THE IMPACT OF RACE ON HOUSING

IN LOW-INCOME RURAL AREAS

IN OKLAHOMA

By

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PREFACE

The study is concerned with the analysis of the impact of race on housing. The specific objectives of this study are to examine the relationship between race and housing (location, tenure, structural quality, and space) while controlling for the influence of income, family size and sex, age and education of the household head and to examine the relationship between family and housing characteristics as these characteristics influence a family's desire to change present housing.

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INTRODUCTION

Statement of the Problem

"A decent home and a suitable living environment for every
American family" was established as a goal by the Housing Acts of
1949, 1968 and 1974. The attainment of this goal depends upon match-
ing the cost of housing and the family's ability to pay. Even today,
the goal of a decent home is out of reach for many families from
middle to poverty levels of income. One report found "in this, the
richest of all countries, 40 percent of all families live in poverty
or deprivation" (Miller, 1964, p. 56). Although the proportion of
families in poverty has become smaller in recent decades, the number
still remains appallingly large. "Recent statistics for American
cities prepared by the Bureau of Labor Statistics also pointed to
the conclusion that about one-third of the people have incomes in-
sufficient to maintain a decent level of living" (Miller, 1964, p. 57).

Another major factor influencing the attainment of a decent liv-
ing environment is discrimination. Throughout history dominant groups
have discriminated against minority groups. As a result, the assets
in the "melting pot" become more and more unevenly distributed. The
dominant group has the majority of the assets: education, homes,
jobs, and public services. Therefore, the dominant ethnic group is

more likely to obtain a decent living environment. If they are discontent with the present situation they are able to alter or change it to meet their needs with their sufficient resources. Members of the minority group are at a disadvantage. They not only have less income, but also severely limited resources such as education, which makes it impossible to earn more. Members of minority groups are faced with constraints which make it difficult, if not impossible to obtain a higher standard of living. The goal of a decent living environment is one which should be equally attainable by all members of a society regardless of race, religion, or economic status.

Numerous studies have been conducted to determine why families in an affluent society such as ours have not been able to obtain decent housing. Most of these studies focused on urban areas, where poor housing was concentrated and highly visible. Rural areas, however, have largely been ignored. These areas posed even greater housing problems since recent data indicated that approximately 60 percent of the substandard housing in America was located in nonmetropolitan counties. Such facts illustrate an undeniable need for a closer examination of the impact of poverty and discrimination on the quality of family housing in rural areas.

## Purpose of the Study

The purpose of this study was to examine the impact of race on selected characteristics of housing acquired by families in low-income rural areas of Oklahoma. A further purpose was to examine the influences of race upon other family characteristics, and housing

characteristics upon a family's desire to change its present housing by making alterations or moving.

The specific objectives of this study were:

1. To examine the relationship between race and housing (location, tenure, structural quality, and space) while simultaneously considering the influence of income, family size, and age, sex, education of the household head.

2. To examine the relationship between the characteristics of the family and its present housing as they influenced the family's desire to change present housing.

## Hypotheses

The following hypotheses were formulated as a basis for this study:

1. There will be no relationship between race and the socioeconomic characteristics (family size, income, and age, sex, and education of the household head).

2. There will be no relationship between race and the present housing conditions (location, space, tenure and structural quality).

3. There will be no relationship between race, present housing conditions, socioeconomic characteristics of the family and it's desire to change present housing.

Procedure

There were nine Southern states involved in the S-95 Regional
Research Project. The purpose of the study was to examine the
housing environment of low income families in rural areas. The
objectives were:

1. to identify housing related aspirations, needs, expec-
   tations, and satisfactions of low-income families, and

2. to examine the limitations of the attainment of quality
   by these families.

Identical interview schedules were administered to each state
to obtain essential data. These data were analyzed at the state
level and will be compiled at the regional level. The results were
combined and distributed among architects, economists, environmental-
ists, planners, engineers, and extension workers who were involved
in the project.

Selection of the Sample

Each of the states participating in the project selected two
counties which met the following criteria:

1. The counties were within the lowest one-third of the
   counties in the state, based on median family income,

2. There were no towns in excess of 20,000 population,

3. Topography of each county was comparable to the topography
   of at least one county in another state in the study, one
   hilly and one plains.

In Oklahoma, the two counties chosen were Adair and Okfuskee. These

two counties were chosen because the demographic, geographic, and economic characteristics met the criteria in the following manner:

|  | Adair | Okfuskee |
|---|---|---|
| Largest town (population) | 2,134 | 2,913 |
| Median yearly income | 3,997 | 4,549 |
| Density (persons per sq. mile) | 26.6 | 34.6 |
| Percent of population below poverty level | 41.7 | 34.6 |

The data were collected in a two-stage sampling technique. Maps showing the locations of dwelling units in each county, were obtained from the Oklahoma Department of Highways, Planning Division. Each county was divided into clusters containing approximately 20 dwelling units each. Forty-five clusters were drawn at random into the sample, since it was estimated that each cluster would yield five interviews. A total of 400 interviews were collected in each county. The collection of data began in the North-east corner of each cluster. The first house was selected and moving clockwise, every fourth house was systematically drawn into the sample. The interviews administered the questionnaire to an adult female (the wife or the female head of the household). The male head of household was interviewed if there was no adult female in the household. If the desired respondent could not be contacted, an appointment was set up for a return visit. If contact was not accomplished after two callbacks the next house was drawn into the sample.

## Method of Data Collection

The data were collected by personal interviews. The interview schedule was prepared by a combined effort on the part of all the states involved in the project. It was pretested in one county of each of the states participating in the S-95 project, revised and condensed. The interview schedule consisted of 107 items designed to obtain data pertinent to:

1. demographic, economic, and social characteristics of residents,

2. housing characteristics and adequacy,

3. residents housing expectations, satisfactions with housing, and the constraints to action that could change housing.

These personal interviews were conducted from June to August, 1975, in Adair and Okfuskee counties, by trained interviewers. Each interview lasted on the average 30-45 minutes. The responses were recorded by the interviewers on the interview schedule and were edited in the field. The data were then coded and prepared for computer analysis on IBM cards.

### Analysis of the Data

## Statistical Tests to be Used

The population was described using frequencies and percentages. Procedures used in testing hypothesis one and two were gammas and chi-squares. Hypothesis three was tested in terms of path analysis.

The strength of the gamma coefficients were discussed according to the following classifications (Sokol, 1970, p. 33):

| Value of Gamma | Appropriate Phrase |
| --- | --- |
| $\pm$ .70 or higher | a very strong association |
| $\pm$ .50 to .69 | a substantial association |
| $\pm$ .30 to .49 | a moderate association |
| $\pm$ .10 to .29 | a low association |
| $\pm$ .01 to .09 | a negligible association |
| .00 | no association |

CHAPTER II

REVIEW OF LITERATURE

The Components of Housing

Housing is a process that involves decision making as the family tries to match its housing needs with a dwelling unit that is available in the market area where the family wants to live. In general, some characteristics of families have been found to influence the kind and quality of housing which a family obtains and occupies. The important characteristics include the size of the family, age, sex, and education of the household head, income, and race. The housing selected by the family will vary in type, tenure, location, amount of space, structural quality, and cost. The following sections of this chapter examine the relationships among the family characteristics and the impact of these on the type of housing that families acquire.

The Relationship Among Family Characteristics

Previous studies have documented the relationship among income, age, and education in that income is likely to increase as age and education increase. However, this relationship changes as a person reaches retirement age and income levels off or decreases (Rossi, 1955). Sex of the household head has also been found to be related

to family income. Female heads of households have lower incomes
than do male heads (McMillan, 1967). "Income of nonwhite families
was lower in comparison to white families" (Bahr and Gibbs, 1967,
p. 522).

