HOUSING- AND NEIGHBORHOOD-RELATED STRESS OF FEMALE HEADS OF SINGLE-PARENT HOUSEHOLDS

by

Sheila T. Baillie

Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in

Housing, Interior Design and Resource Management

APPROVED:

Savannah S. Day, Chairman

Nancy A. Barclay

Rosemary C. Goss

Robert F. Graeff

Rebecca P. Lovingood

May, 1986

Blacksburg, Virginia

HOUSING- AND NEIGHBORHOOD-RELATED STRESS OF FEMALE HEADS OF SINGLE-PARENT HOUSEHOLDS

by

Sheila T. Baillie

Committee Chairman: Savannah S. Day
Housing, Interior Design, and Resource Management

(ABSTRACT)

The purpose of this study was to examine the relationship of housing- and neighborhood-related deficits and stress in female heads of single-parent households. The main objectives were to determine: (1) if a correlation existed between the characteristics of the housing and neighborhood occupied by single-parent households and the number of deficits they reported; (2) if a correlation existed between the number of housing and neighborhood deficits and the amount of stress reported; and (3) what specific housing and neighborhood deficits were significantly associated with stress.

A proportionate sample was drawn systematically from the 1983 school census data of Roanoke County and the independent city of Roanoke, Virginia. A self-administered questionnaire was developed, pretested, and mailed to 1000 mothers of elementary school age children and 162 usable responses were obtained. The Langner 22-item Index of Mental Illness was used to

measure stress. The data were analyzed using analysis of variance, linear regression, and multiple regression with controls for the effect of extraneous variables on stress.

Significant differences were found between the number of deficits reported and several characteristics of the respondents' housing, including the type of dwelling, length of tenancy, method of housing payment, and dwelling satisfaction. A significant positive relationship was also found between the number of housing- and neighborhood-related deficits and the stress level of the respondents.

Twelve of the 48 possible housing deficits were significantly related to stress ($p < .01$). These included inadequate size of rooms, inadequate space for family activities, entertaining, or children's activities in the kitchen, no separate bedroom for the parent, lack of freedom to make changes in the interior of the dwelling, inadequate indoor storage, hard-to-clean materials on the floors and in the bathroom, bedrooms not large enough for needed furnishings, no assigned parking space, and lack of privacy for family members.

Four of the 21 possible neighborhood deficits were significantly related to stress ($p < .01$). These

included inadequate police surveillance, lack of social acceptance of the single-parent lifestyle, and neighborhoods which were not clean or were not pleasant and attractive looking.

Acknowledgments

Sincere appreciation is expressed to Dr. Savannah S. Day for her support and guidance on the dissertation and throughout the doctoral program. The author wishes to thank the members of the committee, Dr. Nancy Barclay, Dr. Rosemary Goss, Professor Robert Graeff, and Dr. Rebecca Lovingood, for their assistance and suggestions. Appreciation is also expressed to Dr. Lawrence Cross and for their assistance with the statistical analysis, and to Dr. Michael Hughes for assistance with measuring psychological stress.

A special thanks is given to all the women of Roanoke and Roanoke County who responded to the survey, and to the city and county school administrators for assisting with locating the sample.

The author's children, and , are given a special thank you and an extra hug for their patience and for sacrificing their own single-parent for the time it took to complete this study. Thanks are also due the author's parents for their years of support and encouragement.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Chapter 1

Introduction

Female-headed single-parent families face many constraints in our society. They generally have lower incomes than comparable male-headed households (U.S. Department of Labor, 1979; Schorr, 1979; Burgess, 1980; American Council of Life Insurance, 1984) and are often discriminated against in the housing market because they are women, because they have children, or because they are not part of a couple (U.S. Department of Housing and Urban Development, 1975; U.S. Department of Housing and Urban Development, 1976; Marans & Colten, 1980). Their locational choices are more limited than other families since they have more limited incomes and they often seek housing close to employment, day care, and family (Banner, Berheide, & Greckel, 1982; Berheide & Banner, 1980; Hayden, 1980). Policy makers have not been diligent in trying to meet the needs of these households since they are often viewed as a transitional stage between husband-wife households, or are considered to be a form of deviant lifestyle (Burgess, 1980; Schorr & Moen, 1979). In reality, however, about one third of single parents never

remarry (U.S. Department of Housing and Urban Development, 1980).

Cultural and family norms prescribe what the society and the family believe their housing ought to be like. In this country the cultural norms clearly define ownership of a single-family dwelling for families with children, regardless of whether there are one or two parents present in the household (Dillman, Tremblay, & Dillman, 1979). The cultural norms for tenure and neighborhood standards are often relaxed somewhat for single-parent families, due to the economic constraints. There is evidence that single-parent families may be more unconventional in their family housing norms or may lower their preferences to avoid dissatisfaction with their housing when it does not meet their norms (Winter & Morris, 1982).

When the limit of family housing norms is exceeded, the disequilibrium that results is referred to as a deficit. The effect of the deficit is stress, which must be removed or otherwise treated to avoid further consequences. There are three types of consequences which may result: adjustment, adaptation, or pathology. The resulting adjustments may be minor

behavior changes, physiological changes, or changes in the location of residence. Adaptation is a more permanent change that involves structural modifications of the norms themselves or the means used to meet the norms. Pathology represents a continuum from minor to serious consequences, but may be either physiological (physical illness), psychological (mental illness), or social (antisocial behavior or extremely low socioeconomic well-being) (Morris and Winter, 1978).

Female-headed single-parent families are more likely to have normative housing deficits than two-parent households (Burgess, 1982; Banner et al., 1982; U.S. Department of Housing and Urban Development, 1975; Committee on Banking, Finance, and Urban Affairs, 1983; Dolbeare, 1983; Bunce, Gardner, McDougall, & Eggars, 1979; U.S. Department of Housing and Urban Development, 1979; Fanning, 1967). If stress is the result of housing deficits, then is it possible that female-headed single-parent families are subjected to additional housing-related stress? If this is in fact the case, then what housing and neighborhood characteristics are related to stress in these households?

Theoretical Framework

Housing and neighborhood deficits occur when the cultural and family norms that define appropriate housing and neighborhood conditions are not met (Morris & Winter, 1978). Morris and Winter theorized that stress, an internal tension, either biological, psychological, or social, is created by these deficits. The problem proposed in this study is at the interface of these two areas: the relationship between stress and the environmental characteristics that cause deficits for household members. Both housing and neighborhood were jointly considered since the predicament of single parents regarding housing and services may be greatly affected by the neighborhood in which they live (Leavitt, 1985).

To help explain the framework underlying the problem, a model has been developed for studying housing- and neighborhood-related psychological stress (see Figure 1). Two paths are included, one for housing conditions (path a) and one for neighborhood conditions (path b). The model begins with the basic assumption that a difference between existing conditions and norms creates deficits (1a, 1b).

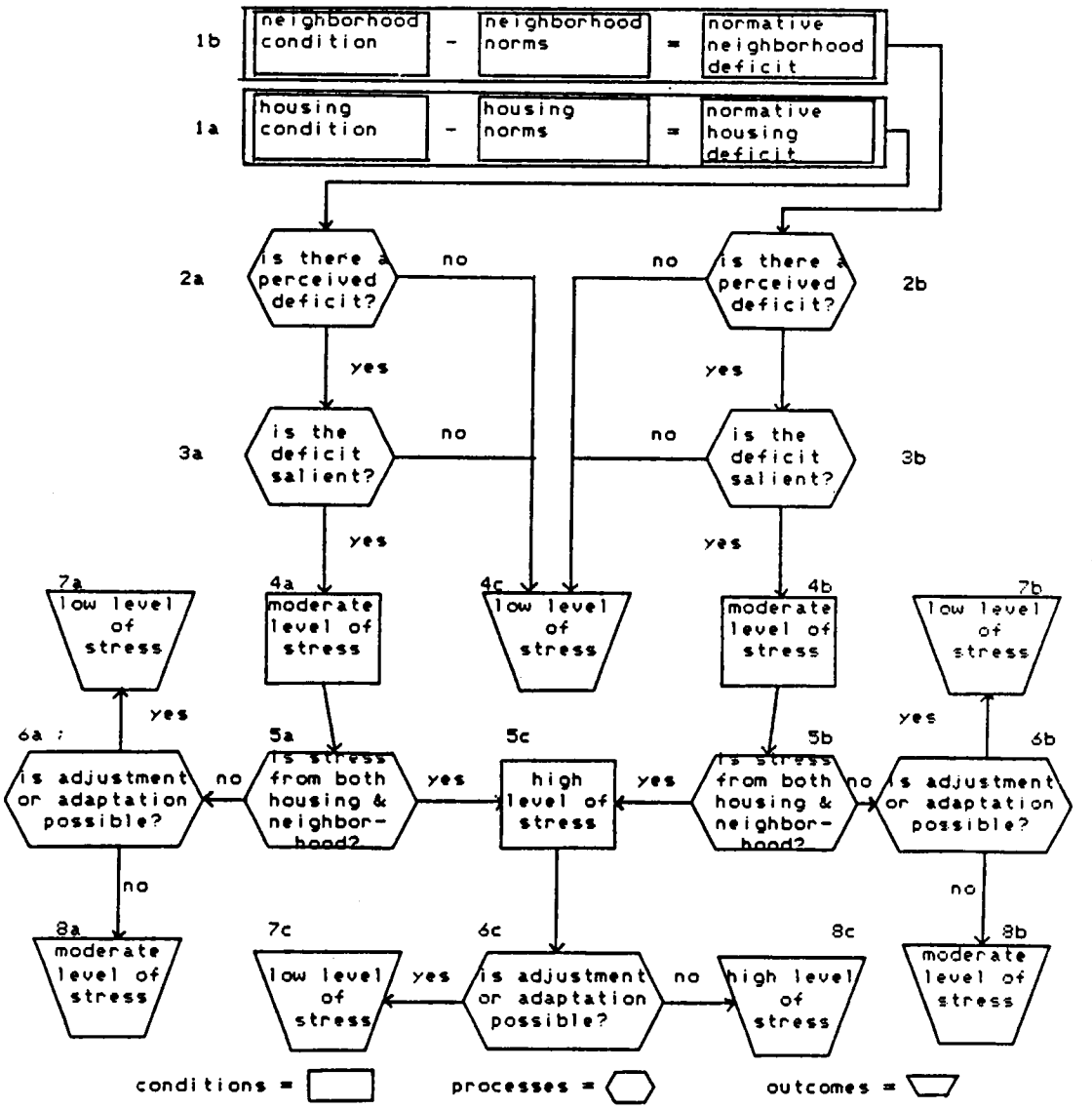


Figure 1. Model for Housing- and Neighborhood-Related Psychological Stress.

However, in order to be stressful, deficits must be perceived (2a, 2b). If not perceived, deficits result in low stress (4c). If the deficit is perceived it must be determined if the deficit is salient (3a, 3b). If the deficit is not particularly important to a person it may not be stressful (4c); however, if the deficit is important a higher level of stress may result (4a, 4b). If stress results only from housing conditions (5a) or from neighborhood conditions (5b), it should be determined if adjustment or adaptation is possible. If it is, then the level of resulting stress may be relatively low (7a, 7b). If adjustment or adaptation is not possible, then a higher level of stress may result (8a, 8b). When stress results from both housing and neighborhood conditions the level of resultant stress may be high. Again, it must be considered whether adjustment or adaptation is possible; if yes, stress may be low, if no, then a more chronic level of high stress is likely to result.

Definitions

Psychological stress. Psychological stress is a condition of internal tension resulting from deficits and other life factors (Morris & Winter, 1978).

Housing- and neighborhood-related normative deficits. Housing-related normative deficits and neighborhood-related normative deficits are conditions of the environment which do not meet the family's expectations of what they ought to have, or what they would want for their family if they were free to choose (Morris & Winter, 1978).

Statement of the Problem

The purpose of this study was to examine the relationship between the housing- and neighborhood-related deficits and psychological stress of the female heads of single-parent households in terms of the characteristics of the housing and neighborhoods occupied by the households.

Objectives

The objectives of this study were to determine:

1. If a correlation exists between the characteristics of housing and neighborhoods occupied by female-headed single-parent families and the number of housing-related normative deficits reported by the female heads of single-parent families.

2. If a correlation exists between the characteristics of the housing and neighborhoods occupied by female-headed single-parent families and the number of neighborhood-related normative deficits reported by the female heads of single-parent families.

3. If a correlation exists between the number of housing-related normative deficits and the level of psychological stress of female heads of single-parent families.

4. If a correlation exists between the number of neighborhood-related normative deficits and the level of psychological stress of female heads of single-parent families.

5. The specific housing-related normative deficits that are associated with psychological stress in female heads of single-parent families.

6. The specific neighborhood-related normative deficits that are associated with psychological stress in female heads of single-parent families.

Hypotheses

The following hypotheses were tested:

1. There is a correlation between the number of housing-related normative deficits reported by the female heads of single-parent families and the following characteristics of housing and neighborhoods occupied by female-headed single-parent families:

a. Type of dwelling occupied

b. Type of multi-family attached dwelling

c. What floor level multi-family unit is on

d. Age of dwelling

e. Length of residency

f. Same dwelling occupied during marriage

g. Method of housing payment

h. Amount spent on rent or mortgage payment

i. Percentage of income spent on rent or mortgage payment

j. Satisfaction with dwelling

k. Intention to move

l. Recommendation of same dwelling type for other single-parent families

2. There is a correlation between the number of neighborhood-related normative deficits reported by the

female heads of single-parent families and the following characteristics of the housing and neighborhoods occupied by female-headed single-parent families:

a. Type of dwelling occupied

b. Type of multi-family attached dwelling

c. Location of dwelling

d. Age of dwelling

e. Method of housing payment

f. Amount spent on rent or mortgage payment

g. Percentage of income spent on rent or mortgage payment

h. Intention to move

3. There is a positive correlation between the number of housing-related normative deficits and the level of psychological stress of female heads of single-parent families.

4. There is a positive correlation between the number of neighborhood-related normative deficits and the level of psychological stress of female heads of single-parent families.

5. Specific housing-related normative deficits are correlated with psychological stress in female heads of single-parent families.

6. Specific neighborhood-related normative deficits are correlated with psychological stress in female heads of single-parent families.

Assumptions

The following assumptions were made:

Deficits are created when housing and neighborhoods do not meet family norms.

Deficits create stress.

The Langner (1962) 22-item Index of Mental Illness is an accurate measure of stress.

Delimitations

In order to create a homogeneous sample which would attempt to reduce the effects of stress resulting from other confounding variables, the following delimitations were placed on this study:

Household composition: female head and children, with no other adults present. Gove and Hughes (1983) found that the demands experienced by single parents with children were second only to those households with single parents with children and other adults living in the same household. The presence of other adults may

influence the stress level and/or living conditions of female single parents, confounding the comparison to other single parents living alone with their children.

Household heads: female, approximately 25 to 40 years of age; single by divorce rather than widowed, separated, or never married; divorced for at least one year; gainfully employed outside the home at least 20 hours per week. Female single parents were selected for this study since they generally face more housing constraints than their male counterparts and because they account for nearly 90% of all single parents. The 25- to 40-year-old age group was assumed to represent the majority of women whose children were of elementary school age. Divorced women were to be surveyed since those who were widowed, separated, or never married may experience stress from other intervening sources. The first year after divorce is a time of transition and may be more stressful than later years, so it was desirable that the women would have been divorced for at least a year. Employment was a desirable characteristic of respondents since those who must depend on others more heavily for financial support may experience stress to a different degree than those who help provide for themselves.

Children: at least one, but not more than three present in the household; at least 6 but not more than 12 years of age. Pearlin and Johnson (1977) found that the proportion of single parents who were highly depressed increased as the number of children in the household increased and that depression was also most likely to exist among single parents of very young children. Therefore the number of children was limited to three since there may be similar relationships between stress and depression. It may be possible that the presence of very young children also contributes to stress in single parents; therefore, preschool children were eliminated from the study whenever possible. Teenagers were also avoided since their behavior may contribute to intervening sources of stress.

Operational Definitions

Psychological stress. Psychological stress was operationalized by using the Langner (1962) 22-item Index of Mental Illness to determine the present level of psychological stress of the female heads of single-parent households.

Housing- and neighborhood-related normative deficits. Housing-related normative deficits and neighborhood-related normative deficits were measured by a checklist of housing and neighborhood characteristics which determined the difference between what the family had and what they would want for their family if they were free to choose.

Importance of the Study

Single-parent households are the second largest household type in America (Schorr & Moen, 1979), and are increasing in number. According to Census Bureau statistics (U.S. Bureau of the Census, 1984), 25.7% of families with children under 18 in the United States were headed by single parents in 1984, up from 12.9% in 1970. Of these, over 89% were headed by women. These female household heads are faced with many housing constraints. It is therefore important that designers, architects, policy makers, and counselors become aware of the housing problems and needs of female-headed single-parent households. This study will help to identify those needs by determining what specific housing and neighborhood characteristics contribute to stress.

Houses and neighborhoods in this country are traditionally designed under the assumption of a gender-based division of labor, regardless of the type of households who will be occupying the dwellings (Berheide & Banner, 1980; Peterson, Wekerle, & Morley, 1978). However, this traditional design may not adequately meet the needs of women and single parents (Hayden, 1980; Soper, 1980; Schorr & Moen, 1979; Berheide & Banner, 1980; Graff, 1982; Peterson et al., 1978). One example would be the deprivation of access for women in the suburbs, since these areas seldom include public transportation. Women are twice as likely as men to lack access to a car, therefore, without public transportation they are often unable to get to work, day care, and other facilities (Banner et al., 1982; Berheide & Banner, 1980). Another example would be the design of many dwellings which separate children's play areas from the kitchen and other adult work areas. When only one parent is present it may be very difficult to supervise children while performing household chores.

The demands placed on single parents are heavier than those on jointly headed households because of lack

of a spouse to share responsibilities (Gove & Hughes, 1983). Economic hardship has forced many single-parent families into more crowded, less desirable housing than they would prefer (Dillman et al., 1979). Almost 54% of female-headed households with children under eighteen have some kind of housing problem: their houses are physically inadequate (14.7%), crowded (6.2%), or they are burdened by excess cost (33.1%) (Birch, 1985). These conditions have been shown to contribute to the severity of family problems (Choldin, Jacobsen, & Yahnke, 1975; Gove & Hughes, 1983). Parents in crowded households are also more likely to strike their children, especially if they are experiencing an extra amount of stress (Booth & Edwards, 1976). The housing and neighborhood characteristics which contribute to stress need to be identified so that they may be alleviated wherever possible to ease the burden of this growing segment of the population.

Chapter 2

Review of Related Literature

While stress is a topic of fairly recent interest, housing-related pathologies have been studied for many years. Martin (1967) traced the findings of these studies back through the 19th century. Infectious diseases, mental health, crowding, sanitary conditions, mortality, and other health problems have all been studied. The earliest studies were based largely on the observations and opinions of early public health workers, but were confirmed by later, more accurate statistical investigations. Martin concluded that there was a positive association between health and environment. However, since these studies were conducted in the past under sometimes very different social backgrounds and environmental conditions than are now present, the findings may no longer be valid to the same extent.

A great deal has been written more recently regarding stress; however, little research has been related to both housing and stress. A few writers have dealt with the relationship of stress to women or single parents.

Fanning (1967) studied a relatively homogeneous population of families of British military personnel living in Germany. The health of wives and children living in single-family homes was compared to that of those living in three- and four-story apartments. All 558 families had been assigned housing by chance, not by choice, and all were living in two or three bedroom units with central heating. Fanning found that apartment dwellers had a morbidity rate 57% higher than that of those living in houses, as measured by first consultation rates (only the initial visit to a doctor was counted). The rate of neuroses for women living in apartment buildings varied directly with the height of the apartments. Respiratory infections and psychoneuroses were the most frequent pathologies.

Cramped space and greater isolation of women in apartments were the housing characteristics which Fanning believed may have been the reason for the differences. The greater distance that apartment dwellers had to go to have social contact with neighbors, because of long halls, stairs, and elevators that had to be traversed to get to public areas, may have been a source of psychoneurotic problems. Women

with small children who were less able to come and go freely from their homes suffered from the most pathologies. Those with no children had excellent mental health, regardless of their type of residence or height of apartment.

