satisfaction, through which it also influences community attachment. In this case study, Madison has experienced both rapid economic development and population growth in the past several decades. A question remains as to what kind of influence that rapid change has on this community.

In the following section, the influences of attitudes toward rapid community growth on residential satisfaction and attachment will be reviewed in detail.

Overview of the Influences of Community Change

Many community scholars have had an interest in the consequences of rapid community change and rapid population growth. This kind of growth has resulted in more and more demands for the improvement of social services, especially during the 1970s and early 1980s, when the number of boom towns increased (Brown et al., 1989). According to some community scholars, such as Brown et al. (1989), Thompson and Blevins (1983) and Krannich and Greider (1984), rapid population growth and community changes have a significant
influence on the relationships among people and their satisfaction with and attachment to their community.

Munson (1968) in a structural analysis of community suggests that population growth is one of the most fundamental and crucial dimensions of a community. It is very important to understand the impacts of population growth on community. Krannich and Greider (1990) suggest that in modern society the experiences of boomtowns include rapid population growth and industrialization. They (1990:62) further point out that in the period of rapid growth researchers can examine:

the impacts of urbanization and industrial growth upon types of social relationships, interactions, and social-psychological characteristics frequently identified with the concept of community.

Krannich and Greider (1990:64) suggest that rapid growth "leads to the disintegration of community, and consequently to a deterioration in the social well-being of those residing in the affected area." They also point out that rapid population growth results in the collapse of kinship and friendship ties and informal community structure.

Summers and Branch (1984:150) summarize the basic theme of boomtown literature as:

the rapid population growth associated with energy and other resource development create social disruptions, cultural conflicts, and pathological behaviors.

Molotch (1976), in studying the city as a growth machine,
points out that rapid growth has some dysfunctions. He discusses the fact that local residents have to pay for the growth through higher taxes and higher utility costs.

England and Albrecht (1984) study the relationship between the boomtown and social disruption. They point out that boomtowns enter a period of decline in the quality of community services. Goudy (1977) discovered that community satisfaction is strongly related to the quality of local services.

Brown et al. (1989), when studying rapid growth and satisfaction, argued that the relevant question is not the negative effects of boomtown growth on social disruptions, but rather, the degree of the impact and the part of a community which is affected.

Summers and Branch (1984), in studying the effects of population growth and community social change, point out that the new residents attracted by economic development tend to be younger, well educated and better skilled. Thus, the newcomers "become better paid than long time residents" (Summers and Branch, 1984:150).

In a study of boomtown youth, Freudenburg (1984:697) points out that during periods of rapid growth, young people, compared to counterparts in nearby communities without growth, have "significantly lower evaluations of their community, more negative attitudes toward growth, lower
levels of satisfaction, and higher levels of alienation". What Freudenburg emphasizes is that rapid growth does have significant negative influence on people's behavior and attitudes. Rapid growth also affects residential satisfaction with local community.

Albrecht et al. (1986) point out that people with different educational attainments, income and occupation will have different attitudes toward growth. They (1986:607) discovered that "antigrowth sentiment was most pervasive among blue-collar respondents".

Buttel (1978) studied the relationship between growth and social class. He discovered that people in upper and middle classes are less likely to accept growth than are lower class people. Van Liere and Dunlap (1980) discovered that a higher level of educated and young people are more concerned about environmental quality, problems and issues.

Brown et al. (1989) studied community satisfaction and attachment in a boomtown by using a longitudinal study. They (Brown et al., 1989:570) suggest that community satisfaction in boomtowns is linked with "the tendency for already limited rural service infrastructures to be overwhelmed by the demands of increased local population". Brown et al. (1989:570) also suggest that rapid growth of population in boomtowns "reduced social ties with neighbors, friends, and kin; and lower levels of social participation". Brown et al.
(1989) focus on the social change in a western community, which experienced extremely rapid growth during the early 1980s. The results of the study show that the rapid growth of economy and population do influence community satisfaction and community attachment. They also discovered that "there was little evidence that satisfaction or attachment recovered to preboom levels during the subsequent bust phase of the growth cycle" (Brown et al., 1989:571; also see Christenson, 1976; Clemente and Sauer, 1976).

Baldassare (1986), in a study of residential satisfaction and the community question, suggests that rapid growth of population and community would result in overall dissatisfaction with the residents' local community. According to Baldassare (1986:139), residential environment includes "general or specific perceptions of housing, the neighborhood, ...". Baldassare (1986) suggests that rapid population growth does have effects on the residents' attitudes and behavior and level of satisfaction toward their living environment. The influences, which mediate the rapid growth of population and community dissatisfaction, are explained by Baldassare (1986:141) as follows:

rapid growth can create a lag between service demands and deliveries resulting in complaints if,..., the local authorities are not sufficiently organized to meet their residents' expectations.

From the above literature (Krannich and Greider, 1984; Brown and et al., 1989), several important points emerge,
including the observation that community changes, population growth and industrialization, all seem to have significant influences on people's satisfaction with and attachment to their community. Most scholars tend agree that the influences of community change are more negative. Consistent with the previous studies focusing on community change, the relationship between independent variables, such as length of residence, income, education, home ownership and age, and the dependent variable, attitudes toward community change, will be tested in the following model (Figure 2.3).

According to the studies discussed above, residential satisfaction is directly influenced by community change and rapid population growth. In this study, the purpose is to analyze the current residential satisfaction with Madison, and how community attachment is affected by residential satisfaction in the context of rapid change. The model (Figure 2.3) concerning the influence of the independent variables, length of residence, income, education, home ownership, and age, in the systemic model on the attitudes toward rapid change will be analyzed in this research.

According to the previous studies of Kasarda and Janowitz (1974), Goudy (1990), and other scholars discussed in the literature review above, variables such as length of residence, socioeconomic status, and home ownership, have
Figure 2.3 Attitudes Toward Change Model
already been shown to be related to the attitudes toward rapid growth, residential satisfaction and community attachment. Questions remain as to what kind of influence these same independent variables have on the explanation of attitudes toward rapid growth and residential satisfaction, what kind of influence attitudes toward rapid growth have on residential satisfaction, and what kind of influence attitudes toward rapid growth and residential satisfaction have on the explanation of community attachment. The following model (Figure 2.4) will use attitudes toward rapid growth and residential satisfaction as intervening variables in the explanation of community attachment.

Significance of the Study

In the previous literature review, scholars of community studies offered a variety of views about the factors related to community attachment. From the empirical studies emanating from the systemic model, researchers have suggested that factors, such as length of residence, socioeconomic status, home ownership, and age are important influences on community attachment. Other researchers have offered explanations that related to the same set of demographic variables and residential satisfaction and attitudes toward change. Others provide evidence on the relationship between attitudes toward growth,
Figure 2.4 Revised Community Attachment Model
residential satisfaction, and community attachment. This case study will place emphasis on whether differential attitudes toward rapid community growth and differential degrees of residential satisfaction in a rapidly growing community have any impact on residential community attachment. In other words, attitudes toward rapid community growth and the degree of residential satisfaction will be treated as intervening variables in this research which tests for residents' community attachment.

Madison in recent years has been experiencing rapid population growth and extensive development while under the threat of annexation into the city of Huntsville. All of these changes have no doubt influenced the life of residents in Madison. In this case study the systemic model will be tested. Because of the great changes in this community, the influence of rapid growth and residential satisfaction, as intervening variables, will also be tested. Therefore, the unique part of this research is that this study will not only provide a retest of the systemic model, but also go beyond previous research by determining the impact of attitudes toward rapid growth, and residential satisfaction, on community attachment in a community with rapid population growth and industrialization.
Hypotheses

The present study is an extension of previous research on the factors which have important influences on community attachment. The unit of analysis is the individual resident in Madison, Alabama. Based on the research discussed above, a set of independent variables, length of residence, age, educational level, income and home ownership, have been shown to have positive influences on community attachment, operationalized as local social bonds and local social sentiment. The following hypotheses, based on the systemic model (Kasarda and Janowitz, 1974), will be tested:

1. The longer the length of residence of a person in a community, the stronger the local social bonds.

2. The longer the length of residence of a person in a community, the stronger the local social sentiment.

3. The higher the level of income of a person in a community, the stronger the local social bonds.

4. The higher the level of income of a person in a community, the stronger the local social sentiment.

5. The higher the educational level of a person in a community, the stronger the local social bonds.

6. The higher the educational level of a person in a community, the stronger the local social sentiment.

7. Home owners will report stronger local social bonds than tenants.

8. Home owners will report stronger local social sentiment than tenants.

9. The older the age of a person, the stronger the local social bonds.
10. The older the age of a person, the stronger the local social sentiment.

According to the objectives of this study, the systemic model will be retested in the context of a rapidly growing community. Therefore, the attitudes toward growth and residential satisfaction will be studied. According to Goudy (1977), and Rogers (1982), the variables, such as length of residence, education, income, home ownership, and age, are related to community satisfaction. The rates of overall dissatisfaction usually are higher in rapidly growing areas (Baldassare, 1986). Rapid growth will result in disintegration of community and deterioration in the well-being of those living in the rapidly growing areas (Krannich and Greider, 1990). Following studies in this tradition, hypotheses will be tested as to the influence of residential attitudes toward change on levels of satisfaction and community attachment. The hypotheses predict that residents with more negative evaluations of rapid change will have a lower level of satisfaction and weaker community attachment, and also vise versa. Therefore, the following hypotheses are:

11. The more negative the evaluation of rapid growth in the community, the lower the degree of residential satisfaction.

12. The more negative the evaluation of rapid growth in the community, the weaker the local social bonds.

13. The more negative the evaluation of rapid growth in the community, the weaker the local social sentiment.
14. The lower the degree of satisfaction with a community, the weaker the local social bonds.

15. The lower the degree of satisfaction with a community, the weaker the local social sentiment.

According to the previous literature, many scholars discovered that in a rapidly growing community, growth itself does have some negative influences on the degree of satisfaction and community attachment. Therefore, the following hypotheses will introduce a modification of the original hypotheses in the systemic model provided by Kasarda and Janowitz (1974). The reason for the modification is simply because the systemic model will be tested in a rapidly growing community; significant influences of different levels of satisfaction and attitudes toward change on the attachment of residents to their community should be considered. Based upon the literature reviewed earlier, the independent variables, such as home ownership, income, age, level of education, and length of residence have significant influences on attitudes toward change and levels of satisfaction. The following hypotheses will be tested:

16. The longer the length of residence in the community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

17. The older the age, the more negative evaluation of rapid change, and the lower the level of satisfaction with the community.

Hypothesis 16 and 17 are based on the conclusion given by Summer and Branch (1984). They discovered that the new
residents attracted by economic development tend to be younger, well educated and better skilled. Thus the newcomers "become better paid than long time residents" (1984:150).

18. The higher the level of income in a community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

19. The higher the level of education in a community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

Hypothesis 18 and 19 are based on Buttel's (1984). Buttel (1984) discovered that upper and middle classes are less likely to accept change.

20. Home owners will report lower levels of satisfaction with a rapidly growing community than tenants.

Baldassare (1986) discovered that rapid population growth does have effects on the residents' attitudes and behavior and level of satisfaction toward their living environment. Gerson et al. (1979) discovered that the level of satisfaction with a place will influence a person to make decisions on whether to stay or leave.

According to the objectives of this study and hypotheses 12 to 20, the following hypotheses test the influences of two intervening variables, attitudes toward change and level of satisfaction. Based on the revised community attachment model discussed in this study, the independent variables, length of residence, age, education, income, and home ownership, have both direct and indirect influences on local social bonds and local sentiment, in which the indirect influence is through
the evaluation toward rapid change and degree of community satisfaction. The following hypotheses are:

21. The longer the length of residence in the community, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

22. The older the age, the more negative the evaluation of rapid change, and the lower the level of satisfaction with the community, and then the weaker the community attachment.

23. The higher the level of income, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

24. The higher the level of education, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

25. Home owners will report lower levels of satisfaction with a rapidly growing community than tenants, and then they will report weaker community attachment than tenants.

In the following section, a review of the situation in Madison, Alabama, will be presented. The location will be described, the social problems associated with rapid population growth will be assessed, and the improvement of social services, such as water and sewer systems, will be examined.
CHAPTER III

SETTING

Location and General Introduction

The city of Madison is in Madison County, Alabama. It had 14,904 people in 1990 (U.S. Census, 1990). Madison is located immediately west of the city of Huntsville, Alabama (see Figure 3.1). It is about a 30 minute drive from downtown Madison to downtown Huntsville. Madison has been settled for 122 years (Madison 2005, 1988). It was a farm community before 1969. The major agricultural products were soybeans, cotton, cattle, eggs, milk, wheat and seed (Madison Community Data, 1989). Over the past several decades, Madison has undergone a significant growth in both population and employment, largely because of the rapid development in Huntsville. The rapid growth in the population and the economy has resulted in subsequent increased demands on the community's transportation system (Transportation System Analysis, 1990), water and sewer systems (Master Water Plan, 1991) and also social services.

Industrial Development and Population Growth in Huntsville

Within the last twenty years, Huntsville has been experiencing very rapid industrialization. In 1988, the
Huntsville/Madison County Chamber of Commerce issued a publication characterizing this area as "the high-tech capital of the south". In addition, the Metro Report in 1988 (Inc. magazine's annual ranking of cities), based on company start-ups, job growth, and fast-growth companies (Madison 2005, 1988), ranked Huntsville/Madison County as the seventh fastest growing metropolitan area in the United States. In 1987, Huntsville was ranked as the tenth fastest growing metropolitan area in the United States. Within only one year, the city increased its rank from tenth to seventh place.
The rapid population growth in Huntsville is another important characteristic of the region's change. According to the 1960 Census report (U.S. Census, 1960), the population of Huntsville was 72,365. The population grew to 139,282 in 1970 (U.S. Census, 1970), and by 1980 had reached 142,513 (U.S. Census, 1980). By 1990, the Census showed that there were 169,400 people (U.S. Census, 1990) living in Huntsville (see Table 3.1). With the rapid growth in population, Huntsville moved from the 109th largest U.S. city in 1984 to the 97th position in 1988.

Influences on the City of Madison

As a small community located at the west edge of Huntsville, Madison has been affected significantly by its rapid growth and development. The major influences include the following:

1) There has been a very rapid population growth in Madison.

2) The rapidly growing population has resulted in some infrastructure problems, such as demands for the improvement of water, sewer and road systems.

3) With the expansion of Huntsville, Madison, as a small community, has experienced a debate centering on its independence and autonomy.

4) As a small community located beside a big city, Madison has now been altered into a bedroom community.
Population Growth in the City of Madison

With the rapid industrial development and population growth in Huntsville, the population in Madison also grew very fast. In 1950, the population in Madison was only 530 (Madison 2005, 1988). In 1960, it increased to 1,445 (Madison 2005, 1960). In 1970, it was 3,086 (US Census data, 1970), and it was 4,057 in 1980 (US Census data, 1980). According to the 1990 census, the population increased to 14,904 (US Census data, 1990). The rapid growth of population in Madison is due to in-migration resulting from the expansion of Redstone Arsenal, the expansion of the city's northern boundary through annexation, natural increase, and spillovers due to Huntsville's new industries. The spillover, which has had a significant influence on Madison's growth (Madison 2005, 1988), is evident in Table 3.1. Since 1950, Madison has experienced tremendous population growth (see Figure 3.2).

Table 3.2 shows the number of residents in Madison by age and sex. It shows, according to the 1990 census, that there were 1467 children from under one year old to four years old. This age cohort was 9.84 percent of the total population. There were 298 persons under the age of one. This age cohort was two percent of the total population. There were 2519 elementary and junior high students from age five to eighteen. This age cohort was 16.9 percent of the
Table 3.1. The Population Growth in Huntsville, Madison and Madison county (1960-1990)

<table>
<thead>
<tr>
<th>year</th>
<th>Madison city</th>
<th>Huntsville city</th>
<th>Madison County</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>1,445</td>
<td>72,365</td>
<td>117,348</td>
</tr>
<tr>
<td>1970</td>
<td>3,086</td>
<td>139,282</td>
<td>186,560</td>
</tr>
<tr>
<td>change</td>
<td>113.6%</td>
<td>92.5%</td>
<td>58.98%</td>
</tr>
<tr>
<td>(1960-1970)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>4,057</td>
<td>142,513</td>
<td>196,966</td>
</tr>
<tr>
<td>change</td>
<td>31.5%</td>
<td>2.3%</td>
<td>5.58%</td>
</tr>
<tr>
<td>1990</td>
<td>14,804</td>
<td>169,400</td>
<td>242,700</td>
</tr>
<tr>
<td>change</td>
<td>267.37%</td>
<td>18.87%</td>
<td>23.22%</td>
</tr>
<tr>
<td>(1980-1990)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Madison 2005, 1988

total population. There were 531 senior citizens age 65 and over, which represented 3.56 percent of the total population. A very interesting figure concerns the age cohort from 19 to 21, where there were only 392 people. The percentage was 2.6% of the total population. This figure shows that in Madison there is a substantial out-migration of young people after graduation from high school. Therefore, the size of this age cohort is decreasing. However, it should also be noted that there was replacement population beginning at the age of 22. This may be due to the in-migration of college graduates. From the age of 22 to 24, there were 738 people.
From the age of 25 to 29, there were 2,321, from age 30 to 34, 2,002 people, from age 35 to 39, 1,446 people, from age 40 to 49, 1,119 people, from age 45 to 49, 829 people, and from age 55 to 59, 535 people. In the age cohort 22 to 59, there were 9682 people, which was 64.96 percent of the total population in Madison. From the age of 22 to 44, there were 7626, which was 51.17 percent of the total population. This age cohort (from the age of 22 to 44) represents the most productive group and the cohort from which potential leadership in the community comes.

The demographic profile of Madison reflects its proximity to Huntsville, and represents a locality where people are
### Table 3.2. Total Population by Age and Sex Group
In Madison in 1990

<table>
<thead>
<tr>
<th>age</th>
<th>total</th>
<th>male</th>
<th>female</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>14,904</td>
<td>7,545</td>
<td>7,359</td>
</tr>
<tr>
<td>under 1 year</td>
<td>298</td>
<td>151</td>
<td>147</td>
</tr>
<tr>
<td>1-2</td>
<td>647</td>
<td>333</td>
<td>314</td>
</tr>
<tr>
<td>3-4</td>
<td>522</td>
<td>281</td>
<td>241</td>
</tr>
<tr>
<td>5</td>
<td>294</td>
<td>152</td>
<td>142</td>
</tr>
<tr>
<td>6</td>
<td>229</td>
<td>125</td>
<td>104</td>
</tr>
<tr>
<td>7-9</td>
<td>579</td>
<td>282</td>
<td>297</td>
</tr>
<tr>
<td>10-11</td>
<td>344</td>
<td>175</td>
<td>169</td>
</tr>
<tr>
<td>12-13</td>
<td>357</td>
<td>151</td>
<td>206</td>
</tr>
<tr>
<td>14</td>
<td>154</td>
<td>81</td>
<td>73</td>
</tr>
<tr>
<td>15</td>
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<tr>
<td>21</td>
<td>130</td>
<td>61</td>
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<tr>
<td>22-24</td>
<td>738</td>
<td>336</td>
<td>402</td>
</tr>
<tr>
<td>25-29</td>
<td>2,321</td>
<td>1,151</td>
<td>1,170</td>
</tr>
<tr>
<td>30-34</td>
<td>2,002</td>
<td>1,059</td>
<td>943</td>
</tr>
<tr>
<td>35-39</td>
<td>1,446</td>
<td>741</td>
<td>705</td>
</tr>
<tr>
<td>40-44</td>
<td>1,119</td>
<td>608</td>
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<td>45-49</td>
<td>829</td>
<td>431</td>
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<td>50-54</td>
<td>692</td>
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<td>55-59</td>
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<td>302</td>
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<td>60-61</td>
<td>141</td>
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<td>62-64</td>
<td>172</td>
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<td>91</td>
</tr>
<tr>
<td>65-69</td>
<td>184</td>
<td>89</td>
<td>95</td>
</tr>
<tr>
<td>70-74</td>
<td>138</td>
<td>63</td>
<td>75</td>
</tr>
<tr>
<td>75-79</td>
<td>75</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>80-84</td>
<td>55</td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td>85+</td>
<td>79</td>
<td>11</td>
<td>68</td>
</tr>
<tr>
<td>median</td>
<td>30.0</td>
<td>30.3</td>
<td>29.8</td>
</tr>
</tbody>
</table>

Source: Census of Population, 1990
beginning their career and considering Madison as a community base. The median age of the total population in Madison is 29.9, which is significantly younger than the median age in Alabama as a whole. The median age in Alabama is 33.0. The median age of males (30.0) and females (29.8) in Madison are both younger than the state averages for Alabama.

Table 3.3 shows the total population by race in Madison in 1990. It shows that 88.6 percent of the population is white. Other population groups represented are Black, American Indian, Eskimo or Aleut, and Asian or Pacific Island.

Table 3.4 shows the detail of the marital situation for those age 15 and older in Madison. There are 11,480 people age 15 and older, among which there were 5,814 males and 5,666 females.

Table 3.5 shows that there were 14,827 persons in Madison's households. The total number of households was 5,967.