Although some improvements have been made in reducing racial
discrimination in employment and earnings, race continues to influ-
ence earning power. Nonwhites frequently have less formal education
and occupy lower paying jobs. The low-paying occupations of these
groups fell into unskilled labor, agriculture, service occupations,
and semi-skilled factory workers (Rainwater, 1966; Broom and Glenn,
1969). The gap between whites and nonwhites in their amount of
formal education accounts for much of the occupational and income
gaps. But, even when they possessed the same amount of formal edu-
cation or the same job, nonwhites sometimes still received less
income (McEntire, 1960; Miller, 1964; Fogel, 1966; Bahr and Gibbs,
1969; Jiobu and Marshall, 1971). The situation for the nonwhites
was further handicapped by the greater frequency of female heads of
household and a slightly larger family size (Miller, 1964; Morris
and Winter, 1973).

## The Family and Housing Relationships

Both white and nonwhite owners usually have better housing than
renters. Homes owned by whites and nonwhites are most often single-
family structures, larger in size, and of better structural quality
than rental property (McEntire, 1960). The largest percentage of
homeowners were white persons between the ages of forty-five and
fifty-four, the maximum wage earning years (Kain and Quigley, 1972;

Struyk, 1974). Nonwhites comprised a vast number of the renters and they were more mobile (Rossi, 1955; McEntire, 1960). They possessed fewer years of formal education, fewer qualifications for higher paying jobs, and therefore received less income and were less able to afford a down payment on a house (Shannon and Krass, 1963; Fogel, 1966; Broom and Glenn, 1969). Income had a positive effect on the amount of housing space for whites, but not for nonwhites. Even when nonwhites had the resources to buy or rent a dwelling unit, they paid more for less space and housing quality, probably because of discrimination (McEntire, 1960; Kain and Quigley, 1972).

Whether one is an owner or renter there seemed to be a difference in the amount of space in the dwellings of whites and nonwhites. Overall, dwelling units occupied by nonwhite families tend to be smaller than white families. Racial differences in dwelling space (number of rooms) were strongly patterned by rural and metropolitan areas. Rental households are more crowded than owner in all areas for all racial groups (McEntire, 1960). Where there is access to more space and good housing in the market, nonwhite families have less purchasing power.

Structural quality of dwelling units varied among different racial groups and areas. In all cases, it is found that standard dwellings obtained by nonwhites are smaller than that of whites (McEntire, 1960). This problem of substandard housing is worse in rural areas than in urban. Studies indicated that "20 percent of all housing in rural areas was substandard" (U.S. Department of Agriculture, Economic Search Service, 1970, p. iv). Here the

poorer people have less accessibility to jobs, income, and services for the home. Racial differences in housing quality may have been due to different levels of expenditures for housing. Certain non-whitegroups spend less for housing than white groups of similar incomes.

> Studies of minority group housing conditions have reported that nonwhites received less and poorer housing for a given expenditure than whites or they paid more than whites for housing of equivalent amount and quality (McEntire, 1960, p. 142).

Along with paying less they received less quality. If nonwhites desired similar quality as whites, it costs them more. Inevitably, the percent of standard dwellings obtained by nonwhites was smaller than whites.

The demographic factors played an important role in residential mobility. Age of the household head was related to residential moves. Age of household head was further related to one's job security and residential patterns. The highest rates of residential mobility were found in the period following marriage and when children leave home. Families with young household heads were more likely to be movers than families with older household heads (Rossi, 1955; Nathanson, 1974).

The mobility patterns of certain racial groups differ from the rest of the population. Nonwhites are more mobile than whites, and this resulted from most nonwhites being renters (McAllister, Kaiser, Butler, 1971). Renting is a more temporary situation and dissatisfaction with housing can be changed rather easily by moving. Renters are, on the average, more dissatisfied than owners (Rossi, 1955, McAllister, Kaiser, Butler, 1973). The renter's moving costs are minimal while owners are more likely to encounter moves totaling

several thousand dollars. Ownership is a more stable, lasting sit-
uation with a major financial commitment. As an owner, it may be
easier and less expensive to alter the present housing to meet the
family's needs of structural quality and space, than it is to move.
Respondents who planned to move were younger, better educated, less
affluent, more likely to have children, and also more likely to be
female (Rossi, 1955, Nathanson, 1974). The largest percentage of
mobile families preferred to rent than own, but both owners and
renters preferred single-family row or detached housing (Maisel,
1966, Nathanson, 1974). The people who were most eager to move
were the ones in the poorest position to improve their housing and
neighborhood conditions by moving. People altered or moved from
their present housing because they wanted to better their housing
conditions, increase space, better location, nicer neighborhoods,
or to find a new home (in the case of fire, disaster, eviction, etc.).
Millions of American families annually invest thousands of dollars
to improve their housing. They borrowed and spent more for housing
than any other budget. Whether the family is black, Indian or white,
the goal of a decent home for every American family can be accomp-
lished only if the family's resources will permit it.

## Summary

Previous studies have indicated that race has influenced the
kind and quality of housing which a family could obtain and occupy.
The studies pointed out that the white families, with a male, middle-
aged head of household and with a high level of income were more

likely to own spacious homes of high structural quality. In comparison, the nonwhite families were found to have younger, female headed households, with lower incomes, and were found to be renters of crowded urban dwellings of lower structural quality. There was a distinct contrast between the housing acquired by white and nonwhite families.

CHAPTER III

ANALYSIS OF THE DATA

Description of the Sample

During the Spring of 1975, the data for the S-95 regional
study, were collected from a sample of 400 respondents living in
the Adair and Okfuskee counties in Oklahoma.  When frequencies and
percentages were tabulated for each variable, the following general
characteristics of the sample emerged.

This study examined the relationship between race and selected
housing characteristics of families in low-income rural areas.  Fam-
ilies in the sample included seventy percent whites, twenty-one per-
cent Indian, eight percent black (Table I).

Thirty-six percent of the respondents lived in or near rural
towns ranging from 1,000 to 3,000 population.  Thirteen percent of
the respondents lived in open country rural farm areas while fifty-
one percent of the respondents lived in open country rural nonfarm
areas.

The range of families size was one to twelve persons, the mean
being 3.08 persons per household.  Thirty-nine percent of the sample
was composed of two person households.  Seventy-six percent of the
families had male heads of household and 24 percent female household
heads.