The relationship between dwelling types and psychological strain was examined for differential effects on various family members by Edwards, Booth, and Edwards (1982). In a study of 560 Canadian families, housing type was found to be related to stress, with apartment residents reporting more stress symptoms. Parent-child and spousal relationships were also affected by housing type. Psychiatric impairment was higher in men than in women, although the wives reported more marital discord and perceived lack of privacy in multiple and apartment dwellings. Fathers in apartments tended to strike their children more frequently and to report more quarrels than those living in other types of housing. No significant effect was found for mothers. These findings tend to support the theory that men and women experience their housing differently.

Another study of high-rise housing and stress (Gillis, 1977) dealt with the relationship between the elements of high density design, internal density, external density, and psychological strain in men and women. In a sample of 442 public housing residents with children living at home, women were found to be more likely to experience psychological strain than men; however, internal density, external density, and the elements of high-rise design were found to be poor predictors of strain. Living in high-rise units and having shared floors were associated with higher stress levels in women. Floor level had a strong, direct relationship with psychological strain in women. The authors stressed that since the respondents were residents of public housing the results of the study may not be typical of the general population.

In a recent study of 200 Indiana families, Inman and Sinn (1985) examined the relationship between the number of bathrooms in the residential dwelling unit and family social climate, family attitudes and feelings, perceptions of satisfaction, and environmental stress. The families used in the study included couples with children at home and couples with no

children living at home. An environmental stress scale containing 16 statements was used. Respondents were asked to check on a 5-point continuum ranging from "much less stressful" to "much more stressful". A stress scale containing 20 items on a 4-point continuum was also used. Factors frequently found in residential environments were included, with the continuum ranging from "not stressful or applicable" to "very stressful". The analysis of the data indicated a significant relationship between stress levels within families and the number of bathrooms in the dwelling. Dwellings with only one bathroom were generally rated as being noisy, confining, depressing, stressful, and crowded. These families were also more stressed by the amount of living space in the dwelling, amount of storage space, poor lighting, lack of privacy, lack of soundproofing, and poor ventilation. It was also indicated that adequate space for pricacy increased expressiveness or sociability and a sense of control. When couples with and without children living at home were compared, those with children experienced more stress in their environment. The greatest differences between families with and without children were apparent in dwellings

with only one bathroom. There were no controls for socio-economic factors, neighborhood characteristics, or other dwelling characteristics.

The effects of internal and external crowding have been a frequent topic of research, with varying results. Booth and Edwards (1976) found that both the perception of crowding and the objective household condition influenced the frequency with which parents hit their children. The more crowded they were the more frequently they hit them. It was also found that stress intensified the effects of crowding. Parents with high stress scores on the Langner Index of Mental Illness who lived in crowded conditions were more likely to hit their children than were those who were crowded but scored lower on the stress index.

The results reported by Booth and Edwards (1976) were similar to those of Choldin, Jacobsen, and Yahnke (1975). In a study of matched families, half in small housing units and half in larger units, it was concluded that, while the amount of space was not a primary cause of stress, it did contribute to the severity of family problems. The same problems caused

more stress for families with less space than for the families in larger units.

The function of stress in dual-career families was studied by Bebbington (1973). Information was gathered from 14 dual-career couples using a series of intensive interviews. It was found that discrepancies between personal norms and social norms were a source of stress for the wives, due to the societal emphasis on maternal and homemaking roles for women. Work overload was found to result for both men and women who must perform adequately on the job as well as in the domestic environment. Although these women were married, it is quite possible that the same patterns of stress and work overload exist for single working mothers as well. The maternal and homemaking roles of women have been somewhat de-emphasized in recent years; however, the single parent has not had the same opportunity as married women to delegate household tasks to a spouse.

A study by Hynes (1979) dealt with the relationships between selected social and psychological factors and distress in low-income single-parent mothers. The sample consisted of 95 randomly selected single-parent mothers living in government-subsidized

housing and/or receiving Aid to Dependent Children. Information was gathered through individual interviews conducted in the respondent's home. Greater social supports (informal, natural or familial resource systems, and formal resource systems or membership organizations) were found to be strongly related to lower distress. Greater societal resource systems (local and community agencies, or social service programs) showed a weak association with lower distress. Higher social participation was strongly related to lower distress, and low income, regardless of income source, was linked to higher distress. It was recommended that extending personalized services could help single-parent mothers individually as well as improving intrafamilial interactions.

Stress was studied in relation to coping style and personality of women by Garcia (1981). Stress was viewed as a force impinging upon an individual that requires an adaptive response and was operationalized as a series of life events that were assumed to indicate different levels of stress. Type A (characterized by time urgency, impatience, and competitiveness) and Type B (polar opposite of Type A)

were used to indicate personality type, which was considered to influence one's perception of stressful situations. Coping was considered to be the actions and attributes that help a person withstand the impact of stress and was operationalized as health habits related to diet, exercise, rest, and relaxation. Strain was considered to be the breakdown of a person's response mechanism and was operationalized to be psychosomatic symptoms that indicated psychological distress. Information was gathered through a self-administered questionnaire given to a convenience sample of women between 30 and 60 years of age. A direct relationship was found between stress and strain and between personality and strain. Type A women tended to experience high levels of strain while Type B women experienced lower levels of strain. Women with good health habits tended to withstand stress somewhat better than those with poor health habits. Coping style was found to have no effect on level of strain experienced.

Undesirable neighborhood characteristics were found to be detrimental to personal well being, particularly among women, in a study by Hughes, Wood,

and Gove (1983). Over 2000 Chicago residents were studied using a four point scale of perceived quality of neighborhood and a scale of four standard variables measuring the respondents' degree of integration into the neighborhood. Several scales were also used to measure respondents' well-being. It was concluded that the perceived quality of the neighborhood was important for the mental health and well-being of the residents. This perception of the environment was also more important than the extent of social relations with the neighbors. However, it was noted that negative neighborhood evaluations were associated with low income, little education, and being unmarried, factors which may indicate objectively a neighborhood of lower quality.

In a study of household crowding Gove & Hughes (1983) found a strong negative effect of crowding on mental health. The demands experienced by single parents with children were second to only one other household type, single parents with children and other adults living in the same household. The high level of demands experienced by unmarried parents was attributed to the lack of a spouse to share the obligations of parenting.

A study of the depressive consequences of economic hardship, social isolation, and parental responsibility found unmarried people were more adversely affected than the married (Pearlin & Johnson, 1977). The formerly married were more burdened by depression than the presently married, with never married falling in between. The unmarried were more likely to experience economic deprivation and were also more readily depressed by such deprivation. Social isolation was found to be related to both marital status and depression. Results showed the unmarried to be doubly susceptible to depression. They were more likely to live in more isolated circumstances and were more likely to be depressed by equivalent conditions of isolation. The burdens and responsibilities of parenthood were believed to impose persistent strains with depressive consequences. The proportion of unmarried parents who were highly depressed increased as the number of children in the household increased, with a substantial difference between the married and unmarried. Depression was most likely to exist among unmarried parents of very young children.

Housing preferences were assessed according to four separate housing norms in a Washington state study of 2801 households (Dillman, Tremblay, & Dillman, 1979). Home-ownership, detached dwelling type, private outdoor space, and conventional construction were the norms which were examined in relation to the personal characteristics of the households. Single-family homeownership was the most preferred housing environment for over three fourths of the respondents, including the divorced and separated. Less than 5% of households with three or more people preferred apartment rental as their first or second choice. Females also preferred single family homeownership almost as much as males, with 76.7% and 80.9% respectively. The second, third, or last choice showed no discernable pattern. This was attributed to the substantial differences in which norms people were willing to part with first.

Winter and Morris (1982) tested the differences between female-headed households and jointly headed households on conditions, preferences and norms for single-family homeownership. They concluded that unconventional housing preferences had been developed

by female household heads to avoid dissatisfaction. Although the preferences and reported norms were similar for jointly headed households, the preferences were well below the reported norms for female-headed households. No difference was found between the levels of satisfaction of female-headed and jointly headed households. However, the female household heads in this study were, on the average, much older (60.6 years), more likely to be living alone (67.3%), and had lower income (71.4% under $10,000), compared to the jointly headed households in the study (46.4 years old, 42.6% living alone as a couple, 28.7% under $10,000).

The Langner (1962) 22-item Index of Mental Illness, which was used in this study, has been a widely used indicator of stress. Johnson and Meile (1981) tested the Langner Index for validity and dimensionality in a field survey of over 11,000 persons in four communities. Their analysis supported the interpretation that the index measures one major dimension. It was also concluded that although the index has been criticized for physical illness bias, that component had little effect on variance in the total index that was independent of the psychological

or psychophysiological components. Johnson and Meile recommended that the complete index should be retained.

Summary

Studies from the review of literature have been categorized by type of household, pathologies, and housing-related conditions (see Table 1).

Few studies have dealt specifically with housing-related stress in single-parent mothers (Hynes, 1979); however, single parents have been compared to other types of households regarding housing norms and preferences (Dillman et al., 1975), mental health and crowding (Gove & Hughes, 1983), personal well being and neighborhood characteristics (Hughes et al., 1983), and depression related to social factors, economic burden, and work overload in the home (Pearlin & Johnson, 1977).

For other family types, stress has been shown to be related to work overload in the home (Bebbington, 1973), crowding (Booth & Edwards, 1976; Choldin et al., 1975; Inman & Sinn, 1985), and housing type (Edwards et al., 1982; Gillis, 1977).

Table 1

Categorization of Related Studies

AUTHOR	SAMPLE				PATHOLOGIES			HOUSING CONDITIONS						
	single-parent mothers	women	female-headed households	married couples	stress	health/personal well being	mental health/depression	type or level of dwelling	crowding	social & psychological factors	neighborhood characteristics	work overload in the home	cost burden	housing preferences/norms
Bebbington, 1973	x	x	x	x	x	x	x		x	x	x	x	x	x
Booth & Edwards, 1976				x	x					x				
Choldin, Jacobson, & Yahnke, 1975				x	x					x				
Dillman, Tremblay, & Dillman, 1975	x	x	x	x										x
Edwards, Booth, & Edwards, 1982				x	x				x					
Fanning, 1967		x				x			x					
Garcia, 1981		x			x									
Gillis, 1977				x	x				x					
Gove & Hughes, 1983	x	x	x	x			x			x				
Hughes, Wood, & Gove, 1983	x	x	x	x		x					x			
Hynes, 1979	x				x					x				
Inman & Sinn, 1985				x	x					x				
Pearlin & Johnson, 1977	x	x	x	x			x			x		x	x	
Winter & Morris, 1982			x	x					x					x

Related pathologies including general well being, mental health, and depression have also been studied in relation to housing type (Fanning, 1967), crowding (Gove & Hughes, 1983), neighborhood characteristics (Hughes et al., 1983), and work overload in the home, cost burden, and social and psychological factors in the environment (Pearlin & Johnson, 1977).

The body of research suggests that housing and neighborhood conditions may influence stress, mental health, and general well being in single parents, as well as in members of other types of households. This research has attempted to examine the relationship between stress and housing and neighborhood conditions, and its effect on female heads of single-parent families. In addition, specific features of the dwelling or neighborhood which are most closely related to stress in female heads of single-parent families have been identified.

Chapter 3

Methodology

The methodology used in this investigation is presented in this chapter. Procedures are discussed for obtaining the sample, developing the instrument, collecting data, scoring the data, analyzing the data, and testing for any effects of extraneous variables.

Sampling Procedure and Response Rate

The sample used for this study consisted of female heads of single-parent households with one to four children, primarily ages 6 through 12. The majority of women had been divorced or separated for at least two years and were gainfully employed outside the home at least 20 hours per week. There were no other adults living in the household.

The 1983 school census data of Roanoke County and of the independent city of Roanoke, Virginia, were used to obtain the sample. This was the most recent data available, since the school census is taken at three year intervals. A listing was made of all households with a female head and one to three children, ages 6 through 12. From this listing, a

systematic sample was drawn. Every second name was drawn from the city list, using a coin toss to select the first name. Then from the remaining names, every ninth name was re-added to the list. Every twelfth name was eliminated from the county list, beginning with a randomly selected number. Selected families which did not meet the sample criteria were eliminated from the analysis; however, information on any additional single-parent families was retained for future reference.

The typical sample size for a regional study of individuals or households is about 500 - 1000 (Sudman, 1983). Because this listing was two and one-half years old it was expected that many of the households would have moved away, remarried, or become ineligible for other reasons. It was also known that the data were not completely correct, and that some households listed as single parents were actually married. Therefore, an initial mailing of 1000 households was made. According to the 1980 Census of General Characteristics of Persons for Roanoke, VA, SMSA, 35% of female householders with no husband present and children under age 18 resided in Roanoke

County and 65% resided in the independent city of Roanoke. Therefore, the proportional sample drawn was composed of 350 families from Roanoke County and 650 families from the city of Roanoke.

Of the 1000 mailed questionnaires, 369 were returned by the post office marked "incorrect address" or "not able to forward". Eighty-nine were returned by women who were married; either they had remarried since the census data were taken or had been previously married and were incorrectly listed as a single parent in the census data. Two hundred and fifteen questionnaires were completed and returned by women who were single parents with children living at home. Of these, 48 were living with other adults in the household; many were living with parents, some with other single parents to reduce expenses, one had a housekeeper. These responses were eliminated from the analysis since the presence of other adults may change the living circumstances of single parents. Five other completed questionnaires were eliminated because the responses did not follow a logical pattern, indicating that the respondents had misunderstood the questions or instructions. This left a total of 162 usable

questionnaires from female heads of single-parent households.

The usable response rates for the city and county were nearly identical. The ratio of usable responses to questionnaires not returned by the post office was 25.5% for the city and 25.9% for the county. The responses to the survey are summarized in Table 2.

Method of Collecting Data

The 1000 women who were selected for the sample were each sent a letter explaining the purpose of the study (Appendix A), a self-administered questionnaire to be filled out by the female head of the household (Appendix B), and a stamped envelope addressed to the researcher. An identification number on the front of each questionnaire was matched to the mailing list. All letters and the questionnaire were developed according to Dillman's (1978) total design method for mail surveys in order to maximize response.

One week after the initial mailing all of the women in the sample, except those whose questionnaires had been returned by the post office, were sent a postcard thanking them for sending their questionnaire

Table 2

Survey Response

Questionnaires	City	County	Total
Questionnaires Mailed			
Number mailed	650	350	1000
Returned by post office	270	99	369
Total Possible Responses	380	251	631
Responses			
Married respondents	51	38	89
Living with other adults	21	27	48
Unusable responses	3	2	5
Usable responses	97	65	162
Total responses	172	132	304
Total response rate (total responses divided by possible responses)	45.3%	52.6%	48.2%
Usable response rate (usable responses divided by possible responses)	25.5%	25.9%	25.7%

or requesting its return if they had not done so (Appendix C). A second follow-up letter was mailed three weeks after the initial mailing to those women who had not responded or whose questionnaires had not been returned by the post office (Appendix D). Another copy of the questionnaire and another stamped return envelope were included. The third follow-up letter to be sent by certified mail was eliminated to reduce costs.

Development of the Instrument

The instrument developed for this study was a self-administered questionnaire consisting of four parts marked A, B, C, or D (Appendix B). It was printed in a 5 1/2" by 8 1/2" booklet format so that it could be mailed easily. Pages were reduced to 79% of the original size, printed on both sides of white paper, so the booklet would be no more than 12 pages.

The questionnaire began with a single question on marital status to determine eligibility of the respondent for the study. If the respondent was married, she was requested to return the questionnaire with the remainder of the items unanswered. All

single women were asked to complete the questionnaire so that this information could be used for comparison among groups of divorced, widowed, separated, and never married.

Part A of the questionnaire contained a checklist of dwelling characteristics. On the left of each characteristic was a column to be circled "yes" or "no" to determine if the respondent's dwelling had that characteristic. On the right was a column to be circled "yes" or "no" to determine if the respondent would want the dwelling to possess that characteristic if she were free to choose what she felt would be best for her family. This column was designed to show family housing norms while the left column registered present conditions. A difference between the responses in the two columns determined housing deficits. The characteristics listed were those mentioned in the literature as those which may be problem areas for single parents, working women, or families with children.

Part B contained a checklist of neighborhood characteristics. It was arranged in the same format as Part A.

Part C of the questionnaire contained the 22 items in the Langner (1962) Index of Mental Illness. These questions were used to determine the overall psychological stress level of the female household head from all sources, so that the stress level could be compared to the level of deficits found in Part A and Part B. Johnson and Meile (1981) divided the items into three components for analysis. The first component group consisted of physical components, indicators of physical illness, and included Items 1, 5, 6, 8, 10, and 18. The second component group, the psychological component, consisted of psychological manifestations of stress, and included Items 13, 14, 15, 19, 20, 21, and 22. The third component group, the psychophysiological stress component, consisted of symptoms of psychological stress, and included Items 2, 3, 4, 7, 9, 11, 12, 16, and 17. Items were written in the questionnaire in the original order and later grouped according to Johnson and Meiles' components for analysis.

The final section of the questionnaire, Part D, contained questions to obtain general information about the current home and the family. These data were used

to help interpret the results of the study.

The questionnaire was pre-tested, using a sample of eight female heads of households in the Blacksburg, Virginia area. Each was asked to complete the self-administered questionnaire and then was interviewed regarding the clarity of instructions and questions. The women ranged in age from 27 to 42 years and had from one to five children. Their educational level ranged from high school to post graduate college work. A 10-year-old female in the fifth grade was also asked to complete the questionnaire to determine if the vocabulary and questions were easily understood, because all educational levels would be represented in the random sample of single parents. The questionnaire was revised slightly after the pretest. Two items on the Langner Index were slightly reworded for clarity. A few changes were also made in the vocabulary to simplify the meaning of some items on the checklist. An extra category was added to the question asking for percentage of income spent on rent or mortgage payments since it became clear that some women did not pay their own housing costs.

Scoring of Data

Data from Parts A, B, and C of the questionnaire were scored before analysis. Data in Part D were not scored since they were descriptive questions regarding the dwelling type, location, cost, and tenancy, and the characteristics of the sample families.

Part A and Part B data. Data in Part A were scored either "1" or "0" to show the existence or absence of deficits according to the following schedule:

left column, yes; right column, yes: score 0
left column, no; right column, no: score 0
left column, yes; right column, no: score 0
left column, no; right column, yes: score 1

The deficit created by a yes response in the left column and a no response in the right column was given a score of 0 since it was a positive deficit which is not likely to cause stress in the same manner as a negative deficit. Characteristics were grouped so that a positive deficit which may represent a stressful situation was compensated for by an alternate characteristic which showed the deficit in the scoring. For example, if the family lived in a

highrise apartment they may have shown a positive deficit for access to outdoor areas via an elevator, which could be a stressful situation. However, they would have shown a negative deficit for some other means of access such as direct access from the outside to their dwelling. Since these two items were both measuring the same characteristic, they would only be counted once in the number of possible deficits.

Part A of the questionnaire contained 48 items with the possibility of 35 negative deficits. These were scored as a continuous variable with a range of 0 to 35. Part B, which was scored in the same manner as Part A, contained 21 items with the possibility of 18 negative deficits, ranging from 0 to 18.

Part C data. The 22 questions in Part C were scored either "1" for stress responses, or "0" for all other responses, including no answer. Total scores could range from 0, representing no stress, to 22, the maximum possible score since each of the 22 items could be marked for only one possible stress-related response.

Analysis of Data

Six hypotheses were tested using the data gathered in this survey. For analysis, the hypotheses were grouped into three types: analysis of variance, linear regression, and multiple regression. Each type of analysis included one hypothesis for housing and one for neighborhood.

Hypotheses 1 and 2. The first two hypotheses involved the relationship of specific housing and neighborhood characteristics (from Part D) with the total deficit score for housing and neighborhood (from Parts A and B). These hypotheses were as follows:

1. There is a correlation between the number of housing-related normative deficits reported by the female heads of single-parent families and the following characteristics of housing and neighborhoods occupied by female-headed single-parent families:

a. Type of dwelling occupied

b. Type of multi-family attached dwelling

c. What floor level multi-family unit is on

d. Age of dwelling

e. Length of residency

f. Same dwelling occupied during marriage

g. Method of housing payment

h. Amount spent on rent or mortgage payment

i. Percentage of income spent on rent or mortgage payment

j. Satisfaction with dwelling

k. Intention to move

l. Recommendation of dwelling type for other single-parent families

2. There is a correlation between the number of neighborhood-related normative deficits reported by the female heads of single-parent families and the following characteristics of the housing and neighborhoods occupied by female-headed single-parent families:

a. Type of dwelling occupied

b. Type of multi-family attached dwelling

c. Location of dwelling

d. Age of dwelling

e. Method of housing payment

f. Amount spent on rent or mortgage payment

g. Percentage of income spent on rent or mortgage payment

h. Intention to move

To test the hypotheses, a one-way analysis of variance was used to determine if any difference existed among the groups for each independent variable. A Scheffé multiple range test was also used to determine which groups were significantly different at the .05 level. Statistics were generated to produce the group means and standard deviations for further comparison. The dependent variables were the total housing deficit score for the first hypothesis and the total neighborhood deficit score for the second hypothesis.