According to the past trends in population for Madison shown in Table 3.1, the population has increased for the past 30 years with a 113.6% increase from 1960 to 1970. From 1970 to 1980, the increase was 31.5%, and from 1980 to 1990, the increase was 267.37%.

The city officials have indicated that the population increase in the past 40 years has been largely the result of in-migration and not the result of natural increase. The
forecasts for future population size is that it will continue
to increase. It should be noted that future population change
will heavily depend on increasing employment and economic
activity in Madison and Huntsville.

<table>
<thead>
<tr>
<th>race</th>
<th>total persons</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>14,904</td>
<td>100.0%</td>
</tr>
<tr>
<td>White</td>
<td>13,209</td>
<td>88.6%</td>
</tr>
<tr>
<td>Black</td>
<td>1,164</td>
<td>7.8%</td>
</tr>
<tr>
<td>American Indian,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eskimo or Aleut</td>
<td>77</td>
<td>0.5%</td>
</tr>
<tr>
<td>Asian or Pacific</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Island</td>
<td>400</td>
<td>2.7%</td>
</tr>
<tr>
<td>Other race</td>
<td>54</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Source: Census of Population and Housing, 1990

<table>
<thead>
<tr>
<th>total</th>
<th>male</th>
<th>female</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>11,480</td>
<td>5,814</td>
</tr>
<tr>
<td>never married</td>
<td>2,344</td>
<td>1,418</td>
</tr>
<tr>
<td>now married</td>
<td>7,641</td>
<td>3,832</td>
</tr>
<tr>
<td>separated</td>
<td>130</td>
<td>61</td>
</tr>
<tr>
<td>widowed</td>
<td>359</td>
<td>45</td>
</tr>
<tr>
<td>divorced</td>
<td>1,006</td>
<td>458</td>
</tr>
</tbody>
</table>

Source: Census of Population, 1990
Table 3.5. Persons, Households and Families

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>total persons</td>
<td>14,904</td>
</tr>
<tr>
<td>persons in households</td>
<td>14,827</td>
</tr>
<tr>
<td>total household</td>
<td>5,967</td>
</tr>
<tr>
<td>persons per household</td>
<td>2.48</td>
</tr>
<tr>
<td>persons in families</td>
<td>12,685</td>
</tr>
<tr>
<td>total families</td>
<td>4,242</td>
</tr>
<tr>
<td>persons per family</td>
<td>2.99</td>
</tr>
</tbody>
</table>

Source: Census of population and housing, 1990

The Involvement of Residents in the Debate over Annexation

The debate over the annexation of Madison into Huntsville was begun in May, 1986. A group of residents in Madison formed a political coalition named "The Committee for Better Madison" (Madison County Record, May 15, 1986). The committee supported the democratic right of the residents of Madison to determine the future of the municipality, including whether to continue as a legal entity or petition for consolidation of government with Huntsville (Madison County Record, May 15, 1986). Members of the committee pointed out that many of the qualified voters were dissatisfied with the municipal services, such as, water, transportation facilities and sewer services, supplied by Huntsville (before 1986, most municipal services in Madison were supported by Huntsville). Those elections focused on consolidation of government with Huntsville in order to improve the municipal services for the
public good of the Madison residents (Madison County Record, May 15 1986).

Immediately after the founding of the Committee for Better Madison, another group of Madison residents held a meeting. Their viewpoints centered on their preference for the independence of Madison (Madison County Record, June 5 1986). Some residents in the meeting expressed concern that the problems in Madison were due to its rapid growth, especially the fast growth of population within the last twenty years. Huntsville, or any other city having such rapid growth would likely have had the same problems as Madison had. The view was expressed that no one could solve these problems overnight. They hoped the residents in Madison would not rush into a vote for consolidation until they fully understood the consequences of such a move. (Madison -- Our Town, 1986, Madison County Record, June 12, 1986).

The mayor pointed out that the dissident minority used and continued to use media to blow their discontent out of proportion, without first giving their elected officials the opportunity to present the facts, resolve issues, and affirm and execute their responsibilities to do their best for the welfare of all Madison residents (Madison County Record, Aug. 28, 1986). The main argument of the mayor is that Madison was in a period of rapid growth and that merger with Huntsville was not in the best interests of the Madison community,
either now or in the future. The mayor also argued that further disadvantages after annexation would include children not having school buses for transportation to their local school and a likely increase in city sales and property taxes. The mayor also pointed out that the community government was working on the service problems, such as water and sewer services. The residents only needed to give them time to make the necessary changes (Madison -- Our Town, 1986, Madison County Record, Sept. 11, 1986).

The debate generated interest among people who did not normally go to city commission meetings and with the depth of discussion to the annexation issue, more and more people paid more attention to the future of Madison and joined in the debate (Madison County Record, Sept. 11, 1986).

In August, Madison residents began the campaign to preserve the city (Madison County Record, August 28, 1986). In September, over 200 Madison residents held a rally to give support for the annexation of Madison (Madison County Record, Sept. 11, 1986). At the beginning of November, a big company named Intergraph joined the pro-annexation movement. The company contributed $10,000 in support (Madison County Record, Nov. 6, Nov. 13, 1986). The annexation battle ended on November 25, 1986, when Madison residents voted on the annexation referendum. The result was 699 for annexation, 2,245 against. Therefore, Madison was, by a 3 to 1 margin,
supportive of the independence of Madison (Madison County Record, Nov. 26, 1986).

In 1989, a flyer sent to Madison residents renewed the effort to annex Madison into Huntsville. The mayor immediately pointed out that the annex flyers were not valid petitions. Later on, the city council changed the law. It required petitions from ten percent of the qualified electors who actually voted in the last general municipal election. This has made annexation votes much more difficult (Madison County Record, Mar. 9, April 16, 1989).

Community Development-Infrastructure Improvement in Madison

Over the past several decades, Madison has undergone a significant growth in both population and employment, resulting in the need for development of the transportation system, water and sewer systems and other services. These problems became very serious with the rapid growth of population in the 1980s. In 1986, a group of residents suggested annexation into Huntsville as a solution to these problems. Those residents who were pro-annexation hoped that Madison could receive financial support from Huntsville to solve at least road and sewer problems, and immediately supply enough water for Madison's growing needs. In fact, in the early 1980s, Madison began to take steps to solve its
infrastructure problems. The following is a brief summary of the changes made in the road, water and sewer systems.

Transportation System

Madison is located on and bounded by three major regional roadways: U.S. Highway 72, Alabama Highway 20, and Interstate 565. The Huntsville/Decatur International Airport is located in Madison. There are also twelve companies in Madison, the biggest of which, Intergraph, employs about 10,000 persons. Therefore, much of the recent growth in Madison can be directly attributed to its favorable proximity to important transportation terminals and links.

A general grid system of roadways forms the roadway network of Madison between U.S. Highway 72 to the north of Alabama and Highway 20 to the south. These roadways are mostly two lanes in cross section. Signalized traffic control is only available on U.S. Highway 72, Alabama Highway 20 and Wall Triana Highway. Most of the roads in Madison were built for rural conditions. As this area becomes more urbanized, and with the rapid growth of population in recent years in Madison, the demands for the improvement of the road system have been dramatized.

Facing the problem that the rural based roads have to serve an urban usage, the city government has decided to make some improvement. The plan for improvement began in 1992. It
will be done within three to four years and includes the following:

1. Widening Madison Pike, which is the shortest road connecting Madison and Huntsville. The problem now is that Madison Pike has only two lanes, which often results in some traffic problems, especially during the rush hours.

2. Reconstructing the intersection of Wall Triana road in Madison, in order to get the traffic to go smoothly, especially during the rush hours.

3. Adding in signal controls at the major intersections in Madison, in order to mediate traffic, especially during the rush hours.

Water and Sewage Systems

With more and more people moving into Madison, water and sewer services have come to be of the utmost concern to the city residents. During the debate over annexation into Huntsville in 1986, both pro and anti-annexation forces agreed that the water and sewage systems were a problem. During the summer of 1988, a severe drought, combined with high water demand (caused by the watering needs of new residential lawns), resulted in acute shortages in the higher grounds to obtain sufficient water pressure for showering needs during the peak morning hours (Madison 2005, 1989).

The problem with the sewage system was even more serious. Madison was not able to treat the sewage itself. By asking Huntsville to treat the sewage, Madison became indebted to
One of the most difficult problems was the unavailability of accurate maps of the water and sewage systems. In order to solve these problems, Madison altered from step one and took the following actions:

1. Madison water and sewer department first tried to draw a map of the water and sewage systems trying to figure out what they should do for the improvement.

2. Madison, in March, 1990, completed a new well (Drake well) and two new storage tanks at the pump station.

3. For the sewage system, Madison in 1991 built a new Western sewer outfall line to send sewage to the plant located in Huntsville.

4. Madison made agreement with the city government of Huntsville to use the Huntsville sewage plant to treat the sewage from Madison in January, 1990. The agreement included that Madison purchase the capacity of the Huntsville sewage plant. By doing so, Madison does not have to pay the plant, because they have their own capacity now in the Huntsville sewage plant.

The biggest changes in the water and sewage systems have taken place in Madison since 1990. After having put the new well and the two storage tanks into use, Madison no longer has to buy any water from Huntsville, where the water is more expensive than in Madison. Madison placed the water from Huntsville as a reserve to be used when Madison is in a water emergency. Before 1986, the water in Huntsville was the main water source for Madison. The new well, together with the wells in Limestone county, which Madison is still using, and
the two storage tanks can offer enough water for the resi-
dents in Madison. This has already been proven by the fact
that in the hot summer of 1990, the water reserve was
sufficient to supply the residents in Madison.

The newly built Western sewer outfall line, according to
the head of the water and sewer department, has solved the
sewer problems. The capacity that Madison bought from the
Huntsville sewage plant has been enough for the needs of the
present residents and the growth of population to the year
1994, according to recent population forecasts.

In order to meet the rapid development of the community,
the growth of the population and the higher demands of the
residents in the future, Madison, based on the present situa-
tion of water and sewer systems, has already developed a
master plan for water and sewer systems through the year 1995
and beyond.

Other Changes

After the debate over annexation into Huntsville in 1986,
the residents in Madison recognized the weakness of a three
member commission as the form of city government. It would be
difficult for the commission to deal with something as com-
plex as the annexation debate. Therefore, demands to change
the form of city government were put before the public after
the annexation debate in 1986. In 1988, the three person
commission was changed into a city council form of government (About the Change of Government Form, 1988).

In 1989, there were also some other improvements to the infrastructure. The residents voted in two tax issues. The first was to raise the property taxes by 5.5 mills and to increase revenues to the city by an estimated $330,000 and permit the city to borrow an estimated $3 million for capital improvement projects. The second was a one-half mill tax raising about $30,000 a year for expansion of the Madison library's facilities and operations (Madison County Record, Sept. 7, 1989).
CHAPTER IV

METHODOLOGY

Study Description and Sample

The data for this study was collected in Madison, Alabama in Spring, 1993. This survey research and the questionnaire were approved by the ISU Human Subjects Committee before the questionnaires were mailed out. The major purpose of this survey is to collect a statistically representative and comprehensive data set concerning the factors which have an influence on community attachment. The survey collected the data from a sample of community residents. Both mail questionnaires and telephone calls as follow-ups were used in the process of survey research.

The sample was a random sample chosen from the Huntsville/Madison telephone directory. The population in Madison is 14,904. According to the statistical formula, the sample size determined for this survey was about 400 persons. The desired confidence interval was 95 percent. The statistical formula (Agresti and Finlay, 1986:107) is:

\[
N = \frac{(1.96)^2 \times (1-\pi)}{(0.05)^2}
\]

Where: \( \pi = 0.5 \), \( N = \) sample size, and Error = 0.05
Measure

This study will first test the variables in the systemic model. Second, the relationship between the five independent demographic variables in the systemic model, the degree of residential satisfaction and residential attitudes toward rapid growth, treated as intervening variables in the study of community attachment, will also be tested.

According to the literature review, some community scholars have discovered that residential satisfaction and attitudes toward rapid change bear relationships with community attachment. These two variables can be treated as intervening variables in the study of community attachment. Within the past few decades, Madison has been experiencing rapid social change, population growth, and industrialization. This case study analyzes the influence of these rapid changes on the level of community satisfaction and attachment. Therefore, it is important to ask about current residents' level of satisfaction with their community and their attitudes toward rapid growth and the effects of this growth on Madison.

Local social bonds and local social sentiment are the two measures of community attachment. In the study of community attachment, Kasarda and Janowitz (1974) and Goudy (1990) discovered that these variables, such as length of residence,
educational level, income, age and home ownership in the systemic model are strongly related to local sentiment and local social bonds. Therefore, the variables used to measure social bonds and local social sentiment will be treated as dependent variables in this study.

Statistical Analysis

Multiple Regression Analysis

Multiple regression will be used to estimate relationships for the proposed model. The first model proposes to test the relationship between the dependent variables measuring community attachment, local social bonds, local sentiments, and the five independent variables in the systemic model, including age, home ownership, education, income and length of residence. The second model will test the relationships between the five independent demographic variables in the systemic model and attitudes toward rapid growth. The third model will test the relationship between the five independent variables in the systemic model and degree of residential satisfaction.

Multiple regression will be used because this method helps people to develop "a better predictor of a dependent variable than can be obtained by using only one independent variable" (Agresti and Finlay, 1986:316). One reason for
using multiple regression analysis is that, according to previous studies, there are several independent variables, such as length of residence, home ownership, socioeconomic status and so on, which have an influence on the dependent variables measuring the strength of local social bonds, and degree of local social sentiments, attitudes toward rapid change, and level of residential satisfaction. Therefore, to get a good predictor of \( y_1 = \text{local social bonds} \), \( y_2 = \text{local social sentiment} \), \( y_3 = \text{attitudes toward rapid growth} \), and \( y_4 = \text{residential satisfaction} \), it would be better to use several indices for those independent variables, such as \( X_1, X_2 \ldots \)

Thus, multiple regression analysis is appropriate because the different models can be tested in this study. Finally, all the variables will be tested to determine the most influential ones in explaining attitudes toward rapid growth, residential satisfaction and community attachment (social bonds and local sentiment). Therefore, multiple regression has been determined as the appropriate statistical technique for this case study.

The general form of a regression model for \( K \) independent variables takes this form:

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_K X_K
\]

Where \( \beta_1, \beta_2, \beta_K \) are the regression coefficient that need to be estimated, \( X_1, X_2, X_K \ldots \) are all separate inde-
dependent variables, such as home ownership, education and so on.

After assessing the relationship between the variables, multiple regression will be used to determine the influence of the independent variables for the research hypotheses. By using this statistical method, one can discover which variable(s) has (have) stronger relationships with attitudes toward rapid growth, residential satisfaction and community attachment (local social bonds and local social sentiments).

The first dependent variable for Figure 2.1, local social bonds is given the symbol: \( y_1 \)

The second dependent variable for Figure 2.1, local social sentiments is given the symbol: \( y_2 \)

The dependent variable for Figure 2.2, level of residential satisfaction is given the symbol: \( y_3 \)

The dependent variable for Figure 2.3, attitudes toward rapid growth is given the symbol: \( y_4 \)

The independent variables to be used in the analysis are symbolized as follows:

1. length of residence: \((Z_1)\)
2. income: \((Z_2)\)
3. education: \((Z_3)\)
4. home ownership: \((Z_4)\)
5. age: \((Z_5)\)

The proposed population model in the form of a multiple regression equation is as follows:

\[
y = a + b_1Z_1 + b_2Z_2 + \ldots + b_5Z_5
\]
Where:

\[ y_1 = \text{local social bonds}, \]
\[ y_2 = \text{local social sentiments}, \]
\[ y_3 = \text{attitudes toward growth}, \]
\[ y_4 = \text{level of satisfaction}, \]
\[ b_1, b_2 \ldots = \text{the regression estimates}, \]
\[ z_1 = \text{length of residence}, \]
\[ z_2 = \text{income}, \]
\[ z_3 = \text{education}, \]
\[ z_4 = \text{home ownership}, \]
\[ z_5 = \text{age}, \]
\[ a = \text{intercept}. \]

The first step in this study will use multiple regression to retest the systemic model. Then, the influence of the independent variables in the systemic model on attitudes toward rapid growth and residential satisfaction will be tested. The third step will test attitudes toward rapid growth and residential satisfaction as intervening variables. The method of path analysis will be used to accomplish this final research objective.

Path Analysis

The method of path analysis was first developed by Wright (1934). Later on, it was introduced by Duncan (1966) into the social sciences. Path analysis is an ordinary-least squares technique used by social scientists to test a causal model and determine the degree of fit between the causal model and the data. This method of analysis "does not allow the demonstration of causality, but rather a comparison of an expected
pattern of relationships among variables with an observed set of relationships" (Oxley et al., 1981:644). In this study, a model of hypothesized causal relationships among those demographic variables, such as age, home ownership, length of residence, community attachment and intervening variables, level of satisfaction and attitudes toward change, are constructed. This model predicts that those demographic variables, such as age, length of residence and home ownership have both direct and indirect influences on community attachment. The indirect influence on community attachment is through two intervening variables, attitudes toward rapid growth and residential satisfaction. The variables, such as age, length of residence, home ownership, educational level and income, are called "exogenous" variables. They are, in the context of the model, left unexplained. The variables, such as attitudes toward rapid change, residential satisfaction and community attachment, are called "endogenous" variables. They are the focus of the argument. The variables to be used in this analysis (Figure 2.4) are symbolized as follows:

1. length of residence: (X1)
2. income: (X2)
3. education (X3)
4. home ownership: (X4)
5. age: (X5)
6. attitudes toward rapid growth: (X6)
7. residential satisfaction: (X7)
8. local social bonds: (X8)
9. local social sentiment: (X9)
CHAPTER V

RESULTS

To test the models discussed in the previous chapter, data were collected in the City of Madison, Alabama, in the Spring of 1993. A total of 1,130 questionnaires were mailed to Madison residents. Telephone calls were used as follow-ups. This survey was supported by the Madison city government. I discussed the research purpose with both the former and current mayors of Madison. The current mayor wrote a supporting letter and also put the information on the local news channel encouraging people to answer the questionnaires. The city council passed a notion to offer the researcher a $1000 mini-grant to support the research. The return rate was 39 percent; that is, 436 people, including 195 females and 240 males (with missing gender identification on one respondent), returned completed questionnaires. The refusal rate was quite high for the residents living in apartments. Out of the total of 1130 questionnaires, 420 were sent to apartments in Madison (about one third of residents currently live in apartments in Madison). The return rate for apartment dwellers is only 12 percent. About 710 questionnaires were sent to home owners with a return rate of about 53 percent. Among the 436 respondents, 401 are Caucasian (93 percent of the total), with remaining 32 respondents being classified as
other races (three people did not answer this question).

In keeping with the literature review, questions focused on variables hypothesized to influence community attachment. The five independent variables specified in the model are: length of residence, education, home ownership, family yearly income, and respondent's age. Other items in the questionnaire measured the dependent variables, social bonds and local sentiment, and the intervening variables, attitudes toward rapid change and levels of satisfaction.

The 436 respondents, ranging in age from 15 to 79, have lived in Madison from one to forty-five years, with a mean of 6.48 and a standard deviation of 5.863. Three hundred-two people, or 69 percent of the respondents, have lived in Madison for eight years or less. Of the total of 436 respondents, 347 (80 percent) are married, and the remainder are single, divorced or in another status.

The average family income for these 436 respondents is between $60,000 to $69,999 with a standard deviation of 2.329. The range of the respondents' income is from less than $9,999 to $100,000 and over (the average family income in Madison, according to records offered by the city government in 1990, is $55,845). The average level of education for the respondents is between college and some graduate school with a standard deviation of 2.329. The range in levels of education is from less than primary school to a graduate degree.
Among the 436 respondents (110 people did not answer this question), 187 people (57 percent) are engineers, 58 respondents (18 percent) are managers, 43 persons (13 percent) are specialists, with the rest of the sample (11 percent) engaged in other jobs. These three occupations account for 66 percent of the respondents, with missing occupational data for 110 respondents. The data related to income, education and individual occupation collected in this survey indicates that Madison is quite homogeneous, which will have an influence on the statistical analysis. One potential source of bias in the sample is that a total of 376 respondents are buying or already own their homes, with the remaining 50 people renting or in other situations (such as living with their parents). This means that home owners are probably over-represented in the sample.

Other information from the survey of Madison residents centered on the dependent and intervening variables. Descriptive analysis of the data follows.

Descriptive Analysis

Local Social Sentiment

Local social sentiment, as one of the dependent variables, is measured by three questions. 1) "To what degree do you feel at home in Madison?" Of the 390 respondents, 90
percent feel very much or somewhat at home. Only nine respondents (two percent), reported they do not feel at home at all. The mean is 3.4 with a standard deviation of .727. The range is from 1 to 4.

2) "How interested are you in knowing what goes on in Madison?" Of the total of 413 people, 95 percent reported being interested in knowing what goes on in Madison. Only two percent are somewhat or very disinterested. The mean is 4.41 with a standard deviation of .684. The range is from 1 to 5.

3) "Suppose that for some reason you had to move away from Madison. How sorry or pleased would you be to leave?" About three quarters of the respondents, (73 percent) reported that they would be very sorry or somewhat sorry to leave. Another 20 percent felt that it would not make any difference one way or the other. People who would be somewhat or very pleased to leave account for only eight percent of the total (N = 435). The mean is 3.857 with a standard deviation of .90. The range is from 1 to 5.