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TABLE I

GENERAL CHARACTERISTICS OF THE SAMPLE

| Family and Housing Characteristics | Number Reporting | Percent |
|---|---|---|
| **Family Household Size** | | |
| One person | 62 | 16 |
| Two persons | 156 | 39 |
| Three persons | 46 | 11 |
| Four persons | 47 | 12 |
| Five persons | 44 | 11 |
| Six persons | 24 | 6 |
| Seven persons | 9 | 2 |
| Eight persons | 5 | 1 |
| Nine persons | 3 | 1 |
| Ten persons | 1 | 1 |
| Eleven persons | 1 | 0 |
| Twelve persons | 1 | 0 |
| Total | 399 | 100 |
| **Sex of Household Head** | | |
| Male | 305 | 76 |
| Female | 95 | 24 |
| Total | 400 | 100 |
| **Monthly Family Income** | | |
| $ 23 - $ 202 | 59 | 18 |
| $204 - $ 281 | 58 | 17 |
| $282 - $ 380 | 55 | 17 |
| $382 - $ 541 | 66 | 20 |
| $543 - $ 754 | 48 | 14 |
| $760 - $1600 | 45 | 14 |
| Total | 331 | 100 |
| **Age of Household Head** | | |
| 18-29 | 42 | 11 |
| 30-39 | 50 | 12 |
| 40-49 | 58 | 14 |
| 50-61 | 80 | 20 |
| 62-75 | 114 | 29 |
| 76-91 | 53 | 14 |
| Total | 397 | 100 |

TABLE I (Continued)

| Family and Housing Characteristics | Number Reporting | Percent |
|---|---|---|
| **Education of the Household Head** | | |
| 8 years or less | 199 | 52 |
| Some high school | 61 | 17 |
| High school graduate | 78 | 20 |
| High school plus some college | 27 | 7 |
| College graduate | 24 | 4 |
| Total | 389 | 100 |
| **Tenure** | | |
| Own | 303 | 76 |
| Rent | 97 | 24 |
| Total | 400 | 100 |
| **Structural Quality** | | |
| 4 High | 60 | 15 |
| 3 | 82 | 20 |
| 2 | 100 | 25 |
| 1 Low | 158 | 40 |
| Total | 400 | 100 |
| **Location** | | |
| Surburban | 100 | 25 |
| Open country rural - farm | 50 | 13 |
| Open country rural - nonfarm | 205 | 51 |
| Rural hamlet | 45 | 11 |
| Total | 400 | 100 |
| **Square-Feet-Per-Person** | | |
| 72.80 - 190.40 | 66 | 17 |
| 192 - 299 | 63 | 16 |
| 300 - 408 | 63 | 16 |
| 414 - 544 | 63 | 16 |
| 549 - 742.50 | 62 | 16 |
| 750 - 3200 | 76 | 19 |
| Total | 393 | 100 |

TABLE I (Continued)

| Family and Housing Characteristics | Number Reporting | Percent |
|---|---|---|
| Persons-Per-Room | | |
| .13 - .38 | 101 | 25 |
| .40 - .71 | 162 | 41 |
| .75 -2.33 | 136 | 34 |
| Total | 399 | 100 |
| Race | | |
| White | 279 | 70 |
| Indian | 84 | 21 |
| Black | 33 | 8 |
| Mexican American | 3 | 1 |
| Total | 399 | 100 |

The age of household head ranged from 18 to 91 years of age. Approximately 34 percent of the household heads were 65 years of age or older. The level of education ranged from no education to four years or more of college. The mean for education of the household was 9.06 years of education which compares to the national average level of education of 12.3 years for persons 25 years and older (U.S. Department of Commerce, Current Population Reports, 1974, p. 60). Thirty-one percent of the household heads had at least a high school education or higher.

Family income ranged from $23 per month to $1600 per month with a mean monthly income of $445. These figures support the fact that many families in Adair and Okfuskee counties could be

categorized as having low incomes. In agreement with the Current Population Reports data released in March, 1974, the national average poverty income level for a farm family members was $4,303 per year. A nonfarm family of the same size with a male household head received $5,040 per year. Households with a female head had even a lower yearly income than males.

Seventy-six percent of the sample were owners and 23 percent were renters. Structural quality of the dwelling units ranged from good to poor structural quality, with 40 percent of the units reported to be in good condition, free of structural defects or serious maintenance problems.

Housing space was measured in two ways. Square-feet-per-person, with a mean square-feet-per-person of 520.45. The range of persons-per-room was from .13 through 2.33 persons-per-room. Person-per-room ratio was greater than 1.0 in 10 percent of the households.

<p align="center">Definitions and Measurement of the Variables</p>

The socioeconomic variables, housing characteristics, and desire to change present housing were defined and measured as follows:

Race identified the race of the household head as observed by the interviewer. Respondents who were observed as whites were assigned a score of 1, respondents observed as Indians were assigned a score of 2, respondents observed as blacks were assigned a score of 3.

Structural Quality described the structural quality of the respondents present dwelling unit. The structural quality score

was obtained by the summation of the values attached to twelve housing characteristics:

A. 0 = To a large degree

B. 1 = To a small degree

C. 2 = Not present

As it appeared in the questionnaire--Are any of the following conditions present in your home?  If yes, are they major or just minor?

CONDITION

a. Leak(s) in the roof

b. Leak(s) in the basement

c. Crack(s)

d. Sag(s) or bulge(s) in walls or ceilings

e. Peeling paint on inside walls

f. Peeling paint on outside walls

g. Decay of door and window frames

h. Decay of porch and outside steps

i. Uneven floors

j. Holes or badly worn places in floor coverings

k. Broken or missing window panes

l. Broken or missing materials on exterior walls or foundation

m. Rodent or insect damage

Desire to Alter and Desire to Move were obtained by two questions.  The responses were coded as follows:

A. 0 = No change

B. 1 = Make alterations to present home

C. 2 = Move to a different home

The two questions were as follows:

1. Do you feel that your present home fully meets your family's needs as it is now, or would you like to make some change in your present housing arrangement?

2. Would you like to make some alteration in your present home or would you like to move to a different home?

Family Income was defined as the total family monthly income and included the sum of the take home pay of all household members and any income from other sources, such as social security, disability, etc.

Square-Feet-Per-Person was a space measure created by dividing total square feet in the home by total number of people living in the household.

Persons-Per-Room was another space measure created by dividing the total number of people in the household by the total number of rooms.

Location referred to the type of area in which the respondent lives and was coded as:

A. 2 = Small town (1,000 - 9,999)

B. 3 = Rural village (less than 1,000)

C. 4 = Open country rural nonfarm

D. 5 = Open country rural farm

Tenure was defined as the respondents present housing ownership status. It was coded as:

A. 1 = Own home

B. 2 = Rent home

Sex of Household Head referred to the sex of the person who was reported to be the household head:

A.  1 = Male

B.  2 = Female

Age of the Household Head identified the age of the household head as of the last birthday.

Education of the Household Head referred to the education (last year completed) of the head of the household.

Family Size was defined as the total number of persons living in the household at the time of the survey.

Testing of Hypotheses by Contingency Table Analysis

Test of Hypothesis One

The first hypothesis that there will be no relationship between race and the other socioeconomic characteristics was analyzed by the use of crosstabulations and gamma coefficients. The gamma coefficient was used to identify the strength of the relationship among the different socioeconomic characteristics.

A moderate association was found between race and family size (Table II), and was shown by a gamma of .25. Forty-three percent of the white families have a family size of two, while forty-six percent of the Indian families have three, and the percentages of thirty-six and thirty fall between a family size of two or three black families. Findings of recent studies showed that nonwhite families tend to be larger than white families (Miller, 1964; Morris and Winter, 1973). The findings from previous studies and this

TABLE II

CROSSTABULATION TABLE FOR FAMILY SIZE

| Race | Family Size | | | | |
|------|------|------|------|------|------|
| | 1<br>1 | 2<br>2 | 3-5<br>3 | 6-12<br>4 | Total |
| White$_1$ | 48<br>17.2 | 121<br>43.4 | 88<br>31.5 | 22<br>7.9 | 297<br>70.6 |
| Indian$_2$ | 6<br>7.2 | 23<br>27.7 | 38<br>45.8 | 16<br>19.3 | 83<br>21.0 |
| Black$_3$ | 7<br>21.2 | 12<br>36.4 | 10<br>30.3 | 4<br>12.1 | 33<br>8.4 |
| Total | 61<br>15.4 | 156<br>39.5 | 136<br>34.4 | 42<br>10.6 | 395<br>100% |

$X^2$ = 20.788        G = .254        P = .002

present study seemed to agree in the direction of the findings, but the relationship was not so strong.