Hypotheses 3 and 4. The third and fourth hypotheses were designed to test the relationship between housing and neighborhood deficits and stress, as follows:

3. There is a positive correlation between the number of housing-related normative deficits and the level of psychological stress of female heads of single-parent families.

4. There is a positive correlation between the number of neighborhood-related normative deficits and the level of psychological stress of female heads of single-parent families.

These hypotheses were tested using regression analysis with the total stress score as the dependent variable and the total number of housing deficits or the total number of neighborhood deficits as the independent variable.

Hypotheses 5 and 6. The fifth and sixth hypotheses were used to determine the specific housing and neighborhood deficits which contributed the most to the overall psychological stress level of the women. They were as follows:

5. Specific housing-related normative deficits are correlated with psychological stress in female heads of single-parent families.

6. Specific neighborhood-related normative deficits are correlated with psychological stress in female heads of single-parent families.

Linear regression analysis was used to test these two hypotheses. For the fifth hypothesis, the 48 individual housing deficit variables were regressed separately on the total stress score. The housing deficit variables with an R square value significant at $p < .01$ or better were considered to have the greatest affect on total stress. The same procedure

was used for the sixth hypothesis, with the neighborhood deficit variables regressed separately on the total stress score.

A prediction model for determining stress in female heads of single-parent households was determined for housing deficits and for neighborhood deficits using multiple regression analysis. The housing deficit variables which were significantly related to stress in the linear regression equations were entered by the forward method with stress as the dependent variable. The same procedure was followed for neighborhood deficit variables. To avoid the problem of multicollinearity, no two variables correlated at .40 or above were included in the same equation. If two variables were correlated at .40 or above, the one with the higher R square value in the linear regression equation was used in the multiple regression analysis.

Control of Extraneous Variables

The hypotheses were tested using the entire sample of 162 usable cases. Since it is possible that a number of extraneous variables may also have been affecting the psychological stress level of these

women, a number of tests were run to check for other effects.

Marital status and ethnic origin. Due to the limited response of only 162 usable cases it was desirable to use the entire sample in the analysis. However, the sample had originally been delimited to only divorced women, since it was felt that those who had never been married might be under stress from other sources which could bias the analysis. To determine if the entire sample could be used, an analysis of variance was conducted with psychological stress as the dependent variable and marital status as the independent variable. The sample was grouped into those who had been married before (divorced, widowed, and separated) and those who had never been married. No significant difference was found between the two groups. The means on the stress scores were similar for the two groups: 6.78 for those who had been married before, and 7.14 for those who had never been married.

There was also the possibility that ethnic origin may have some effect on psychological stress. An analysis of variance was conducted with stress as the

dependent variable and ethnic origin as the independent variable. There was no significant difference ($p > .7$) between the two groups (white and non-white) which had nearly identical mean stress scores, 6.84 for white respondents and 6.54 for non-white respondents.

To determine if the interaction between ethnic origin and marital status together may have some affect on stress that was not apparent in either factor alone, an analysis of variance was conducted with stress as the dependent variable and both ethnic origin and marital status as independent variables. There was no significant effect of either of the main effects or of the interaction effect of the two variables together. Therefore, it was concluded that the entire sample of 162 cases could be used for further analysis without bias for ethnic origin or marital status.

Effect of extraneous variables on stress. Since psychological stress may be attributed to many factors other than environment, several tests were run to check for significant relationships between stress and extraneous variables. An analysis of variance was run on several variables to check the affects of the variables on the stress scores, both alone and in

interaction with each other. No significant differences were found between stress scores on the following variables: amount spent on monthly rent or mortgage payment, percentage of income spent on monthly rent or mortgage payment, or the interaction of amount and percentage spent on rent or mortgage payment; occupational category, hours worked per week, or interaction between occupational category and number of hours worked; number of children living in the home, age of children, or interaction of number and age of children; whether the dwelling was the same one occupied during marriage, how long the respondent had been divorced, widowed, or separated, or the interaction between marital dwelling and time since divorce. The only differences in stress which were found to be significant were with level of education ($p < .05$). The interaction between level of education and ethnic origin had no significant effect on stress. A rank order correlation between stress and level of education showed that the correlation was negative (-.23), indicating that the higher the level of education, the lower the stress score.

Factors affecting perception of neighborhood. In order to determine if perceptions of neighborhood deficits may be altered by family characteristics not necessarily related to housing characteristics, an analysis of variance was conducted with the neighborhood deficit score as the dependent variable and several family variables as the independent variable. No significant differences were found between neighborhood deficit scores and number of children in the household, number of hours employed per week, level of education, ethnic origin, or whether the dwelling was the same one occupied while married.

Correlation between stress and extraneous variables. Rank order correlations were also conducted for relationships between stress and several variables. The following rank-order correlations were found:

Stress with number of children in the household (r = .0473; sig. = .282)

Stress with age of respondent (r = -.0877; sig. = .142)

Stress with length of time since divorce (r = -.0885; sig. = .141)

Stress with whether dwelling was the same one occupied during marriage (r = -.0303; sig. = .358)

Stress with type of dwelling (r = .1929; sig. = .010)

Stress with floor level that multi-family unit is on (r = -.0397; sig. = .366)

Stress with age of dwelling (r = -.0360; sig. = .333)

Stress with percentage of income spent on rent or mortgage payment (r = .0534; sig. = .265)

Stress with dwelling satisfaction (r = .3217; sig.< .001)

Stress with cost of monthly rent or mortgage payment (r = -.1013; sig. = .119)

Stress with hours per week employed (r = -.0408; sig. = .310)

Stress with ethnic origin (r = -.0642; sig. = .218)

Stress with length of residency at current dwelling (r = -.0144; sig. = .431)

Only two of the rank order correlations were significantly different from zero: stress with type of

dwelling, and stress with dwelling satisfaction. These correlations were consistent with the results of the study, which showed that both dwelling type and satisfaction were directly related to housing deficits. The lack of correlation between stress and the other variables reinforces the results of the analysis of variance discussed above.

After testing for the effects of extraneous variables on stress in the sample population, it was concluded that the entire sample of 162 female heads of single-parent families could be used for analysis. A description of the families and their responses to the items on the questionnaire are given in the following chapter.

Chapter 4

Description of the Sample

This chapter contains information on the respondents, their families, homes, and neighborhoods. The kinds of normative deficits experienced by these single mothers in their housing and neighborhoods are also discussed. The final section of the chapter presents the responses to the Langner (1962) Index of Mental Illness used to measure stress. Adjusted percentages were based on the total number of responses for a particular variable.

Demographic Information on Respondents

All respondents were asked their marital status to determine eligibility for the study. Of those eligible women who responded to the survey, nearly 63% were divorced and 25% had never been married (see Table 3).

The women were also asked to mark their age category. Over 86% of the women were between the ages of 25 and 40, inclusive (see Table 3).

The families of respondents were quite small, with the majority (59%) having only one child living in the household (see Table 3). About a third (34.2%) had two children, and none had more than four. It should be

Table 3

Marital Status, Age of Respondents, Number of Children, and Age of Children

Characteristic	Number	Adjusted %
Marital status		
Divorced	98	62.8
Widowed	6	3.8
Never married	39	25.0
Separated	13	8.4
Total item response	156	100.0
Age		
Under 25	4	2.5
25 - 29	43	26.7
30 - 34	44	27.3
35 - 40	52	32.3
Over 40	18	11.2
Total item response	161	100.0
Number of children in household		
One	95	59.0
Two	55	34.2
Three or more	11	6.9
Total item response	161	100.0
Age of children		
6 - 12	118	73.7
<6 and 6 - 12	17	10.6
>12 and 6 - 12	12	7.5
<6 and/or >12	13	8.2
Total item response	160	100.0

Note. Six respondents were single parents but did not specify whether they were divorced, widowed, never married, or separated.

noted that some effort was made to avoid selecting families with more than three children from the census data (few were listed), because large numbers of children in the home may lead to additional stress regardless of environmental factors.

The age of the respondent's children was asked because very young children or teenagers may contribute more to the stress level of the mother. Nearly three fourths (73.7%) of the families had children of elementary school age, 6 to 12 years old (see Table 3). A few (10.6%) had one or more preschool children in addition to one or more elementary age children and 7.5% had a teenager in addition to one or more elementary age children. This age distribution of children was to be expected since families were selected from the elementary school census data. An attempt was made to avoid families whose children would be teenagers or preschool age by the time of the survey in order to help control stress from sources other than environmental factors.

Although the educational level of respondents ranged from less than an eighth grade education to post graduate college education, the majority of respondents

were well educated with over half (53.8%) having at least some college or a college degree (see Table 4). An additional third (31.9%) had finished high school. Since a great many of the questionnaires sent to the lower income areas of the city were returned by the post office, it is quite likely that these figures are not representative of the general population of single female household heads in the Roanoke area.

The ethnic origin of respondents was similar to the ethnic origin of the general population of single parents. In the population, about half the female household heads listed in the school census data for the city of Roanoke were white, and nearly all were white in Roanoke County, for a total of about two-thirds white. In the sample, about two thirds of the respondents were white and one third were black (see Table 4).

Because the first year after divorce may be the most stressful, it was desirable that the respondents would have been divorced for more than a year. Of the women who had been married before, nearly three fourths had been divorced, widowed, or separated more than four years, with the largest group (37.8%) being those

Table 4

Education, Ethnic Origin, Length of Separation, and Hours Employed

Characteristic	Number	Adjusted %
Level of education		
8th grade or less	6	3.7
Some high school	17	10.6
High school	51	31.9
Some college	59	36.9
College degree or above	27	16.9
Total item response	160	100.0
Ethnic origin		
White	103	64.4
Black	55	34.4
Other	2	1.2
Total item response	160	100.0
Number of years divorced, widowed, or separated		
2 years or less	11	9.3
3 - 4 years	23	14.5
5 - 6 years	40	25.2
7 or more years	45	28.3
Total item response	119	100.0
Hours employed per week		
None	31	19.4
Less than 20 hours	4	2.5
20 hours or more	125	78.1
Total item response	160	100.0

Note. Women who had never been married did not respond to number of years divorced, widowed, or separated.

divorced, widowed, or separated at least seven years or more (see Table 4). Less than a tenth (9.3%) had been divorced, widowed, or separated less than two years.

Although many women mentioned low income or affordability of housing as major problems, 78.1% were employed 20 or more hours per week (see Table 4). Many wrote on the questionnaire that they worked more than 40 or 50 hours per week and some indicated that they held more than one job; others mentioned that they would lose their benefits if they worked more than 30 hours per week.

The occupations held by the respondents were categorized according to the 1980 Occupational Classification System of the Census Bureau (U.S. Department of Commerce, 1980) (see Table 5). More respondents worked in technical, sales, and administrative support occupations than in any other classification. Only 13.8% were in managerial and professional specialty occupations. Compared to the total labor force for Roanoke and Roanoke County, fewer women were employed in managerial and professional occupations and as operators, and more were represented in technical, sales, and administrative support occupations (U.S. Department of Commerce, 1983).

Table 5

Occupational Classification of Respondents

Occupation	Number	Adjusted %
Managerial & professional specialty occupations		
Executive, administrative & managerial occupations	5	3.1
Professional specialty occupations	17	10.7
Subtotal	22	13.8
Technical, sales & administrative support occupations		
Technical & related support occupations	7	4.4
Sales occupations	13	8.1
Administrative support occupations, including clerical	48	30.0
Subtotal	68	42.5
Service occupations		
Private household occupations	3	1.9
Protection service occupations	3	1.9
All other service occupations	18	11.2
Subtotal	24	15.0
Operators, fabricators, and laborers		
Machine operators, assemblers, and inspectors	10	6.2
Transportation & material moving occupations	3	1.9
Handlers, equipment cleaners, helpers, laborers	1	.6
Subtotal	14	8.7
Students, disabled, retired, and unemployed	32	20.0
Total	160	100.0

Source: U.S. Bureau of the Census (1984). Statistical abstract of the United States (104th edition).

Respondents' Dwellings and Location

The dwellings occupied by the respondents were nearly evenly split between single- and multi-family dwellings (see Table 6). Of the families living in single-family detached housing, the majority (58.6%) were living in one-story housing (see Table 6). The second most common type of single family house was the two-story (24.3%).

Of the respondents living in multi-family housing, nearly one half were in buildings with five or more units per building (only 4 of these had more than 12 units) (see Table 6). The majority (57.5%) lived on the first or garden level of their multi-family building (see Table 6). None lived above the third level. Units with more than one level in the unit, such as a two-story townhouse, were coded as first level, since the main entrance was on the first level.

All geographic locations were represented by the sample; however, 70% of the respondents lived in an urban area or in the suburbs (see Table 7). This was a fairly accurate representation of the general population since 650 questionnaires were sent to

Table 6

Type of Dwellings Occupied by Respondents

Characteristic	Number	Adjusted %
Type of dwelling		
Single-family detached house	70	45.2
Multi-family attached dwelling	85	54.8
Total item response	155	100.0
Type of single-family detached house		
One story	41	58.6
One & a half story	4	5.7
Two story	17	24.3
Bi-level	5	7.1
Tri-level	1	1.4
Mobile home	2	2.9
Total item response	70	100.0
Type of multi-family dwelling		
Row house or townhouse	11	13.4
Duplex	20	24.4
3 or 4 units per building	11	13.4
5 or more units per building	40	48.8
Total item response	82	100.0
Floor level of multi-family dwelling		
First or garden	46	57.5
Second	25	31.3
Third	9	11.2
Total item response	80	100.0

Table 7

Dwelling and Occupancy Characteristics

Characteristic	Number	Adjusted %
Location of dwelling		
Rural or country	20	13.2
Small town (<10,000)	11	7.3
Town (10,000 - 50,000)	15	9.9
Suburbs of city over 50,000	56	37.1
Urban area of city over 50,000	49	32.5
Total item response	151	100.0
Age of dwelling		
Less than 5 years	12	7.8
5 - 10 years	21	13.5
11 - 20 years	42	27.1
More than 20 years	55	35.5
Have no idea	25	16.1
Total item response	155	100.0
Length of tenancy		
Less than 1 year	22	14.1
1 - 3 years	41	26.5
4 - 6 years	48	31.0
More than 6 years	44	28.4
Total item response	155	100.0
Same dwelling occupied while married		
No	91	76.5
Yes	28	23.5
Total item response	119	100.0

Note. Women who had never been married did not respond to whether their dwelling was the same one occupied while married.

Roanoke (suburbs and urban area) and 350 were sent to the county (rural, small town, and town).

Nearly half the dwellings occupied by respondents (48.4%) were 20 years old or less; however, 27.1% were between 11 and 20 years (see Table 7). Over a third (35.5%) were more than 20 years old, some much older.

Most respondents had been in their dwelling for some time. Over half (59.4%) had been in the same dwelling for four years or more, and 28.4% had been there more than six years (see Table 7). Only 14.1% had moved in the last year. This is probably not an accurate representation of length of tenancy for all female household heads in the Roanoke area, however. It must be considered that 369 questionnaires were returned by the post office, mostly because the addressees had moved some time in the last two and one-half years. Only 23.5% still occupied the same dwelling that they had while married (see Table 7).

The majority of respondents (68%) rented their dwelling, while 28.1% were buying with a mortgage (see Table 8). A few respondents had paid for their homes or lived in housing owned by relatives and did not pay rent.

Table 8

Characteristics of Housing Cost

Characteristic	Number	Adjusted %
Method of housing payment		
Rent	104	68.0
Own (with a mortgage)	43	28.1
Own (paid for)	3	2.0
Other	3	2.0
Total item response	153	100.0
Cost of monthly rent or mortgage payment		
Less than $100	25	17.1
$100 - $199	42	28.8
$200 - $299	43	29.4
$300 - $399	15	10.3
$400 - $499	14	9.6
$500 or more	7	4.8
Total item response	146	100.0
Percentage of total monthly take-home income spent on rent or mortgage payment		
Less than 20%	17	11.5
20% - 29%	34	23.0
30% - 39%	40	27.0
40% - 49%	20	13.5
50% - 59%	7	4.7
60% or more	12	8.1
Someone else pays housing cost	18	12.2
Total item response	148	100.0

The monthly cost of rent or mortgage payments ranged from $0 to $1300, with most respondents (58.2%) paying from $100 to $300 per month (see Table 8). Of those paying less than $100 (17.1%), several indicated that they lived in public or subsidized housing. Only one person paid more than $650 per month.

The percentage of monthly take-home income spent on rent or mortgage payments was between 20% and 40% for one half of the respondents (see Table 8). Over one fourth of respondents paid 40% or more of their income for rent or mortgage each month. Another 12.2% had their housing payment made by someone else, usually relatives or government assistance, as indicated by respondents' comments. This category may not be mutually exclusive of the less-than-20% category because some of the respondents in that group may have been making smaller payments because they received assistance. However, the two categories have been listed separately because many of those in the less-than-20% category were individuals with higher incomes who did not have to spend as high a percentage on housing or were those who owned their homes with no mortgage.

Approximately half the respondents (48.8%) were either satisfied or very satisfied with their dwelling; however, a fourth (26.5%) were either dissatisfied or very dissatisfied (see Table 9). Some of the respondents indicated that they had no choice in housing; therefore, it made no difference whether they were satisfied or not. Some also indicated that although they were satisfied with their dwelling unit they were not happy with the location or neighborhood in which it was located.

Respondents were asked whether they would recommend their dwelling type to other female heads of single-parent families looking for housing. Even though only half the respondents were satisfied with their dwelling, 62.5% said they would recommend their type of dwelling to other single mothers looking for housing (see Table 9). Some respondents (16.9%) were unsure, indicating that it would depend on the number of children they had and whether they were home very much.

A multiple response question was used to determine the reasons why respondents had selected their current dwelling. Over two thirds (67.7%) had chosen their

Table 9

Satisfaction with Dwelling and Recommendation of Dwelling Type

Response	Number	Adjusted %
Satisfaction with dwelling		
Very satisfied	23	14.6
Satisfied	54	34.2
Neither satisfied nor dissatisfied	39	24.7
Dissatisfied	25	15.8
Very dissatisfied	17	10.7
Total item response	158	100.0
Recommendation of dwelling type for other female-headed single-parent families		
Yes	100	62.5
Unsure	27	16.9
No	33	20.6
Total item response	160	100.0

dwelling because it was affordable (see Table 10 and Figure 2). Good school district (45.8%) and liking the neighborhood (43.2%) were also important responses. About one third (32.9%) had chosen their dwelling because they had a limited choice and needed it immediately.

Respondents were also asked whether they intended to move during the next year and what their reasons were for wanting to move. Twenty percent planned to move, 31.9% said they might, and 48.1% did not intend to move. Several of those who did not intend to move commented that they would like to move but knew there was no way they could afford it.