Local Social Bonds

The dependent variable social bonds is measured by four separate items.

1) "How often do you and your neighbors borrow or trade things with each other?" About half of the respondents (50 percent) answered that they often or sometimes borrow or
trade things with their neighbors. About 34 percent answered that they rarely did so, and the remaining 16 percent indicated that they "never" borrowed or traded with neighbors (N = 436). The mean is 2.49 with a standard deviation of .958. The range is from 1 to 4.

2) "Overall, about what percentage of the people in Madison would you say that you know or at least recognize when you see them around town?" The percentages range from 0 to 75 percent. Almost two-thirds of the respondents, (63 percent) reported that they knew from two to 15 percent of the Madison residents. Over 50 percent of this total knew from 10 to 13 percent of the city's residents (N = 432). The mean is 15.55 percent with a standard deviation of 13.236.

3) "Of the 10 houses in this neighborhood that are closest to your home: A) How many of the these houses have you been in? B) How many adults who live in these houses do you know on a first-name basis?" For the first subpart of the question, the range is from zero to ten houses. About 11 percent of the respondents said that they had never visited any of their neighbor's houses. Two-thirds (69 percent) of the respondents, indicated that they had visited from one to six houses (N = 435). The mean is 4.088 with a standard deviation of 2.816.

For the second subpart, fewer than 10 percent knew no one's first name in their neighborhood. Slightly over 40
percent (44 percent) answered that they knew two to six of their neighbors' first names (N = 435). The mean is 7.23 with a standard deviation of 5.058. The range is from zero to 34, but 99 percent of the sample reported they knew from zero to 20 of their neighbors' first names.

Attitudes Toward Change

Respondents' attitudes toward change in Madison are measured by the four questions listed below. Also, two dimensions are derived by summarizing several of the individual items and will be presented in a descriptive manner.

1) "Do you think new people moving into your area are having a positive or a negative effect on your community?" Two-thirds of the respondents considered the movement of new people to Madison as having a very positive or positive effect on the community. Almost one in five of the respondents reported that they considered the flow of new people into this area as having a negative or a very negative effect (N = 433). The mean is 3.524 with a standard deviation of .91. The range is from 1 to 5.

2) "How would you characterize the rate of population growth in Madison over the past five years?" Only about 1 percent of the respondents characterized the population as stable. Most of the respondents (88 percent of the total)
characterized population growth as rapid, and 11 percent evaluated the growth rate as moderate (N = 424). The mean is 4.866 with a standard deviation of .381. The range is from 1 to 5.

3) "How would you characterize the rate of economic growth in Madison over the past five years?" As in population growth, most respondents (81 percent) perceived either a rapid or moderate growth in the economy. Only about 16 percent characterized the economy as not growing, with a few (three percent) even perceiving the economy to be in a decline (N = 425). The mean is 4.091 with a standard deviation of .723. The range is from 1 to 5.

4) "Do you feel that Madison is sacrificing its quality of life for economic development?" Those respondents who feel that Madison is definitely sacrificing its quality of life for economic growth account for nine percent of the total sample. Another quarter of the respondents feel that Madison is "probably sacrificing" its quality of life. Supporters of economic growth are split between those who answered that Madison is "probably not" making a sacrifice (53 percent), and those who feel that it is "definitely not" (11 percent) making a sacrifice (N = 430). The mean is 2.667 with a standard deviation of .79. The range is from 1 to 4.

Factor analysis is used in this study for creating scales relating to attitudes toward change and level of satisfac-
Use of factor analysis allows the researcher to classify a large number of interrelated variables into a smaller, more manageable number of factors (dimensions). The correlation between an item and a factor is represented by a factor loading. If a factor loading is equivalent to 3.0 or below, it will be considered too weak to represent a factor. Those variables that load onto a specific factor, which is developed by a composite scale, are then summed and their reliability is assessed by the calculation of an alpha coefficient. Therefore, in this study, factor analysis is used to develop composite scales which represent different dimensions of satisfaction and attitudes toward change.

In the factor analysis relating to attitudes toward change, two dimensions emerge. All items in the two factors are identically scaled from 1 (not at all important) to 11 (extremely important).

The first factor relates to the maintenance of the status quo and is composed of two items. The first of the items measures the perceived importance of preserving existing ways of life and values. The second question taps respondents' feelings about limiting the number of people living in Madison. The scores for this scale ranged from 2 (the feeling that the preservation of existing ways and limitation of Madison's population is not important) to 22 (a high value placed on the preservation of the status quo). Only nine
percent of the respondents scored in the lowest range, from 2 to 7. An additional 31 percent of the respondents scored in the medium low range, from 8 to 12. Thirty percent of the sample fell into the medium high range, from 13 to 17, and the remaining 30 percent fell into the most conservative range, from 18 to 22. The mean value is 14.009, and the standard deviation is 4.854. Because of the limited number of items in this scale, an alpha reliability coefficient was not calculated.

The second factor revolves around respondents' attitudes towards change in the economic and social infrastructure and is composed of three questions. Again, respondents were asked to rate the importance, on an eleven point scale, of the following items: 1) increasing economic opportunities for local residents, 2) improving health care, and 3) improving public services such as schools, roads, and public protection.

The scores for this scale ranged from 3 (the feeling that it is not important to increase economic opportunities and to improve health care and public services) to 33 (a high value placed on these improvements). A mere two percent fell into the lowest range, from 5 to 13. About eight percent of the respondents scored in the range of 14 to 20. About 41 percent of the respondents scored from 21 to 27, and the remaining 49 percent fell into the most extreme category, 28 to 33. The
mean value is 26.721, and the standard deviation is 5.136. The alpha reliability for this scale is .695.

Levels of Satisfaction

The measurement of the level of satisfaction consists of two items and three scales.

1) "Overall, on a scale from 1 (worst) to 11 (best), how would you rank Madison when compared to other communities in which you have lived?" Seventeen respondents have never lived in any other community; therefore, they did not answer this question. Only three percent of the total used the most unfavorable comparisons, 1 to 3. Forty-four percent of the total selected medium high levels of 7 and 8, and an additional 29 percent selected even more favorable ratings, 9 to 10. Only three people marked the most extreme level (N = 420). The mean for this item is 6.414 with a standard deviation of 2.009.

2) "Imagine the ideal community in which you would like to live. On a scale from 1 (worst) to 11 (best), where would you rank Madison compared to your ideal community?" Almost one in every ten respondents selected the most unfavorable ratings 1 to 3. Another 12 percent selected levels 9 to 11. The most popular response was a mid-range response 6 to 8, which was chosen by 58 percent of the total (N = 435). The
mean is 7.36 with a standard deviation of 2.147.

Again, factor analysis is used to derive scales measuring the level of satisfaction. The first factor consists of 5 items, each of which uses response categories from 1 (completely disagree) to 11 (completely agree). The questions contained in this factor relate to psychological attachment and satisfaction with the social environment of Madison. 1) "The longer I live in Madison, the more I feel I belong here." 2) "Madison is basically a friendly place." 3) "I feel fully accepted as a member of Madison." 4) "If I were in trouble, many people in Madison would help me." 5) "Most people in Madison can be trusted."

The scores for this scale range from 5 (indicating a low level of satisfaction with Madison's social environment) to 55 (a high level of satisfaction with Madison's social environment). Only four percent of the respondents fell into the most unfavorable scale rating, 5 to 17. Twelve percent scored in the medium-low range of 18 to 27. Another 29 percent had scale scores from 28 to 37. About 35 percent of the respondents had medium-high scale scores from 38 to 46, and the remaining 19 percent indicated the highest level of satisfaction by scoring 47 to 55. The mean scale value is 37.591, and the standard deviation is 10.131. The alpha reliability coefficient is .847.

The second factor includes 7 questions, each of which
uses the 5 point response categories of "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." This factor relates to satisfaction with Madison's people and government. The questions are as follows. 1) "People won't work together to get things done for Madison." 2) "The future of Madison looks bright." 3) "Madison has good leaders." 4) "Residents of this community continually look for new solutions for problems rather than being satisfied with things as they are." 5) "Not much can be said in favor of Madison." 6) "Residents of other communities in this area hold good opinions of Madison." 7) "Madison is an ideal place to live."

Table 5.1 presents the information on this dimension of community satisfaction.

Items 2, 3, 4, 6, and 7 were recoded so that the higher the number, the higher the level of satisfaction. The scores for this scale range from 7 (unfavorable rating) to 35 (favorable rating). Only three percent of the total respondents used the most unfavorable rating, 7 to 15. Another 24 percent had medium-low scale scores from 16 to 22. Sixty-three percent fell into the medium-high category, 23 to 29, and the remaining ten percent are found in the most extreme favorable rating category, 30 to 35. The mean value is 24.523, and the standard deviation is 4.195. The alpha reliability coefficient for the seven item scale is .765.

The third satisfaction factor deals with the level of
satisfaction with opportunities in Madison (see Table 5.2). This factor includes 8 questions, each of which is measured on a 5 point Likert scale: "very satisfied," "somewhat satisfied," "neither satisfied nor dissatisfied," "somewhat dissatisfied," and "very dissatisfied." The questions are as follows: 1) "Opportunities to make friends." 2) "Opportunities for residents to participate in community affairs." 3) "Local government." 4) "Treatment on local tax policies." 5) "Employment opportunities." 6) "Recreational opportunities." 7) "Opportunities for citizen involvement in local government." and 8) "Cultural opportunities (such as library, theater, art, music, local celebrations)." The

<table>
<thead>
<tr>
<th>Question</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>N</th>
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<td>3%</td>
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<td>30%</td>
<td>45%</td>
<td>7%</td>
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<td>20%</td>
<td>4%</td>
<td>1%</td>
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<td>29%</td>
<td>52%</td>
<td>12%</td>
<td>4%</td>
<td>435</td>
</tr>
<tr>
<td>Q4</td>
<td>8%</td>
<td>42%</td>
<td>31%</td>
<td>14%</td>
<td>5%</td>
<td>434</td>
</tr>
<tr>
<td>Q5</td>
<td>2%</td>
<td>6%</td>
<td>7%</td>
<td>50%</td>
<td>35%</td>
<td>435</td>
</tr>
<tr>
<td>Q6</td>
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<td>44%</td>
<td>27%</td>
<td>14%</td>
<td>4%</td>
<td>435</td>
</tr>
<tr>
<td>Q7</td>
<td>11%</td>
<td>37%</td>
<td>25%</td>
<td>22%</td>
<td>5%</td>
<td>434</td>
</tr>
</tbody>
</table>

a. SA = strongly agree
A = agree
U = undecided
D = disagree
SD = strongly disagree
N = total number of respondents
results of this factor are as follows.

All items in this scale were recoded so that the higher the number, the higher the level of satisfaction. The scores for this scale range from 8 (very dissatisfied) to 40 (very satisfied). About nine percent of the respondents had scale scores in the most unfavorable category, 9 to 18. Fifty-four percent of the respondents had medium-low satisfaction scores of 19 to 26. Another 29 percent had medium-high satisfaction scores of 27 to 33, and the remaining four percent fell into the highest satisfaction category, 34 to 40. The mean value is 25.065, and the standard deviation is 4.970. The alpha

Table 5.2. Distribution of Responses on Individual Items in Dimension 3 of Satisfaction

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<tr>
<th>Question</th>
<th>VS</th>
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<th>NSND</th>
<th>SD</th>
<th>VD</th>
<th>N</th>
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<td>44%</td>
<td>30%</td>
<td>12%</td>
<td>2%</td>
<td>436</td>
</tr>
<tr>
<td>Q3</td>
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<td>35%</td>
<td>40%</td>
<td>15%</td>
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<td>16%</td>
<td>25%</td>
<td>37%</td>
<td>18%</td>
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</tbody>
</table>

a. VS = very satisfied
SS = somewhat satisfied
NSND = neither satisfied nor dissatisfied
SD = somewhat dissatisfied
VD = very dissatisfied
N = total number of respondents
reliability coefficient for the 8 items is .765.

The last satisfaction factor consists of three questions, each of which is measured on the same Likert scale as used in factor two. The questions in this factor include the following items: 1) "Madison is good enough as it is without starting any new community improvement programs." 2) "Changes are desirable even if they do not seem to contribute as much as one might expect." 3) "I would feel 'at home' no matter what community I lived in." The alpha reliability coefficient for these three items is .099. Therefore, this dimension was not used further in the analysis.

Analysis of Pearson Correlation Coefficient

The Pearson Correlation Coefficient \( r \) is an interval-level measure of the relationship between two variables. It reflects how closely one can predict the value of one variable by knowing the value of another variable. The relationship of two variables is determined by the spread of the actual observations around the regression line. If all the observations are on the line, Pearson \( r \) will be either positive (1.00) or negative (-1.00); if all the observations are randomly scattered, Pearson \( r \) will be zero. The value of Pearson \( r \) reflects the proportional reduction of error when one uses linear regression analysis.
Local Social Sentiment

One of the two dependent variables in the analysis, local social sentiment, is measured by three questions: 1) "To what degree do you feel at home in Madison?" 2) "How interested are you in knowing what goes on in Madison?" and 3) "Suppose that for some reason you had to move away from Madison. How sorry or pleased would you be to leave?" The following section contains an analysis of the Pearson correlation coefficients for these three variables (see Table 5.3).

1) Feeling at home: Among five independent variables, only the length of residence (.227) and home ownership (.219) have a significant and positive relationship with the degree to which Madison residents "feel at home". Other items, treated as intervening variables in the analysis, such as ranking Madison with an ideal community (.412), ranking Madison compared to other communities in which respondents have previously lived (.446), respondents' satisfaction with Madison as a whole (.487), their satisfaction with Madison's people and government (.496), and their satisfaction with opportunities in Madison (.463), are positively related to the "feeling at home" question, as well. The dependent variables measuring local social bonds, such as the percentage of other people respondents know in Madison (.298), the number of houses in their neighborhoods that respondents have been
in (.285), and how many neighbors' first names they know (.243), also have some relationship with feeling at home.

2) Interest in community events: This sentiment measure is significantly related to some of the variables measuring social bonds, such as how many houses respondents have been in (.246), and the number of neighbors' first names known (.236). It is also significantly related to their satisfaction with Madison as a whole (.280) and how often they borrow from or trade with neighbors (.243). It is also significantly related to home ownership (.205).

3) Disappointment in leaving Madison: This question, when treated as a dependent variable, has no notable relationship with the five independent variables. However, it has a relatively strong relationship with several of the variables measuring level of satisfaction; ranking Madison with the ideal community (.535), ranking Madison compared to other communities in which they have lived (.527), satisfaction with Madison's people and government (.485), satisfaction with Madison as a whole (.503), and satisfaction with opportunities in Madison (.371). It is significantly related to the variables measuring attitudes toward change, such as the perceived effect when new people move into Madison (.238), and change of social services (.239). It also has some relationship with the variables measuring local social bonds,
Table 5.3. Pearson Correlation Coefficient Matrix\textsuperscript{a}

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Variable | 8 | 9 | 10 | 11 | 12

| 8        | 1.00 |     |     |     |     |
| 9        | -.391| 1.00|     |     |     |
| 10       | .264*| .049| 1.00|     |     |
| 11       | .294*| .091| .738| 1.00|     |
| 12       | .148 | .179| .485| .498| .100 |
| 13       | .195 | .287*| .534| .561| .579 |
| 14       | .199 | .109| .453| .482| .506 |
| 15       | .171 | .062| .412*| .446*| .487* |
| 16       | .119 | .039| .163| .140| .280* |
| 17       | .239*| .023| .535*| .527*| .503* |
| 18       | .127 | -.048| .153| .134| .329* |
| 19       | .258*| -.079| .137| .182| .285* |
| 20       | .094 | .062| .102| .073| .262* |
| 21       | .048 | .028| .080| .044| .276* |
Table 5.3. Pearson Correlation Coefficient Matrix^ (continued)

<table>
<thead>
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<th>Variable</th>
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* Significant at 0.05 level

a. Asterisks indicate that the Pearson Correlation Coefficients are only provided for variables relating to different concepts.

Demographic variables:
1 = length of residence
2 = age
3 = education
4 = income
5 = home ownership

Intervening variables:
Attitudes toward change:
6 = the perceived effect new people moving in
7 = preserving the current way of life
8 = change of social services
9 = sacrifice quality of life for economic growth

Level of satisfaction:
10 = ranking Madison with the ideal community
11 = ranking Madison among communities where respondents have lived before
12 = satisfaction with Madison as a whole
13 = satisfaction with Madison's people and government
14 = satisfaction with opportunities in Madison

Dependent variables:
Local social sentiment:
15 = feeling at home
16 = interest in what goes on
17 = being sorry to leave

Local social bonds:
18 = the frequency of borrowing among neighbors
19 = the percentage people known in Madison
20 = the number of houses the respondents have been in
21 = how many neighbors' first names known
such as the frequency of borrowing among neighbors (.208), and the percentage of people known in Madison (.254). The Pearson Correlation Coefficients of the three variables measuring local social sentiment are highly correlated and may indicated that they are part of the same underlying dimension.

Local Social Bonds

The other dependent variable, local social bonds, is measured by four questions. 1) "How often do you and your neighbors borrow or trade things with each other?" 2) "Overall, about what percentage of people in Madison would you say that you know or at least recognize when you see them around town?" 3) "Of the 10 houses in this neighborhood that are closest to your home: How many of these houses have you been in? 4) How many adults who live in these houses do you know on a first-name basis?"

1) The frequency of borrowing among neighbors: This variable (see Table 5.3) is significantly correlated with the independent variable of home ownership (.332), and also with satisfaction with Madison as a whole (.329), and satisfaction with opportunities in Madison (.207). It is also positively and significantly related to the variables measuring social sentiment, such as feeling at home (.221), interest in what
2) The percentage of People Known in Madison: This variable is significantly related to length of residence (.216), satisfaction with Madison as a whole (.285), satisfaction with opportunities in Madison (2.27), feeling at home (.298), being sorry if respondents had to leave (.254), and change of social services (.258).

3) The number of houses in their neighborhood respondents have been in: this item is related to length of residence (.238), home ownership (.248), satisfaction with Madison as a whole (.262), feeling at home (.285) and interest in what goes on in Madison (.246).

4) How many neighbors' first names are known: this question correlates with the level of satisfaction with Madison as a whole (.276), and home ownership (.316). It is also significantly correlated with feeling at home (.243), and interest in what goes on in Madison (.236).

Attitudes Toward Change and Level of Satisfaction

The measurement of attitudes toward change and level of satisfaction are the two intervening variables. Attitudes toward change consists of four measures. 1) "Do you think people moving into your area are having a positive or negative effect on your community?" 2) "Do you feel that Madison
is sacrificing its quality of life for economic development?"
3) attitudes toward the importance of changes in social services, and 4) attitudes supporting the preservation of the current way of life.

The four variables relating to community change (see Table 5.3) measure residents' perceptions of the impact of economic and population growth. Generally, the higher the score, the more positive the feeling about the effect of growth. The first measure, the perceived effect of new people moving into Madison, has a significant relationship with the dependent variable being sorry to leave (.238), and with two other measure of change, sacrificing quality of life for economic growth (.463), and preserving the current way of life (.399).

Preserving the current way of life is negatively and significantly related to level of education (-.252), and positively related to satisfaction with Madison as a whole (.206).

Change of social services is positively and significantly correlated with ranking Madison with the ideal community (.264), ranking Madison against communities where they have lived before (.294), being sorry to leave (.239), and the percentage of people living in Madison who are known (.258).

Level of satisfaction, the other intervening variable, includes two single items and three additional factors. 1)
Overall, on a scale from 1 (worst) to 11 (best) how would you rank Madison when compared to other communities in which you have lived? 2) "Imagine the ideal community in which you would like to live. On a scale from 1 (worst) to 11 (best), where would you rank Madison compared to your ideal community?" 3) a scale of overall satisfaction with Madison, 4) a scale measuring satisfaction with opportunities in Madison, and 5) a scale measuring satisfaction with Madison's people and government.

Satisfaction with Madison as a whole (.279), and satisfaction with Madison's people and government (.390) are significantly related to the item measuring attitudes toward change which measures the perceived effect of new people moving into Madison. Madison's ranking with the ideal community positively relates to attitudes toward change of social services (.264). The item, satisfaction with Madison as a whole, is significantly correlated with home ownership (.244), and the item, satisfaction with Madison's people and government, is correlated with sacrificing quality of life for economic growth (.287).

Analysis of the Linear Regression Model

One of the major goals of this study is to analyze the extent to which a group of independent variables, including length of residence, age, income, education, and home owner-
ship, can be used to explain community attachment. Community attachment is measured by two major concepts: local social bonds and local social sentiment. The unique question being asked here relates to the perceived effects of rapid community and economic change, and its effects on the relationship between the independent variables and community attachment. Also of interest is the explanatory role of community satisfaction on attachment. The variables used in the regression analysis are as follows:

Local social bonds: One of the measures of community attachment is local social bonds, which is measured by the following four questions in this study. 1) "How often do you and your neighbors borrow or trade things with each other?" 2) "Overall, about what percentage of the people in Madison would you say that you know or at least recognize when you see them around town?" 3) "Of the 10 houses in this neighborhood that are closest to your home, how many of these houses have you been in?" 4) "How many adults who live in these houses do you know on a first-name basis?"