Sex of the household was moderately associated with race as shown by the gamma of .31 (Table III). Eighty percent of white families and 71 percent of Indian families have male heads, while only 58 percent of black families have male heads.

A low association was found between age and race, as indicated by a gamma of .21 (Table IV). Thirty-four percent of the whites, 39 percent of the Indians, and 64 percent of the blacks were between 70 and 90 years of age. There was a considerably larger percentage of elderly black families who lived in two rural communities which were drawn into the sample. The researcher believes that this concentration is not representative of the black families in the county.

TABLE III

CROSSTABULATION TABLE FOR SEX OF THE HOUSEHOLD HEAD

| Race | Sex of Household Head | | |
| | Male 1 | Female 2 | Total |
|---|---|---|---|
| White$_1$ | 223<br>79.9 | 56<br>20.1 | 279<br>70.5 |
| Indian$_2$ | 60<br>71.4 | 24<br>28.6 | 84<br>21.2 |
| Black$_3$ | 19<br>57.6 | 14<br>42.6 | 33<br>8.3 |
| Total | 302<br>76.3 | 94<br>23.7 | 396<br>100% |

$X^2 = 9.521$      G = .312      P = .009

TABLE IV

CROSSTABULATION TABLE FOR AGE OF THE HOUSEHOLD HEAD

| Race | Age of Household Head | | | | |
| | 18-41 1 | 42-58 2 | 50-69 3 | 70-99 4 | Total |
|---|---|---|---|---|---|
| White$_1$ | 66<br>23.7 | 62<br>22.7 | 55<br>19.7 | 96<br>34.4 | 279<br>70.5 |
| Indian$_2$ | 18<br>21.4 | 19<br>22.6 | 14<br>16.7 | 33<br>39.3 | 84<br>21.2 |
| Black$_3$ | 3<br>9.1 | 1<br>3.0 | 8<br>24.2 | 21<br>63.6 | 33<br>8.3 |
| Total | 87<br>22.0 | 32<br>20.7 | 77<br>19.4 | 150<br>37.9 | 396<br>100% |

$X^2 = 15.746$      G = .207      P = .015

The largest percentage of the overall total sample had less than eight years of education. Education was moderately associated with race as pointed out by a gamma of -.36 (Table V). While only 42 percent of the whites had less than eight years of education, 67 percent of the Indians and 50 percent of the blacks were in this category.

TABLE V

CROSSTABULATION TABLE FOR EDUCATION OF THE HOUSEHOLD HEAD

| Race | Education of Household Head | | | |
|------|--------|--------|--------|--------|
|      | 0-8 1 | 9-12 2 | 13-23 3 | Total |
| White$_1$ | 94 42.3 | 88 39.6 | 40 18.0 | 222 75.3 |
| Indian$_2$ | 37 67.3 | 16 29.1 | 2 3.6 | 55 18.6 |
| Black$_3$ | 9 50.0 | 7 38.9 | 2 11.1 | 18 6.1 |
| Total | 140 47.5 | 111 37.6 | 44 14.9 | 295 100% |

$x^2$ = 13.409          G = -.364          P = .009

There was a low association between income and race (Table VI). Sixty-two percent of the blacks were in the lowest two income groups, compared with 30 percent of the Indians and 34 percent of the whites.

TABLE VI

CROSSTABULATION TABLE FOR FAMILY INCOME

| Race | Family Income | | | | | | |
|------|------|------|------|------|------|------|------|
| | 0-202<br><br>1 | 204-<br>281<br>2 | 282-<br>380<br>3 | 382-<br>541<br>4 | 543-<br>754<br>5 | 760-<br>1600<br>6 | Total |
| White$_1$ | 42<br>18.7 | 35<br>15.6 | 37<br>16.4 | 42<br>18.7 | 34<br>15.1 | 35<br>15.6 | 225<br>68.8 |
| Indian$_2$ | 9<br>11.8 | 14<br>18.4 | 17<br>22.4 | 17<br>22.4 | 13<br>17.1 | 6<br>7.9 | 76<br>23.2 |
| Black$_3$ | 7<br>26.9 | 9<br>34.6 | 1<br>3.8 | 6<br>23.1 | 0<br>0 | 3<br>11.5 | 26<br>8.0 |
| Total | 58<br>17.7 | 58<br>17.7 | 55<br>16.8 | 65<br>19.9 | 47<br>14.4 | 44<br>13.5 | 327<br>100% |

$X^2$ = 18.956          G = -.106          P = .041

## Test of Hypothesis Two

It was hypothesized that there would be no relationship between race and the present housing conditions (location, space, tenure, and structural quality). There was only a negligible association between

race and location shown by a gamma of .08 (Table VII). It was found that the largest percent of all races lived in open rural nonfarm areas. A greater percentage of blacks than whites in the sample lived in rural communities of less than 1000. Two settlements in one county that were dominantly black showed that racial separation is in evidence.

TABLE VII

CROSSTABULATION TABLE FOR LOCATION

| | Location | | | | |
|---|---|---|---|---|---|
| | 1,000-9,999 2 | Less Than 1,000 3 | Open Country Rural Nonfarm 4 | Open Country Rural Farm 5 | Total |
| White$_1$ | 81 29.5 | 32 11.6 | 121 44.0 | 41 14.9 | 275 70.2 |
| Indian$_2$ | 14 17.3 | 2 2.5 | 63 77.8 | 2 2.5 | 81 20.7 |
| Black$_3$ | 0 0 | 15 45.5 | 18 54.5 | 0 0 | 33 8.4 |
| Total | 95 24.2 | 49 12.5 | 202 51.5 | 43 10.9 | 389 100% |

$x^2$ = 76.293          G = .083          P = .000

The relationship between tenure and race was a negligible one as pointed out by a gamma of -.05 (Table VIII). Indians were just as likely to own their homes as were the whites. The analysis pointed out that less than 23 percent of the whites, Indians, and blacks in this sample rented their present housing. The review of literature indicated that whites more often own their homes, while nonwhites rented (Struyk, 1974). However, in low income rural areas of Oklahoma it appeared that discrimination by race did not have a strong impact on tenure. Many Indian families became homeowners

TABLE VIII

CROSSTABULATION TABLE FOR TENURE

| Race | Tenure | | |
|------|--------|------|-------|
|      | Own 1 | Rent 2 | Total |
| White[1] | 211 76.7 | 64 23.2 | 275 70.2 |
| Indian[2] | 64 79.0 | 17 21.0 | 81 20.7 |
| Black[3] | 26 78.8 | 7 21.2 | 33 8.4 |
| Total | 301 76.8 | 88 22.4 | 389 100% |

$X^2$ = .422           G = -.046           P = .936

through the Mutual Help Indian Housing Program which was available
in both counties in the sample. There was no program of this nature
to help black families and still over 78 percent of blacks were
homeowners.