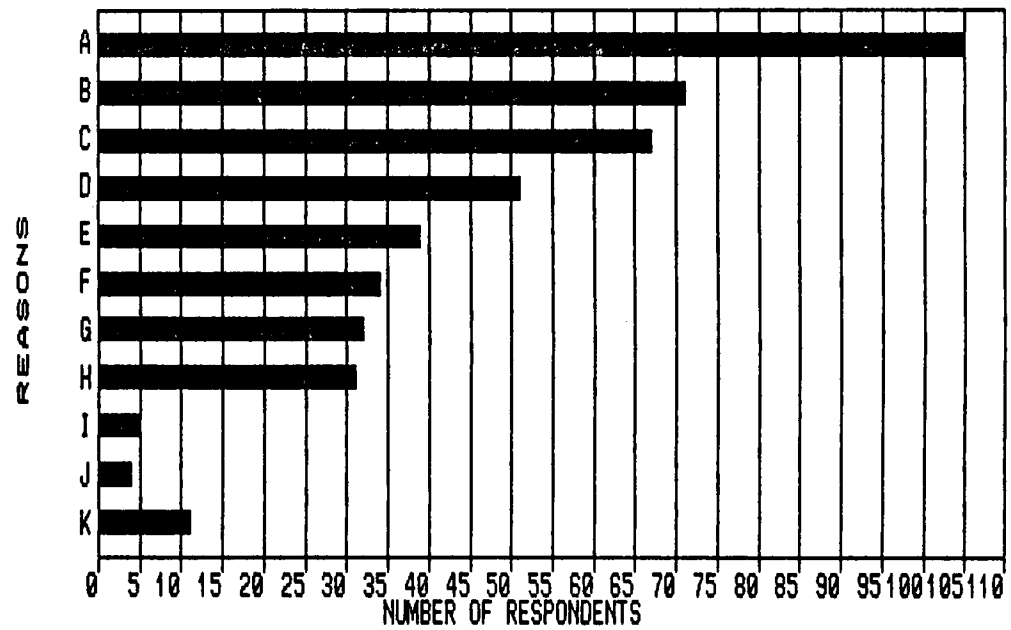
Eighty-three respondents gave reasons for wanting to move. The most frequent response (43.4%) was that the dwelling was the wrong size (see Table 11 and Figure 3). All but one of these checked that the dwelling was too small. A third (36.1%) were dissatisfied with the dwelling, 30.1% wanted to improve their location, and 27.7% were dissatisfied with the neighborhood (several commented that it was not safe for the children to play outside). Only 20.5% checked that the dwelling was too expensive.

Table 10

Reasons Why Respondents Selected Their Current Dwelling

Reason	Number	Adjusted %
Affordable	105	67.7
Good school district	71	45.8
Liked the neighborhood	67	43.2
Limited choice; needed immediately	51	32.9
Near family	39	25.2
Near employment	34	21.9
Design of dwelling; plan & layout	32	20.6
Provides more space	31	20.0
Inherited, gift, or settlement	5	3.2
Built new house	4	2.6
Other	11	7.1

Note. Multiple responses do not total 100%. N = 155.



A. Affordable
B. Good school district
C. Liked the neighborhood
D. Limited choice; needed immediately
E. Near family
F. Near employment
G. Design of dwelling; plan and layout
H. Provides more space
I. Inherited, gift, or settlement
J. Built new house
K. Other

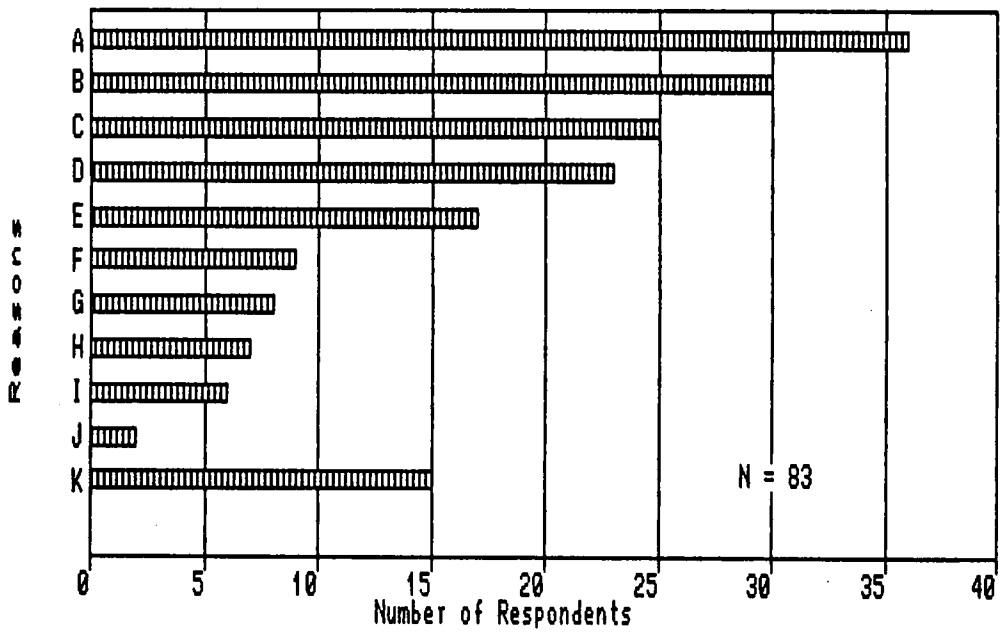
Figure 2. Reasons why respondents selected their current dwelling.

Table 11

Reasons for Wanting to Move

Reason	Number	Adjusted %
Dwelling is wrong size	36	43.4
Dissatisfied with dwelling	30	36.1
Improve location	25	30.1
Dissatisfied with neighborhood	23	27.7
Dwelling is too expensive	17	20.5
Plan to buy or build	9	10.8
Change in family structure	8	9.6
Change in employment	7	8.4
Move closer to family	6	7.2
Not physically able to maintain dwelling	2	2.4
Other	15	18.1

Note. Multiple responses do not total 100%. N = 83.



A. Dwelling is wrong size
B. Dissatisfied with dwelling
C. Improve location
D. Dissatisfied with neighborhood
E. Dwelling is too expensive
F. Plan to buy or build
G. Change in family structure
H. Change in employment
I. Move closer to family
J. Not physically able to maintain dwelling
K. Other

Figure 3. Reasons why respondents want to move.

Dwelling Characteristics and Deficits

The characteristics of the dwellings occupied by the respondents and the dwelling characteristics they would want for their families if they were free to choose are shown in Table 12. A comparison can be made of the percentage and number of respondents who have a characteristic in their dwelling compared to the number and percentage who would want that characteristic. Several characteristics were desired by over 70% of the respondents but were present in less than 40% of their homes. These included privacy from neighbors' noise, flexibility of space for more than one use, more than one bathroom, and a separate bathroom for the parent's room.

Housing deficits, shown in Table 13 and Figure 4, are derived from the number of respondents who want a particular characteristic but do not already have it in their dwelling. Over half the respondents had a deficit on separate bathroom for parent's room (53.7%) and on private covered parking space with direct access to dwelling (51.2%). Over 40% of respondents had a deficit on more than one bathroom (48.1%), private, enclosed outdoor storage (46.3%), privacy from

Table 12

Characteristics Respondents Have and Want in Their Dwellings, Rank Ordered According to Wants

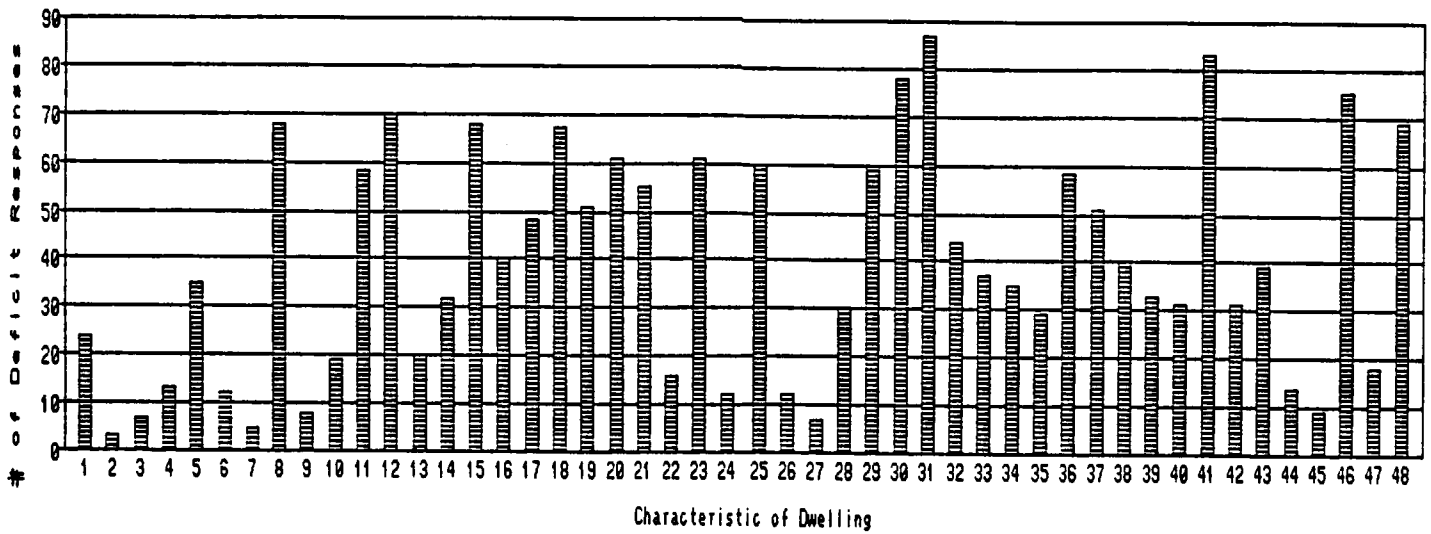
Item #	Characteristic	Have N	Have %	Want N	Want %
36.	Freedom to make changes in interior of dwelling (paint, wallpaper)	80	49.4	121	74.7
17.	Adequate size of rooms	90	55.6	117	72.2
31.	Separate bathroom for parent's room	33	20.4	117	72.2
48.	Adequate indoor storage	69	42.6	117	72.1
40.	Easy-to-clean bathroom materials	117	72.2	116	71.6
16.	Adequate number of rooms	105	64.8	115	71.0
29.	Bedrooms large enough for needed furnishings and activities	81	50.0	115	71.0
30.	More than one bathroom	43	26.5	115	71.0
12.	Privacy from neighbors' noise	60	37.0	114	70.4
18.	Flexibility of spaces fo more than one use	63	38.9	114	70.4
19.	Adequate space for family activities in living area	83	51.2	114	70.4
38.	Easy-to-clean floor materials	109	67.5	113	69.8
39.	Easy-to-clean kitchen materials	113	69.8	112	69.1
20.	Adequate space for entertaining	69	42.6	112	69.1
37.	Easy-to-clean wall materials	93	57.4	112	69.1
25.	Kitchen large enough to encourage help of all family members	76	46.9	111	68.5
32.	Laundry facilities in dwelling	96	59.3	111	68.5
34.	Pleasing appearance of outside of house/building	109	67.3	111	68.5
15.	Children's play area indoors	62	38.3	109	67.3
28.	Separate bedroom for each child	114	70.4	108	66.7
11.	Visual privacy from neighbors	76	46.9	106	65.4
13.	Privacy for family members within dwelling	124	76.5	106	65.4
35.	Pleasing appearance of inside of house/dwelling unit	110	67.9	106	65.4
21.	Dining area separate from kitchen	70	43.2	105	64.8
41.	Private covered parking space with direct access to dwelling	39	24.1	105	64.8
27.	Separate bedroom for parent	144	88.9	103	63.6
46.	Private, enclosed outdoor storage	36	22.2	102	63.0
10.	Entrance to dwelling adequately lit	119	73.5	100	61.7
26.	Kitchen centrally located for easy access	127	78.4	99	61.1
8.	Private balcony or deck	43	26.5	99	61.1
23.	Space for children's activities in kitchen (hobbies, home-work)	64	39.5	99	61.1
14.	Separation of children and parent areas	92	56.8	97	59.9
24.	Kitchen separate from other areas	122	75.3	96	59.3
1.	Direct access to ground-level outdoor living area	111	68.5	95	58.6
5.	Private ground-level outdoor area	92	56.8	94	58.0
33.	Laundry facilities in building	49	30.2	71	43.8
22.	Dining area in kitchen	106	65.4	63	38.9
43.	Assigned parking space	21	13.0	51	31.5
44.	Off-street public parking	68	42.0	46	28.4
42.	Private covered parking space with no direct access	16	9.9	40	24.7
6.	Ground-level ourdoor area shared with limited number of neighbors	51	31.5	28	17.3
3.	Access to ground-level outdoor area by public stairs	42	25.9	19	11.7
45.	Public parking on street only	38	23.5	24	14.8
7.	Public ground-level outdoor area	52	32.1	23	14.2
47.	Open, shared outdoor storage space	7	4.3	22	13.6
4.	Access to ground-level outdoor area by public elevator	2	1.2	15	9.3
9.	Balcony or deck shared with adjoining units	13	8.0	13	8.0
2.	Access to ground-level outdoor area through a public hall	24	14.8	8	4.9

Table 13

Rank Order of Normative Housing-Related Deficits

Item #	Deficit	Number	Adjusted %
31.	Separate bathroom for parent's room	87	53.7
41.	Private covered parking space with direct access to dwelling	83	51.2
30.	More than one bathroom	78	48.1
46.	Private, enclosed outdoor storage	75	46.3
12.	Privacy from neighbors' noise	70	43.2
48.	Adequate indoor storage	69	42.6
15.	Children's play area indoors	68	42.0
8.	Private balcony or deck	68	42.0
18.	Flexibility of space for more than one use	67	41.4
20.	Adequate space for entertaining	61	37.7
23.	Space for children's activities in kitchen	61	37.7
29.	Bedrooms large enough for needed furnishings and activities	60	37.0
25.	Kitchen large enough to encourage help of all family members	60	37.0
36.	Freedom to make changes in interior of dwelling	58	35.8
11.	Visual privacy from neighbors	58	35.8
21.	Dining area separate from kitchen	55	34.0
19.	Adequate space for family activities in the living area	51	31.5
37.	Easy-to-clean wall materials	51	31.5
17.	Adequate size of rooms	48	29.6
32.	Laundry facilities in dwelling	44	27.2
16.	Adequate number of rooms	40	24.7
38.	Easy-to-clean floor materials	40	24.7
43.	Assigned parking space	39	24.1
33.	Laundry facilities in building	37	22.8
5.	Private ground-level outdoor area	35	21.6
34.	Pleasing appearance of outside of house/building	35	21.6
39.	Easy-to-clean kitchen materials	33	20.4
14.	Separation of children and parent areas	32	19.8
40.	Easy-to-clean bathroom materials	31	19.1
42.	Private covered parking space--no direct access	31	19.1
28.	Separate bedroom for each child	30	18.5
35.	Pleasing appearance of inside of house/dwelling	29	17.9
1.	Direct access to ground-level outdoor living area	24	14.8
13.	Privacy for family members within dwelling	20	12.3
10.	Entrance to dwelling adequately lit	19	11.7
47.	Open, shared outdoor storage	18	11.1
22.	Dining area in kitchen	16	9.9
44.	Off-street public parking	14	8.6
4.	Access to ground-level outdoors--public elevator	13	8.0
6.	Ground-level outdoor area shared with limited number of neighbors	12	7.4
24.	Kitchen separate from other area	12	7.4
26.	Kitchen centrally located for easy access	12	7.4
45.	Public parking on street only	9	5.6
9.	Balcony or deck shared with adjoining units	8	4.9
27.	Separate bedroom for parent	7	4.3
3.	Access to ground-level outdoor area--public stairs	7	4.3
7.	Public ground-level outdoor area	5	3.1
2.	Access to ground-level outdoor area--public hall	3	1.9

Figure 4. Normative housing-related deficits.



1. Direct access to ground-level outdoor living area
2. Access to ground-level outdoor area through a public hall
3. Access to ground-level outdoor area by public stairs
4. Access to ground-level outdoor area by public elevator
5. Private ground-level outdoor area
6. Ground-level ourdoor area shared with limited number of neighbors
7. Public ground-level outdoor area
8. Private balcony or deck
9. Balcony or deck shared with adjoining units
10. Entrance to dwelling adequately lit
11. Visual privacy from neighbors
12. Privacy from neighbors' noise
13. Privacy for family members within dwelling
14. Separation of children and parent areas
15. Children's play area indoors
16. Adequate number of rooms
17. Adequate size of rooms
18. Flexibility of spaces fo more than one use
19. Adequate space for family activities in living area
20. Adequate space for entertaining
21. Dining area separate from kitchen
22. Dining area in kitchen
23. Space for children's activities in kitchen (hobbies, home-work)
24. Kitchen separate from other areas
25. Kitchen large enough to encourage help of all family members
26. Kitchen centrally located for easy access
27. Separate bedroom for parent
28. Separate bedroom for each child
29. Bedrooms large enough for needed furnishings and activities
30. More than one bathroom
31. Separate bathroom for parent's room
32. Laundry facilities in dwelling
33. Laundry facilities in building
34. Pleasing appearance of outside of house/building
35. Pleasing appearance of inside of house/dwelling unit
36. Freedom to make changes in interior of dwelling (paint, wallpaper)
37. Easy-to-clean wall materials
38. Easy-to-clean floor materials
39. Easy-to-clean kitchen materials
40. Easy-to-clean bathroom materials
41. Private covered parking space with direct access to dwelling
42. Private covered parking space with no direct access
43. Assigned parking space
44. Off-street public parking
45. Public parking on street only
46. Private, enclosed outdoor storage
47. Open, shared outdoor storage space
48. Adequate indoor storage

neighbor's noise (43.2%), adequate indoor storage (42.6%), private balcony or deck (42%), children's play area indoors (42%), and flexibility of spaces for more than one use (41.4%). At least 30% had a deficit on space for children's activities in the kitchen (37.7%), adequate space for entertaining (37.7%), kitchen large enough to encourage help of all family members (37%), bedrooms large enough for needed furnishings and activities (37%), freedom to make changes in interior of dwelling (35.8%), visual privacy from neighbors (35.8%), dining area separate from kitchen (34.0%), adequate space for family activities in living area (31.5%), and easy-to-clean wall materials (31.5%). Many of these characteristics are ones which are common to multi-family housing, especially less expensive apartments. Because over half the respondents lived in multi-family housing it is logical that these deficits would exist for many single parents.

Neighborhood Characteristics and Deficits

A comparison of characteristics of neighborhoods occupied by respondents and the neighborhood characteristics respondents would want if they were

free to choose is shown in Table 14. The characteristics with the largest discrepancies between what people wanted in their neighborhood and what they actually had, included supervised after-school activities for children, protection from neighbors' noise, swimming pool and/or tennis courts within walking distance, and day care in walking distance.

Neighborhood deficits are shown in Table 15 and Figure 5. The only neighborhood deficit shown by over half the respondents was for supervised after-school activities for children (54.3%). Other important neighborhood deficits reported by 30% or more of the respondents were protection from neighbor noise (43.2%), swimming pool and/or tennis courts within walking distance (37.7%), protection from traffic noise (35.8%), adequate street lighting (34.6%), adequate police surveillance (33.3%), playground within walking distance (32.1%), day care in walking distance (31.5%), and laundry in walking distance (30.9%). Most of these are concerns for safety, a factor in many low-income neighborhoods, or concerns for children, a factor in households with only one parent to look after the children.