Local social sentiment: Local sentiment is another indicator of community attachment. There are three items measuring social sentiment. 1) "To what degree do you feel at home in Madison?" 2) "How interested are you in knowing what goes on in Madison?" 3) "Suppose that for some reason you had to move away from Madison. How sorry or pleased would you be
Attitudes toward change: Attitudes toward change, treated as an intervening variable in this study, are measured by the following two questions and two scales, 1) "Do you think new people moving into your area are having a positive or negative effect on your community?" 2) "Do you feel that Madison is sacrificing its quality of life for economic development?" 3) A scale of attitudes toward the importance of changes in social services in Madison. This scale is derived from factor analysis, and includes three questions, which center on the importance of improving health care, improving public services, and increasing economic opportunities for local residents. 4) A scale of attitudes supporting the preservation of the current way of life. This scale is also derived from factor analysis. This factor only includes two items, which focus on the importance of preserving existing ways of life and values and the importance of limiting the number of people living in Madison.

Level of satisfaction: Level of satisfaction is another intervening variable, which is, according to the literature review, also influenced by attitudes toward change. Level of satisfaction is measured by two questions and three scales, 1) "Overall, on a scale from 1 (worst) to 11 (best), how would you rank Madison when compared to other communities in which you have lived?" 2) "Imagine the ideal community in
which you would like to live. On a scale from 1 (worst) to 11 (best), where would you rank Madison compared to your ideal community?"

3) A scale of overall satisfaction with Madison. This scale is derived from factor analysis, and measures whether respondents feel satisfied with their community as a whole.

4) A scale measuring satisfaction with opportunities in Madison. This scale is also derived from factor analysis, and measures whether people feel satisfied with opportunities in Madison.

5) A scale measuring satisfaction with Madison's people and government. Again, a scale determined by factor analysis, which measures how respondents evaluate city government and people in Madison.

Multiple regression is used here to analyze these relationships. This method is used to specify the nature of the relationships between the independent and dependent variables, and to find some algebraic expression which can be used to explain the functional relationships between these variables. In this study, multiple regression is used to discover whether there are linear relationships among the variables, namely local social bonds, local social sentiment, attitudes toward change and level of satisfaction, and the independent variables, namely income, age, home ownership, education, and length of residence.
Local Social Bonds--Regression Analysis

As one of the measures of community attachment in this study, local social bonds includes four questions focusing on the frequency of interaction between the respondents and their neighbors, and the proportion of people known by the respondents. In Table 5.4, local social bonds is tested with five independent variable by using multiple regression analysis. The five independent variables are length of residence, age, income, education, and home ownership, which are hypothesized as being significant variables in the explanation of the four operational measures of the dependent variable, strength of local social bonds. The purpose of this analysis is to test the hypotheses: for instance, does the data indicate that people with longer residence, higher income, higher level of education, or older aged people and home owners, will report stronger local social bonds within the community? According to the literature review, length of residence, a person's social position, home ownership, and age have been shown to be related to the strength of local social bonds.

The analysis in Table 5.4 demonstrates that variables measuring local social bonds are significantly influenced by four independent variables, length of residence, home ownership, education, and age. Income does not show up as a significant explanatory variable in any of the regression
models tested for local social bonds.

Two of the independent variables, age and home ownership, are related to the first measure of the dependent variable, frequency of borrowing or trading with neighbors. Home ownership shows a positive relationship, and age, a negative relationship with this variable. This indicates that home ownership has a positive effect on this particular measure of social bonds while an increase in age tends to accompany a decrease in borrowing from or trading with neighbors. The amount of variance explained, as indicated by the R square, is a rather modest .128, which is statistically significant at the .05 level.

Length of residence and education are both related to the second measure of the dependent variable, the percentage of people known. Length of residence shows a positive relationship, and education, a negative relationship with this variable. The relationship of these variables indicates that an increase in the length of residence tends to accompany an increase in the percentage of people known in Madison, whereas an increase in education tends to be associated with a decrease in the percentage of local people known. The amount of variance explained, as indicated by the R square, is .084, which is low, although it is significant at the .05 level.

Two independent variables, length of residence and home ownership, are related to a third measure of the dependent
Table 5.4. Regression Analysis—Local Social Bonds

<table>
<thead>
<tr>
<th>Variable</th>
<th>Borrow % known</th>
<th>houses in first-name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=406</td>
<td>N=404 N=405 N=406</td>
</tr>
<tr>
<td>length</td>
<td>Beta</td>
<td>sig T</td>
</tr>
<tr>
<td></td>
<td>.071</td>
<td>.145</td>
</tr>
<tr>
<td>length</td>
<td>.240</td>
<td>.000*</td>
</tr>
<tr>
<td>length</td>
<td>.196</td>
<td>.000*</td>
</tr>
<tr>
<td>length</td>
<td>.072</td>
<td>.145</td>
</tr>
<tr>
<td>age</td>
<td>-.117</td>
<td>.020*</td>
</tr>
<tr>
<td>age</td>
<td>-.076</td>
<td>.138</td>
</tr>
<tr>
<td>age</td>
<td>.017</td>
<td>.738</td>
</tr>
<tr>
<td>income</td>
<td>-.046</td>
<td>.356</td>
</tr>
<tr>
<td>income</td>
<td>.002</td>
<td>.962</td>
</tr>
<tr>
<td>income</td>
<td>.085</td>
<td>.082</td>
</tr>
<tr>
<td>income</td>
<td>.058</td>
<td>.247</td>
</tr>
<tr>
<td>edu</td>
<td>.030</td>
<td>.538</td>
</tr>
<tr>
<td>edu</td>
<td>-.120</td>
<td>.015*</td>
</tr>
<tr>
<td>edu</td>
<td>-.066</td>
<td>.162</td>
</tr>
<tr>
<td>edu</td>
<td>-.000</td>
<td>.998</td>
</tr>
<tr>
<td>edu</td>
<td>.344</td>
<td>.000*</td>
</tr>
<tr>
<td>edu</td>
<td>.086</td>
<td>.088</td>
</tr>
<tr>
<td>edu</td>
<td>.270</td>
<td>.000*</td>
</tr>
<tr>
<td>owner</td>
<td>.285</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (borrowing things from neighbors) = .128
   significant F = .000
b. R Square (percentage of people known) = .084
   significant F = .000
c. R Square (the number of houses they have been in) = .154
   significant F = .000
d. R Square (the number of neighbors' first names known) = .109
   significant F = .000

variable, the number of homes in the immediate neighborhood that the respondents have visited. Thus, both length of residence and home ownership are positively related to number of homes the respondents have visited. The amount of variance explained, as indicated by the R square, is .154, significant at the .05 level.

Finally, only home ownership is related to the last measure of the dependent variable, the number of neighbors' first names known. Thus, home ownership appears to have a positive effect on this measure of neighborhood attachment. The amount of variance, the R square, is .109, significant at the .05 level.
Local Social Sentiment—Regression Analysis

Local social sentiment is another measure of community attachment, which includes three questions focusing on whether the residents are interested in local community affairs and whether they are willing to live in Madison. In Table 5.5 local sentiment is tested with five independent variables, length of residence, education, income, age, and home ownership. According to the literature review, local social sentiment has been shown to be significantly influenced by the respondents' length of residence, their age, level of income, educational level, and home ownership. In this case study, hypotheses to be tested are that people who have lived in Madison longer, residents with higher income, residents with a higher level of education, older people, and home owners will have a higher degree of local social sentiment.

Table 5.5 reports tests of the strength of the five independent variables as factors in the explanation of the dependent variables measuring local social sentiment. The results show that only two of the independent variables, length of residence and home ownership, make some contributions to the explanation of the three measures of local social sentiment, one of the two measurements used here as indicators of community attachment.
### Table 5.5. Regression Analysis—Local Social Sentiment

<table>
<thead>
<tr>
<th>Variable</th>
<th>feel at home</th>
<th>what goes on</th>
<th>sorry to leave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=405</td>
<td>N=406</td>
<td>N=406</td>
</tr>
<tr>
<td>length</td>
<td>Beta 0.176</td>
<td>sig T 0.000*</td>
<td>Beta 0.159</td>
</tr>
<tr>
<td>age</td>
<td>Beta 0.037</td>
<td>sig T 0.473</td>
<td>Beta -0.004</td>
</tr>
<tr>
<td>income</td>
<td>Beta 0.005</td>
<td>sig T 0.917</td>
<td>Beta 0.052</td>
</tr>
<tr>
<td>education</td>
<td>Beta -0.058</td>
<td>sig T 0.238</td>
<td>Beta -0.081</td>
</tr>
<tr>
<td>ownership</td>
<td>Beta 0.175</td>
<td>sig T 0.001*</td>
<td>Beta 0.174</td>
</tr>
</tbody>
</table>

* * significant at .05 level

a. R Square (feeling at home) = .084
   significant F = .000
   R Square (interest in what goes on) = .050
   significant F = .001
   R Square (being sorry to leave) = .065
   significant F = .000

Two independent variables, length of residence and home ownership, make significant contributions to the first measure of the dependent variable, feeling at home in Madison. Home ownership and length of residence have positive associations with this particular measure of social sentiment. The amount of variance explained, as indicated by the R square, is .084, which is low, although statistically significant at the .05 level.

Only one independent variable in the model, home ownership, contributes to the explanation of the second measure of the dependent variable, interest in what goes on in Madison. This indicates that home ownership has a positive effect on this measure of local social sentiment. The amount of vari-
ance (R square) explained is a rather low .050, but is still statistically significant at the .05 level.

Two of the five independent variables, length of residence and home ownership, make some contribution to the explanation of the last measure of the dependent variable, being sorry to leave Madison. Both home ownership and length of residence show positive relationships with this variable. This indicates that home ownership has a positive effect on the development of local sentiment and that an increase in the length of residence tends to accompany an increase in the feeling of sorrow at having to leave the community. These two variables combine to explain .065 (R square) of the variance in the measure of local social sentiment; this indicates that only about seven percent of variance can be explained (statistically significant at the .05 level).

Attitudes toward Change—Regression Analysis

Attitudes toward change, as an intervening variable in this study, are measured by opinions about needed changes in social services, attitudes toward the preservation of the current way of life, attitudes about the effect of new people moving into Madison, and attitudes about whether respondents feel that Madison is sacrificing its quality of life for economic growth. Examining attitudes toward change in the
study of community attachment is one of the major differences between this study and Kasarda and Janowitz's systemic model, which does not include any reference to the influences of community change and growth. As discussed earlier, significant changes have taken place in recent years in Madison. How Madison residents evaluate these changes, how they feel that their lives have been influenced by the changes, and how these changes influence their level of satisfaction and their attachment to their community, can be addressed by examining the respondents' attitudes toward change. According to the literature reviewed earlier, rapid community growth and change, influenced by different levels of income, education, age, years of residence, and home ownership, can have a significant impact on community attachment. In this study, attitude toward change is treated as an intervening variable in the explanation of community attachment. It is hypothesized that long-time residents, more educated residents, higher income residents, older residents and home owners will hold a more negative evaluation of change.

Table 5.6 reports the results of the regression analysis which tests the strength of the five independent variables, length of residence, income, age, education, and home ownership, in the explanation of two attitudinal measures of change. These two dimensions relate to the positive or
negative impacts of new people moving into Madison and attitudes about whether Madison is sacrificing its quality of life for economic development. Generally, the results appearing in Table 5.6 show that only one of the independent variables, length of residence, makes a contribution to the explanation of the two measures of change.

Length of residence is the only one of the independent variables with a statistically significant Beta that enters into the explanation of attitudes toward the impacts of in-migrants on the quality of community life. This indicates that an increase in the length of residence tends to accompany a decrease in residents' agreement that new people moving
into Madison has a positive effect on the community. The amount of variance explained, as indicated by the R square, is .040, which is very low, although statistically significant at the .05 level.

Length of residence is also the sole independent variable that makes a contribution to the explanation of the second change variable, namely that economic growth involves a sacrifice in Madison's quality of life. This indicates that the longer a resident has lived in Madison, the more likely he or she is to believe that Madison is sacrificing its quality of life for economic development. This variable by itself accounts for less than 3 percent of the variance in the change measurement, failing to reach the desired level of statistical significance.

Table 5.7 reports tests of the strength of the five independent variables as factors in the explanation of the two other variables measuring attitudes toward change. The results show that the two indicators of the dependent variable are influenced by three of the independent variables, length of residence, education and home ownership.

Two of the five independent variables, education and home ownership, are related to the third change measure, attitudes toward change in the level of social services. Home ownership shows a positive relationship, and education, a negative
Table 5.7. Regression Analysis--Attitudes Toward Change* (2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>change of services</th>
<th>keep current life</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>sig T</td>
</tr>
<tr>
<td>length</td>
<td>-.006</td>
<td>.907</td>
</tr>
<tr>
<td>age</td>
<td>-.054</td>
<td>.295</td>
</tr>
<tr>
<td>income</td>
<td>-.039</td>
<td>.447</td>
</tr>
<tr>
<td>edu</td>
<td>-.262</td>
<td>.000*</td>
</tr>
<tr>
<td>owner</td>
<td>.100</td>
<td>.048*</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (expected improvement of services change) = .080
   significant F = .000

   R Square (preserving the current way of life) = .040
   significant F = .007

relationship with this variable. This indicates that home ownership has a positive effect on attitudes toward the perceived importance of change in the level of social services while an increase in education tends to accompany a decrease in the perceived importance of change in the level of social services. The amount of variance explained by the two variables, as indicated by the R square, is .080, which is low, but significant at the .05 level.

Only one of the independent variables, length of residence, makes a contribution to the last indicator of change, perceived importance of preserving the current way of life. This indicates that an increase in length of residence is related to an increase in the perceived importance of
preserving the current way of life in Madison. The amount of variance explained, as indicated by the R square, is .040, which is very low, although statistically it is significant at the .05 level.

Level of Satisfaction--Regression of Analysis

Level of satisfaction with Madison is also treated as an intervening variable in this study. It is measured by residents' ranking of Madison compared with communities they have lived in before, compared with their ideal community, and their level of satisfaction with people, government and opportunities in Madison. According to the literature review, rapid economic development and population growth can have significant influences on evaluations and attitudes about change, which are strongly related to level of satisfaction. Also according to the literature review, level of satisfaction has been shown to be influenced by the five independent variables used in this study. At the same time, levels of satisfaction, affected by attitudes toward change, also strongly relate to local social bonds and local social sentiment. It is hypothesized that length of residence, level of education, income, age, and home ownership will be inversely related to the perceived effects of change, and thus to a lower level of satisfaction.
Table 5.8 reports on the effects of length of residence, education, age, income and home ownership on the explanation of the three dependent measures of community satisfaction: ranking Madison among communities where respondents have lived before, ranking Madison with the ideal community, and residents' overall satisfaction with Madison. The analysis demonstrates that measures of community satisfaction are influenced by three of the independent variables, length of residence, respondent's age, and home ownership.

Two independent variables, length of residence, and home ownership, positively affect the first comparative satisfaction ranking, which indicates that an increase in the length

**Table 5.8. Regression Analysis--Level of Satisfaction**

<table>
<thead>
<tr>
<th>Variable</th>
<th>comm. lived N=391</th>
<th>ideal comm. N=406</th>
<th>satisf. with comm. N=396</th>
</tr>
</thead>
<tbody>
<tr>
<td>length</td>
<td>.130 .014*</td>
<td>.114 .026*</td>
<td>.097 .059</td>
</tr>
<tr>
<td>age</td>
<td>.013 .814</td>
<td>.110 .036*</td>
<td>-.027 .613</td>
</tr>
<tr>
<td>income</td>
<td>-.042 .429</td>
<td>-.031 .554</td>
<td>-.027 .603</td>
</tr>
<tr>
<td>education</td>
<td>.042 .416</td>
<td>-.048 .343</td>
<td>.005 .920</td>
</tr>
<tr>
<td>ownership</td>
<td>.130 .013*</td>
<td>-.080 .120</td>
<td>.213 .000*</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (ranking Madison with communities lived) = .041 significant F = .006
   R Square (ranking Madison with the ideal community) = .045 significant F = .002
   R Square (satisfaction with Madison as a whole) = .059 significant F = .000
of residence results in a more favorable ranking of Madison when compared with communities respondents have lived in before. These two variables account for .041 of the variance in this measure of satisfaction, which means that only four percent of variance can be explained (significant at the .05 level).

Two of the independent variables, length of residence and age, are related to the second measure of community satisfaction, a comparative ranking of Madison with the respondent's ideal conception of community. Both variables indicate a positive relationship with this variable, meaning that increased age and length of residence leads to an increased level of satisfaction, as measured by the comparison of Madison with their ideal conception of a community. The two variables combine to explain four percent of variance, statistically significant at the .05 level.

Home ownership is the only one of the five independent variables in the model to contribute to the explanation of the overall satisfaction variable. The two variables are positively related and the amount of variance explained (R square) is .059, which is very low, but statistically significant at the .05 level.

Table 5.9 continues to report the effect of the five independent variables on the explanation of two additional
Table 5.9. Regression Analysis of Level of Satisfaction\(^a\) (2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>opportunities</th>
<th>people and government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=400</td>
<td>N=395</td>
</tr>
<tr>
<td>length</td>
<td>.149</td>
<td>-.023</td>
</tr>
<tr>
<td>Beta</td>
<td>sig T</td>
<td>Beta</td>
</tr>
<tr>
<td>age</td>
<td>.112</td>
<td>.078</td>
</tr>
<tr>
<td>income</td>
<td>-.012</td>
<td>-.024</td>
</tr>
<tr>
<td>edu</td>
<td>-.016</td>
<td>-.040</td>
</tr>
<tr>
<td>ownership</td>
<td>.069</td>
<td>.090</td>
</tr>
<tr>
<td>sig T</td>
<td>.004*</td>
<td>.666</td>
</tr>
<tr>
<td></td>
<td>.033*</td>
<td>.152</td>
</tr>
<tr>
<td></td>
<td>.820</td>
<td>.658</td>
</tr>
<tr>
<td></td>
<td>.757</td>
<td>.438</td>
</tr>
<tr>
<td></td>
<td>.176</td>
<td>.089</td>
</tr>
</tbody>
</table>

\(^*\) significant at .05 level

a. \(R^2\) Square (satisfaction with opportunities) = .054

significant \(F = .001\)

\(R^2\) Square (satisfaction with people and government) = .017

significant \(F = .261\)

measures of community satisfaction, namely satisfaction with opportunities in Madison, and satisfaction with Madison people and government. The analysis shows that only the first of these two measures, relating to satisfaction with opportunities in Madison, is influenced by any of the independent variables.

Length of residence and age both make significant contributions to the explanation of satisfaction with opportunities in Madison. These two independent variables, both of which are positively related to this satisfaction measure, combine to explain about five percent of the variance in this variable, statistically significant at the .05 level.

As stated, the remaining measure of the dependent varia-
ble, satisfaction with people and government, is not related to any of the independent variables.

Change on Local Social Bonds—Regression Analysis

Table 5.10 reports on the test of the effects of the four measures of change, attitudes toward new people moving into Madison, changes in social services, attitudes toward preservation of the current way of life, and whether Madison is sacrificing its quality of life for economic growth, as variables in the explanation of the various measures of the dependent variable, strength of local social bonds. The results of the analysis show that three of the dependent variables are influenced by three of the change variables. One of the change variables, attitudes toward whether Madison is sacrificing its quality of life for economic growth, is not related to any of the dependent variables.

Two of the attitudinal change measures, dealing with the effect of new people moving into Madison, and attitudes about changes in social services, are significantly related to the first measure of the strength of social bonds, namely the frequency of borrowing or trading with neighbors. The amount of variance explained (R square) is .040, which is very low, but statistically significant at the .05 level.
Table 5.10. Regression Analysis—Change on Local Social Bonds

<table>
<thead>
<tr>
<th>Variable</th>
<th>borrow</th>
<th>% people</th>
<th>houses in</th>
<th>first name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=420</td>
<td>N=416</td>
<td>N=417</td>
<td>N=419</td>
</tr>
<tr>
<td>Beta</td>
<td>sig T</td>
<td>Beta</td>
<td>sig T</td>
<td>Beta</td>
</tr>
<tr>
<td>new pop</td>
<td>.136</td>
<td>.018*</td>
<td>.136</td>
<td>.015*</td>
</tr>
<tr>
<td>sacrifice</td>
<td>-.088</td>
<td>.136</td>
<td>-.047</td>
<td>.409</td>
</tr>
<tr>
<td>service</td>
<td>.105</td>
<td>.049*</td>
<td>.121</td>
<td>.020*</td>
</tr>
<tr>
<td>cur.way</td>
<td>.077</td>
<td>.149</td>
<td>.263</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (borrowing or trading things with neighbors) = .040
   significant F = .003
b. R Square (percentage of people known) = .105
   significant F = .000
c. R Square (the number of houses they have been in) = .027
   significant F = .022
d. R Square (the number of neighbors' first names known) = .008
   significant F = .502

Three of the independent variables, attitudes about new people moving into Madison, attitudes about changes in the level of social services, and the preservation of the current way of life, are related to the second measure of social bonds, percentage of people known. They are all positively related and the amount of variance explained, indicated by the R square, is .105 (significant at the .05 level).