A low association was disclosed between race and structural
quality by a gamma of .20 (Table IX). Fifty-nine percent of whites
and 42 percent of Indians lived in houses that were of high struc-
tural quality (in category 5 or 6), and 58 percent of blacks had
average structural quality in their present housing (categories 3
or 4). This finding agreed with previous studies related to race

TABLE IX

CROSSTABULATION TABLE FOR STRUCTURAL QUALITY

| Race | Structural Quality | | | | | | |
|---|---|---|---|---|---|---|---|
| | Poor 1 | 2 | 3 | 4 | 5 | Good 6 | Total |
| White$_1$ | 6 3.8 | 13 8.2 | 27 17.0 | 20 12.6 | 49 30.8 | 44 27.7 | 159 66.8 |
| Indian$_2$ | 3 5.8 | 7 13.5 | 10 19.2 | 10 19.2 | 10 19.2 | 12 23.1 | 52 21.8 |
| Black$_3$ | 3 12.5 | 0 0 | 8 33.3 | 6 25.0 | 3 12.5 | 4 16.7 | 24 10.1 |
| Total | 12 5.0 | 20 8.4 | 45 18.9 | 36 15.1 | 62 26.1 | 60 25.2 | 235 100% |

$X^2$ = 21.679          G = .196          P = .117

and structural quality which have found that whites on the average
occupied housing of a higher structural quality than nonwhites
(McEntire, 1960).

Square-feet-per-person was moderately associated with race as
designated by a gamma -.30 (Table X). Forty-one percent of the
whites occupied dwellings containing a large amount of square-feet-
per-person, 54 percent of the Indians occupied dwellings containing
a small amount of square-feet-per-person. The percentage of square-
feet-per-person for blacks fluctuated fairly evenly between small to

TABLE X

CROSSTABULATION TABLE FOR SQUARE-FEET-PER-PERSON

| Race | Square-Feet-Per-Person | | | | | | |
|---|---|---|---|---|---|---|---|
| | 72.80-190.40 1 | 192-299 2 | 300-408 3 | 414-544 4 | 549-742.50 5 | 740-3200 6 | Total |
| White$_1$ | 35 12.7 | 37 13.5 | 45 16.4 | 46 16.7 | 48 17.5 | 64 23.3 | 275 70.7 |
| Indian$_2$ | 20 24.7 | 24 29.6 | 14 17.3 | 11 13.6 | 7 8.6 | 5 6.2 | 81 20.8 |
| Black$_3$ | 10 30.3 | 1 3.0 | 4 12.1 | 5 15.2 | 7 21.2 | 6 18.2 | 33 8.5 |
| Total | 65 16.7 | 62 15.9 | 63 16.2 | 62 15.9 | 62 15.9 | 75 19.3 | 389 100% |

$x^2$ = 37.383          G = -.298          P = .000

large amounts of square-feet-per-person in the household. Previous studies pointed out that whites frequently acquired dwellings with larger amounts of square-feet-per-person than nonwhites (McEntire, 1960).

A moderate association between race and person-per-room was shown by a gamma of .34 (Table XI). Whites had fewer persons-per-room, while blacks had a higher ratio of persons-per-room. Forty-four percent of the whites have between .40 and .71 persons-per-room, 57 percent of the blacks have between .75 and 2.33 persons-per-room, and Indians have a fairly even distribution of percentages of persons-per-room throughout.

TABLE XI

CROSSTABULATION TABLE FOR PERSONS-PER-ROOM

| Race | Persons-Per-Room | | | |
|---|---|---|---|---|
| | .13-.38 1 | .40-.71 2 | .75-2.33 3 | Total |
| White$_1$ | 77 28.0 | 122 44.4 | 76 27.6 | 275 70.5 |
| Indian$_2$ | 12 37.5 | 10 31.3 | 10 31.3 | 32 8.2 |
| Black$_3$ | 10 12.0 | 26 31.3 | 47 56.6 | 83 21.3 |
| Total | 99 25.4 | 158 40.5 | 133 34.1 | 390 100% |

$$X^2 = 27.616 \qquad G = .344 \qquad P = .000$$

## Test of Hypothesis Three

It was hypothesized that there would be no relationship between race and the family's desire to change present housing. A gamma of .11 indicated that there was a low association between race and a desire to change present housing (Table XII). It was found that 55 percent of the whites and 58 percent of the blacks verbalized a desire for no change, and 44 percent of the Indians voiced a desire to change. Upon inspection of reviewed theoretical literature, it was found that nonwhites are more mobile than whites (McAllister, Kaiser, Butler, 1973). The variance between the two samples could be due to the fact that fewer Indian families were content with

TABLE XII

CROSSTABULATION TABLE FOR DESIRE TO CHANGE PRESENT HOUSING

| Race | Desire to Change Present Housing | | | |
| --- | --- | --- | --- | --- |
| | No Change 1 | Alter 2 | Move 3 | Total |
| White$_1$ | 153 54.8 | 80 28.7 | 46 16.5 | 279 70.5 |
| Indian$_2$ | 33 39.3 | 37 44.0 | 14 16.7 | 84 21.2 |
| Black$_3$ | 19 57.6 | 9 27.3 | 5 15.2 | 33 8.3 |
| Total | 205 51.8 | 126 31.8 | 65 16.4 | 396 100% |

$$x^2 = 8.317 \qquad G = .107 \qquad P = .081$$

present housing. Indians were more inclined to want to alter. This
finding can be explained by the condition of houses built under the
Indian Housing Program. Each family which participated in the pro-
gram received a one year guarantee and maintenance on their home.
After that first year--the family was responsible for all mainte-
nance--yet their incomes were low and they have limited resources
to put into maintenance.

The houses built under the Indian program were typical "devel-
opment type" houses that gave no design consideration to the cultural
needs and preferences of Indian families. Although many Indian fam-
ilies possessed their homes of good structural quality, they verbal-
ized a strong desire to make changes which would better suit their
housing needs.

## Path Analysis

The contingency table analysis in the preceding section limited
the examination of the relationship of only two variables at a time.
In order to simultaneously examine the impact of race as well as
the other family variables on housing it was necessary to use
another analytical method. Path analysis was selected as a tool to
isolate the theoretical meaningful variables and simultaneously ex-
amine the relationship among them. This method of analysis applied
"only to the sets of relationships among variables which are linear,
additive, causal, and are assumed to be measurable on an interval
scale" (Land, 1969, p. 5). In the path analysis model, a subset of
variable(s) (exogenous) was linearly dependent on the remaining

TABLE XIII

CHI-SQUARE VALUES AND GAMMA COEFFICIENTS
FOR THE ASSOCIATION BETWEEN RACE AND
SOCIOECONOMIC CHARACTERISTICS AND
HOUSING CHARACTERISTICS

| | Race | | |
|---|---|---|---|
| | Gamma | Chi-Square | Significance |
| Family Size | .25 | 20.79 | .002 |
| Sex of Household Head | .31 | 9.52 | .0086 |
| Age of Household Head | .21 | 15.75 | .02 |
| Education of Household Head | -.36 | 13.41 | .01 |
| Income | -.11 | 19.0 | .04 |
| Location | .08 | 76.29 | .00 |
| Tenure | -.05 | .42 | .94 |
| Structural Quality | .20 | 21.68 | .12 |
| Square-Feet-Per-Person | -.30 | 37.38 | .00 |
| Persons-Per-Room | .34 | 27.62 | .00 |
| Desire to Change Present Housing | .11 | 8.32 | .08 |

predetermined variables and was caused by variables outside the sample (Land, 1969). The remaining subset of the dependent (endogenous) variable(s) were determined by some linear combinations of the variables in the system (Land, 1969).

A path analysis model interprets the results of a multiple regression, taking into account that all variables in the model are operating simultaneously. Arrows point out the direction of the influence of the variables and the standardized beta coefficient is interpreted as the strength of the effect. The sign on the coefficient indicates whether the effect is positive or negative. The residual variable R, represents all variables outside the system which cause variation in the dependent variable. The formula for the residual variable is: $\sqrt{1-R^2}$. The hypothesized paths were allowed to remain in the model if they met the following criteria:

1. The beta value (B) was larger than the standard error of beta and,

2. the standardized beta value sign and the sign of the zero correlation matrix between the independent and dependent variable did not change.