Table 14

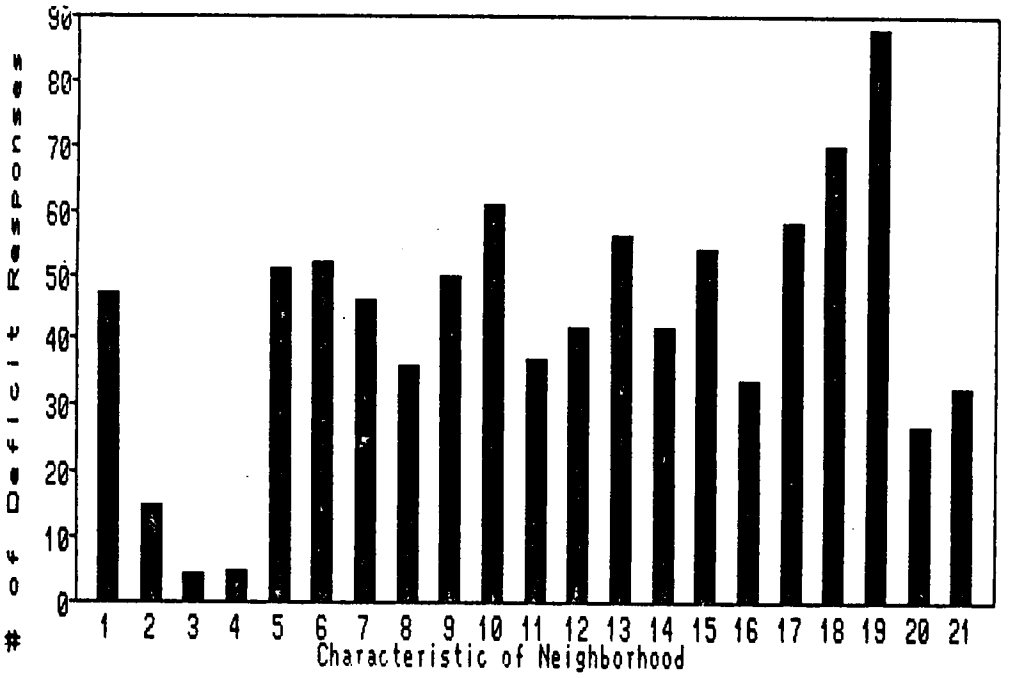
Characteristics Respondents Have and Want in Their Neighborhoods, Rank Ordered According to Wants

Item #	Characteristic	Have N	Have %	Want N	Want %
13.	Adequate street lighting	88	54.3	114	70.4
15.	Adequate police surveillance	84	51.9	113	69.8
6.	Playground in walking distance	87	53.7	112	69.1
19.	Supervised after-school activities for children	30	18.5	112	69.1
16.	Social acceptance of single-parent lifestyle	108	66.7	110	67.9
18.	Protection from neighbor noise	61	37.7	109	67.3
10.	Swimming pool and/or tennis courts within walking distance	61	37.7	108	66.7
20.	Neighborhood is clean	121	74.7	108	66.7
17.	Protection from traffic noise	80	49.4	107	66.0
21.	Pleasant, attractive looking neighborhood	114	70.4	107	66.0
14.	Adequate lighting for parking	90	55.6	105	64.8
7.	Grocery within walking distance	80	49.4	102	63.0
12.	Park within walking distance	89	54.9	102	63.0
11.	Public transit stop within walking distance	93	57.4	98	60.5
1.	School within walking distance	73	45.1	97	59.9
8.	Pharmacy within walking distance	84	51.9	92	56.8
9.	Laundry within walking distance	62	38.3	88	54.3
5.	Day care in walking distance	48	29.6	81	50.0
2.	No school, on school bus route	81	50.0	62	38.3
3.	No school, must drive	15	9.3	13	8.0
4.	No school, take public transit	10	6.2	11	6.8

Table 15

Rank Order of Normative Neighborhood-Related Deficits

Item #	Deficit	Number	Adjusted %
19.	Supervised after-school activities for children	88	54.3
18.	Protection from neighbor noise	70	43.2
10.	Swimming pool and/or tennis courts in walking distance	61	37.7
17.	Protection from traffic noise	58	35.8
13.	Adequate street lighting	56	34.6
15.	Adequate police surveillance	54	33.3
6.	Playground in walking distance	52	32.1
5.	Day care in walking distance	51	31.5
9.	Laundry in walking distance	50	30.9
1.	School within walking distance	47	29.0
7.	Grocery in walking distance	46	28.4
12.	Park in walking distance	42	25.9
14.	Adequate lighting for parking	42	25.9
11.	Public transit stop in walking distance	37	22.8
8.	Pharmacy in walking distance	36	22.2
16.	Social acceptance of single-parent lifestyle	34	21.0
21.	Pleasant, attractive looking neighborhood	33	20.4
20.	Neighborhood is clean	27	16.7
2.	No school, on school bus route	15	9.3
4.	No school, take public transit	5	3.1
3.	No school, must drive	4	2.5



1. School within walking distance
2. No school, on school bus route
3. No school, must drive
4. No school, take public transit
5. Day care within walking distance
6. Playground within walking distance
7. Grocery within walking distance
8. Pharmacy within walking distance
9. Laundry within walking distance
10. Swimming pool/tennis courts in walking distance
11. Public transit stop within walking distance
12. Park within walking distance
13. Adequate street lighting
14. Adequate lighting for parking
15. Adequate police surveillance
16. Social acceptance of single-parent lifestyle
17. Protection from traffic noise
18. Protection from neighbors' noise
19. Supervised after-school activities for children
20. Neighborhood is clean
21. Pleasant, attractive looking neighborhood

Figure 5. Normative neighborhood-related deficits.

Many respondents (35%) wrote comments regarding their housing situation and needs on the back of the questionnaire. Selected housing-related comments of respondents are presented in Appendix E.

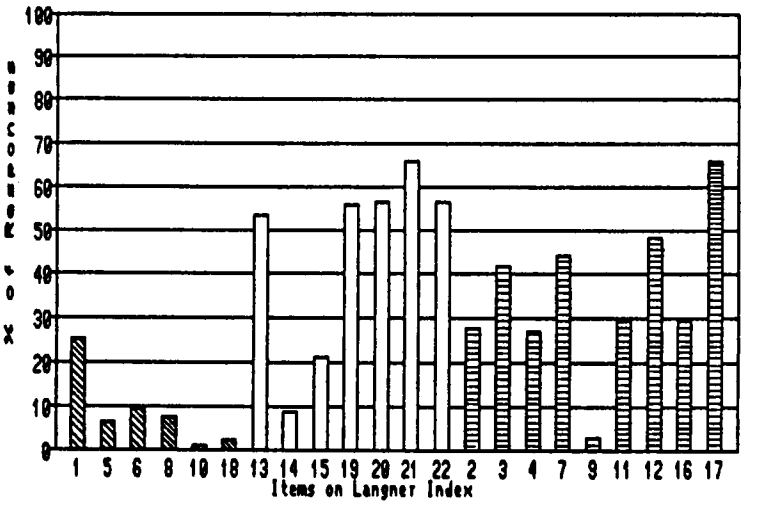
Measurement of Stress

The stress responses to the Langner Index items are shown in Table 16. The highest response rates were for consider yourself a worrier (66%) and for feel nothing turns out for you the way you want it to (66%). When responses are grouped according to the three components, it can be seen that the majority of responses are in the psychological and psycho-physiological components (see Figure 6). The indicators of physical illness, the physical component, rate low except for item one (25.3%), an appetite that is poor or too good. In the original Langner Index this question was scored only if the respondent checked poor appetite, an indication of physical illness. Because many people tend to overeat when under stress, the responses in this survey were coded for an appetite that was either poor or too good. This question may

Table 16

Rank Order of Stress Responses to the Langner Index of Mental Illness

Item #	Response	Number	Adjusted %
17.	Consider yourself a worrier	107	66.0
21.	Feel nothing turns out for you the way you want it to, that your wishes aren't fulfilled	107	66.0
20.	Feel somewhat apart, even among friends; rather isolated or alone	91	56.2
22.	Sometimes wonder if anything is worthwhile anymore	91	56.2
19.	Personal worries get you down or make you physically ill	90	55.6
13.	Periods of days, weeks, or months when you couldn't take care of things because you couldn't "get going"	87	53.7
12.	Periods of great restlessness when you couldn't sit long in a chair or couldn't sit still very long	78	48.1
7.	Feel suddenly hot all over	72	44.4
3.	Fullness or clogging in the head or nose much of the time	68	42.0
11.	Trouble getting to sleep or staying asleep	48	29.6
16.	Bothered by nervousness where you are irritable, fidgety, or tense	48	29.6
2.	Acid or sour stomach several times a week	45	27.8
4.	Headaches or pains in the head	44	27.2
1.	Appetite is poor or too good	41	25.3
15.	Low spirits	34	21.0
6.	Shortness of breath when not exercising or working hard	15	9.3
14.	Trouble remembering things	14	8.6
8.	Feel weak all over	12	7.4
5.	Bothered by heart beating hard	10	6.2
9.	Bothered by "cold sweats"	5	3.1
18.	Hands tremble enough to bother	4	2.5
10.	Fainting spells or loss of consciousness	2	1.2



Physical Component

1. Appetite is poor or too good
5. Bothered by heart beating hard
6. Shortness of breath when not exercising or working hard
8. Feel weak all over
10. Fainting spells or loss of consciousness
18. Hands tremble enough to bother

Psychological Component

13. Periods of days, weeks, or months when you couldn't take care of things because you couldn't "get going"
14. Trouble remembering things
15. Low spirits
19. Personal worries get you down or make you physically ill
20. Feel somewhat apart, even among friends -- rather isolated or alone
21. Feel nothing turns out for you the way you want it to, that your wishes aren't fulfilled
22. Sometimes wonder if anything is worthwhile anymore

Psychophysiological Component

2. Acid or sour stomach several times a week
3. Fullness or clogging in the head or nose much of the time
4. Headaches or pains in the head
7. Feel suddenly hot all over
9. Bothered by "cold sweats"
11. Trouble getting to sleep or staying asleep
12. Periods of great restlessness when you couldn't sit long in a chair or couldn't sit still very long
16. Bothered by nervousness where you are irritable, fidgety, or tense
17. Consider yourself a worrier

Figure 6. Stress responses grouped into physical, psychological, and psychophysiological components.

have scored higher than the other physical components because of this change in response coding.

Several psychological manifestations of stress were rated positive by more than half the 162 respondents: feeling that nothing turns out the way you want it to (66%), sometimes wonder if anything is worthwhile anymore (56.2%), feel somewhat apart, even among friends, rather isolated and alone (56.2%), personal worries that get you down or make you physically ill (55.6%), and periods of days, weeks, or months when you couldn't take care of things because you couldn't "get going" (53.7%).

Two thirds of the respondents (66%) considered themselves worriers. Other symptoms of psychological stress, the psychophysiological component, which were prevalent for over 40% of respondents were periods of great restlessness (48.1%), hot flashes (44.4%), and fullness or clogging in the head or nose much of the time (42%). More than a fourth of the respondents also had trouble getting to sleep or staying asleep (29.6%), were bothered by nervousness that made them irritable, fidgety or tense (29.6%), had acid or sour stomach several times a week (27.8%), or had headaches often (27.2%).

If a profile was drawn of the "typical" respondent, she would be divorced, between 25 and 40 years of age, have one elementary school age child, and have a high school diploma and some college education. She would be employed at least half time in a technical, sales, or administrative support occupation. Her home would be an older one-story house or an apartment which she rents for $100 to $300 per month. It would be located in the city or suburbs. The relationship of the respondents' characteristics to housing- and neighborhood-related deficits and psychological stress will be discussed in the next chapter.

Chapter 5

Findings and Discussion

The results of the statistical analysis of the data are presented in this chapter, followed by a discussion of the findings and their implications. Results of analysis of variance and regression analysis are presented in Appendix F.

Examination of the Hypotheses

First hypothesis. An analysis of variance was used to determine the differences among groups on housing-related normative deficit scores for various factors in the respondents' current housing situations. Seven of 12 factors showed significant differences between groups on mean housing deficit scores at the .01 level.

The housing deficit scores of those living in single-family housing and those in multi-family housing were significantly different ($p < .0001$). The mean housing deficit score was significantly lower for those in single-family detached dwellings than for those living in multi-family attached dwellings (see Table 17 and Appendix F, Hypothesis 1,a).

Table 17

Mean Normative Housing Deficit Scores for Selected Housing-Related Variables

Variable	n	Mean	*
a. Type of dwelling (N=155)			
Single-family	70	7.27	A
Multi-family	85	15.22	B
b. Type of multi-family unit (N=82)			
Townhouse	11	13.09	A
Duplex	20	15.90	A
3 or 4 units	11	10.36	A
5 or more units	40	17.30	A
c. Level of multi-family unit (N=80)			
First level	46	15.24	A
2nd or above	34	14.97	A
d. Age of dwelling (N=155)			
< 5 years	12	8.33	A
5-10 years	21	12.67	A
11-20 years	42	13.48	A
> 20 years	55	10.51	A
no idea	25	11.72	A
e. Length of tenancy (N=155)			
< 1 year	22	6.64	A
1-3 years	41	13.93	B
4-6 years	48	13.73	B
> 6 years	44	9.70	AB
f. Same dwelling occupied during marriage (N=119)			
Not same unit	91	11.12	A
Same unit	28	7.75	A

(continued)

Table 17 (continued)

Variable	n	Mean	*
g. Method of housing payment (N=147)			
Rent	104	13.70	A
Mortgage	43	7.84	B
h. Monthly rent or mortgage payment (N=146)			
< $100	25	12.96	A
$100 - 199	42	15.52	A
$200 - 299	43	10.95	A
$300 - 399	15	10.27	A
$400 - 499	14	7.36	A
$500 or more	7	3.86	A
i. Percentage of income spent on rent or mortgage (N=146)			
< 20%	15	9.00	A
20-29%	34	12.38	A
30-39%	40	13.18	A
40-49%	20	11.80	A
50-59%	7	11.86	A
60% or more	12	12.75	A
Don't pay	18	10.28	A
j. Dwelling satisfaction (N=158)			
Very satisfied	23	3.78	A
Satisfied	54	8.04	A C
Neither	39	12.62	C
Dissatisfied	25	18.72	BC
Very dissatisfied	17	21.18	B
k. Intention to move (N=160)			
No	77	7.86	A
Yes	32	13.53	B
Maybe	51	16.57	B
l. Recommend dwelling type (N=160)			
No	33	17.79	A
Yes	100	8.73	B
Unsure	27	15.67	A

* Means with the same letter on the same variable are not significantly different (p > .01)

Housing deficit scores were significantly different ($p < .005$) for length of tenancy. Those who had occupied their dwellings for one to six years had significantly higher mean deficit scores than those who had been in their dwellings less than one year (see Table 17 and Appendix F, Hypothesis 1,e).

A significant difference ($p < .0005$) between housing deficit scores was found for groups with different methods of housing payment. Those who rented their dwelling had a significantly higher mean deficit score (13.72) than those who owned their home with a mortgage (7.84) (see Table 17 and Appendix F, Hypothesis 1,g). Respondents whose homes were paid for or who had some other arrangement of housing payment were left out of the analysis, since there were only three respondents in each of these two groups.

Housing deficit scores may have been significantly different among groups according to the amount spent on monthly rent or mortgage payments ($p < .01$) with means ranging from 3.86 for those who pay more than $500 per month, to 15.52 for those who pay from $100 to $200 per month (see Table 17 and Appendix F, Hypothesis 1,h). However, even though the F-ratio on the analysis of

variance was significant, the multiple range test did not detect any significant difference among groups due to the wide variance in standard deviations.

Satisfaction with the dwelling, intention to move, and whether the respondent would recommend the dwelling type to other single parents were all significantly different on housing deficit scores ($p < .0001$). Those who were dissatisfied or very dissatisfied with their dwelling differed significantly from those who were satisfied or very satisfied (see Table 17 and Appendix F, Hypothesis 1,j). Those who were neither satisfied nor dissatisfied also differed significantly from those who were very satisfied and those who were very dissatisfied. Respondents who did not plan to move had significantly lower mean deficit scores than those who planned to move and those who thought they might (see Table 17 and Appendix F, Hypothesis 1,K). Those respondents who would not recommend their dwelling type and those who were unsure if they would, had significantly higher housing deficit mean scores (17.79 and 15.67, respectively) than those who said they would recommend their dwelling type to other single parents (mean = 8.73) (see Table 17 and Appendix F, Hypothesis 1,l).

No significant differences in housing deficit scores were found for type of multi-family dwelling, floor level of multi-family dwelling, age of the dwelling, whether the dwelling was the same one occupied during marriage, or the percentage of income spent on the rent or mortgage payments (see Table 17 and Appendix F, Hypothesis 1, b,c,d,f,i).

Due to the significant differences found, the following sections of the first hypothesis were retained: a) type of dwelling occupied; e) length of residency; g) method of housing payment; h) amount spent on rent or mortgage payment; j) satisfaction with dwelling; k) intention to move; and l) recommendation of dwelling type for other single-parent families. However, the following sections were rejected: b) type of multi-family attached dwelling; c) what floor level multi-family unit was on; d) age of dwelling; f) same dwelling occupied during marriage; and i) percentage of income spent on rent or mortgage payment.

As a result of this analysis, higher housing-related normative deficits appeared to be associated with inexpensive multi-family rental housing which had been occupied for one to six years. People who had

fewer deficits were more likely to be satisfied with their dwelling, did not intend to move, and would recommend their dwelling type to other single parents.

Second hypothesis. The differences in neighborhood-related normative deficits for certain factors in the respondents' current housing situations were tested using analysis of variance. The intention to move within the next year was the only factor tested which showed significant differences in neighborhood deficit scores ($p < .01$) (see Table 18 and Appendix F, Hypothesis 2,h). Those who said they might move (mean = 7.22) differed from those who said they did not intend to move (mean = 4.57). Those who planned to move (mean = 5.88) were not significantly different from either of the other two groups. (See Table 18 and Appendix F, Hypothesis 2, a,b,c,d,e,f,g for mean neighborhood deficit scores on other variables.)

Only section (h), intention to move, of the second hypothesis was retained. The following sections were rejected due to the lack of significant differences between neighborhood deficit scores: a) type of dwelling occupied; b) type of multi-family attached dwelling; c) location of dwelling; d) age of dwelling;

Table 18

Mean Normative Neighborhood Deficit Scores for Selected Housing- and Neighborhood-Related Variables

Variable	n	Mean	*
a. Type of dwelling (N=155)			
Single-family	70	5.01	A
Multi-family	85	6.04	A
b. Type of multi-family unit (N=82)			
Townhouse	11	6.27	A
Duplex	20	6.95	A
3 - 4 units	11	5.00	A
5 or more units	40	5.88	A
c. Location of dwelling (N=151)			
Rural	20	5.35	A
Small town	11	6.55	A
Town	15	3.27	A
Suburbs	56	5.84	A
City	49	6.10	A
d. Age of dwelling (N=155)			
< 5 years	12	5.58	A
5 - 10 years	21	7.05	A
11 - 20 years	42	5.95	A
> 20 years	55	5.07	A
No idea	25	4.80	A
e. Method of payment (N=147)			
Rent	104	5.60	A
Mortgage	43	6.14	A

(continued)

Table 18 (continued)

Variable	n	Mean	*
f. Monthly rent or mortgage payment (N=146)			
< $100	25	5.24	A
$100 - 199	42	6.19	A
$200 - 299	43	5.12	A
$300 - 399	15	6.47	A
$400 - 499	14	5.21	A
$500 or more	7	4.14	A
g. Percentage of income spent on rent or mortgage (N=146)			
< 20%	15	4.47	A
20 - 29%	34	6.38	A
30 - 39%	40	5.88	A
40 - 49%	20	5.70	A
50 - 59%	7	6.00	A
60% or more	12	5.92	A
Don't pay	18	4.89	A
h. Intention to move (N=160)			
No	77	4.57	A
Yes	32	5.88	AB
Unsure	51	7.22	B

* Means with the same letter on the same variable are not significantly different (p > .01)

e) method of housing payment; f) amount spent on rent or mortgage payment; and g) percentage of income spent on rent or mortgage payment.

For this sample, factors in the respondents' current housing and neighborhood situations did not show any particular pattern of relationship to neighborhood-related normative deficits. However, respondents with more neighborhood deficits were more likely to plan on moving within the next year.

Third hypothesis. Linear regression was used to test the third hypothesis for a correlation between the housing deficit scores and the psychological stress scores of the respondents. The correlation was significant ($p < .001$) with 9% of the variance in psychological stress attributed to housing deficits (see Table 19 and Appendix F, Hypothesis 3). The correlation between housing deficits and stress was .30. Since the percentage of variance that could be explained by housing deficits was significantly different from zero, the third hypothesis was retained.

Fourth hypothesis. The correlation between the neighborhood deficit scores and the psychological stress scores of respondents was also tested using

Table 19

Regression of Psychological Stress on Total Normative Housing and Neighborhood Deficit Scores

Variable	b	SE b
Housing deficits	.1409*	.0366
Intercept = 5.1254 R squared = .0899*		
Neighborhood deficits	.3045*	.0859
Intercept = 5.0378 R squared = .0773*		

*$p < .001$

linear regression. The correlation between neighborhood deficits and psychological stress was .28; however, another 7.7% of the variance in stress could be attributed to neighborhood deficits (see Table 19 and Appendix F, Hypothesis 4). Since this percentage was significantly different from zero ($p = .0005$), the fourth hypothesis was retained.

For the women in this sample, those who experienced a relatively high number of housing deficits also had a higher level of psychological stress than those with fewer housing deficits. A similar relationship was also found for neighborhood deficits. Higher levels of stress were experienced by women whose neighborhoods had more deficits than by women whose neighborhoods had fewer deficits.

Fifth hypothesis. Linear regression analysis was used to determine which specific housing deficits were most significantly related to psychological stress in female heads of single-parent households. Each individual housing deficit variable was regressed on the total psychological stress score. Of the 48 housing deficit variables, 12 were significantly correlated with stress at $p < .01$ (see Table 20).