Only one of the measures of attitudes toward change, change in the social services, is positively related to the third measure of the dependent variables, number of houses the respondents have visited. The amount of variance (R
square), accounted by this variable is only about three percent, statistically significant at the .05 level.

The final measure of the dependent variable, the number of people's first names known, bears no relationship with any of the four independent variables measuring attitudes toward change.

Change on Local Social Sentiment--Regression Analysis

Table 5.11 reports on the results of the regression analysis that tests the explanatory power of the four change variables on the second measure of the dependent variable, local social sentiment. In this analysis, the four change items are used as variables in the explanation of the dependent variables measuring local social sentiment. The analysis shows that variables measuring local social sentiment are influenced by three of the variables measuring attitudes toward change.

Residents' attitudes about the effect of new people moving into Madison and attitudes about preserving the existing way of life both make some contribution to the explanation of one of the measures of the dependent variable, feeling at home in Madison. Both of the independent variables are positively related to this particular indicator of the dependent variable. This indicates that the more the
respondents consider that in-migrants have positive impacts on Madison, and the more the residents feel it is important to preserve the current way of life, the more they tend to feel at home in Madison. The amount of variance explained by the variables, as indicated by the R square, is .089 (significant at the .05 level).

Three of the change variables, attitudes about change in Madison's social services, attitudes about new people moving into Madison, and attitudes about the importance of preserving the current way of life, emerge as predictor variables in the explanation of the second measure of community sentiment, having an interest in what goes on in Madison. The relationships observed in Table 5.11 indicate that the higher the importance placed on making changes in social services in Madison, the more positively in-migrants to Madison are perceived, and the more important respondents feel it is to preserve the current way of life, the higher the predicted level of local interest in what is going on in Madison. The total amount of variance explained by the change variables as indicated by the R square, is .072 (significant at the .05 level).

Finally, two of the change variables, the perceived effect of new people moving into Madison and the importance of preserving the current way of life make some contributions to the last measure of the dependent variable, being sorry to
Table 5.11. Regression Analysis--Change on Local Social Sentiment

<table>
<thead>
<tr>
<th>Variable</th>
<th>feel at home</th>
<th>what goes on</th>
<th>sorry to leave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=419</td>
<td>N=420</td>
<td>N=419</td>
</tr>
<tr>
<td>Beta</td>
<td>sig T</td>
<td>Beta</td>
<td>sig T</td>
</tr>
<tr>
<td>new people</td>
<td>.175</td>
<td>.002*</td>
<td>.128</td>
</tr>
<tr>
<td>sacrifice</td>
<td>.053</td>
<td>.358</td>
<td>.016</td>
</tr>
<tr>
<td>services</td>
<td>.070</td>
<td>.178</td>
<td>.119</td>
</tr>
<tr>
<td>current way</td>
<td>.242</td>
<td>.000*</td>
<td>.198</td>
</tr>
</tbody>
</table>

* significant at 0.5 level

a. R Square (feeling at home) = .089
   significant F = .000
b. R Square (interest in what goes on in Madison) = .072
   significant F = .000
c. R Square (being sorry to leave Madison) = .131
   significant F = .000

leave Madison. Both variables have positive relationships with this particular measure of the dependent variable. This indicates that the more positively residents regard the immigrant effect on Madison, and the more important respondents feel it is to preserve the current way of life in Madison, the stronger the feeling of being sorry to leave the community. The amount of variance explained, as indicated by the R square, is .131, statistically significant at the .05 level.

Satisfaction on Local Social Bonds--Regression Analysis

Table 5.12 reports findings on the strength of the influence of the five satisfaction measures, 1) ranking
Madison against communities respondents have lived in before, 2) ranking Madison against their ideal community, 3) overall satisfaction with Madison, 4) satisfaction with people and government, and 5) satisfaction with opportunities in Madison, on the first measure of the dependent variable, intensity of social bonds. These five variables are treated as predictor variables in the explanation of four different measures of the dependent variable. The analysis demonstrates that the dependent variable measures are significantly influenced by only two of the satisfaction variables.

The overall satisfaction item was the only measure of the intervening variable to make a contribution to the explanation of the first measure of social bonds, frequency of borrowing or trading with neighbors. The positive relationship indicates that an increase in the level of overall satisfaction with Madison tends to accompany an increase in the frequency of borrowing or trading with neighbors. The amount of variance explained, as indicated by the R square, is .117 (significant at the .05 level).

Overall satisfaction with Madison is also related to the second measure of the dependent variable, percentage of people known in Madison. An increase in the overall satisfaction level tends to accompany an increase in the percentage of people known in the town. The R square, the amount of
Table 5.12. Regression Analysis—Satisfaction on Local Social Bonds

<table>
<thead>
<tr>
<th>Variable</th>
<th>Borrow %</th>
<th>people houses in first name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=396</td>
<td>N=392</td>
</tr>
<tr>
<td>Beta sig T</td>
<td>Beta sig T</td>
<td>Beta sig T</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>comm.lived</td>
<td>.036</td>
<td>.631</td>
</tr>
<tr>
<td>ideal comm</td>
<td>-.071</td>
<td>.367</td>
</tr>
<tr>
<td>satis.comm</td>
<td>.343</td>
<td>.000*</td>
</tr>
<tr>
<td>peop/govern</td>
<td>-.048</td>
<td>.489</td>
</tr>
<tr>
<td>opportunity</td>
<td>.074</td>
<td>.243</td>
</tr>
</tbody>
</table>

* significant at 0.05 level

a. R Square (borrowing or trading with neighbors) = .117
   significant F = .000

R Square (percentage of people known) = .105
   significant F = .000

R Square (the number of houses respondents visited) = .130
   significant F = .000

R Square (the number of neighbors' first names known) = .095
   significant F = .000

variance explained, is .105, statistically significant at the .05 level.

Two of the independent variables, overall satisfaction with Madison, and satisfaction with opportunities in Madison, contribute to the explanation of the third measure of the dependent variable, the number of homes the respondent has visited. Both variables show positive relationships with this measure of local social bonds. This indicates that increases in the level of overall satisfaction with this community and level of satisfaction with opportunities in Madison tend to accompany increases in the number of homes people have
visited. The amount of variance explained, as indicated by the R square, is .130 (significant at the .05 level).

Once again, overall satisfaction with Madison is the only satisfaction measure which contributes to the explanation of the last measure of the dependent variable, the number of residents' first names known. This indicates that the level of overall satisfaction with Madison will have a positive impact on the intensity of social bonds, as indicated by the number of residents' first names known. The amount of variance explained, as indicated by the R square, is .095, which is low, but significant at the .05 level).

Satisfaction on Local Social Sentiment—Regression Analysis

Table 5.13 reports the relative contributions of the five satisfaction measures on the explanation of three measures of the second dependent variable, local social sentiment. The analysis demonstrates that variables measuring local social sentiment are influenced by each of the five satisfaction variables.

Four of the independent variables, ranking Madison with the respondents' ideal community, overall satisfaction with Madison, satisfaction with people and government in Madison, and satisfaction with opportunities, all have a positive relationship with the first measure of community sentiment,
Table 5.13. Regression Analysis—Satisfaction on Local Social Sentiment

<table>
<thead>
<tr>
<th>Variable</th>
<th>feel at home (N=395)</th>
<th>what goes on (N=396)</th>
<th>sorry to leave (N=396)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>sig T</td>
<td>Beta</td>
</tr>
<tr>
<td>comm. lived</td>
<td>.041</td>
<td>.521</td>
<td>.029</td>
</tr>
<tr>
<td>ideal comm.</td>
<td>.141</td>
<td>.036*</td>
<td>-.003</td>
</tr>
<tr>
<td>satisf. comm.</td>
<td>.205</td>
<td>.000*</td>
<td>.273</td>
</tr>
<tr>
<td>peop. govern.</td>
<td>.161</td>
<td>.007*</td>
<td>.076</td>
</tr>
<tr>
<td>opportunities</td>
<td>.181</td>
<td>.001*</td>
<td>-.082</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (feeling at home) = .355
   significant F = .000
   R Square (interest in what goes on in Madison) = .089
   significant F = .000
   R Square (being sorry to leave) = .426
   significant F = .000

feeling at home in Madison. This indicates that an increase in these measures of satisfaction accompany an increase in the feeling of being at home in Madison. The amount of variance explained, as indicated by the R square, is .355, which is significant at the .05 level.

Only one of the satisfaction measures, overall satisfaction with Madison, makes a contribution to the second measure of the dependent variable, being interested in what goes on in Madison. This variable shows a positive relationship with this particular dependent variable. This relationship indicates that an increase in the overall satisfaction level with this community tends to accompany an increase in the level of interest in knowing what goes on in this community. The
amount of variance explained, as indicated by the R square, is .089 (significant at the .05 level).

Four of the independent variables, ranking Madison with the ideal community, ranking Madison with communities where the respondents have lived before, overall satisfaction with Madison, and satisfaction with people and government in Madison, all are significant predictors in the explanation of the final measure of the dependent variable, being sorry to leave Madison. Each of these four independent variables have positive relationships with this particular dependent variable. The amount of variance explained, as indicated by the R square, is .426 (significant at the .05 level).

Table 5.14. Regression Analysis—Change on Satisfactiona (1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>comm. lived</th>
<th>ideal comm.</th>
<th>satisf. comm.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=406</td>
<td>N=419</td>
<td>N=414</td>
</tr>
<tr>
<td>new people</td>
<td>.196</td>
<td>.220</td>
<td>.248</td>
</tr>
<tr>
<td>sacrifice</td>
<td>.084</td>
<td>.150</td>
<td>.131</td>
</tr>
<tr>
<td>services</td>
<td>.006</td>
<td>-.023</td>
<td>.102</td>
</tr>
<tr>
<td>curr way</td>
<td>.345</td>
<td>.395</td>
<td>.278</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. R Square (ranking Madison with communities lived before) = .129
  significant F = .000
R Square (ranking Madison with the ideal community) = .167
  significant F = .000
R Square (satisfied with Madison as a whole) = .162
  significant F = .000
Change on Level of Satisfaction—Regression Analysis

Table 5.14 and 5.15 present the multiple regression analysis between the two intervening variables. According to the literature review, level of satisfaction is influenced by the residents' evaluation of change.

Table 5.14 reports on the contributions of the four change variables on the explanation of the level of satisfaction. In this analysis, these four items are used as variables in the explanation of the satisfaction variables. The analysis shows that the variables measuring level of satisfaction are influenced by three change variables.

Two of the change variables, attitudes toward new people moving into Madison, and attitudes about preserving the current way of life, are related to the first measure of satisfaction, ranking Madison with communities where respondents have lived before. This indicates that the more positively respondents perceived the impact of in-migrants on Madison, and the more important the respondents feel it is to preserve the current way of life, the higher they rank Madison among communities where they have lived before. The amount of variance explained, as indicated by the R square, is .129, statistically significant at the .05 level.

Three of the independent variables, attitudes toward new people moving into town, attitudes about preserving the current way of life, attitudes about whether Madison is
sacrificing its quality of life for economic development, are all positively related to the second measure of satisfaction, ranking Madison with the respondent's ideal community. This indicates that the more respondents believe new residents moving into Madison contribute a positive change, the more important the respondents feel it is to preserve the current way of life, and the more the respondents disagreed with the statement that Madison is sacrificing its quality of life for development, the higher they rank Madison when compared with their ideal community. The amount of variance explained, as indicated by the R square, is .167 (significant at the .05 level).

All of the four independent variables, attitudes toward new people moving into town, attitudes about changes in social services, attitudes about preserving the current way of life, and attitudes about whether Madison is sacrificing its quality of life for economic development, are positively related to the final measure of the dependent variable, overall satisfaction with Madison. The amount of variance explained (R square) is .162 (significant at the .05 level).

Table 5.15 continues to report the contributions of the four change variables to the explanation of the satisfaction variables. The analysis shows that variables measuring level of satisfaction are influenced by three of the variables measuring attitudes toward change.
Three of the independent variables, attitudes toward new people moving into town, attitudes about preserving Madison's current way of life, and attitudes about whether Madison is sacrificing its quality of life for economic development, are significantly related to the fourth measure of the satisfaction variable, satisfaction with people and government. These three change variables show positive relationships with this particular satisfaction variable. The amount of variance explained, as indicated by the R square is .269 (significant at the .05 level).

Three of the independent variables, attitudes about the effect of new people moving into town, attitudes about preserving the current way of life, and attitudes about whether
Madison is sacrificing its quality of life for economic development are positively related to the last measure of the satisfaction variable, satisfaction with opportunities. The amount of variance explained (R square), is .105 (significant at the .05 level).

Path Analysis

Based upon the multiple regression analysis, it can be concluded that some of the empirical indicators of the dependent variables, local social bonds and local social sentiment, and some of the measures of the intervening variables, attitudes toward change and level of satisfaction, are consistently influenced by certain independent variables, including length of residence and home ownership. Measures of the dependent variables, local social bonds and local social sentiment, are also significantly influenced by the intervening variables measuring attitudes toward change and level of satisfaction. At the same time, the intervening variables measuring level of satisfaction are significantly influenced by the other intervening variables measuring attitudes toward change. The unique contribution of this study relates to the influence of the intervening variables and how these variables mediate the effects of the independent variables in the explanation of community attachment.
Based upon the hypotheses advanced in this study and the multiple regression analysis above, a causal model containing five independent variables, two intervening variables measuring attitudes toward change and level of satisfaction, and two measures of the dependent variables, strength of local social bonds and degree of local social sentiment, will be analyzed using path analysis.

The five independent variables are length of residence, age, education, income, and home ownership (see Figure 5.1). The two intervening variables (see Figure 5.1) are, attitudes about the impact of new people moving into Madison, which is treated in this study as an intervening variable to measure attitudes toward change, and level of satisfaction with Madison as a whole, which is treated as another intervening variable to measure level of satisfaction. Two separate variables are used to measure the major dependent variable, community attachment. The variables are, how often the respondents borrow or trade things with their neighbors, which is treated as a dependent variable measuring the strength of local social bonds, and whether residents would feel sorry to leave Madison, which is treated as a dependent variable measuring local social sentiment.

The selection of these particular measures of the intervening and dependent variables is based on the results of the
Figure 5.1  A Path Diagram of Revised Community Attachment Model
linear regression analysis. In this study, the intervening and dependent variables measuring attitudes toward change, level of satisfaction, local social bonds and local social sentiment are all multiple measures, that is, each concept is measured by several items or scales. In a path analysis, each concept in the path diagram can be measured by only one variable. In order to choose the appropriate variables to represent each concept in the path diagram, all the intervening variables measuring attitudes toward change and level of satisfaction were tested against all the dependent variables measuring local social bonds and local social sentiment. The rationale for the selection of these two measures of the intervening variables, and the two measures of the dependent variables for the path analysis, is that they have relatively high standardized coefficient scores (Beta), and that they have relatively strong relationships with each other.

Table 5.16 and 5.17 show the standardized coefficient scores of all selected independent, dependent, and intervening variables. Table 5.16 reports the Beta scores from the linear regression analysis, which included the five independent variables, the two intervening variables measuring attitudes toward change and level of satisfaction, and the two dependent variables measuring local social bonds and local social sentiment. The results show that only one of the intervening variables, perception of new people moving into
Madison, and one of the dependent variables, feeling sorry to leave, are influenced by length of residence. Length of residence shows a negative relationship with the attitudes about new people moving into Madison, and a positive relationship with the feeling of sorrow about leaving Madison. Borrowing or trading with neighbors is strongly and negatively affected by age. The degree of feeling sorry to leave, the frequency of borrowing or trading with neighbors, and level of satisfaction with Madison, are all positively influenced by home ownership. The two intervening variables and the two dependent variables are not influenced by either income or level of education.

Table 5.16. Full Regression Equation for Each Variable/Dimension

<table>
<thead>
<tr>
<th>Variable</th>
<th>new people</th>
<th>satisfaction</th>
<th>sorry to leave</th>
<th>borrow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=403</td>
<td>N=396</td>
<td>N=406</td>
<td>N=406</td>
</tr>
<tr>
<td>Beta sig T</td>
<td>Beta sig T</td>
<td>Beta sig T</td>
<td>Beta sig T</td>
<td></td>
</tr>
<tr>
<td>length</td>
<td>-.153 .003*</td>
<td>.097 .059</td>
<td>.159 .002*</td>
<td>.071 .145</td>
</tr>
<tr>
<td>income</td>
<td>-.003 .953</td>
<td>-.027 .603</td>
<td>.030 .562</td>
<td>-.046 .356</td>
</tr>
<tr>
<td>edu</td>
<td>-.080 .116</td>
<td>.005 .920</td>
<td>-.012 .816</td>
<td>.030 .538</td>
</tr>
<tr>
<td>owner</td>
<td>.098 .056</td>
<td>.213 .000*</td>
<td>.157 .002*</td>
<td>.344 .000*</td>
</tr>
<tr>
<td>age</td>
<td>-.082 .112</td>
<td>-.027 .613</td>
<td>.016 .756</td>
<td>-.117 .020*</td>
</tr>
</tbody>
</table>

* significant at .05 level

a.R Square (new people moving into Madison)= .040 significant F=.006
R Square (satisfaction with Madison as a whole)= .059 significant F=.000
R Square (feel sorry to leave)= .065 significant F=.000
R Square (borrowing from neighbors)= .128 significant F=.000
Table 5.17 shows the results of the linear regression between the intervening variables measuring attitudes toward change (attitudes toward new people moving into Madison) and level of satisfaction (satisfaction with Madison as a whole), and also the coefficients of the linear regression between these two intervening variables and the two dependent variables (feeling sorry to leave and the frequency of borrowing from neighbors). The results show that the degree of feeling sorry to leave Madison and the frequency of borrowing from neighbors are both affected by the level of satisfaction (satisfaction with Madison as a whole) and attitudes toward change (perception of new people moving into Madison). Level of satisfaction (satisfaction with Madison as a whole) is also influenced by attitudes toward change (attitudes about new people moving into Madison).

Based on the findings reported in Tables 5.16 and 5.17, a path diagram with path coefficients (direct and indirect effects) and residual coefficients for studying the causal relationships among all selected variables is reported in Figure 5.2. In this path diagram, it is argued that the five exogenous variables, length of residence, income, education, home ownership, and age affect one of the endogenous variables, attitudes toward change, which is treated as an intervening variable in the study. In turn, the level of satisfaction, another intervening variable, is determined directly by
the five exogenous variables, plus the respondents' attitudes toward change. The respondents' strength of local social bonds and degree of local social sentiment are the results of his or her length of residence, age, income, education, home ownership, attitudes toward change, and level of satisfaction.

In this path diagram, each arrow is accompanied by a number representing the path coefficients, which represent the standardized coefficients (Beta) of the regression analysis reported in Tables 5.16 and 5.17. An unmeasured residual coefficient is attached to each of the two intervening variables and the two dependent variables. Each residual number is used to account for the variation which cannot be explained by the independent variables appearing in the model. In Figure 5.2, the variables, $E_u$, $E_v$, $E_w$, and $E_z$, are called residuals. The residual path is the way to express that there are other factors entering into the explanation of the endogenous variables. The residual path, $E_u$, between the five independent variables and one of the intervening variables, attitudes toward change, is .980, and between the five independent variables and the other intervening variable, level of satisfaction, is .970 ($E_v$). The residual path, $E_w$, between the five independent and two intervening variables and local social bonds is .837, and between the five independent and two intervening variables and local social sentiment, is .891
According to the path analysis shown in Figure 5.2, and Table 5.17, length of residence has a direct, but negative effect on the attitudes toward new people moving into Madison (-1.53), and a direct and positive effect on feeling sorry to leave Madison (.159). These direct effects are significant at the .05 level. The results of this path analysis indicate that length of residence is somewhat important in determining attitudes toward change and local social sentiment, but not important in affecting level of satisfaction and strength of local social bonds.