## Theoretical Model for the Influence
## of Race on Housing

This section reports the analysis of the influence of race on family housing (tenure, structural quality, space, and location) while simultaneously considering the influence of income, family size, age, sex, and education of the household head. The analysis

further examined the influence of the characteristics of the family and its present housing on the family's desire to make some change in present housing (either alter present home or move to a different one).

The path analysis in this chapter is presented in four sections. Section one contains the overall hypothesized or theoretical model for the influence of family characteristics, and housing character- istics on the family's desire to change present housing. The second section reports the findings from the analysis of sub-models related to four characteristics of housing; space, tenure, structural quality, and location. The fourth section presents the overall tested model to examine the desire to make some change in housing to adequately meet the family's needs.

A zero order correlations matrix shown in Table XIV was included to give the reader a more complete view of the direct relationships between variables and establish the sign for the zero order correla- tion between variables.

Figure 1 contains the theoretical path model which indicates that family characteristics, including race, were expected to be directly related to the characteristics of housing in which families lived. The desire to alter or move was expected to be influenced by both the family characteristics and the housing characteristics.

The expected paths between specific variables are shown in Table XV.* A positive sign indicates that as the independent vari- able increases the dependent variable also increases. A negative

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*See pp. 18-21 for explanation of the way in which variables were coded for analysis.

TABLE XIV

CORRELATION MATRIX FOR PATH MODEL (N=200)

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.000 | .176 | .126 | .094 | .146 | -.078 | .005 | .029 | .061 | -.126 | .175 | -.003 |
| 2 | | 1.000 | -.269 | -.441 | -.255 | .417 | .230 | .105 | .166 | -.575 | .406 | .133 |
| 3 | | | 1.000 | .670 | .890 | -.334 | -.192 | .068 | .082 | .295 | -.269 | -.121 |
| 4 | | | | 1.000 | .660 | -.596 | -.205 | -.120 | .088 | .373 | -.432 | -.189 |
| 5 | | | | | 1.000 | -.359 | -.152 | .057 | .043 | .304 | -.258 | -.098 |
| 6 | | | | | | 1.000 | .156 | .035 | -.071 | -.261 | .330 | .173 |
| 7 | | | | | | | 1.000 | -.079 | -.052 | -.268 | .228 | -.069 |
| 8 | | | | | | | | 1.000 | .172 | -.080 | .190 | .299 |
| 9 | | | | | | | | | 1.000 | -.168 | .186 | .317 |
| 10 | | | | | | | | | | 1.000 | -.610 | -.152 |
| 11 | | | | | | | | | | | 1.000 | .181 |
| 12 | | | | | | | | | | | | 1.000 |

1 = RACE, 2 = FAMILY SIZE, 3 = SEX OF HOUSEHOLD HEAD, 4 = AGE OF HOUSEHOLD HEAD, 5 = EDUCATION OF HOUSE-HOLD HEAD, 6 = INCOME, 7 = LOCATION, 8 = TENURE, 9 = STRUCTURAL QUALITY, 10 = SQUARE-FEET-PER-PERSON, 11 = PERSONS-PER-ROOM, 12 = DESIRE TO CHANGE PRESENT HOUSING.
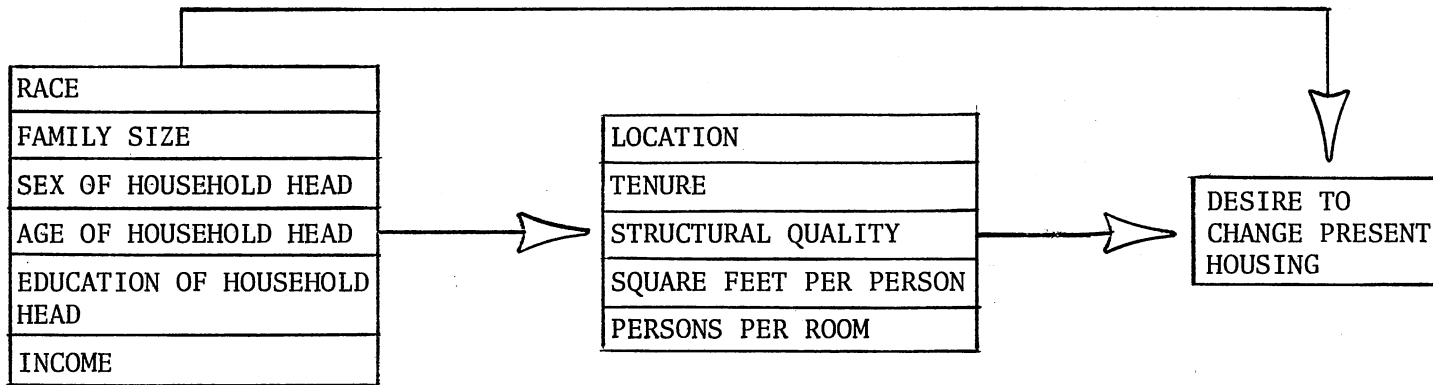
```
┌─────────────────────────────┐                                              ┌──────────┐
│RACE                         │                                              │    ▽     │
├─────────────────────────────┤                                              │          │
│FAMILY SIZE                  │          ┌───────────────────────────┐       │          │
├─────────────────────────────┤          │LOCATION                   │       │          │
│SEX OF HOUSEHOLD HEAD        │          ├───────────────────────────┤       ┌──────────────────┐
├─────────────────────────────┤          │TENURE                     │       │DESIRE TO         │
│AGE OF HOUSEHOLD HEAD        │   ▷      ├───────────────────────────┤  ▷   │CHANGE PRESENT    │
├─────────────────────────────┤          │STRUCTURAL  QUALITY        │       │HOUSING           │
│EDUCATION OF HOUSEHOLD       │          ├───────────────────────────┤       └──────────────────┘
│HEAD                         │          │SQUARE  FEET  PER  PERSON  │
├─────────────────────────────┤          ├───────────────────────────┤
│INCOME                       │          │PERSONS  PER  ROOM         │
└─────────────────────────────┘          └───────────────────────────┘
```

Figure 1.   Theoretical Model for the Relationship Between Family Characteristics and
            Housing

TABLE XV

EXPECTED SIGNS FOR THE THEORETICAL MODEL

| Variables | 7 | 8 | 9 | 10 | 11 | 12 |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | (-) | (+) | (-) | (-) | (+) | (+) |
| 2 | (+) | (-) | (*) | (-) | (+) | (+) |
| 3 | (-) | (+) | (-) | (-) | (+) | (+) |
| 4 | (-) | (-) | (-) | (+) | (-) | (-) |
| 5 | (-) | (-) | (+) | (+) | (-) | (-) |
| 6 | (-) | (-) | (+) | (+) | (-) | (+) |
| 7 | | | | | | (+) |
| 8 | | | | | | (+) |
| 9 | | | | | | (-) |
| 10 | | | | | | (-) |
| 11 | | | | | | (+) |
| 12 | | | | | | (*) |

1 = RACE, 2 = FAMILY SIZE, 3 = SEX OF HOUSEHOLD HEAD, 4 = AGE OF
HOUSEHOLD HEAD, 5 = EDUCATION OF HOUSEHOLD HEAD, 6 = INCOME, 7 =
LOCATION, 8 = TENURE, 9 = STRUCTURAL QUALITY, 10 = SQUARE-FEET-PER-
PERSON, 11 = PERSONS-PER-ROOM, 12 = DESIRE TO CHANGE PRESENT HOUSING.