Table 20

Linear Regression of Psychological Stress on Individual Housing Deficit Variables

Variable	b	SE b	r	R square
1. Direct access	1.224	1.018	.097	.00954
2. Access by public hall	1.221	2.680	.037	.00138
3. Access by public stairs	3.651	1.754	.167	.02805
4. Access by public elavator	.888	1.332	.054	.00296
5. Private yard	1.693	.884	.154	.02386
6. Shared outdoor area	.666	1.382	.039	.00155
7. Public outdoor area	.204	2.091	.008	.00006
8. Private balcony or deck	.593	.749	.064	.00415
9. Shared balcony or deck	2.583	1.657	.126	.01593
10. Entrance adequately lit	1.877	1.173	.129	.01678
11. Visual privacy--neighbors	1.591	.765	.167	.02800
12. Neighbors' noise	1.902	.736	.206	.04256
13. Privacy within dwelling	2.875*	1.078	.212	.04525
14. Separation of children's and parent's areas	1.574	.928	.137	.01882
15. Play area indoors	1.796	.739	.194	.03782
16. Enough rooms	1.817	.841	.173	.03018
17. Adequate size of rooms	2.868*	.783	.286	.08215
18. Flexible space	.882	.750	.095	.00913
19. Adequate space in L.R.	2.052*	.776	.211	.04453
20. Space for entertaining	2.289*	.742	.244	.05961
21. Separate dining area	1.575	.783	.162	.02625
22. Dining area in kitchen	-2.503	1.198	.168	.02827
23. Space for children's activities in kitchen	2.012*	.747	.214	.04606
24. Separate kitchen	.123	1.383	.007	.00005
25. Kitchen large enough	1.434	.759	.152	.02325
26. Centrally located kitchen	-.473	1.439	.026	.00072
27. Separate bedroom - parent	4.849*	1.735	.222	.04947
28. B.R. for each child	2.289	.931	.196	.03875
29. Bedrooms big enough	2.505*	.743	.265	.07044
30. More than one bathroom	1.310	.738	.143	.02057
31. Bathroom for parent's room	1.310	.741	.142	.02039
32. Laundry in dwelling	.917	.819	.091	.00829
33. Laundry in building	1.153	.864	.108	.01174
34. Attractive building	2.148	.887	.193	.03758
35. Attractive interior	2.417	.928	.207	.04320
36. Freedom to change interior	1.990*	.759	.209	.04380
37. Easy-to-clean walls	1.224	.792	.125	.01570
38. Easy-to-clean floors	2.859*	.829	.270	.07343
39. Easy-to-clean kitchen	1.833	.902	.163	.02675
40. Easy-to-clean bathroom	3.569*	.917	.302	.09167
41. Attached garage/carport	1.472	.737	.160	.02588
42. Detached garage/carport	-.310	.949	.026	.00071
43. Assigned parking	2.684*	.833	.254	.06469
44. Off-street public parking	1.869	1.281	.118	.01400
45. Public parking- street only	2.055	1.662	.100	.01009
46. Private outdoor storage	.713	.745	.077	.00608
47. Shared outdoor storage	2.275	1.169	.156	.02463
48. Adequate indoor storage	2.625*	.721	.284	.08107

*$p < .01$.

These included: #13, privacy for family members within the dwelling; #17, adequate size of rooms; #19, adequate space for family activities in the living area; #20, adequate space for entertaining; #23, space for children's activities in the kitchen; #27, separate bedroom for the parent; #29, bedrooms large enough for needed furnishings and activities; #36, freedom to make changes in the interior of the dwelling; #38, easy-to-clean floor materials; #40, easy-to-clean bathroom materials; #43, assigned parking space; and #48, adequate indoor storage.

A multiple regression equation using the forward method of entry was used to determine the best predictors of stress in female heads of single-parent households. Stress was used as the dependent variable with the housing deficit variables which were individually correlated with stress at $p < .01$ as the independent variables (see Table 21). Three of the 12 significant housing deficit variables (#19, #20, and #29) were left out of the equation to avoid problems of multicollinearity. Four variables dealt directly with the size of rooms: #17, adequate size of rooms; #19, adequate space for family activities in the living

Table 21

Housing Deficit Variables as Best Predictors of Stress

Variable	b	SE b
40. Easy-to-clean bathroom materials	2.614*	.9301
43. Assigned parking space	1.723*	.8308
48. Adequate indoor storage	1.684*	.7389

Intercept = 5.159

R squared = .16068*

Adjusted R squared = .14366

Multiple R (correlation with stress) = .40084

*$p < .05$.

area; #20, adequate space for entertaining; and #29, bedrooms large enough for needed furnishings and activities. Because the latter three of these variables were felt to be a subset of #17 and all had a moderately high correlation with #17 (Pearson correlation coefficients = .492, .528, and .622, respectively), #17, adequate size of rooms, was used in the equation to represent adequacy of space in rooms. Number 17 also had a higher R square value in the individual regression equations (.082) than the other three space variables (.04, .06, and .07 respectively). Using the nine remaining variables, those found to be the best predictors of stress in female heads of single-parent households were: #40, easy-to-clean bathroom materials; #43, assigned parking space; and #48, adequate indoor storage.

Since many of the individual housing deficit variables were significantly correlated with psychological stress in female heads of single-parent households, the fifth hypothesis was retained.

Sixth hypothesis. Linear regression analysis was also used to determine which specific neighborhood deficits were most significantly related to

psychological stress in female heads of single-parent households. Each individual neighborhood deficit variable was regressed separately on the total psychological stress score. Of the 21 neighborhood deficit variables, four were significantly related to stress at $p < .01$ (see Table 22). These included: #15, adequate police surveillance; #16, social acceptance of the single-parent lifestyle; #20, clean neighborhood; and #21, pleasant, attractive looking neighborhood.

The best neighborhood predictors of stress were determined by multiple regression. To avoid problems of multicollinearity, #21 was left out of the equation. There was a high correlation (.802) between deficit scores for #20, clean neighborhood and #21, pleasant, attractive appearance of the neighborhood. Since the R square value of #20 was higher (.111) than that for #21 (.044) on the individual linear regressions, #20, clean neighborhood, was used in the prediction equation. Using the three remaining variables, those found to be the best predictors of stress in female heads of single-parent households

Table 22

Linear Regression of Psychological Stress on Individual Neighborhood Deficit Variables

Variable	b	SE b	r	R square
1. School, walking distance	1.456	.798	.147	.02169
2. No school, school bus route	.846	1.288	.053	.00287
3. No school, must drive	1.743	2.326	.061	.00373
4. No school, public transit	1.651	2.087	.064	.00416
5. Day care, walking distance	1.300	.783	.134	.01805
6. Playground, walking dstance	1.506	.780	.155	.02424
7. Grocery, walking distance	.853	.819	.084	.00718
8. Pharmacy, walking distance	.513	.876	.047	.00228
9. Laundry, walking distance	1.024	.802	.103	.01075
10. Swimming pool/tennis court	.514	.766	.054	.00299
11. Public transit stop	.332	.869	.031	.00097
12. Park, walking distance	1.138	.835	.110	.01223
13. Adequate street lighting	-.131	.782	.013	.00019
14. Adequate light for parking	1.625	.836	.156	.02452
15. Police surveillance	2.053*	.768	.213	.04547
16. Social acceptance	3.309*	.863	.298	.08917
17. Traffic noise	1.839	.758	.194	.03770
18. Neighbor noise	1.075	.745	.117	.01370
19. Supervised activities-kids	1.365	.744	.148	.02192
20. Clean neighborhood	4.042*	.934	.333	.11098
21. Attractive neighborhood	2.347*	.894	.209	.04388

*$p < .01$.

were: #16, social acceptance of the single-parent lifestyle; and #20, clean neighborhood (see Table 23).

The sixth hypothesis was retained for these specific neighborhood variables since the individual neighborhood deficit variables were significantly correlated with psychological stress in female heads of single-parent households.

For this sample, 12 housing deficits and 4 neighborhood deficits were significantly related to stress. The best environmental predictors of stress for these single parents were lack of easy-to-clean bathroom materials, no assigned parking space, inadequate indoor storage, lack of social acceptance of single parents, and a neighborhood that was not clean.

Discussion of Findings

Housing deficits related to characteristics.

Housing deficits were found to be significantly different for several factors pertaining to the current housing situation of respondents. The significance of the differences between housing deficits and dwelling type could be expected since multi-family dwellings, particularly apartments for lower income families, are

Table 23

Neighborhood Deficit Variables as Best Predictors of Stress

Variable	b	SE b
16. Social acceptance	2.391*	.8795
20. Clean neighborhood	3.227*	.9629
Intercept = 5.732		
R squared = .1530*		
Adjusted R squared = .14163		
Multiple R (correlation with stress) = .39115		

*$p < .01$.

frequently smaller, with fewer rooms, less storage, and fewer amenities than single-family homes. This finding was consistent with that of Edwards, Booth, and Edwards (1982). In their study of Canadian families, housing type was also found to be correlated with stress, with apartment dwellers reporting more stress symptoms than those in single-family homes.

The housing deficit levels of those who had lived in their homes for one to six years were higher than those of families who had lived in their dwellings less than one year or more than six years. It is possible that those who had recently moved into a unit may not have had time to experience many problems, especially if they moved from a unit which had more deficits. Although the present unit may have many deficits, if it is better than the previous unit, the deficits may not yet be perceived. Those who have been in a unit for seven years or more are probably those who have not experienced deficits to any great extent or they would have moved already. Because of financial hardship, many households who have been in the unit long enough to discover its deficits may be forced to remain for at least a few years, accounting for the

higher number of deficits of those who have lived in their units for one to six years.

Respondents who rented their dwellings experienced more deficits than those who owned their dwellings. It is possible that this difference may be related to the differences in single- and multi-family dwellings, since significantly more renters (76%) were living in multi-family dwellings and significantly more owners (90.7%) were living in single-family dwellings (Chi-square = 52.31, 1 d.f., $p < .0001$). Renters are more likely to have smaller dwellings, with fewer rooms, less storage, and fewer amenities, and therefore, more deficits. Although the smaller amount of actual space found in many rented dwellings may not be a primary cause of stress, it may contribute to the severity of family problems. As reported by Choldin, Jacobsen, and Yahnke (1975), the same problems caused more stress for families with less space than for families living in larger dwellings.

Although the monthly cost for rent or mortgage payments appeared to be related to housing deficits, the statistical analysis did not indicate any significant differences between groups. Those with

lower housing costs generally had more housing deficits; however, even those with more expensive housing had deficits. One probable cause for this is that as income and expenditures rise, expectations also rise.

Satisfaction, intention to move, and recommendation of housing type for other single parents all showed significant differences in housing deficits. These variables were also highly correlated with each other, since those who had fewer deficits were more satisfied with their home, did not need to move to escape deficits, and therefore thought their dwelling was a desirable type and would recommend it for others.

The housing factors which showed no significant relationship to deficits may have been, in part, due to the nature of the data. Other studies have found a relationship between housing pathologies and level of multi-family dwelling (Fanning, 1967; Gillis, 1977). None was found in this study; however, nearly all families lived on the first or second level of their dwelling and none lived above the third level. Fanning and Gillis both found that differences were more likely

to occur between families living on lower levels of a building and those living on much higher levels, such as the top floors of a high-rise apartment building.

Percentage of income spent on housing rent or mortgage could also be expected to show differences in housing deficit scores. However, the distribution of the sample may have offset any expected relationship. The lower percentages, in particular, represented both those who were well off and only needed to spend a small percentage of their income to get a nice house, and also those who had very low incomes, but lived in inexpensive housing.

Neighborhood deficits related to characteristics. The lack of relationship between neighborhood deficits and the factors involved with the respondents' housing situations may be attributed to the lack of control most individuals have over their neighborhood and the lack of community services in many residential areas. Older, low-income neighborhoods are more likely to have stores, public transit, and schools close by but may also have noise, crime, and pollution. Newer, more expensive neighborhoods may be cleaner and quieter but are less likely to have community facilities and stores

nearby. Therefore, it is possible that various types of neighborhoods counteract each other in the statistical analysis of deficits. Earlier studies (Foote, Abu-Lughod, Foley, & Winnick, 1960) have also found that the nature of the dwelling was a more important source of satisfaction and dissatisfaction than neighborhood factors.

Total deficits correlated with stress. Housing and neighborhood deficits accounted for a fairly small but significant percentage of the variance in psychological stress. It is logical to assume that stress is also caused by many other factors such as poverty, job related stress, loneliness, or behavioral problems of children. When controlling for extraneous variables, no correlations with stress were found except for educational level. Although the other variables were not significant by themselves or in interaction with a related variable, it may be possible that a much more complex interaction of life factors was taking place. However, regardless of the source of the remaining stress, a significant portion (approximately one-sixth) of psychological stress could be attributed to housing and neighborhood deficits in this sample of single parents.

Specific deficits correlated with stress. When considered individually, the housing and neighborhood deficits which were most highly correlated with stress in female heads of single-parent households were those pertaining to quality of neighborhood and needs of children. Many respondents commented on the need for a neighborhood where children could play outside, which was consistent with the need for adequate police surveillance and a clean, pleasant neighborhood, factors found to be related to stress. Hughes, Wood, and Gove (1983) also noted that the perceived quality of the neighborhood was important to the mental health and well-being of residents, and that negative neighborhood evaluations were associated with low income and being unmarried. The perception of the neighborhood as poor in quality or unsafe may be more acute for women alone with children, who may consider themselves more vulnerable without the protection of a spouse.

The concern for the lack of social acceptance of the single-parent lifestyle may indicate that for many women single-parenthood is not viewed as a short transitional stage, but as a continuing lifestyle which

is more stressful because of social prejudice. The connection between stress and social acceptance supports Hynes' (1979) conclusion that higher social participation was strongly related to lower distress in low-income single-parent mothers. Pearlin and Johnson (1977) also noted that formerly married persons were more likely to live in socially isolated conditions than those who were married and were more likely to be depressed by equivalent conditions of isolation. Several earlier studies also support these conclusions, with evidence that social characteristics of neighbors and the level of maintenance in the neighborhood are the main determinants of neighborhood satisfactions (Foote et al., 1960; Lansing and Marans, 1969; Zehner, 1971).

Concerns for children were apparent in the link between stress and the need for space for children's activities in the kitchen, adequate indoor storage, a separate bedroom for the parent, and easy-to-clean bathroom and floor materials. Lack of these features may cause stress for any mother, but may be particularly acute for those who must assume total responsibility for the care and supervision of children.

Several housing deficit variables which were significantly related to stress may also be related to living in small rental units. Lack of space, lack of freedom to make changes in the interior of the dwelling, and no assigned parking space are features typical of small apartments and rental units. Although they may be stressful for single parents, they may be equally stressful for other types of households as well.

Although only a few housing and neighborhood deficit variables were included in the final prediction equation for stress, the other variables which were individually correlated with stress should not be discounted. Some of these variables, such as a separate bedroom for the parent, may not affect very many families but could be a very serious, stressful situation for those families who are affected.

Chapter 6

Summary, Conclusions, Implications, and Recommendations for Further Research

A summary of the study including methodology and findings is presented in this chapter. Conclusions based on the findings are also presented along with implications of the study. Finally, recommendations are made for further research.

Summary

The major objectives of this study were to determine: (a) if a correlation existed between the characteristics of the housing and neighborhoods occupied by female headed single-parent families and the number of housing-related normative deficits reported; (b) if a correlation existed between the characteristics of the housing and neighborhood occupied and the number of neighborhood-related normative deficits reported; (c) if a correlation existed between the number of housing-related normative deficits and the level of psychological stress of female heads of single-parent families; (d) if a correlation existed between the number of

neighborhood-related normative deficits and the level of psychological stress; (e) what specific housing-related normative deficits were associated with psychological stress; and (f) what specific neighborhood-related normative deficits were associated with psychological stress.

The sample used for this study consisted of 162 female heads of single-parent households with one to four children, primarily ages 6 through 12. The majority of women were divorced and were employed outside the home. There were no other adults living in the household. The 1983 school census data of Roanoke County and of the independent city of Roanoke, Virginia, were used to obtain the sample. A listing was made of all households with a female head and one to three elementary school age children. A systematic sample was drawn from this list.

A self-administered questionnaire with four parts was developed and pretested for the study. The first part contained a checklist of housing features. The second part contained a similar checklist of neighborhood features. The third part contained the Langner (1962) Index of Mental Illness, and the final

section contained questions to obtain general information about the current home and family situation.

Housing and neighborhood deficits were operationalized as the difference between family norms and the current housing and neighborhood situation. There was considered to be a deficit if a respondent felt that her family would want a particular housing or neighborhood feature but did not currently have that feature. Deficits for all housing and neighborhood features were scored separately and then each respondent's total number of deficits was determined. Psychological stress was operationalized as the respondent's total score on the Langner Index of Mental Illness.

The questionnaire was mailed to 650 households from the city of Roanoke and 350 households from Roanoke County. A total of 162 usable responses was obtained from the initial mailing and two follow-up mailings. The total response rate for deliverable addresses was 48.2%. Those who were married, lived with other adults, or filled out the questionnaire incorrectly were eliminated, leaving a usable response rate of 25.7%.

The relationship between housing-related normative deficits and various factors in the respondents' current housing situations were determined using analysis of variance. Seven of 12 factors were significantly different on mean housing deficit scores ($p < .01$). Those living in multi-family dwellings and rental units had housing deficit scores significantly higher than those who lived in single-family homes or owned their units. Female heads of families who had moved into their dwelling in the past year experienced fewer deficits than those who had been in their dwellings longer than one year. Another significant factor was the amount spent on rent or mortgage payments, with those paying the most (over $500 per month) having the lowest mean deficit score, and those paying from $100 to $199 per month having the highest mean deficit score. Satisfaction with the dwelling, the respondent's intention to move within the next year, and whether the respondent would recommend the dwelling type to other single-parent families all showed significant differences on housing deficit scores.

No significant differences were found between housing deficit scores for types of multi-family dwellings, floor level of multi-family dwellings, age of the dwelling, whether the dwelling was the same one occupied during marriage, or percentage of income spent on the rent or mortgage payments.

The differences in neighborhood-related normative deficits and certain factors in the respondents' current housing situations were also tested using analysis of variance. Of the eight factors tested, intention to move within the next year was the only one which was significantly different on neighborhood deficits, with those who might move having significantly more deficits than those who did not intend to move. No significant differences were found between neighborhood deficits for dwelling type, type of multi-family dwelling, location of dwelling, age of dwelling, method of payment, amount spent on rent or mortgage payment, or percentage of income spent on rent or mortgage payment.

Total deficit scores were significantly related to psychological stress for both housing and neighborhood deficits when tested using linear regression analysis.

The percentage of variance in psychological stress which could be explained by housing and neighborhood deficits was small; however, stress is a complex variable which may be attributed to many other factors such as poverty, job related stress, loneliness, or behavioral problems of children.

Linear regression analysis was used to determine the specific housing deficits which were most significantly related to psychological stress in female heads of single-parent families. The housing-related deficits most significantly related to stress were lack of privacy for family members within the dwelling, inadequate size of rooms, inadequate space for family activities in the living area, inadequate space for entertaining, inadequate space for children's activities in the kitchen, lack of a separate bedroom for the parent, bedrooms not large enough for needed furnishings and activities, lack of freedom to make changes in the interior of the dwelling, lack of easy-to-clean floor and bathroom materials, no assigned parking space, and inadequate indoor storage. The neighborhood-related deficits most closely related to stress were inadequate police surveillance, lack of

social acceptance of the single-parent lifestyle, a neighborhood that was not clean or that was not pleasant and attractive looking.

The best overall predictors of stress were determined by multiple regression analysis. The housing deficits which best predicted stress were lack of easy-to-clean bathroom materials, lack of assigned parking space, and inadequate indoor storage. The neighborhood deficits which best predicted stress were lack of social acceptance of the single-parent lifestyle and a neighborhood that was not clean.

Since it was possible that extraneous variables also may have contributed to the psychological stress level of these women, a number of tests were run to check for other effects. No significant differences were found between stress levels of women who had been married before and those who had never been married, or between black and white respondents. Other family and environmental factors were tested for any significant relationship to stress; however, the only relationship which was significant was between stress and level of education, with those having a higher education experiencing lower levels of stress.

Conclusions

On the basis of this study, the following conclusions about female-headed single-parent families seem justified:

1. Female-headed single-parent families who live in multi-family housing are more likely to experience housing deficits than those who live in single-family housing.
2. Female-headed single-parent families who have been in their dwelling less than one year are less likely to experience housing deficits than those who have lived in the same dwelling for more than one year.
3. Female-headed single-parent families who rent their dwellings are more likely to experience housing deficits than those who own their dwelling.
4. Female-headed single-parent families are more likely to be satisfied with their dwelling if they have fewer housing deficits than those families who experience a higher number of housing deficits.