Table 5.17. Full Regression Equation for Each Variable/Dimension

<table>
<thead>
<tr>
<th>Variable</th>
<th>sorry to leave</th>
<th>borrow</th>
<th>satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=432</td>
<td>N=433</td>
<td>N=422</td>
</tr>
<tr>
<td>N=424</td>
<td>N=425</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>sig T</th>
<th>Beta</th>
<th>sig T</th>
<th>Beta</th>
<th>sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>new people</td>
<td>.238</td>
<td>.000*</td>
<td>.119</td>
<td>.013*</td>
<td>.288</td>
<td>.000*</td>
</tr>
<tr>
<td>Satisf.</td>
<td>.528</td>
<td>.000*</td>
<td>.338</td>
<td>.000*</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

* significant at .05 level

a. Change:

- R Square (satisfaction with Madison) = .083
  significant F = .000
- R Square (feel sorry to leave) = .057
  significant F = .000
- R Square (borrowing from neighbors) = .014
  significant F = .013

Satisfaction:

- R Square (feel sorry to leave) = .279
  significant F = .000
- R square (borrowing from neighbors) = .108
  significant F = .000
Figure 5.2 A Path Diagram with Path Coefficients and Residual Paths for Revised Community Attachment Model

\[ E = \sqrt{1 - R^2} \]
Length of residence also has an indirect effect on borrowing from neighbors and feeling sorry to leave via attitudes toward change and level of satisfaction, but the magnitude of these indirect effects is very low. The weak indirect effect indicates that the effects of length of residence on the strength of local social bonds and degree of local social sentiment are not through the two intervening variables, attitudes toward change and level of satisfaction. As intervening variables, they depend on the exogenous variables, and also, in turn, makes unique and direct contribu-

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dir eff.</th>
<th>indir. eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>length</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>change</td>
<td>-.153*</td>
<td>--</td>
<td>-.153</td>
</tr>
<tr>
<td>satisfaction</td>
<td>.097</td>
<td>--</td>
<td>.053</td>
</tr>
<tr>
<td>satisfaction via change</td>
<td>-.044</td>
<td></td>
<td></td>
</tr>
<tr>
<td>borrowing</td>
<td>.071</td>
<td></td>
<td>.071</td>
</tr>
<tr>
<td>borrowing via change</td>
<td>-.018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>via satisf.</td>
<td>.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>via change &amp; satisf.</td>
<td>-.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>feeling sorry</td>
<td>.159*</td>
<td>--</td>
<td>.151</td>
</tr>
<tr>
<td>feeling sorry via change</td>
<td>-.036</td>
<td></td>
<td></td>
</tr>
<tr>
<td>via satisf.</td>
<td>.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>via change &amp; satisf.</td>
<td>-.023</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* significant at .05 level
tions to the explanation of the dependent variables. Based upon the literature reviewed earlier, it was decided to treat attitudes toward change and level of satisfaction as intervening variables in this study. It was expected that some of the exogenous variables affect, in part through these two intervening variables, the two measures of community attachment, local social bonds and local social sentiment. The results in Table 5.18 show that one of the intervening variables, level of satisfaction does not bear any causal relationship with length of residence. Another intervening variable, attitudes toward change, is affected negatively by

Table 5.19. Estimated Structural Coefficients and Decomposition of Effect Corresponding to Income and Community Attachment

<table>
<thead>
<tr>
<th>Variable</th>
<th>variable</th>
<th>dir eff.</th>
<th>indir eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>income</td>
<td>change</td>
<td>-.003</td>
<td>--</td>
<td>-.003</td>
</tr>
<tr>
<td>satisfaction</td>
<td>-.027</td>
<td>--</td>
<td>-.028</td>
<td></td>
</tr>
<tr>
<td>satisfaction via change</td>
<td>-.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>borrowing</td>
<td>-.046</td>
<td>--</td>
<td>-.056</td>
<td></td>
</tr>
<tr>
<td>borrowing via change</td>
<td>-.0004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>via satisf.</td>
<td>-.009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; satisf.</td>
<td>-.0003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>feeling sorry</td>
<td>.030</td>
<td>--</td>
<td>.015</td>
<td></td>
</tr>
<tr>
<td>feeling sorry via change</td>
<td>-.0007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>via satisf.</td>
<td>-.014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; satisf.</td>
<td>-.0005</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* significant 0.05 level
length of residence, and also in turn, makes a positive contribution to one of the dependent variables, social bonds. But both path coefficients are moderate, which make the indirect effects very weak (in order to estimate the indirect effects, we multiply the path coefficients of the paths connecting the two variables via the intervening variable). The weak indirect effects indicate that in this path model length of residence has no indirect effects on local social bonds and local social sentiment via the two intervening variables.

The findings reported in Table 5.19 and Table 5.20

**Table 5.20. Estimated Structural Coefficients and Decomposition of Effect Corresponding to Education and Community Attachment**

<table>
<thead>
<tr>
<th>variable</th>
<th>dir eff.</th>
<th>indir eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>education</td>
<td>-.080</td>
<td>--</td>
<td>-.080</td>
</tr>
<tr>
<td>satisfaction</td>
<td>.005</td>
<td>-.023</td>
<td>.014</td>
</tr>
<tr>
<td>borrowing</td>
<td>.030</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>borrowing</td>
<td>.010</td>
<td>-.008</td>
<td>-.040</td>
</tr>
<tr>
<td>feeling sorry</td>
<td>-.012</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>feeling sorry</td>
<td>-.019</td>
<td>.003</td>
<td></td>
</tr>
</tbody>
</table>

* significant at .05 level
indicate that both income and education exert no important effect on either the intervening or the dependent variables. That is, income and level of education have no significant causal relationship with any of the endogenous variables. The indirect effects between income, education, and social bonds and sentiment via the two intervening variables are, as would be expected, also very low. The results indicate that income and education, in a rapidly growing community, are not important in explaining the strength of local social bonds, the degree of local social sentiment, attitudes toward change and level of satisfaction. The weak direct and indirect effects

Table 5.21. Estimated Structural Coefficients and Decomposition of Effect Corresponding to Home Ownership and Community Attachment

<table>
<thead>
<tr>
<th>variable</th>
<th>variable</th>
<th>dir eff.</th>
<th>indir eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ownership</td>
<td>change</td>
<td>.098</td>
<td>--</td>
<td>.098</td>
</tr>
<tr>
<td></td>
<td>satisfaction</td>
<td>.213*</td>
<td>--</td>
<td>.241</td>
</tr>
<tr>
<td></td>
<td>via change</td>
<td></td>
<td>.028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>borrowing</td>
<td>.344*</td>
<td>--</td>
<td>.438</td>
</tr>
<tr>
<td></td>
<td>via change</td>
<td></td>
<td>.012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via satisf.</td>
<td></td>
<td>.072</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via change &amp; satisf.</td>
<td></td>
<td>.010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>feeling sorry</td>
<td>.157*</td>
<td>--</td>
<td>.307</td>
</tr>
<tr>
<td></td>
<td>via change</td>
<td></td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via satisf.</td>
<td></td>
<td>.112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via change &amp; satisf.</td>
<td></td>
<td>.015</td>
<td></td>
</tr>
</tbody>
</table>

* significant at .05 level
of income and education on the two intervening and two dependent variables are not consistent with the hypothesized relationships between the higher income and higher education and these four endogenous variables, which predicted that higher income and higher level of education would be tied to stronger local social bonds and local social sentiment, and more negative attitudes toward change and lower levels of satisfaction.

The results relating to home ownership as reported in Table 5.2 show that this variable exerts direct effects on local social bonds (.344) and local social sentiment (.157), and also a direct influence on one of the intervening variables, level of satisfaction (.213). Level of satisfaction also exerts a strong direct influence on the degree of local social sentiment. Through this intervening variable, level of satisfaction, home ownership has a moderate and positive indirect effect on the degree to which residents feel sorry to leave Madison (.112). It indicates that home ownership is important in determining not only the direct effect on the degree of feeling sorry to leave Madison, but also affects the degree of local sentiment, in part through its effect on level of satisfaction. As anticipated, level of satisfaction, as an intervening variable, is useful in the explanation of the dependent variables, but the results of this study are contrary to the hypothesized relationship, which predicted
that home owners would report lower levels of satisfaction in a rapidly growing community than tenants.

Home ownership does not show any direct influence on attitudes toward change, neither does it show any remarkable indirect effect on local social bonds via the two intervening variables. This indicates that home ownership is not an important factor in determining attitudes toward change. At the same time, home ownership cannot explain the strength of local social bonds via the two intervening variables.

According to Table 5.22, age exerts no significant direct effect on the intervening and dependent variables, except on

<table>
<thead>
<tr>
<th>variable</th>
<th>variable</th>
<th>dir eff.</th>
<th>indir eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
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<td>--</td>
<td>-.082</td>
</tr>
<tr>
<td></td>
<td>satisfaction</td>
<td>-.027</td>
<td>--</td>
<td>-.051</td>
</tr>
<tr>
<td></td>
<td>satisfaction via change</td>
<td>--</td>
<td>-.024</td>
<td></td>
</tr>
<tr>
<td></td>
<td>borrowing via change</td>
<td>-.117*</td>
<td>--</td>
<td>-.136</td>
</tr>
<tr>
<td></td>
<td>borrowing via satisf.</td>
<td>--</td>
<td>-.010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via change &amp; satisf.</td>
<td>--</td>
<td>-.009</td>
<td></td>
</tr>
<tr>
<td>feeling sorry</td>
<td>.016</td>
<td>--</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>feeling sorry via change</td>
<td>--</td>
<td>-.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>via satisf.</td>
<td>--</td>
<td>-.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via change &amp; satisf</td>
<td>--</td>
<td>-.012</td>
<td></td>
</tr>
</tbody>
</table>

* significant .05 level
the strength of local social bonds (-.117), which is significant at the .05 level. The causal relationship is negative. This shows that older residents display weaker social bonds at the local level. This result is not consistent with the hypothesized relationship between age and local social bonds, which predicted that older residents would have stronger local social bonds. In this path analysis, the indirect effects between age and local social bonds and local social sentiment via attitudes toward change and level of satisfaction are very weak. This indicates that age is not an important factor in determining the degree of local social sentiment, either directly or indirectly. It can exert direct effects on local social bonds, but not through attitudes toward change and level of satisfaction.

In this path model, two variables are labeled as intervening variables, that is, variables which are dependent on the exogenous variables, but in turn, are predicted to make significant contributions to the explanation of the dependent variables. One of the intervening variables, perception of new people moving into Madison, measures attitudes toward change; the other one, satisfaction with Madison as a whole, measures level of satisfaction.

The first intervening variable in Table 5.23, attitudes about new people moving into Madison, directly affects the
other intervening variable, level of satisfaction with Madison as a whole (.288). The attitudes toward new people moving into Madison also influences the degree to which residents feel sorry to leave (.238), and the frequency of borrowing from neighbors (.119). The direct effects indicate that attitudes toward change are important in determining the level of satisfaction, strength of local social bonds and degree of local social sentiment. This intervening variable, perception of new people moving into Madison, also indirectly affects the degree of feeling sorry to leave Madison (.152) and the frequency of borrowing from neighbors (.10) via level of satisfaction. The indirect effects of attitudes toward change on the dependent variables show that this variable not only directly causes local social bonds and local social sentiment, but also makes an indirect contribution to the explanation of these variables through an intervening variable, level of satisfaction.

The second intervening variable in Table 5.23, overall satisfaction with Madison, directly influences the degree of feeling sorry to leave (.528) and the frequency of borrowing from neighbors (.338). This indicates that level of satisfaction is important in determining local social bonds and local social sentiment. Residents' level of satisfaction with the community will directly influence their community attachment. There are no indirect effects between this variable and local
Table 5.23. Estimated Structural Coefficients and Decomposition of Effect Corresponding to Change and Community Attachment\textsuperscript{a}

<table>
<thead>
<tr>
<th>variable</th>
<th>variable</th>
<th>dir eff.</th>
<th>indir eff.</th>
<th>total eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>change</td>
<td>satisfaction</td>
<td>.288*</td>
<td>--</td>
<td>.182</td>
</tr>
<tr>
<td>change</td>
<td>borrowing</td>
<td>.119*</td>
<td>--</td>
<td>.219</td>
</tr>
<tr>
<td></td>
<td>via satisf.</td>
<td></td>
<td>.100</td>
<td>.390</td>
</tr>
<tr>
<td></td>
<td>feeling sorry</td>
<td>.238*</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>via satisf.</td>
<td></td>
<td>.152</td>
<td></td>
</tr>
<tr>
<td>satisf.</td>
<td>borrowing</td>
<td>.338*</td>
<td>--</td>
<td>.338</td>
</tr>
<tr>
<td>satisf.</td>
<td>feeling sorry</td>
<td>.242*</td>
<td>--</td>
<td>.242</td>
</tr>
</tbody>
</table>

\* significant at .05 level

a. R Square

--R square= .300 (borrow from neighbors with 5 independent variables and 2 intervening variables)
   significant F=.000

--R square= .207 (feel sorry to leave with 5 independent variables and 2 intervening variables)
   significant F=.000

--R square= .040 (attitudes toward change with 5 independent variables)
   significant F=.007

--R square= .059 (level of satisfaction with 5 independent variables)
   significant F=.001

Social bonds and local social sentiment, according to the path diagram.

In sum, the results of the path analysis show that length of residence has a negative causal relationship with attitudes toward change, and a positive relationship with local social sentiment. There is no indirect influence on local social bonds and local social sentiment through the two intervening variables. Home owners are more likely to feel
sorry to leave Madison and to feel free to borrow from neighbors. Home ownership shows a moderate indirect effect on local social sentiment through level of satisfaction. Older residents do not borrow from neighbors as frequently. Age shows no significant indirect effect on either local social bonds or local social sentiment through the two intervening variables. Income and education show no direct or indirect effect on local social bonds or local social sentiment. The unmeasured residual of these three exogenous variables, plus the remaining two, income and education, to one of the intervening variables, attitudes toward change, is .980. The $R^2$ is .040. That shows the amount of variance explained is only four percent, although statistically it is significant at the .05 level. This actually indicates that in addition to these five exogenous variables, there are undoubtedly other factors which enter into the explanation of attitudes toward change.

Another intervening variable, level of satisfaction, is directly influenced only by home ownership. The residual path coefficient is .970. The $R^2$ is .059, which means only about six percent of the variance in the level of satisfaction can be explained. Again, this indicates that level of satisfaction must be influenced by other factors, beyond the five exogenous variables included in this analysis. The two intervening variables in this path model can only supply a
few important clues to the explanation of community attachment. This is undoubtedly because these two intervening variables are influenced by other factors not included in this study. Compared with the influence of other factors, these five exogenous variables do not appear to contribute greatly to the explanation of the intervening variables.

Based on the results reported in Table 5.23, one of the intervening variables, attitudes toward change, shows a direct effect on the level of satisfaction, local social bonds and local social sentiment, and in part through the level of satisfaction, on local social bonds and local social sentiment. The results reported in Table 5.23 show that attitudes toward change can make significant contributions in explaining the level of satisfaction, as an intervening variable, and local social bonds and local social sentiment, as dependent variables. This indicates that the strength of local social bonds and the degree of local social sentiment can be better explained by including attitudes toward change and level of satisfaction in the model. In part through the level of satisfaction, the intervening variable, attitudes toward change, makes an important contribution to the explanation of strength of local social bonds and degree of local social sentiment.
CHAPTER VI

SUMMARY AND CONCLUSIONS

The discussion of the results in this study will begin with a review of the hypotheses. The overall goals of this study are first to retest whether, in a rapidly growing community like Madison, Kasarda and Janowitz's systemic model (1974) can be used to effectively predict community attachment. The second goal is to study the strength of the influences of the intervening variables, attitudes toward change and level of satisfaction, on community attachment. The following are the hypotheses:

1. The longer the length of residence of a person in a community, the stronger the local social bonds.

2. The longer the length of residence of a person in a community, the stronger the local social sentiment.

3. The higher the level of income of a person in a community, the stronger the local social bonds.

4. The higher the level of income of a person in a community, the stronger the local sentiment.

5. The higher the educational level of a person in a community, the stronger the local social bonds.

6. The higher the educational level of a person in a community, the stronger the local sentiment.

7. Home owners will report stronger local social bonds than tenants.

8. Home owners will report stronger local sentiment than tenants.
9. The older the age of a person, the stronger the local social bonds.

10. The older the age of a person, the stronger the local sentiment.

11. The more negative the evaluation of rapid growth in the community, the lower the degree of residential satisfaction.

12. The more negative the evaluation of rapid growth in the community, the weaker the local social bonds.

13. The more negative the evaluation of rapid growth in the community, the weaker the local social sentiment.

14. The lower the degree of satisfaction with a community, the weaker the local social bonds.

15. The lower the degree of satisfaction with a community, the weaker the local social sentiment.

16. The longer the length of residence in the community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

17. The older the age, the more negative evaluation of rapid change, and the lower the level of satisfaction with the community.

18. The higher the level of income in a community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

19. The higher the level of education in a community, the more negative the evaluation of rapid change, and the lower the level of satisfaction.

20. Home owners will report lower levels of satisfaction with a rapidly growing community than tenants.

21. The longer the length of residence in the community, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

22. The older the age, the more negative the evaluation of rapid change, and the lower the level of satisfaction with the community, and then the weaker the community attachment.
23. The higher the level of income, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

24. The higher the level of education, the more negative the evaluation of rapid change, and the lower the level of satisfaction, and then the weaker the community attachment.

25. Home owners will report lower levels of satisfaction with a rapidly growing community than tenants, and then they will report weaker community attachment than tenants.

The following section contains a discussion of the results of this case study.

The Influences of Five Independent Variables on Community Attachment: the Study of the Systemic Model

Summarizing the data analysis in the previous chapter, the results reported in Table 5.4 (linear regression analysis—social bonds) show that Hypothesis 1, which is that the longer people live in a community, the stronger their local social bonds, is supported. In this study, local social bonds are measured by four variables: borrowing from and trading with neighbors, the percentage of people known in the community, the number of homes visited, and the number of residents known on a first-name basis. Two of the variables measuring social bonds, the percentage of community residents known, and how many homes in the area residents have visited, are correlated with the length of residence. The purpose of
this hypothesis is to retest Kasarda and Janowitz's finding (1974) that local social bonds are significantly influenced by length of residence. Kasarda and Janowitz suggest that newcomers need time in the process of assimilation into their local community, and longer length of residence will help to develop extensive friendship bonds, which help newcomers to strengthen their local social sentiment. Length of residence has proved to be an important independent variable when studying community attachment in the context of a stable community. According to the literature reviewed earlier, rapid growth usually produces a higher rate of overall community dissatisfaction (Baldassare, 1986), which will negatively influence residents' feelings of belonging and attachment to that community. Therefore, to retest this independent variable, it is necessary to determine whether, in a rapidly growing community, length of residence is still important as an explanatory variable in the study of community attachment. The results of this study show that even in a rapidly growing community like Madison, it is still generally true that the longer the length of residence, the stronger the social bonds. Therefore, length of residence is a very important independent variable to include in the study of community attachment in the context of a community, with or without change.

Table 5.4 shows that Hypothesis 7, which states that home
owners will possess stronger local social bonds than tenants, is borne out by the data. Three separate measures of local social bonds, borrowing from neighbors, the number of homes visited, and how many people are known on a first-name basis, are all influenced by home ownership. This hypothesis is also one of the assumptions in Kasarda and Janowitz' systemic model (1974). They suggest that home ownership causes stronger community involvement and attachment. Again, home ownership in their study is tested within the context of a stable community. Krannich and Greider (1990) believe that rapid growth in a community will lead to the disintegration of the community and will detract from the social well-being of those people residing in the area. Therefore, home ownership is retested in this case study, and asks the question in a rapidly growing community like Madison, does home ownership influence community attachment? The results show that even with rapid population and economic growth, home owners still report stronger local social bonds than tenants.

In recent years, because of the continued economic growth in the Huntsville/Madison area, people have continued moving into Madison. A great number of houses are needed by the newcomers, and therefore, the real estate values continue going up. This may be one reason why home owners have stronger local social bonds than tenants, simply because home owners see that the values of their homes are increasing, and
that they feel more likely that they will settle down in Madison. With this stability, they may be more likely to make friends with other residents.

Hypothesis 9 states that older residents will report stronger social bonds. This hypothesis is based upon several studies, such as Stinner et al. (1990); they point out that older people have more friends and kinship ties in their community, and are more involved in their communities. This hypothesis is not supported by the data. The findings in this study show that the frequency of borrowing or trading with neighbors is negatively influenced by age. This means that the older the residents' age, the less likely they are to borrow from or trade with their neighbors. Age has no relationship with the other three measures of local social bonds. This indicates that in a community with rapid population growth, local social bonds, on the whole, are not influenced by age, and in the single instance where they are related, the relationship is inverse. These results vary from those hypothesized by Kasarda and Janowitz (1974). They concluded that the older the resident, the stronger the local social bonds.

The percentage of people known in town shows a negative relationship with education. This indicates that more educated residents tend to know fewer people locally. This also varies from Kasarda and Janowitz's conclusion (1974).
They discovered that a higher level of education tends to lead to stronger local social bonds. In this study, level of education has no relationship with the other three variables measuring local social bonds. Therefore, the results do not support Hypothesis 5, which argues for a positive association between educational level and local social bonds. The results of this study suggest that in a rapidly growing community, education may not have an influence on community attachment, and in the single instance where the two variables were related, the relationship was negative.

There are several possible reasons for the results regarding age and education. First, Madison is a rapidly growing community with many new people. Most residents, especially more educated people, work in Huntsville, and therefore may not have much time and opportunity to make friends and know people locally. These residents are more likely to treat Madison as a bedroom community. Residents, especially more educated residents, may not make many friends in Madison, because they only "sleep" there. Their places of employment, entertainment, clubs, and other social organizations are located in Huntsville. Third, because of the first two reasons, people, both young and old, have either fewer opportunities or less willingness to know people in town.

Income is found to have little or no influence on any of the dependent variables measuring local social bonds. There-
fore, Hypothesis 3, which states that higher income will facilitate the development of heightened social bonds, is not supported. Income, one of the measures of a person's socioeconomic status, has been considered a very important independent variable in the systemic model. Gerson et al. (1977) suggest that individual socioeconomic status positively influences residents' degree of local social involvement. Goudy (1990) points out that higher social standing allows individuals to have their choice of social ties and enhance their community sentiment. The results of this study suggest that in a rapidly growing community, income has no relationship with any of the variables measuring social bonds. This is perhaps because, with rapid economic change, many middle income people moved into Madison, transforming the community into a middle class suburb. This is supported by the fact that the income data does not vary much, that is, about 87 percent of the households' family income is $40,000 or above. This may be a reason why income is not a significant variable in the explanation of the dependent variables.