*Indicates no relationship hypothesized.

sign indicates that as the independent variable increases the dependent decreases. For example, it was expected that race would be related negatively to location, structural quality, and square-feet-per-person; that is, it was expected that nonwhites were more likely to live in urban areas and in houses having poorer quality and fewer square-feet-per-person. However, race was expected to be positively related to tenure, persons-per-room, and the desire to change housing; that is, it was expected that nonwhites were more likely to be renters, live in houses with a greater number of persons-per-room and thus would express a greater desire to change their present housing by altering their present home or moving.

## Sub-Models to Explain Housing Related Variables

### Sub-Model I-Location

Race, sex, age, and education of the household head, and income affected location as shown in Figure 1. When considered simultaneously with other family characteristics, race was found to have only a slight influence on location. Nonwhite families were more likely to live in rural areas. Location was influenced to about the same degree by age, sex, and education of the household head. Household heads who had more education, were older, and female were more likely to live in urban areas.

Family size did not have a strong enough influence to be retained in the model. Thus, for this sample rural families were no larger than urban ones.

Income had a slight affect on location. Family income in this study was found to be higher for families located in the rural areas. Previous studies pointed out that families located in urban areas had higher incomes than the rural areas (Fogel, 1966).

## Sub-Model II-Tenure

Race and income did not have a strong enough affect on tenure to remain in the model. In this sample, a sizeable percent of the blacks, whites, and Indians were owners regardless of race and the amount of family incomes. Tenure was affected by sex, age, and education of the household head as shown in Figure 2. Age had the strongest negative impact on tenure while the influence of sex and education was approximately equal. In the urban areas there was more rental property available to the consumer, but in this rural sample there was very little rental property available so more whites, Indians, and blacks were owners. The large number of elderly persons in the sample may help to explain why income was not found to be strongly related to tenure. Although their present income was low, the elderly persons may have bought their home at an earlier period in their family life cycle, when the family income was a little higher. It was expected that female household heads would more likely be renters than owners. However, the opposite relationship was found. The large number of elderly females, living alone in homes which they had purchased during the child rearing stages, probably accounted for this opposite relationship between sex and tenure for this sample.
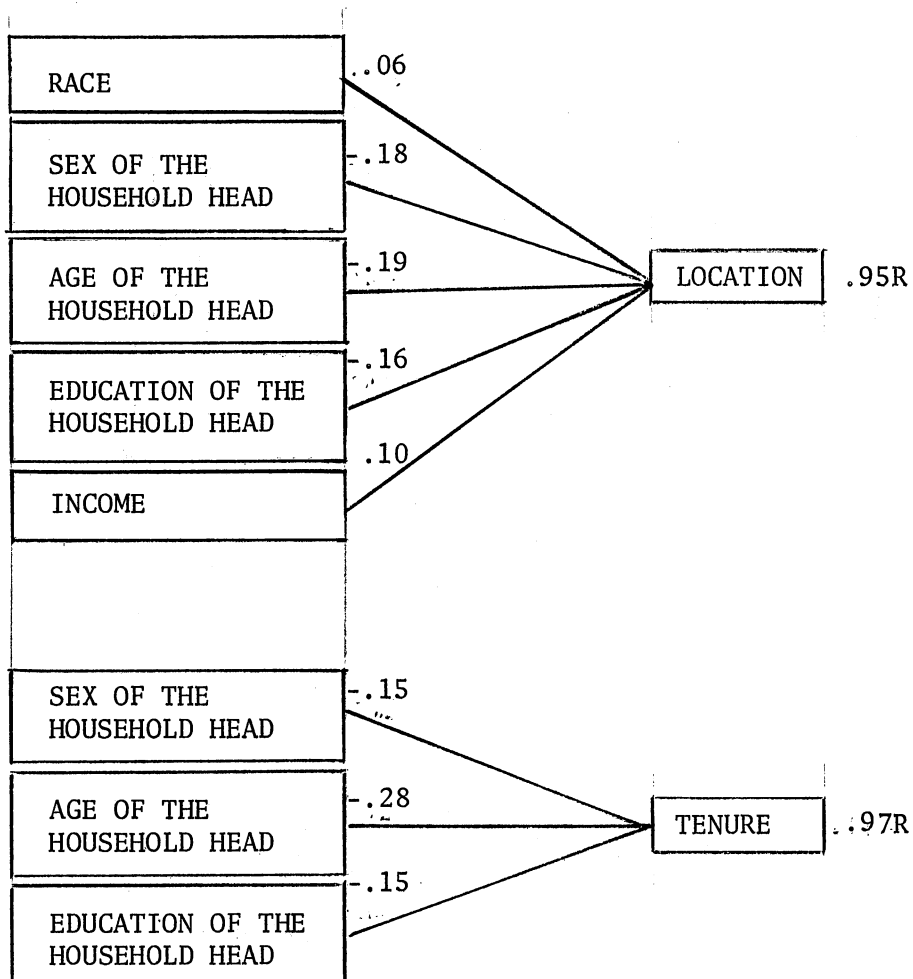
Figure 2. Sub-Models to Explain Location and Tenure

## Sub-Model III-Structural Quality

Race and age of the household head had a positive influence on structural quality. Education of the household head had the strongest impact on structural quality, which indicated the higher the number of years of education the better the structural quality. The variables sex of the household head and income did not have a strong enough influence on structural quality to be retained in the model. For this sample, this indicated that male heads of household with a higher family income do not have better structural quality in their homes than do female household heads with a lower income in this sample.