5. Female-headed single-parent families are more likely to consider moving if they have many housing deficits than if they have only a few housing deficits.
6. Female-headed single-parent families with more housing deficits are less likely to recommend their dwelling type to other female-headed single-parent families than those who experience fewer housing deficits.
7. Female-headed single-parent families who experience fewer neighborhood deficits are less likely to consider moving than those who experience more neighborhood deficits.
8. There is a positive linear relationship between housing deficits and psychological stress in female heads of single-parent households.
9. There is a positive linear relationship between neighborhood deficits and psychological stress in female heads of single-parent households.

10. Housing deficits which are most significantly related to psychological stress in female heads of single-parent families include:
    (a) lack of privacy for family members within the dwelling
    (b) inadequate size of rooms
    (c) inadequate space for family activities in the living area
    (d) inadequate space for entertaining
    (e) inadequate space for children's activities in the kitchen
    (f) no separate bedroom for the parent
    (g) bedrooms not large enough for needed furnishings and activities
    (h) lack of freedom to make changes in the interior of the dwelling
    (i) lack of easy-to-clean floor materials
    (j) lack of easy-to-clean bathroom materials
    (k) no assigned parking space
    (l) inadequate indoor storage
11. The housing deficits which best predict stress in female heads of single-parent

families are lack of easy-to-clean bathroom materials, no assigned parking space, and inadequate indoor storage.

12. Neighborhood deficits which are most significantly related to psychological stress in female heads of single-parent families include:
    (a) inadequate police surveillance
    (b) lack of social acceptance of the single-parent lifestyle
    (c) a neighborhood that is not clean
    (d) a neighborhood that is not pleasant and attractive looking
13. The neighborhood deficits which best predict stress in female heads of single-parent families are lack of social acceptance of the single-parent lifestyle and a neighborhood that is not clean.
14. Psychological stress in female heads of single-parent families is additionally influenced by other factors not examined in this investigation.

Implications

The single-parent lifestyle was probably best described in a comment by one of the respondents to this investigation: "It's not easy being a single parent." Without a spouse to share responsibilities these parents face many constraints, including economic hardship, household and child rearing responsibilities, and discrimination. They want to be considered "normal" by society in general and by neighbors in particular, and yet they are often unable to afford or maintain the type of home our society considers "normal" for a family with children.

These constraints and social pressures may be adding to the stress level of single parents. Single-parenthood, whether through divorce, separation, death of a spouse, or the birth of a child to an unwed mother, is probably a stressful situation for most families. Thousands of our children are growing up in homes with only one parent and their numbers are increasing yearly with high divorce rates and increasing numbers of children being born to unwed mothers. Previous research has shown that stress contributes to family problems and this investigation

has shown a significant link between stress and problems with the housing and neighborhoods occupied by single-parent families.

If single parents and their children are to lead healthy, productive lives in our society they need to be relieved of as much stress as possible. Although housing- and neighborhood-related stress contribute to only a small portion of the total stress experienced by single parents, it should not be dismissed as unimportant. Housing and the welfare of their children were obviously very important and very emotional topics for many of the respondents to this investigation (see Appendix E).

Counselors, designers, and policy makers should be made aware of the housing problems and needs of these families. Because of their often limited human and financial resources, single parents must frequently rely on the assistance of professionals. It should be the responsibility of these professionals to recognize single-parent families as a viable household type and to educate themselves to the needs of all household types including single-parent families.

The implications of this study and related investigations would suggest the following recommendations for professionals involved with housing for single-parent families:

Counselors. Housing counselors, family counselors, and real estate counselors should help single-parent families:

(a) Compare all housing alternatives and eliminate those which have an over abundance of features which may be likely to cause stress for female-headed single-parent families.

(b) Look for dwellings which are low in maintenance requirements and cost.

(c) For families with young children, look for dwellings which provide easy parental supervision of children's activities, both for indoor play and outdoor play.

(d) Look for neighborhoods which are safe for women and children: good lighting, parking close by, play area other than in the street, adequate police surveillance.

(e) Be sure there is enough storage space available, especially for children's things.

(f) If the family must rent, try to find a landlord who will allow some flexibility so that the family may personalize the dwelling enough to provide a sense of identity.

Designers. Speculative housing designed specifically for single-parent families is not economically feasible under most circumstances; however, all designers who work with low-income housing or public housing should consider the needs of single-parent families. The following considerations are recommended:

(a) Keep spaces flexible enough that they can be adapted for different needs and can be personalized by the occupants.

(b) Interior materials should be durable for low maintenance but should be easy to clean (i.e. concrete blocks are durable but rough and very difficult to wipe clean).

(c) Make sure at least one space in the dwelling is large enough for all family members to be together or to entertain friends.

(d) Provide an adequate number of rooms and division of space to allow privacy for family members.

(e) Provide ample storage space for children's toys and design their rooms to allow play space.

(f) Allow space for children's activities either in the kitchen or close enough for easy supervision.

(g) In multi-family housing provide adequate soundproofing and arrange units for visual privacy from neighbors.

Policymakers. People in the position to make housing policy at the Federal, state or local level should consider the following recommendations:

(a) Safe play areas need to be provided for children of all ages. Supervised after-school activities would be particularly useful to working single mothers and for other families as well.

(b) Cleanliness and safety are important neighborhood considerations for single-parent families. Street maintenance, garbage

collection, police surveillance, and adequate lighting should be maintained.

(c) Single-parent families need to be treated as "normal" families, not singled out as different or transitional.

(d) The social consequences of the situation as well as the physical condition of the housing should be considered for any housing assistance for single-parent or other low-income families.

Recommendations for Further Research

The following recommendations are made for further research in the area of housing for single-parent families and housing-related stress:

(a) A comparison needs to be made between single-parent families and two-parent families to determine if their housing needs and deficits differ.

(b) Single-parent families headed by men need to be studied to determine if their needs and

constraints differ from those of single-parent families headed by women.

(c) Further research is needed to determine what aspects of housing and neighborhoods contribute most to stress for all types of households, and to determine how environmental stress can be practically and economically reduced.

(d) Further research is needed to develop specific design guidelines for creating low-stress environments.

(e) Differences in the kinds of deficits and how they relate to stress need to be compared for multi-family and single-family dwellings.

(f) Differences in stress-related housing deficits need to be compared for black and white single parents and for formerly married and never married to determine if there are actual differences in the kind of housing they occupy or in their perception of housing deficits.

(g) It is recommended that interviews be used in future research to obtain more indepth responses.

References

American Council of Life Insurance (1984). Data track 13: Women and money. Washington, DC: Author.

Banner, M.G., Berheide, C.W., & Greckel, F.R. (1982). Housing preferences in Louisville: A feminist critique of the suburban environment. Housing and Society, 9(2), 95-109.

Bebbington, A.C. (1973). The function of stress in the establishment of the dual-career family. Journal of Marriage and the Family, 35(3), 530-537.

Berheide, C.W., & Banner, M.G. (1980). Making room for employed women at home and at work. Housing and Society, Special issue: Proceedings of the 1980 Annual Conference, 153-163.

Birch, E.L. (1985). The unsheltered woman: Definition and needs. In E.L. Birch (Ed.), The unsheltered woman: Women and housing in the '80s (21-45). New Brunswick, NJ: Center for Urban Policy Research.

Booth, A., & Edwards, J.N. (1976). Crowding and family relations. American Sociological Review, 41(4), 308-321.

Bunce, H.L., Gardner, J.L., McDougall, G.S., & Eggars, F.J. (1979). Families and households: Indications of continuing need. In R.P. Boynton (Ed.), Occasional papers in housing and community affairs, vol. 4. (HUD-497-4-PDR). Washington, DC: U.S. Government Printing Office.

Burgess, S.L. (1980). Female heads of household: Their prospects for homeownership. Journal of Home Economics, 72(4), 21-24.

Burgess, S.L. (1982). Determinants of homeownership: A comparison of single female and single male headed households. Housing and Society, 9(2), 87-93.

Choldin, H.M., Jacobsen, E., & Yahnke, G. (1975). Effects of crowded dwellings on family life. Sociological Symposium, 14, 59-75.

Committee on Banking, Finance and Urban Affairs (1983). Housing - A reader (Committee Print 98-5). Washington, DC: U.S. Government Printing Office.

Dillman, D. (1978). Mail and telephone surveys: The the total design method. New York: John Wiley and Sons.

Dillman, D.A., Tremblay, K.R., Jr., & Dillman, J.J. (1979). Influence of housing norms and personal characteristics on stated housing preferences. Housing and Society, 6(1), 2-19.

Dolbeare, C.N. (1983). The low-income housing crisis. In C. Hartman (Ed.), America's housing crisis: What is to be done? (pp. 29-75). Boston: Routledge & Kegan Paul.

Edwards, J.N., Booth, A., & Edwards, P.K. (1982). Housing type, stress, and family relations. Social Forces, 61(1), 241-257.

Fanning, D.M. (1967). Families in flats. British Medical Journal, 18, 382-386.

Foote, N.N., Abu-Lughod, J., Foley, M., & Winnick, L. (1960). Housing choices and housing constraints. New York: McGraw-Hill.

Garcia, D. (1981). Stress, coping and strain in women (Doctoral dissertation, Rutgers University, New Jersey). Dissertation Abstracts International, 42(04A), 1794.

Gillis, A.R. (1977). High-rise housing and psychological strain. Journal of Health and Social Behavior, 18(12), 418-431.

Gove, W.R., & Hughes, M. (1983). Overcrowding in the household: An analysis of determinants and effects. New York: Academic Press.

Graff, C.L. (1982). Employment of women, suburbanization and house styles. Housing and Society, 9(2), 111-116.

Hayden, D. (1980). What would a non-sexist city be like? Speculations on housing, urban design, and human work. Signs, 5, S170-S187.

Hughes, M., Wood, M., & Gove, W.R. (1983, April). Neighborhood environment, neighborhood integration and mental health. Paper presented at the Annual Meeting of the Southern Sociological Society, Atlanta, GA.

Hynes, W.J. (1979). Single parent mothers and distress: Relationships between selected social and psychological factors and distress in low-income single parent mothers (Doctoral dissertation, The Catholic University of America). Dissertation Abstracts International, 40(03A), 1686.

Inman, M., & Sinn, M (1985). Family stress in the interior living environment related to bathroom spaces. Refereed Conference Papers of the 20th Annual Meeting of the American Association of Housing Educators, 118-127.

Johnson, D.R., & Meile, R.L. (1981). Does dimensionality bias in Langner's 22-item index affect the validity of social status comparisons? An empirical investigation. Journal of Health and Social Behavior, 22(12), 415-433.

Langner, T.S. (1962). A twenty-two item screening score of psychiatric symptoms indicating impairment. Journal of Health and Human Behavior, 3, 269-276.

Lansing, J.B., & Marans, R.W. (1969). Evaluation of neighborhood quality. Journal of American Institute of Planners, 35, 195-199.

Leavitt, J. (1985). The shelter-service crisis and single-parents. In E.L. Birch (Ed.), The unsheltered woman: Women and housing in the '80s (153-176). New Brunswick, NJ: Center for Urban Policy Research.

Marans, R.W., & Colten, M.E. (1980). Measuring restrictive rental practices affecting families with children: A national survey (HUD-PDR 603). Washington, DC: U.S. Government Printing Office.

Martin, A.E. (1967). Environment, housing and health. Urban Studies, 4(11), 1-21.

Morris, E.W., & Winter, M. (1978). Housing, family, and society. New York: John Wiley and Sons.

Pearlin, L.I., & Johnson, J.S. (1977). Marital status, life-strains and depression. American Sociological Review, 42(10), 704-715.

Peterson, R., Wekerle, G.R., & Morley, D. (1978). Women and environments: An overview of an emerging field. Environment and Behavior, 10(4), 511-534.

Schorr, A.L., & Moen, P. (1979). The single parent and public policy. Social Policy, 9(5), 15-21.

Soper, M. (1980). Housing for single-parent families: A women's design. In G.R. Wekerle, R. Peterson, & D. Morley (eds.), New space for women (pp. 319-332). Boulder, CO: Westview Press.

Sudman, S. (1983). Applied sampling. In P. Rossi et al (Eds.), Handbook of survey research (pp. 145-193). New York: Academic Press.

U.S. Bureau of the Census (1984). Statistical abstract of the United States (104th edition). Washington, DC: U.S. Government Printing Office.

U.S. Department of Commerce (1980). Occupational classification system of the census bureau. Washington, DC: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census (1983). 1980 census of population and housing. Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development (1975). Women and housing: A report on sex discrimination in five American cities (HUD-EO 126). Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development (1976). Women in the mortgage market (HUD-PDR-147[2]). Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development (1979). How well are we housed? 2. Female-headed households. Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development, Office of Policy Development and Research (August, 1980). Housing our families (3-4). Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Women's Bureau (1979). The earnings gap between women and men. Washington, DC: U.S. Government Printing Office.

Winter, M., & Morris, E.W. (1982). Housing conditions, satisfaction, and conventionality: An analysis of the housing of female-headed households. Housing and Society, 9(2), 70-85.

Zehner, R.B. (1971). Neighborhood and community satisfaction in new towns and less planned suburbs. Journal of American Institute of Planners, 37, 379-385.

Appendices

Appendix A

Cover Letter

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DEPARTMENT OF HOUSING, INTERIOR DESIGN AND RESOURCE MANAGEMENT (703) 961-6163

November 18, 1985

Name
Address
Address

Single parents today face many problems, among them the need for decent, affordable housing which meets the family's needs. Due to their unique household composition, these families may have different housing needs and preferences than two parent families. However, no one really knows what kind of housing families like these really need or prefer.

Your household is one of a small number in which people are being asked to give their opinions on these matters. It was drawn in a random sample of single parent families in Roanoke. In order that the results will truly represent the thinking of single parents in Roanoke, it is important that each questionnaire be completed and returned. Since women may have housing needs which are different from those of men, we would like the questionnaire for your household to be completed by an adult female. If no adult female is present or you are not a single parent, please return the questionnaire unanswered, marked "no eligible respondent" on the envelope.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this research will be made available to women's counseling centers, housing designers, city planners, government policy makers, and interested citizens. You may receive a summary of results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please <u>do not</u> put this information on the questionnaire itself.

I would be happy to answer any questions you might have. Please write or call. The telephone number is (703) 384-7399 (evenings between 5:00 and 10:00 p.m.).

Thank you for your assistance.

Sincerely,

Sheila Baillie

Appendix B

Questionnaire

I.D. No.

HOUSING NEEDS AND PREFERENCES OF SINGLE-PARENT FAMILIES

This survey is being conducted to better understand how single parents feel about their housing and neighborhoods. It should be completed by the adult female head of the house-hold. Please answer all questions. If you wish to comment on any questions or qualify your answers, please feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your help.

Please return this questionnaire in the enclosed stamped envelope to:

Sheila Baillie
107 Human Resources Annex
Virginia Tech
Blacksburg, VA 24061

In order to determine if your household is appropriate for our study, we need to know your marital status.

What is your present marital status? (circle number of choice)

1 DIVORCED
2 WIDOWED
3 NEVER MARRIED
4 SEPARATED
5 MARRIED---------> IF MARRIED, PLEASE STOP HERE AND RETURN QUESTIONNAIRE UNANSWERED

Part A

In order to determine your housing needs and preferences we need to know what kind of dwelling you live in and what features you would prefer to have in your dwelling.

Following is a list of housing characteristics. In the column at the left, please circle yes or no for whether or not your dwelling has that characteristic. In the column at the right circle yes or no for whether you would want your dwelling to have that characteristic if you were free to choose what would be best for your family.

My dwelling has this characteristic			I would like my dwelling to have this characteristic	
no	yes	1. Direct access to ground-level outdoor living area	no	yes
no	yes	2. Access to ground-level outdoor area through a public hall	no	yes
no	yes	3. Access to ground level outdoor area by public stairs	no	yes
no	yes	4. Access to ground-level outdoor area by public elevator	no	yes
no	yes	5. Private ground-level outdoor area	no	yes
no	yes	6. Ground-level outdoor area shared with limited number of neighbors	no	yes
no	yes	7. Public ground-level outdoor area	no	yes
no	yes	8. Private balcony or deck	no	yes
no	yes	9. Balcony or deck shared with adjoining units	no	yes
no	yes	10. Entrance to dwelling adequately lit	no	yes
no	yes	11. Visual privacy from neighbors	no	yes
no	yes	12. Privacy from neighbors' noise	no	yes

		13. Privacy for family members		
no	yes	within dwelling	no	yes
		14. Separation of children and		
no	yes	parent areas	no	yes
no	yes	15. Children's play area indoors	no	yes
no	yes	16. Adequate number of rooms	no	yes
no	yes	17. Adequate size of rooms	no	yes
		18. Flexibility of spaces for more		
no	yes	than one use	no	yes
		19. Adequate space for family		
no	yes	activities in living area	no	yes
no	yes	20. Adequate space for entertaining	no	yes
no	yes	21. Dining area separate from kitchen	no	yes
no	yes	22. Dining area in kitchen	no	yes
		23. Space for children's activities		
no	yes	in kitchen (hobbies, home-work)	no	yes
no	yes	24. Kitchen separate from other areas	no	yes
		25. Kitchen large enough to encourage		
no	yes	help of all family members	no	yes
		26. Kitchen centrally located for		
no	yes	easy access	no	yes
no	yes	27. Separate bedroom for parent	no	yes
no	yes	28. Separate bedroom for each child	no	yes
		29. Bedrooms large enough for needed		
no	yes	furnishings and activities	no	yes
no	yes	30. More than one bathroom	no	yes
no	yes	31. Separate bathroom for parent's room	no	yes
no	yes	32. Laundry facilities in dwelling	no	yes
no	yes	33. Laundry facilities in building	no	yes
		34. Pleasing appearance of outside of		
no	yes	house/building	no	yes
		35. Pleasing appearance of inside of		
no	yes	house/dwelling unit	no	yes
		36. Freedom to make changes in interior		
no	yes	of dwelling (paint, wallpaper)	no	yes
no	yes	37. Easy-to-clean wall materials	no	yes
no	yes	38. Easy-to-clean floor materials	no	yes
no	yes	39. Easy-to-clean kitchen materials	no	yes
no	yes	40. Easy-to-clean bathroom materials	no	yes
		41. Private covered parking space with		
no	yes	direct access to dwelling	no	yes
		42. Private covered parking space with		
no	yes	no direct access	no	yes
no	yes	43. Assigned parking space	no	yes
no	yes	44. Off-street public parking	no	yes
no	yes	45. Public parking on street only	no	yes
no	yes	46. Private, enclosed outdoor storage	no	yes
no	yes	47. Open, shared outdoor storage space	no	yes
no	yes	48. Adequate indoor storage	no	yes

Part B

Since the kind of neighborhood we live in directly affects our housing and how we feel about it, we would like to know about the neighborhood you live in and what features you would prefer to have in your neighborhood.

Following is a list of neighborhood characteristics. In the column at the left, please circle yes or no for whether or not your neighborhood possesses that characteristic. In the column at the right please circle yes or no for whether you would want your neighborhood to possess that characteristic if you were free to choose whatever you felt would be best for your family's needs.

My neighborhood has this characteristic			I would like my neighborhood to have this characteristic	
no	yes	1. School within walking distance	no	yes
no	yes	2. No school, on school bus route	no	yes
no	yes	3. No school, must drive	no	yes
no	yes	4. No school, take public transit	no	yes
no	yes	5. Day care in walking distance	no	yes
no	yes	6. Playground in walking distance	no	yes
no	yes	7. Grocery within walking distance	no	yes
no	yes	8. Pharmacy within walking distance	no	yes
no	yes	9. Laundry within walking distance	no	yes
no	yes	10. Swimming pool and/or tennis courts within walking distance	no	yes
no	yes	11. Public transit stop within walking distance	no	yes
no	yes	12. Park within walking distance	no	yes
no	yes	13. Adequate street lighting	no	yes
no	yes	14. Adequate lighting for parking	no	yes
no	yes	15. Adequate police surveillance	no	yes
no	yes	16. Social acceptance of single-parent lifestyle	no	yes
no	yes	17. Protection from traffic noise	no	yes
no	yes	18. Protection from neighbor noise	no	yes
no	yes	19. Supervised after-school activities for children	no	yes
no	yes	20. Neighborhood is clean	no	yes
no	yes	21. Pleasant, attractive looking neighborhood	no	yes

Part C

Sometimes our environment can affect our general health and the way we feel. The following questions are about your general well being. (circle the number of the most appropriate choice)

1. Would you say your appetite is poor, fair, good, or too good?

1 POOR
2 FAIR
3 GOOD
4 TOO GOOD

2. Are you bothered by acid or sour stomach several times a week?

1 YES
2 NO

3. Does there seem to be a fullness or clogging in your head or nose much of the time?

1 YES
2 NO

4. How often are you ever troubled with headaches or pains in the head?

1 OFTEN
2 SOMETIMES
3 NEVER

5. How often have you been bothered by your heart beating hard?

1 OFTEN
2 SOMETIMES
3 NEVER

6. How often have you been bothered by shortness of breath when you were not exercising or working hard?

1 OFTEN
2 SOMETIMES
3 NEVER

7. Do you ever so suddenly feel hot all over?

1 YES
2 NO

8. Do you ever feel weak all over?

1 OFTEN
2 SOMETIMES
3 NEVER

9. How often have you been bothered by "cold sweats"?

1 OFTEN
2 SOMETIMES
3 NEVER

10. How often have you ever had any fainting spells or lost consciousness?

1 MORE THAN A FEW TIMES
2 A FEW TIMES
3 NEVER

11. How often have you had any trouble in getting to sleep or staying asleep?

1 OFTEN
2 SOMETIMES
3 NEVER

12. Have you had periods of such great restlessness that you couldn't sit long in a chair or couldn't sit still very long?