The results reported in Table 5.5 (Linear Regression Analysis—Local Social Sentiments) show the influence of the model's five independent variables on the other dependent variable, local social sentiment, as measured by three variables: feeling at home, interest in knowing what goes on in Madison, and feeling sorry to leave Madison.
All three dependent variables measuring local social sentiment are significantly influenced by home ownership. The results support Hypothesis 8, which proposes that home owners report stronger feelings for their community than tenants. Home ownership in Kasarda and Janowitz's study (1974) is a very important independent variable in the study of community attachment. They suggest that owner status is a significant indicator of emotional investment in the place people are living. In this case study, Kasarda and Janowitz's findings were retested, because some scholars, such as Baldassare (1986), have discovered that rapid population growth can have a strong negative effect on residents' feeling about their living environment. Bach (1977) points out that if people feel dissatisfied with the place they live, they are more likely to leave. The results in this study show that even in a rapidly growing community, home owners still show a stronger feeling of belonging to their community than tenants. This may show that home ownership is, indeed, an indicator of stability and commitment to the local community and that stability and commitment in turn are related to the development of local sentiment.

Hypothesis 2 predicted that the longer someone resides in a community, the stronger their local social sentiment for that community. To some degree, this hypothesis is supported. Two of the dependent variables measuring local social senti-
ment, feeling at home and being sorry to leave Madison, are significantly and positively influenced by length of residence, but bear no systematic relationship with the third measure of local social sentiment, interest in knowing what goes on in Madison.

Neither income, age, nor education have relationships with the three dependent variables measuring local social sentiment. Therefore, Hypotheses 4, 6, and 10 are not supported. These three hypotheses state that the higher the level of income, the higher the level of education, and the older the age, the higher the level of local sentiment. These assumptions have been consistently supported in studies by Kasarda and Janowitz (1974), and Goudy (1990). Their studies show that people with higher income and higher education exhibit a higher level of community attachment, because they have better opportunities to select social ties, which enhance their local sentiment. They also found that older people have a higher level of community involvement and greater primary group connections. The results from this case study do not lend support to these predicted relationships.

According to the literature reviewed earlier, the five independent variables used in this study were important predictor variables in Kasarda and Janowitz's (1974) and Goudy's (1990) studies of community attachment. In the present study, the results are mixed. Some variables have
somewhat modest influences on certain measures of community attachment, such as the length of residence and home ownership, but some, such as income, consistently fail to show relationships with the measures of local social bonds and local social sentiment. One of the possible reasons is that in the context of a rapidly growing community, the systemic model may not work as well as in a community with limited change. Some community scholars, such as Brown et al. (1989), argue that rapid population growth and community change have a significant influence on the relationships among people and their satisfaction and attachment to their community. They also suggest that it is important to study to what degree, and which aspects, of a community are affected by the change. According to the literature reviewed earlier, rapid population growth and economic development in a community like Madison may have totally changed the traditional relationships and the structure of interaction among people, including the evaluation they have about their current way of life. Therefore, under such conditions, the community attachment model may need to provide alternate hypotheses in order to be used in rapidly changing communities. In this case study, two intervening variables, attitudes toward change and level of satisfaction, are added to the model to measure how attitudes toward rapid change in this community influence residential community attachment.
The Influence of Attitudes Toward Change on Community Attachment

Two individual variables and two scales measuring attitudes toward change are used in this study. These measures deal with respondents' opinions of the importance of new people moving into Madison, whether Madison's quality of life is sacrificed for economic growth, a desire for improvement of public services, and a desire to maintain current community conditions.

On the whole, the variables measuring social bonds are strongly and positively influenced by the attitudinal measure of change (Table 5.10). One of the change measures, namely, attitudes toward new people moving into Madison, correlates with two of the measures of local social bonds, frequency of borrowing from or trading things with neighbors and the percentage of people known in Madison. Another attitudinal measure of change, namely, a desire for improvement of public services, positively relates to these same two measures of local social bonds. A desire for maintaining the current way of life, one of the measures of attitudes toward change, is positively related to another measure of local social bonds, the number of homes the respondents have visited. Therefore, Hypothesis 13 stating that the higher the evaluation of rapid change, the stronger the local social bonds, is supported to a degree. This indicates that the strength of social bonds,
in a rapidly growing community like Madison, is also influenced by other factors beyond the five independent variables in the systemic model. The findings suggest that when studying community attachment in the context of rapid growth, the influences of residents' attitudes toward that growth cannot be ignored.

The results from Table 5.11 also show that Hypothesis 12, which states that the more positive the evaluation of a community's growth, the stronger the local sentiment, is also somewhat supported. All three measures of social sentiment, the degree to which residents feel at home, how much they are interested in what is going on in Madison, and how sorry they would be to leave, are positively influenced by one of the measures of attitudes toward change, respondents' opinions of the impacts of new people moving into Madison. Another attitudinal change measure, the desire for an improvement in Madison's public services, raises people's interests in knowing what goes on in Madison, which is one of the measures of local social sentiment. All the measures of local social sentiment are positively related to one of the change measures, the desire to maintain the current way of life. The results in Table 5.11 show that social sentiment is influenced not only by variables commonly found in the systemic model, such as length of residence and home ownership, but also, in a rapidly growing community, by people's
attitudes toward these changes.

The results reported in Tables 5.10 and 5.11 indicate that attitudes toward change does have an impact on community attachment. According to the literature reviewed earlier, rapid community change and population growth can reduce social ties with neighbors and friends and lower the level of community involvement, all of which influence their local social sentiment. Therefore, according to the data analysis, how respondents evaluate rapid change in the community influences their feeling of belonging and community attachment.

The Influence of Level of Satisfaction on Community Attachment

The influence of level of satisfaction on community attachment is also analyzed in this study. Based on the literature discussed earlier, residents' local social ties and feeling of belonging are highly influenced by their level of satisfaction with their local community and their desire to stay or leave. Residents of different social classes, ages, and length of residence evaluate their living environment differently, which results in different levels of satisfaction. In this case study, level of satisfaction is treated as an intervening variable, explained by the five independent variables, and at the same time, to be a significant variable
explaining the strength of local social bonds and degree of local social sentiment.

Two variables and three scales are used as alternative measures of the intervening variable, level of satisfaction. They are: ranking Madison with the ideal community, ranking Madison against communities where residents have lived before, satisfaction with Madison as a whole, satisfaction with its people and government, and satisfaction with opportunities available in Madison.

Table 5.12 shows that Hypothesis 14 (the higher the degree of satisfaction, the stronger the social bonds) is partially supported. One of the variables, measuring satisfaction with opportunities, correlates with one measure of the dependent variable, the number of homes visited. Also, all the measures of social bonds are influenced by satisfaction with Madison as a whole. The results show that the strength of local social bonds, measured in a certain way, is influenced by level of satisfaction.

The results from Table 5.13 show that Hypothesis 15, stating that the higher the degree of satisfaction, the higher the local social sentiment, is partially supported. One of the measures of local social sentiment, whether a resident would be sorry to leave, is strongly affected by three of the satisfaction measures, ranking Madison with the ideal community, overall satisfaction with Madison, and
satisfaction with its people and government. Another measure of local social sentiment, the degree to which residents feel at home, is positively influenced by four satisfaction measures, ranking Madison against communities where residents have lived previously, overall satisfaction with Madison, and satisfaction with its people and government, and opportunities. The third measure of sentiment, being interested in knowing what goes on in Madison, is only related to overall satisfaction with Madison. All measures used to tap social sentiment are influenced by satisfaction with Madison as a whole.

The results reported in Tables 5.14 and 5.15 indicate that Hypothesis 11, which states that the more negative the evaluation of community growth, the lower the degree of satisfaction, is supported. All variables measuring satisfaction level have relationships with two of the variables measuring attitudes toward change, opinions of new people moving in and desire to maintain the current way of life. All variables measuring satisfaction except for one, ranking Madison with the ideal community, are influenced by one of the measures of attitude toward change, the idea of sacrificing quality of life for economic change. Another variable measuring attitude toward change, desire for improved public services, has no relationship with level of satisfaction. The results indicate that level of satisfaction
is influenced by residents' attitudes toward change in a rapidly growing community.

Discussion of Revised Community Attachment Model

Based upon the findings, some evidence of the differences and similarities between this study and earlier studies of community attachment can be discussed. First, income has no relationship with local social bonds and local social sentiment in this rapidly growing community. This is quite different from Kasarda and Janowitz's study (1974). Second, age has no relationship with social bonds and sentiment, except with one variable measuring local social bonds, borrowing or trading with neighbors, where it is a negative relationship. This result is the opposite of what Kasarda and Janowitz discovered in their study. Third, education shows no relationship with social bonds and sentiment. Education only bears a negative relationship to a single indicator of the dependent variable, the percentage of people known in town, which also contradicts the conclusions of Kasarda and Janowitz (1974). Fourth, two variables, length of residence and home ownership, both found to be very important in Kasarda and Janowitz's study, also appear to be relevant to the study of community attachment in this rapidly growing community.

Rapid population growth and economic growth, which were
hypothesized to result in different levels of satisfaction with community, are the major differences between this study and Kasarda and Janowitz's study. Kasarda and Janowitz tested the systemic model in more stable communities; therefore, the model does not include variables measuring attitudes toward change and level of satisfaction. The key point is that Madison is in a period of rapid population growth and economic development. It appeared to the researcher that the systemic model, by itself, is inadequate for use in all kinds of communities. Rapid change does have effects on residential attitudes, behavior, relationships and satisfaction with living environments (Baldassare, 1986). All of these factors have an influence on attachment to community. Therefore, in this case study, variables measuring change, such as residents' attitudes toward change and level of satisfaction are added to the model. These variables, according to the literature review, should have significant influences on local social bonds and local social sentiment. This was the impetus for creating and testing a revised model of community attachment.

This revised community attachment model is based on the studies done by researchers, such as Goudy (1977), Bach (1977), and Rodgers (1982). They have offered explanations that related to the use of the same set of demographic variables, but also residential satisfaction, and others,
such as Munson (1968), Krannich and Greider (1990), and Brown et al. (1989), who provided the rationale for the hypothesized relationships between attitudes toward rapid growth, residential satisfaction, and community attachment. The researchers treated those variables measuring attitudes toward change and level of satisfaction as intervening variables in the study of community attachment.

Rapid growth and community changes significantly influence the relationship among people and their satisfaction with and attachment to their community. Krannich and Greider (1990:64) discovered that rapid growth "leads to the disintegration of community, and consequently to a deterioration in the social well-being of those residing in the affected area." They further suggest that rapid population growth results in the collapse of kinship and friendship ties and informal community structure. According to Krannich and Greider's study, rapid change has negative influences on residential attachment to community. Baldassare (1986:142) points out that "rapidly growing communities usually have a higher overall dissatisfaction than any other places." Therefore, rapid community changes usually result in a higher level of residential dissatisfaction with their community.

When the findings from this study are compared with the previous studies, there are some differences and similarities. First, attitudes toward change all have positive rela-
tionships with level of satisfaction, local social bonds and local social sentiment. This indicates that more positive attitudes toward change are related to higher levels of satisfaction (H11), stronger social bonds (H12) and higher levels of local sentiment (H13). On the other hand, two measures of attitude toward change, attitudes toward new people moving into Madison and the attitude about whether Madison is sacrificing its quality of life for change, has negative causal relationships with one of the demographic variables, length of residence. The attitudinal measure of change, relating to the importance of improving social services, is negatively related to the level of education. Another attitudinal measure of change, the attitudes toward the importance of preserving the current way of life, is positively related to length of residence. This indicates that the longer the residence and the higher the educational level, the more negative the evaluation of change and the higher the expectation of preserving current conditions in Madison. Hypothesis 16, which predicted that longer residence results in a more negative evaluation of change is supported, but the second part, which hypothesized that longer residence results in a lower level of satisfaction, is not supported by this study. Hypothesis 19, which expected that the higher the resident's level of education, the more negative the evaluation of change, is partially supported, but the second part,
the higher the level of education, the lower the level of satisfaction, is not supported.

Second, level of satisfaction has a relatively strong relationship with the two measures of community attachment, local social bonds and local sentiment. That is, higher levels of satisfaction result in stronger local social bonds (H14) and local social sentiment (H15). Two demographic variables, length of residence and home ownership, are directly and positively related to the level of satisfaction.

Based upon the literature reviewed earlier, rapid change within a community produce some dysfunctions (Molotch, 1976). Freudenburg (1984) points out that rapid change results in residents' lower levels of satisfaction. In this case study, it appears that residents with longer periods of residence and higher education do have certain negative attitudes toward change, but they also feel satisfied with this community. This perhaps can be explained by indicating that in Madison, longer term residents and more educated people have more negative attitudes toward the change of public services that have occurred in this rapidly growing community. The possible reason is that their expectation for improvement in public services is much higher than what has actually occurred. For example, some commented in the questionnaires that they loved their community, but road conditions are not good and schools are very crowded. They suggest that all
these improvements need to be made immediately. Also, more highly educated people, working in Huntsville and having most of their activities outside of Madison, may not possess strong local social bonds and local social sentiment. They may foster more negative attitudes toward change in their bedroom community. Finally, the high levels of satisfaction reported by respondents may not be a true indication of their true feelings. Even though they have different opinions about changes in the community, on the whole, they prefer to say they feel satisfied with the community, simply because they are living there.

Third, the results of the data analysis of home ownership show that this demographic variable has positive relationships with attitudes toward change, level of satisfaction, local social bonds and local social sentiment. This indicates that home ownership leads to a more positive assessment of change, a higher level of satisfaction, and higher levels of local social bonds and local social sentiment. Therefore, Hypothesis 20, which predicted that home owners report lower evaluation of change and lower level of satisfaction, is not supported.

Based upon the literature review, Speare (1974) found that home owners tend to be more satisfied than tenants because 1) they are proud to own a home, 2) it is expensive to move to other places. Baldassare (1986) suggests that
rapid change would result in residents' overall dissatisfaction. The findings from this study are different from those of Baldassare. One of the possible reasons is that respondents who own homes in Madison feel a stronger need to develop better connections with those around them than tenants, who are more transitory. Also, with rapid change in the community, home owners may harbor stronger attitudes about the need for public service improvements. They feel more satisfied with the community as a whole, and therefore, they feel at home, would feel sorry to leave, and are more interested in what goes on in the community.

Fourth, the data show that older people have weaker local social bonds as measured by borrowing or trading things with neighbors, but older people are more satisfied with the opportunities in town and rank Madison higher when compared with other communities where they have lived before. This result does not support Hypothesis 17, which states that older age people tend to have lower satisfaction.

The major reason that older people show a higher level of satisfaction with the Madison community may be because rapid population growth and economic change in Madison gradually brought about better services, more cultural opportunities, and better welfare programs; in other words, programs which are specifically aimed at their needs. Older people also have seen all the changes which have taken place in recent years.
At any rate, the data show that they are positive about the changes they see in Madison.

Fifth, in this study, a path analysis is conducted to make further examination of the revised community attachment model. The five independent variables are used as exogenous variables in the model. The four endogenous variables are attitudes toward new people moving into Madison and overall satisfaction with Madison, treated in the model as intervening variables, one of the measures of local social bonds (borrowing from neighbors), and one of the measures of level of local social sentiment (feel sorry to leave). The purpose of the path analysis is to further analyze whether, in this revised model of community attachment, there exists any causal relationship between exogenous and endogenous variables, and the functions of intervening variables. This path analysis shows that length of residence has a negative relationship with attitudes toward change, which has positive relationships with both social bonds and local sentiment. Length of residence is a cause of a higher degree of local social sentiment, but not for local social bonds. Home ownership is a direct cause of the strength of local social bonds, the degree of local social sentiment, and the level of satisfaction, but not attitudes toward change. Home ownership indirectly and positively causes a higher degree of local sentiment via level of satisfaction. Attitudes toward change
directly affect level of satisfaction, which is a cause of a higher level of local social bonds and a higher degree of local social sentiment. Attitudes toward change also indirectly and positively cause the strength of local social bonds and degree of local social sentiment to increase via the level of satisfaction. Age directly and negatively affects the strength of social bonds. Based upon this path diagram, in a rapidly growing community, length of residence, home ownership and age are still very important contributors to the explanation of community attachment. The two variables, attitudes toward change and level of satisfaction, contribute as intervening variables, but since the unmeasured residual path coefficients are very high (for attitudes toward change, it is .980, and level of satisfaction, it is .970), it should be noted that there must be other factors which are significant as causes of attitudes toward change and level of satisfaction. In the path analysis, both attitudes toward change and level of satisfaction strongly affect the strength of local social bonds and degree of local social sentiment. This indicates that community attachment in a rapidly growing community is influenced by change and growth.

In the path diagram, income shows no relationship with any of the intervening and dependent variables. It does not support Hypothesis 18, which predicted that higher income will cause more negative attitudes toward change and a lower
level of satisfaction.

The findings from the study do not lend strong support to many of the hypothesized relationships (Hypotheses 20 to 25). Some of the reasons may be due to the weakness or limitation of the measurements. That is, the problems may, in part, come from the data itself. For some of the satisfaction measures in the questionnaire, people were likely to answer positively, because they are proud that they own a home or simply that they live in this community. About 90 percent of the people claimed that they own a home in Madison. Thus, this dependent variable does not have much variance, which may contribute to its relatively low level of explanatory power.

Income levels also show little variance. The mean income is $60,000 to $69,999. With 26 people not responding, only 14 respondents' yearly income is in the category of $29,999 or below. The low level of variation may at least partly explain why income is not related to any of the dependent variables.

Also, responses for some of the intervening variables and dependent variables vary little. One of the measures of local social sentiment, interest in knowing what goes on in Madison, has five categories with a range from very interested to very disinterested; the mean is 4.41 with a standard deviation of .684. This shows that most respondents express interest in what goes on in Madison. Another intervening variable, attitudes about the effect of new people
moving into Madison, has a mean 3.5 with a standard deviation of .91. The range is from 1 to 5. This indicates that most people feel that new people moving into town are having a positive effect. Thus, these variables also display little variance, which may produce difficulties when the data is analyzed.

Beyond the data itself, there are some other considerations. Madison began to prepare itself for change after the debate about annexation with Huntsville. Debate itself can serve to integrate people, which no doubt helps to promote stronger local social bonds, sentiment, and increase their expectations for change. Perhaps after this community reached certain goals, residents felt satisfied.

After the annexation debate, both the government and Madison residents realized that they really needed to make some changes; otherwise, they would not be able to maintain the viability and autonomy of the community. Therefore, growth and change are brought about by the expectations of the residents. It is not surprising then, that they have certain positive attitudes about change, yet are satisfied, and possess strong local social bonds and local social sentiment for the area.

In this study, both attitudes toward change and satisfaction with the community have relatively strong effects on local social bonds and local social sentiment. Attitudes
toward change also have relatively strong effects on overall satisfaction. The attitudes toward change and level of satisfaction really play a somewhat important part in residents' degree of community attachment. The study suggests that in a rapidly growing community, it is not sufficient to solely rely on Kasarda and Janowitz's model. Attitudes toward change and satisfaction with the community should be taken into consideration.
CHAPTER VII

DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This study retests the systemic model of community attachment in order to find out whether people who have lived in a community longer, older people, more educated residents, people with a higher level of income and home owners will report stronger community attachment. This study also argues that more attention be paid to perceptions of change and growth when making community studies. The reason for this is that we are living in an era of rapid growth. Rapid changes in society are also reflected in communities. Different communities with different situations and with different resources to handle change will develop different attitudes toward change. All of these factors will influence levels of residential satisfaction, and the development of local social bonds and local social sentiment. Therefore, it is important to study community attachment in a community without significant change, but it is also important to study community attachment as influenced by change and growth. This study has found that attitudes toward change and level of satisfaction offer some insight into the explanation of community attachment.

The analysis is based only on one case study. It offers some useful information, but is limited and the results
generally do not strongly support the hypotheses discussed earlier in the study. In Kasarda and Janowitz' study (1974), length of residence had a significant influence on community attachment. This is because community attachment needs time to emerge; the longer a person lives in a place, the more this person will be assimilated into the place, which results in stronger community attachment (Kasarda and Janowitz, 1974). With rapid community growth, longer length of residence is negatively related to attitudes toward change and level of satisfaction, because in the process of change, newcomers obtain more benefit than long time residents (Krannich and Greider, 1990; Summers and Branch, 1984), and the results show that long-time residents have weaker community attachment because of their negative attitudes toward change and lower levels of satisfaction. In this study, length of residence shows a positive influence on community attachment and level of satisfaction, but a negative influence on attitudes toward change. This indicates that residents who have lived in Madison longer are already assimilated into this community and feel satisfied with this community. The negative influence on attitudes toward change can be explained by the fact that Madison residents view change differently. For example, when I discussed recent change in Madison with some residents, they told me that Madison has already solved some serious problems, such as
difficulties with water and the sewage system, but roads are still narrow and very crowded, especially during rush hours. I also talked with a leader of the PTA (Parent and Teacher Association) about change in Madison. She pointed out that the most serious problem in Madison is its educational system, because more and more children have moved into this community, which creates more demands for schools. Therefore, the negative relationship between length of residence and attitudes toward change is not that long time residents do not like changes, but that some of them expect more rapid changes, and some others hold different expectations of change. The results are different from the literature reviewed earlier, but the results show that this variable, length of residence, can still be used as an independent variable in the explanation of community attachment, even in a rapidly growing community. The results also show that in a rapidly growing community it is important to collect qualitative data in order to tell the difference between residents who negatively evaluate change and those who expect change, but may not feel satisfied with the changes that have already taken place. Residents prefer an independent community to annexation into Huntsville; therefore, they expect change, feel satisfied with their community and have a relatively high level of community attachment. Although they may show negative attitudes toward change, it shows that most Madison
residents like change, because this is the only way they can help the community remain independent. However, people hold different ideas about which changes are needed first. The relationships between length of residence and community attachment, attitudes toward change and level of satisfaction are statistically significant, but actually the influences are modest. This shows that in a rapidly growing community, length of residence can be used as an explanatory variable, but there of other variables that must be introduced to explain change, level of satisfaction, and community attachment.