1 YES
2 NO

13. Have you had periods of days, weeks, or months when you couldn't take care of things because you couldn't "get going"?

1 YES
2 NO

14. Do you ever have trouble remembering things?

1 OFTEN
2 SOMETIMES
3 NEVER

15. In general, would you say that most of the time you were in very good spirits, good spirits, or low spirits?

1 LOW
2 GOOD
3 VERY GOOD

16. How often are you bothered by nervousness where you are irritable, fidgety, or tense?

1 OFTEN
2 SOMETIMES
3 NEVER

17. Do you consider yourself a worrier?

1 YES
2 NO

18. How often do your hands tremble enough to bother you?

1 OFTEN
2 SOMETIMES
3 NEVER

19. Do you have personal worries that get you down or make you physically ill?

1 YES
2 NO

20. Do you feel somewhat apart, even among friends--rather isolated or alone?

1 YES
2 NO

21. Do you ever feel that nothing turns out for you the way you want it to, that your wishes aren't fulfilled?

1 YES
2 NO

22. Do you sometimes wonder if anything is worthwhile anymore?

1 YES
2 NO

Part D

Finally, we would like to request some general information about your home and family which is needed to help interpret the results of the study. (circle number of your choice)

1. What type of dwelling do you live in?

1 SINGLE FAMILY DETACHED HOUSE
2 MULTI-FAMILY ATTACHED HOUSE

2. If you live in a single family detached house, what type is it?

1 ONE STORY
2 ONE AND A HALF STORY
3 TWO STORY
4 BI-LEVEL
5 TRI-LEVEL
6 MOBILE HOME
7 OTHER (specify) _____

3. If you live in a multi-family attached house, what type is it?

1 ROW HOUSE OR TOWN HOUSE
2 DUPLES
3 3 OR 4 UNITS PER BUILDING
4 5 TO 12 UNITS PER BUILDING
5 MORE THAN 12 UNITS PER BUILDING

4. If you live in a multi-family unit, what level is your unit on?

1 FIRST OR GARDEN
2 SECOND LEVEL
3 THIRD LEVEL
4 OTHER (SPECIFY)_____

5. Which of the following best describes the location of your dwelling?

1 RURAL OR COUNTRY
2 SMALL TOWN (less than 10,000)
3 TOWN (10,000 - 50,000)
4 SUBURBS OF CITY OVER 50,000
5 URBAN AREA OF CITY OVER 50,000

6. Approximately how old is the dwelling you live in?

1 LESS THAN 5 YEARS
2 5 - 10 YEARS
3 11 - 20 YEARS
4 MORE THAN 20 YEARS
5 HAVE NO IDEA

7. How long have you lived at your present dwelling?

1 LESS THAN ONE YEAR
2 1 TO 3 YEARS
3 4 TO 6 YEARS
4 MORE THAN 6 YEARS

8. If you are divorced, separated, or widowed, is your present dwelling the same one you occupied while you were married?

1 NO
2 YES

9. Why did you select the dwelling you are now living in? (circle as many as apply)

1 AFFORDABLE
2 INHERITED, GIFT, OR SETTLEMENT
3 LIKED THE NEIGHBORHOOD
4 GOOD SCHOOL DISTRICT
5 DESIGN OF DWELLING; PLAN AND LAYOUT
6 NEAR FAMILY
7 BUILT NEW HOUSE
8 NEAR EMPLOYMENT
9 PROVIDES MORE SPACE
10 LIMITED CHOICE; NEEDED IMMEDIATELY
11 OTHER (SPECIFY)_____

10. What is your current method of housing payment?

1 RENT
2 OWN (WITH A MORTGAGE)
3 OWN (PAID FOR)
4 OTHER (SPECIFY)_____

11. What is the cost of your monthly rent or mortgage?_____

12. Approximately what percentage of your total monthly take-home income is spent on rent or mortgage?

1 LESS THAN 20%
2 20% - 29%
3 30% - 39%
4 40% - 49%
5 50% - 59%
6 60% OR MORE
7 SOMEONE ELSE PAYS HOUSING COST FOR ME

13. How satisfied are you with your present dwelling?

1 VERY SATISFIED
2 SATISFIED
3 NEITHER SATISFIED NOR DISSATISFIED
4 DISSATISFIED
5 VERY DISSATISFIED

14. Do you intend to move within the next year?

1 NO
2 YES
3 MAYBE

15. If yes, give reason(s) for moving. (circle as many as apply)

1 DISSATISFIED WITH NEIGHBORHOOD
2 DISSATISFIED WITH DWELLING
3 CHANGE OF EMPLOYMENT
4 MOVE CLOSER TO FAMILY
5 DWELLING IS TOO EXPENSIVE
6 DWELLING IS WRONG SIZE (circle either a or b)
a TOO LARGE
b TOO SMALL
7 PLAN TO BUY OR BUILD
8 IMPROVE LOCATION
9 CHANGE IN FAMILY STRUCTURE
10 NOT PHYSICALLY ABLE TO MAINTAIN DWELLING
11 OTHER (SPECIFY) _____

16. Would you recommend the type of dwelling in which you live to other female-headed single-parent families looking for a dwelling to rent or buy?

1 NO
2 YES
3 UNSURE

17. How many children live in your household?

1 NONE
2 ONE
3 TWO
4 THREE
5 MORE THAN THREE

18. If there are children living with you, what are their ages?

_____ _____ _____ _____ _____ _____

19. What is your age?

1 UNDER 25
2 25 - 29
3 30 - 34
4 35 - 40
5 OVER 40

20. If divorced, widowed, or separated, how many years have you been divorced, widowed, or separated?

1 LESS THAN 1 YEAR
2 1-2 YEARS
3 3-4 YEARS
4 5-6 YEARS
5 7 OR MORE YEARS

21. Do any other adults live in your household?

1 NO
2 YES

22. What is your occupation?

please specify_____

23. How many hours per week are you employed?

1 NONE
2 LESS THAN 20
3 20 HOURS OR MORE

24. What level was the last year of school you completed?

1 LESS THAN 8TH GRADE
2 8TH GRADE
3 SOME HIGH SCHOOL
4 HIGH SCHOOL
5 SOME COLLEGE
6 COLLEGE DEGREE
7 GRADUATE WORK

25. What is your ethnic origin?

1 WHITE
2 BLACK
3 OTHER

Is there anything else you would like to tell us about your housing needs as a single parent? If so, please use this space for that purpose.

Also, any comments you wish to make that you think may help us in future efforts to understand what single parents want and need in housing will be appreciated, either here or in a separate letter.

Your contribution to this effort is greatly appreciated. If you would like a summary of results, please print your name and address on the back of the return envelope (NOT on this questionnaire). We will see that you get it.

Appendix C

Follow-up Postcard

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DEPARTMENT OF HOUSING, INTERIOR DESIGN AND RESOURCE MANAGEMENT (703) 961-6165

November 25, 1985

Last week a questionnaire seeking your opinion about housing needs and preferences of single parent households was mailed to you. Your name was drawn in a random sample of single-parent households in the Roanoke area.

If you have already completed and returned it to us please accept our sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative, sample of Roanoke area residents it is extremely important that yours be included in the study if the results are to accurately represent the opinions of Roanoke area residents.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me today (384-7399 between 5:00 and 10:00 p.m.) and I will get another one in the mail today.

Sincerely,

Sheila Baillie
Project Director

Appendix D

Second Follow-up Letter

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DEPARTMENT OF HOUSING, INTERIOR DESIGN AND RESOURCE MANAGEMENT (703) 961-6163

December 9, 1985

Name
Address
Address

About three weeks ago I wrote to you seeking your opinion on the housing needs and preferences of single parent families. As of today we have not yet received your completed questionnaire.

Our research unit has undertaken this study because of the belief that the opinions of single parents should be taken into account in the formation of public policy, counseling information, and design plans for housing for single-parent families.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn through a scientific sampling process in which every single-parent household in the Roanoke area had an equal chance of being selected. This means that only about one out of every 300 people in Roanoke area households are being asked to complete this questionnaire. In order for the results of this study to be truly representative of the opinions of all single parents in this area it is essential that each person in the sample return her questionnaire. As mentioned in our last letter, the questionnaire from your household should be completed by an adult female.

In the event that your questionnaire has been misplaced, a replacement is enclosed. All replies will be kept strictly confidential. Identification numbers are only used for mailing purposes.

Your cooperation is greatly appreciated.

Cordially,

Sheila Baillie
Project Director

Appendix E

Selected Housing-Related Comments by Respondents

Housing-related Comments by Respondents

The back cover of the questionnaire was left blank with a request that the space be used for any comments the respondent would like to make regarding housing needs of single parents. Of the respondents whose questionnaires were used in the analysis, 57 (35%) wrote comments on the back cover.

The most frequently mentioned problems were affordability, privacy, safety, and the desire to own their own home. Many comments were in regard to children's needs:

> "I found that in my search for housing children were not welcomed, but yet you could have pets. How sad that animals are accepted more than innocent children."
>
> "We need a safe, clean neighborhood. I want my kids to be able to get outside and play--they can't here--it's not safe. The schools here are horrible."
>
> "...a neighborhood where I don't have to be afraid to let my children out. A place where they can play without playing in the street."

Affordability of housing payments, rent, maintenance, and utilities were a major problem for many women:

"I find it almost impossible to stretch my earnings for up-keep on my house; therefore it is gradually decreasing in value. I prefer a house of my own but I get depressed knowing I can't take care of it."

"I think it is very unfair that single low-income parents and children have to live in apartments whether they want to or not, just because they can't afford to live in a house."

"I'm now paying on two college loans and its hard. I pay because I cannot afford for them to garnish my check. Single parents have it hard when they cannot get credit. I spend a lot in the laundromat because my credit is not good to get a washing machine."

"We have roaches real bad, and no insulation in the walls, which means every year the pipes freeze and busts so all three of us sleep in one bedroom for at least three months."

"I am a single parent living in a housing project. I have always worked just barely making ends meet...If you get a raise your rent goes up. You can't ever move. There isn't any way to get ahead."

"My take home is considered poverty level so when I go to apply for any type of social help, they turn me down because they say I make too much money and there again I receive no help and I keep on struggling. I think they should help you especially if you're trying to help yourself."

"Affordable housing in a neighborhood where you don't need to fear for your life."

"Making enough money for housing costs requires more than full time employment and does not allow time for parenting children much less any leisure time or time and/or money for further education in order to make a job change."

> "The biggest problem...is maintenance and the cost of repairs. It seems a man can have the same work done as a woman and get it at a less cost. This also holds true for auto repairs."

Many women expressed the need for a peaceful life without social discrimination:

> "I want peace and quiet, mainly a good life for me and my kids."
>
> "...a house where they can raise their kids without interference from the neighbors."
>
> "...a problem of acceptance of single parents--especially single mothers, in a single dwelling neighborhood."

Some comments showed the desperation that many women felt for their situation:

> "I find myself asking what's the use of trying. I am hoping and praying that something will come up to make life a little more pleasant to live."
>
> "I'm in the middle going nowhere."
>
> "I guess I sound obnoxious, I'm just fed up!"

Additional comments mentioned child care, poor housing management, lack of privacy, noisy neighbors, insects, dogs, discrimination, space problems, lack of amenities, need for public transit, parking problems, vandalism, and the need for housing counseling. It was apparent from the comments that housing is a very important, very emotional concern for many single mothers.

Appendix F

Analysis of Variance and Regression Analysis Tables

HYPOTHESIS 1 - ANALYSIS OF VARIANCE TABLES

a. Housing Deficits by Type of Dwelling

Analysis of Variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	2427.44	2427.44	32.28	.0000
Within groups	153	11504.59	75.19		
Total	154	13932.03			

Group means:

Group	Count	Mean
Single-family	70	7.27
Multi-family	85	15.22
Total	155	11.63

b. Housing Deficits by Type of Multi-family Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	486.74	162.25	1.635	.1879
Within groups	78	7737.65	99.20		
Total	81	8224.39			

Group means:

Group	Count	Mean
Townhouse	11	13.09
Duplex	20	15.90
3 or 4 units	11	10.36
5 or more units	40	17.30
Total	82	15.46

c. Housing Deficits by Level of Multi-family Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	1.41	1.41	.0141	.9056
Within groups	78	7773.34	99.66		
Total	79	7774.75			

Group means:

Group	Count	Mean
First level	46	15.24
2nd or above	34	14.97
Total	80	15.13

d. Housing Deficits by Age of Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	356.4	91.36	1.01	.4042
Within groups	150	13566.6	90.44		
Total	154	13932.0			

Group means:

Group	Count	Mean
<5 years	12	8.33
5-10 years	21	12.67
11-20 years	42	13.48
>20 years	55	10.51
no idea	25	11.72
Total	155	11.63

e. Housing Deficits by Length of Tenancy

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	1139.5	379.84	4.48	.0048
Within groups	151	12792.5	84.72		
Total	154	13932.0			

Group means:

Group	Count	Mean
<1 year	22	6.64
1-3 years	41	13.93
4-6 years	48	13.73
>6 years	44	9.70
Total	155	11.63

f. Housing Deficits by Marital Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	243.3	243.30	3.133	.0793
Within groups	117	9086.9	77.67		
Total	118	9330.2			

Group means:

Group	Count	Mean
Not same unit	91	11.12
Same unit	28	7.75
Total	119	10.33

g. Housing Deficits by Method of Payment

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1053.2	1053.2	12.6	.0005
Within groups	145	12098.8	83.4		
Total	146	13152.0			

Group means:

Group	Count	Mean
Rent	104	13.70
Mortgage	43	7.84
Total	147	12.00

h. Housing Deficits by Amount Spent on Rent or Mortgage

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	5	1399.6	279.93	3.48	.0054
Within groups	140	11268.3	80.49		
Total	145	12667.9			

Group means:

Group	Count	Mean
<$100	25	12.96
$100-199	42	15.52
$200-299	43	10.95
$300-399	15	10.27
$400-499	14	7.36
$500 or more	7	3.86
Total	146	11.86

i. Housing Deficits by Percentage of Income Spent on Rent or Mortgage

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	6	255.3	42.55	.4753	.8258
Within groups	139	12443.7	89.52		
Total	145	12699.0			

Group means:

Group	Count	Mean
<20%	15	9.00
20-29%	34	12.38
30-39%	40	13.18
40-49%	20	11.80
50-59%	7	11.86
60% or more	12	12.75
don't pay	18	10.28
Total	146	11.92

j. Housing Deficits by Dwelling Satisfaction

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	4957.3	1239.3	20.08	.0000
Within groups	153	9444.6	61.7		
Total	157	14401.9			

Group means:

Group	Count	Mean
Very sat.	23	3.78
Satisfied	54	8.04
Neither	39	12.62
Dissatisfied	25	18.72
Very dis.	17	21.18
Total	158	11.65

K. Housing Deficits by Intention to Move

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	2452.5	1226.3	15.67	.0000
Within groups	157	12283.9	78.2		
Total	159	14736.4			

Group means:

Group	Count	Mean
No	77	7.86
Yes	32	13.53
Maybe	51	16.57
Total	160	11.77

1. Housing Deficits by Recommendation of Dwelling Type

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	2529.2	1264.6	16.26	.0000
Within groups	157	12207.2	77.8		
Total	159	14736.4			

Group means:

Group	Count	Mean
No	33	17.79
Yes	100	8.73
Unsure	27	15.67
Total	160	11.77

HYPOTHESIS 2 - ANALYSIS OF VARIANCE TABLES

a. Neighborhood Deficits by Dwelling Type

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	40.02	40.02	2.34	.1283
Within groups	153	2617.88	17.11		
Total	154	2657.90			

Group means:

Groups	Count	Mean
Single-family	70	5.01
Multi-family	85	6.04
Total	155	5.57

b. Neighborhood Deficits by Type of Multi-family Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	30.1	10.02	.5063	.6791
Within groups	78	1543.5	19.79		
Total	81	1573.6			

Group means:

Groups	Count	Mean
Townhouse	11	6.27
Duplex	20	6.95
3 -4 units	11	5.00
5 or more units	40	5.88
Total	82	6.07

c. Neighborhood Deficits by Location

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	107.8	26.96	1.62	.1734
Within groups	146	2436.3	16.69		
Total	150	2544.1			

Group means:

Group	Count	Mean
Rural	20	5.35
Small town	11	6.55
Town	15	3.27
Suburbs	56	5.84
City	49	6.10
Total	151	5.66

d. Neighborhood Deficits by Age of Dwelling

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	80.4	20.10	1.17	.3264
Within groups	150	2577.5	17.18		
Total	154	2657.9			

Group means:

Group	Count	Mean
<5 years	12	5.58
5-10 years	21	7.05
11-20 years	42	5.95
>20 years	55	5.07
no idea	25	4.80
Total	155	5.57

e. Neighborhood Deficits by Method of Payment

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	8.98	8.982	.5324	.4668
Within groups	145	2446.2	16.870		
Total	146	2455.2			

Group means:

Group	Count	Mean
Rent	104	5.60
Mortgage	43	6.14
Total	147	5.76

f. Neighborhood Deficits by Amount Spent on Rent or Mortgage

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	5	55.8	11.15	.704	.6215
Within groups	140	2218.4	15.85		
Total	145	2274.2			

Group means:

Group	Count	Mean
<$100	25	5.24
$100-199	42	6.19
$200-299	43	5.12
$300-399	15	6.47
$400-499	14	5.21
$500 or more	7	4.14
Total	146	5.55

g. Neighborhood Deficits by Percentage of Income

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	6	52.89	8.814	.5069	.8023
Within groups	139	2417.0	17.389		
Total	145	2469.9			

Group means:

Group	Count	Mean
<20%	15	4.47
20-29%	34	6.38
30-39%	40	5.88
40-49%	20	5.70
50-59%	7	6.00
60% or more	12	5.92
don't pay	18	4.89
Total	146	5.71

h. Neighborhood Deficits by Intention to Move

Analysis of variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	216.1	108.06	6.64	.0017
Within groups	157	2555.0	16.27		
Total	159	2771.1			

Group means:

Group	Count	Mean
No	77	4.57
Yes	32	5.88
Maybe	51	7.22
Total	160	5.68

HYPOTHESIS 3 - LINEAR REGRESSION ANALYSIS

Psychological Stress by Housing Deficits

Multiple R .29985
R square .08991
Adjusted R sq. .08384
Standard error 4.38839

Analysis of Variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Regression	1	285.4	285.38	14.82	.0002
Residual	150	2888.7	19.26		

Variables in the equation:

Variable	b	SE b	BETA	t	Sig t
Hsg deficits	.1409	.0366	.2998	3.85	.0002
(constant)	5.1254	.5626		9.11	.0000

HYPOTHESIS 4 - LINEAR REGRESSION ANALYSIS

Psychological Stress by Neighborhood Deficits

Multiple R .27804
R square .07731
Adjusted R sq. .07116
Standard error 4.41867

Analysis of Variance:

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Regression	1	245.4	245.38	12.57	.0005
Residual	150	2928.7	19.52		

Variables in the equation:

Variable	b	SE b	BETA	t	Sig t
Neighborhood deficits	.3045	.0859	.2780	3.55	.0005
(constant)	5.0378	.6134		8.21	.0000

The vita has been removed from the scanned document