Home owners, because they are proud of owning homes in this local community, and also because it is not as easy for them to move out (Stinner et al., 1990; Taylor and Brower, 1985), usually report stronger community attachment (Kasarda and Janowitz, 1974). In a rapidly growing community, home owners, because of rapid population and economic growth, are more concerned with their living environment and social services (Krannich and Greider, 1990; Baldassare, 1986), and that they have to pay for the changes with higher taxes and utility costs (Molotch, 1976); therefore, home owners show negative attitudes toward change and a lower level of satisfaction. I interviewed two former residents of Madison. They told me that in 1988 they had moved out of Madison because of high water bills and sewage system problems. The results in
this study show that home owners report a higher level of satisfaction and more positive attitudes toward change, and thus stronger community attachment, but again the influences of home ownership on attitudes toward change, level of satisfaction and community attachment are modest. This indicates that home owners like to live in Madison; this is not only because they feel the location is convenient to their jobs, but also because it is a "prestige address"; that is, most residents in Madison live in middle class, good neighborhoods. But once again, in a context of a rapidly growing community, the independent variable, home ownership, can offer only a limited explanation of attitudes toward change, satisfaction, and community attachment. Other variables which were not included in this study may need to be included in the explanation of the intervening variables and community attachment.

Level of education is also considered as an independent variable which shows strong positive correlations with community attachment (Kasarda and Janowitz, 1974); but residents with higher levels of education show more concern for the environmental quality, problems and issues in the process of change (Van Liere and Dunlap, 1980). Therefore, it is hypothesized in this study that higher educational level negatively influences community attachment through the intervening variables, attitudes toward change and level of satis-
faction. The results of this study are inconsistent with the literature reviewed earlier. Except for selected single items, education does not show influence on change, satisfaction, and community attachment. This is due to the fact that, in this study, the average level of education is between college and graduate school. Statistical analysis cannot show significant results, because the data has only limited variance. Another reason for the limited relationship may be because people with a higher level of education are not paying too much attention to changes in Madison, since they treat Madison like a bedroom community. They do not want or try to develop friendship and community attachment. Therefore, level of education, on the whole, is not related to the two intervening variables and community attachment.

Income is another independent variable in Kasarda and Janowitz' systemic model of community attachment which shows a consistent significant influence on community attachment. In the context of a rapidly growing community, Molotch (1976) suggests people with higher level of income, such as upper class families, promote change and growth because they obtain different benefit through higher values for land and homes. Albrecht et al. (1986) point out that in the process of change, lower classes may feel satisfied simply because change and growth can bring more jobs and more opportunities to them. Madison is a community with many middle class
people. In the process of change they may not get as much benefit as other classes, and at the same time, may even be hurt by the change. For example, because many newcomers move into this community, Madison residents are facing serious public service problems. I interviewed a government official, who told me that he does not like a recent proposal which calls for another increase of 11 mills of property tax to build a new school. He told me that he considered that many people who do not have children in school but who still have to pay more property tax would be hurt by the change. Therefore, people have different attitudes toward change, depending on what kind of benefit they will get and how much they have to pay for the change. Again, the data from this study also show very limited variance. This is perhaps another reason that the results consistently show no relationship between income and community attachment and the two intervening variables.

Age, in the literature reviewed earlier, strongly influences community attachment. It hypothesized that older people have stronger community attachment, because older residents know more people in town, and are more likely to attend community activities, and also to have strong social ties and sentiment (Goudy, 1990). In the context of rapid community growth, the community attracts more younger people, because of new opportunities; therefore, it was hypothesized
in this study that older people report weaker community attachment and lower levels of satisfaction in the process of community change. The results in this study vary from this prediction. Age shows a modest and positive relationship with satisfaction. With this exception of a negative relationship with a single item measuring local social bonds, frequency of borrowing from neighbors, age does not show any relationship with community attachment. This weak relationship might suggest that rapid economic change may actively bring improved welfare programs or simply because Madison now can offer better social services than before, older people feel more satisfied. But on the whole, most newcomers are young people with higher skills, with the average age in Madison about thirty years old. Older residents are actually socially and physically isolated from others. This is perhaps the reason that age is not related to attitudes toward change and community attachment.

On the whole, the five independent variables in both the systemic model and the revised model of community attachment do not show statistically significant influences on the two intervening variables and community attachment. There are two reasons that can be used to explain this. First, a major problem is that much of the data is very homogeneous, including the major background variables, income and education. Limited variance makes statistical analysis
problematic. Second, people often respond by giving out socially acceptable answers, which can result in a positive skewing of the data. For example, when I called Madison residents in my follow-up contact for the purpose of asking them to answer the questionnaire, almost 90 percent told me that they liked their community and felt satisfied with it.

The results do not strongly support the hypotheses in this study, and the information, while useful, is limited, because the data comes from a specific community and the results cannot be used to generalize to other communities. In addition, the status of community change and growth is quite different from community to community. Therefore, in order to obtain a better understanding of the influences of community change and growth, it may necessary to:

1) collect both qualitative and quantitative data in order to gain a deeper understanding of the community. Utilizing a methodology which relies on in-depth interview with key informants and community residents allows the researcher to probe and explore areas left untouched by the traditional survey approach. Without gaining this kind of understanding, it is often difficult to fully appreciate the survey data.

2) add independent variables to the model. The five independent variables used in the analysis of community attachment confine to explain only a very limited amount of
the variance in the dependent variable. The remaining variance is accounted for by measurement error and by other variables which are not included in the model. We have seen in the context of a rapidly growing community, that the addition of variables relating to growth and satisfaction added to our understanding of community attachment. It seems apparent that a single group of independent variables may be insufficient to account for community attachment across all types of communities. Knowledge of community structure and change plus an understanding of issues facing the community enable the researcher to expand and/or delete from the list of meaningful independent variables used in an analysis. Partially as a result of knowledge gained while conducting this study, the addition of several variables, including marital status, number of children, location of work, and involvement in the community would be useful. Race is also an important variable to be studied, especially in Alabama. Race may indeed be an important influence on community attachment. Due to the limited variation in the variable, race was not included in the model. However, this variable needs to be taken into consideration in future studies of community attachment.

3) add a third measure of community attachment, local social involvement. Following the lead of Goudy's study of community attachment (1990), this study only measured local
social bonds and local sentiment. However, Janowitz (1967) argues that even in a community of "limited liability," that local participation can be a significant part of the life of a community. This points to the possibility that differential participation may indeed be a relevant variable in the study of community attachment, even in a bedroom suburb.

4) conduct similar studies on the influences of community change and growth in Madison at a later date to study the dynamics of further change over time. It may be that the impacts of growth and change are just beginning to be felt in Madison. It might also be that an air of optimism surrounds early growth, but that attitudes may change after the realities of the impacts on community infrastructure start to be perceived.

5) find other communities with situations similar to Madison's, and conduct similar studies in those locations to further assess the reliability of this case study.

As previously stated, change is endemic to this society and exists to one degree or another in all communities; some changes are rapid, some are gradual. Different changes produce different attitudes, which, in turn, will influence residents' levels of satisfaction and community attachment. In any event, when studying a community, change and residents' perceptions of change are very important factors to consider.
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Dear Madison Resident:

I am a Ph.D candidate from Iowa State University who is currently teaching in the Department of Sociology at the University of Alabama at Huntsville. With the support of the City Council of Madison, I am conducting a survey in your community. The purpose of the survey is to measure residential satisfaction and community attachment in Madison. You have been selected from a list of Madison citizens to participate in this study. The enclosed questionnaire will allow me to obtain a more detailed profile of both the influences of residential satisfaction with your community and your feelings of belonging. Your participation is very important in assessing perceptions of the community by select Madison citizens.

Please complete the questionnaire, today, and return it in the envelope provided in this packet. It should take approximately 15-20 minutes. If you have more than one adult member at home, please have the person whose birth date is closest to today’s date fill out this questionnaire. This is for the purpose of getting a random sample for the survey. Thank you for your cooperation.
As in all scientific surveys of this nature, the information obtained from this questionnaire will be kept completely confidential. The code number on your questionnaire will only be used for purposes of check in questionnaires. At no time will the information in this survey ever be attached to your specific name. Our interests are only in obtaining a profile of the level of satisfaction within the community and the feeling of community belonging. It is important, however, that your answers are represented in this study.

Thank you for your participation. Your help is greatly appreciated.

If I can answer any questions about this research, please contact me at (205) 895-6190.

Sincerely,

Boni Li
Dear Fellow Madison Resident,

I am proud to write this letter in support of the attached sociological research study being performed by Ms. Boni Li of the University of Alabama in Huntsville.

The study, which Ms. Li is conducting as part of her doctoral research, will determine the demographic and attitudinal characteristics of the residents of our City, and will be made available to the City Council, the Planning Commission, and the public. We anticipate that this will be a very valuable tool in helping the City government to create a vision for Madison's future based on the attitudes and desires of her residents.

Although the City, State and Federal governments conduct ongoing research, Ms. Li's research goes beyond anything that has been done in Madison thusfar, and will provide us with a greatly needed planning tool, at no cost to the City.

In order for the results of this study to be valid, a very high response rate is required. Because of the value of this research to the City, I urge you to take the time to fill out the questionnaire, and send it back in the attached envelope. The individual results will remain confidential, and will not be released, even to the City. We will receive only tabulated results.

Thank you for your cooperation,

Sincerely,

Chuck Yaroura
Mayor
PLEASE ANSWER THE FOLLOWING QUESTIONS, AND PLACE A CHECK MARK NEXT TO YOUR RESPONSE

Q1. To what degree do you feel at home in Madison?
   • feel very much at home
   • feel somewhat at home
   • feel slightly at home
   • do not feel at home at all

Q2. How interested are you in knowing what goes on in Madison?
   • very interested
   • somewhat interested
   • neither interested nor disinterested
   • somewhat disinterested
   • very disinterested

Q3. Suppose that for some reason you had to move away from Madison. How sorry or pleased would you be to leave?
   • very sorry to leave
   • somewhat sorry to leave
   • it wouldn't make any difference one way or the other
   • somewhat pleased to leave
   • very pleased to leave

Q4. Generally, how satisfied are you with Madison as a place to live?
   • very satisfied
   • satisfied
   • neither satisfied nor dissatisfied
   • dissatisfied
   • very dissatisfied

Q5. In general, how interested are you in meeting new people and making new friends in this community?
   • very interested
   • somewhat interested
   • neither interested nor disinterested
   • not very interested
   • not at all interested

Q6. How often do you and your neighbors borrow or trade things with each other?
   • often
   • sometimes
   • rarely
   • never

Q7. How often do you and your relatives borrow or trade things with each other?
   • often
   • sometimes
   • rarely
   • never

Q8. Overall, on a scale from 1 (WORST) to 11 (BEST), how would you rank Madison when compared to other communities in which you have lived? (If you have never lived in any other community, check here and go on to next question). CIRCLE THE APPROPRIATE NUMBER ON THE SCALE.
   (worst) 1 2 3 4 5 6 7 8 9 10 11 (best)

Q9. Over the past 5 years would you say that, in general, Madison has become MORE or LESS desirable as a place to live?
   • much more desirable
   • more desirable
   • stayed about the same
   • less desirable
   • much less desirable

Q10. Imagine the ideal community in which you would like to live. On a scale from 1 (WORST) to 11 (BEST), where would you rank Madison compared to your ideal community? CIRCLE THE APPROPRIATE NUMBER ON THE SCALE.
    (worst) 1 2 3 4 5 6 7 8 9 10 11 (best)
Q11. Over the next five years or so do you expect Madison to become MORE or LESS desirable as a place to live, or will it stay about the same?
   - much more desirable
   - more desirable
   - stay about the same
   - less desirable
   - much less desirable

Q12. Do you think new people moving into your area are having a positive or a negative effect on your community?
   - very positive effect
   - positive effect
   - no effect
   - negative effect
   - very negative effect

Q13. Do you have any immediate family -- such as parents, children, brothers or sisters, or in-laws -- living in this area, that is, within about an hour's drive of here?
   - yes
   - no

Q14. Counting adults only, about how many of your (and your spouse's) relatives live in this area - - just one or two, 3 to 6, or more than that? I mean individuals, not couples.
   - none
   - one or two
   - 3 to 6
   - more than 6

Q15. Here are some reasons people give for picking a particular community. Which of these reasons were important to you (and/or your spouse/family) in deciding to live in Madison? (PLEASE CHECK ALL THAT APPLY)
   - being near relatives or friends
   - the kind of people here
   - the recreational facilities here
   - good schools for children
   - being close to (my/spouse's) work or school
   - the stores and services here
   - the appearance of the neighborhood
   - this (house/apartment) was right
   - other (SPECIFY: __________________

Q16. Using a scale of 1 (NOT AT ALL IMPORTANT) to 11 (EXTREMELY IMPORTANT), please indicate how important you think each of the following items is for maintaining and improving THE FUTURE QUALITY OF LIFE in Madison.
   A. preserving existing ways of life and values
   B. increasing economic opportunities for local residents
   C. improving health care
   D. improving public services such as schools, roads and public protection
   E. limiting the number of people living in Madison

Q17. Overall, about what percentage of the people in Madison would you say that you know or at least recognize when you see them around town? PLEASE PLACE AN X ON THE SCALE TO INDICATE A NUMBER BETWEEN 0% AND 100% THAT BEST DESCRIBES THE PERCENTAGE OF PEOPLE YOU KNOW OR RECOGNIZE.
   - 0%
   - 25%
   - 50%
   - 75%
   - 100%

Q18. Of the 10 houses in this neighborhood that are closest to your home:
   A. How many of these houses have you been in? _____ (PLEASE WRITE THE NUMBER)
   B. How many adults who live in these houses do you know on a first-name basis? _____ (PLEASE WRITE IN THE NUMBER)
Q19. On a scale from 1 (COMPLETELY DISAGREE) to 11 (COMPLETELY AGREE), please indicate how you feel about each of the following statements (CIRCLE ONE ANSWER FOR EACH STATEMENT).

A. The longer I live in Madison, the more I feel I belong here.
   1 2 3 4 5 6 7 8 9 10 11

B. Madison is basically a friendly place.
   1 2 3 4 5 6 7 8 9 10 11

C. I feel fully accepted as a member of Madison
   1 2 3 4 5 6 7 8 9 10 11

D. If I were in trouble, many people in Madison would help me.
   1 2 3 4 5 6 7 8 9 10 11

E. Most people in Madison can be trusted.
   1 2 3 4 5 6 7 8 9 10 11

Q20. Do you think you will be residing in Madison five years from now?
   ___ no, definitely not
   ___ no, probably not
   ___ yes, probably
   ___ yes, definitely

Q21. How many of your adult friends live in Madison?
   ___ all
   ___ most
   ___ half or less
   ___ I have only one or two friends, or none.
   ___ none

Q22. Over the past five years, have community services, such as water, transportation, and police protection improved or gotten worse in Madison?
   ___ much improved
   ___ improved
   ___ stayed about the same
   ___ gotten worse
   ___ gotten much worse

Q23. How would you characterize the rate of population growth in Madison over the past five years?
   ___ rapid growth
   ___ some growth
   ___ stable
   ___ some decline
   ___ rapid decline

Q24. How would you characterize the rate of economic growth in Madison over the past five years?
   ___ rapid growth
   ___ some growth
   ___ stable
   ___ some decline
   ___ rapid decline

Q25. Do you feel that the rate of population growth in Madison has led to an increase or decrease in its quality of life?
   ___ definitely, an increase
   ___ probably, an increase
   ___ no change
   ___ probably, a decrease
   ___ definitely, a decrease

Q26. Do you feel that the rate of economic growth in Madison has led to an increase or decrease in its quality of life?
   ___ definitely, an increase
   ___ probably, an increase
   ___ no change
   ___ probably, a decrease
   ___ definitely a decrease

Q27. Do you feel that Madison is sacrificing its quality of life for economic development?
   ___ definitely
   ___ probably
   ___ probably not
   ___ definitely not
Q28. Here are some statements about Madison, communities in general, and other things local residents may think about. Please indicate whether you strongly agree (SA), Agree (A), Are undecided (U), Disagree (D), or Strongly disagree (SD) with these statements. (PLEASE CIRCLE YOUR ANSWER)

A. People won’t work together to get things done for Madison
   SA A U D SD

B. The future of Madison looks bright
   SA A U D SD

C. Madison is good enough as it is without starting any new community improvement programs
   SA A U D SD

D. I would feel “at home” no matter what community I lived in
   SA A U D SD

E. Madison has good leaders
   SA A U D SD

F. Residents of this community continually look for new solutions to problems rather than being satisfied with things as they are
   SA A U D SD

G. Not much can be said in favor of Madison
   SA A U D SD

H. Residents of other communities in this area hold good opinions of Madison
   SA A U D SD

I. Madison is an ideal place to live
   SA A U D SD

J. Changes are desirable even if they do not seem to contribute as much as one might expect
   SA A U D SD

Q29. Here are some statements about Madison and facilities of this community. Indicate YOUR LEVEL OF SATISFACTION WITH EACH BY CIRCLING a) very satisfied (VS), b) somewhat satisfied (SS), c) neither satisfied nor dissatisfied (NSND), d) somewhat dissatisfied (SO), e) very dissatisfied (VD).

A. Opportunities to make friends
   VS SS NSND SD VD

B. Opportunities for residents to participate in community affairs
   VS SS NSND SD VD

C. Utilities (electricity, gas, water)
   VS SS NSND SD VD

D. Police protection
   VS SS NSND SD VD

E. Fire protection
   VS SS NSND SD VD

F. Street lighting and maintenance
   VS SS NSND SD VD

G. Waste disposal and sewage system
   VS SS NSND SD VD

H. Local government
   VS SS NSND SD VD

I. Treatment on local tax policies
   VS SS NSND SD VD

J. Employment opportunities
   VS SS NSND SD VD

K. Educational opportunities
   VS SS NSND SD VD
L. Recreational opportunities
VS SS NSND SD VD

M. Opportunities for citizen involvement in local government
VS SS NSND SD VD

N. Cultural opportunities (such as library, theater, art, music, local celebrations)
VS SS NSND SD VD

O. Programs and activities for youth
VS SS NSND SD VD

P. Programs and activities for senior citizens
VS SS NSND SD VD

Q. Shopping facilities for daily needs
VS SS NSND SD VD

R. Welfare programs for people in need
VS SS NSND SD VD

S. Health care
VS SS NSND SD VD

T. Availability of affordable housing
VS SS NSND SD VD

U. Religious opportunities
VS SS NSND SD VD

V. Public transportation
VS SS NSND SD VD

Finally, we would like to ask a few questions about you. (PLEASE FILL IN THE BLANK OR CIRCLE ONE NUMBER FOR EACH QUESTION.)

Q30. How long have you lived in Madison?

Q31. Your sex:
__ female
__ male

Q32. What was your age on your last birthday?

Q33. What is your marital status?
__ single
__ married
__ divorced
__ other

Q34. What racial/ethnic group do you belong to?
__ White
__ Black
__ American Indian, Eskimo or Aleut
__ Hispanic
__ Asian or Pacific Island
__ other (SPECIFY)

Q35. Do you consider yourself to be the head of your household?
__ no
__ yes

Q36. How many children under 18 are living at home with you?

Q37. What is the total number of persons (including children and adults) living in your household at the present time?
Q38. What was your approximate family income, before taxes, in 1992.

- less than $9,999
- $10,000 to 19,999
- $20,000 to 29,999
- $30,000 to 39,999
- $40,000 to 49,999
- $50,000 to 59,999
- $60,000 to 69,999
- $70,000 to 79,999
- $80,000 to 89,999
- $90,000 to 99,999
- $100,000 and over

Q39. What is the highest educational level you have ever achieved?

- less than primary school
- primary school
- some high school
- high school degree
- trade school
- some college
- college
- some graduate school
- graduate degree (M.S, M.A, Ph.D, etc.)

Q40. What is your current employment status?

- employed full-time
- employed part-time
- unemployed and looking for work
- full-time student
- full-time homemaker
- retired
- other (please specify)

Q41. What is your present occupation, if employed?
(PLEASE LIST YOUR OCCUPATIONAL TITLE AND A BRIEF DESCRIPTION OF YOUR WORK)

________________________
________________________ Title and kind of work

Q42. Do you own your home/apartment, pay rent, or what?

- I own or am buying
- I pay rent
- other (PLEASE DESCRIBE)

________________________

Thank you for your cooperation!!!

Please mail today in the enclosed envelope, no additional postage is necessary.