## Sub-Model IV-Square-Feet-Per-Person

As pointed out in Figure 3, race had an impact on square-feet-per-person, but age and education of the household head had the strongest influence on square-feet-per-person. It was hypothesized that sex of the household head had a negative impact on square-feet-per-person, but the findings pointed out that it had a positive effect. Thus, white families with male heads could afford more square-feet-per-person. In this sample, the number of elderly females living alone in larger homes probably accounted for the reversed relationship. Also, the variable income did not affect square-feet-per-person strongly enough to stay in the model.
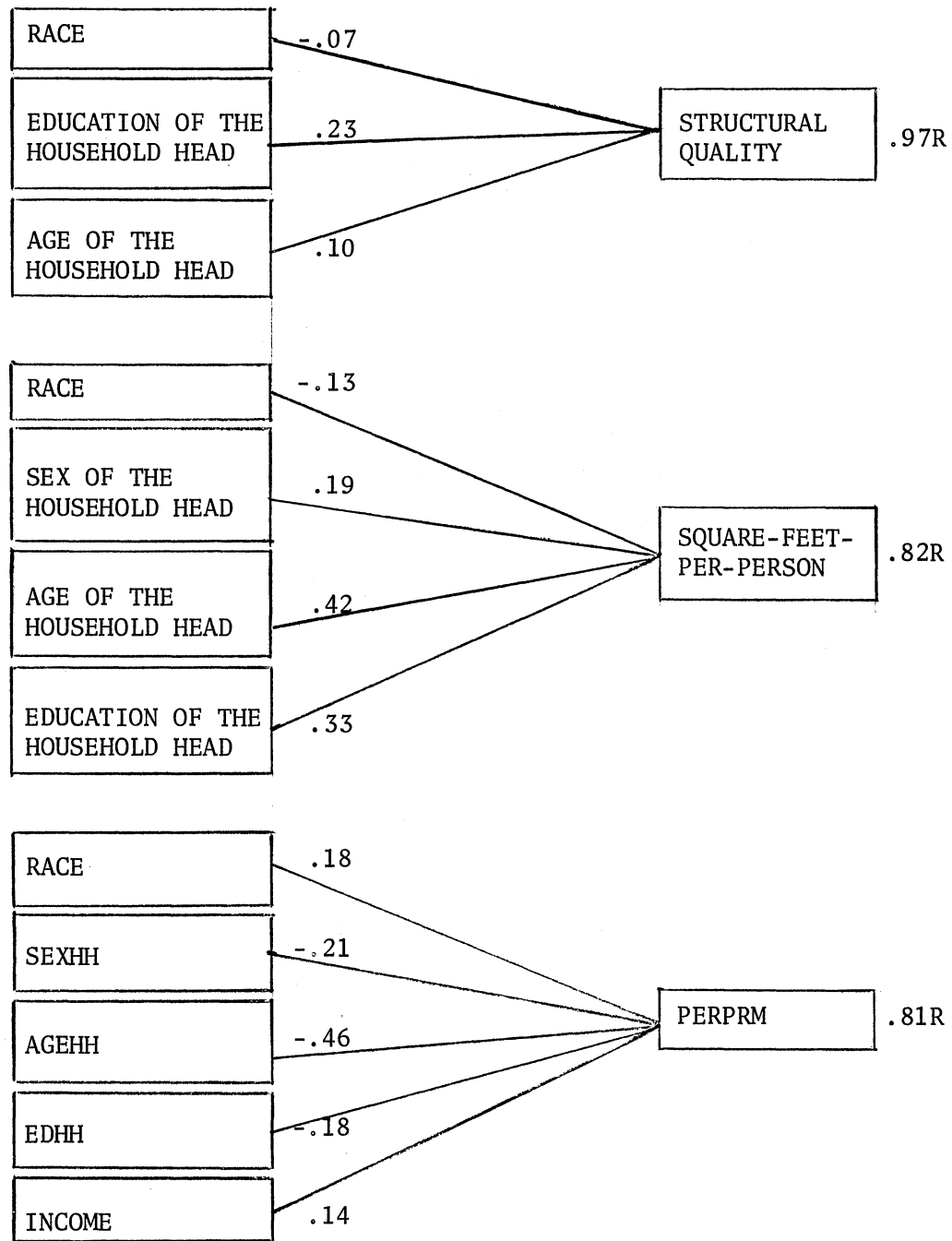
Figure 3.   Sub-Models to Explain Structural Quality and
            Space

## Sub-Model V-Person-Per-Room

Race had a positive influence on person-per-room as shown in Figure 3. This indicated that white families had fewer person-per-room than nonwhite families. The findings pointed out that sex of the household head had a negative influence and income had a positive affect on person-per-room. These influences resulted from a large number of elderly female heads of households living in a big house all by themselves.

Overall, race played a minor role in explaining the kind of housing which families had in this sample. Age of the household head seemed to be the strongest variable in all the models. It's impact affected all the variables because there was a large number of elderly female heads of household with a fixed income, but they are homeowners with high structural quality, large amounts of square-feet-per-person, and a small number of person-per-room. The impact of age of household head affected relationships among race and other variables that would normally have evidence of racial discrimination, and the direction of the relationship was reversed.

## Overall Path Model for Changed Housing

The overall path model analyzing variables which influence a family's desire to change it's housing is shown in Figure 4. The empirical model analyzed the relationship between race and housing (tenure, structural quality, location, and space) while controlling for the influence of income, family size, age, sex, and education
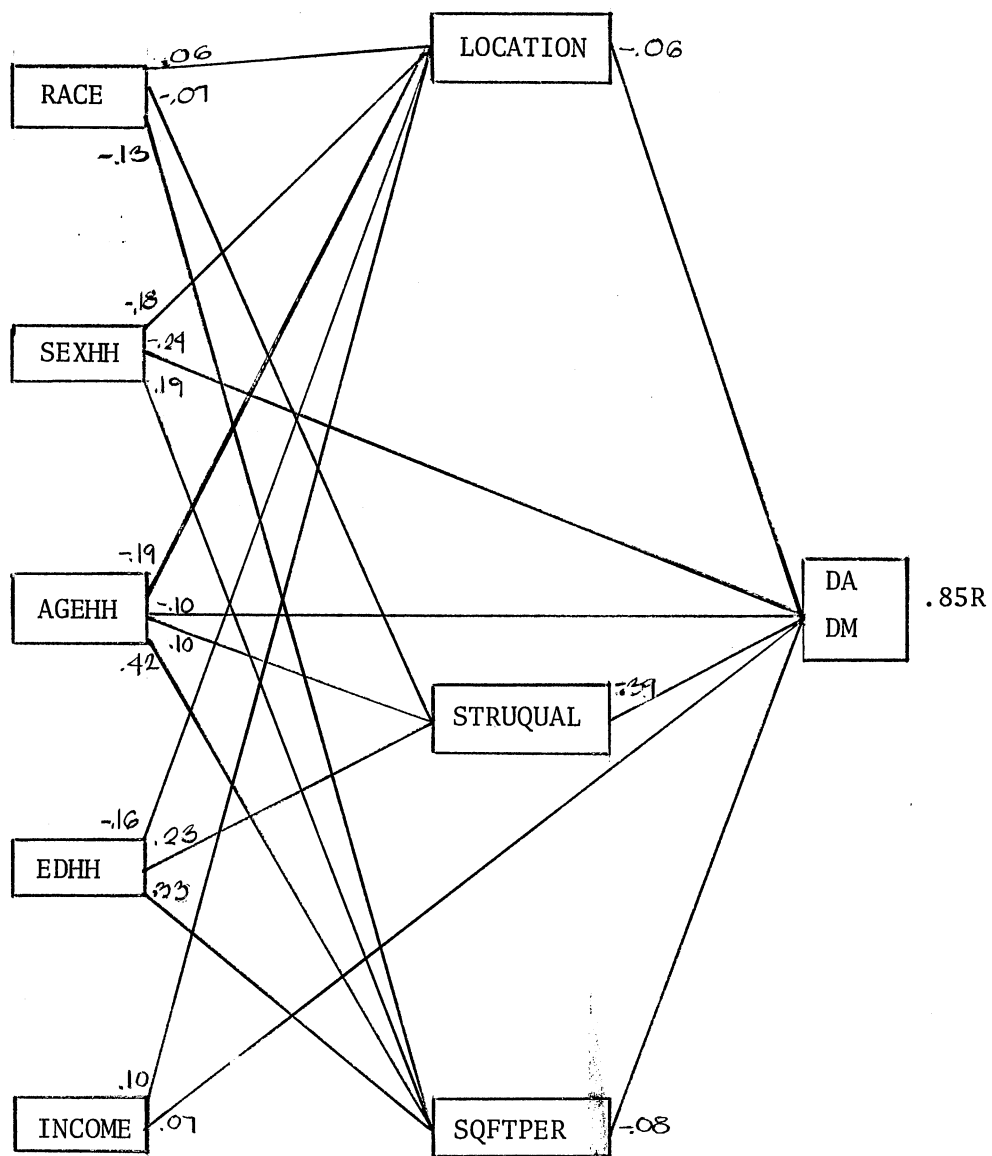
SEXHH = SEX OF HOUSEHOLD HEAD, AGEHH = AGE OF HOUSEHOLD HEAD,
EDHH = EDUCATION OF HOUSEHOLD HEAD, STRUQUAL = STRUCTURAL
QUALITY, DA, DM = DESIRE TO CHANGE PRESENT HOUSING.

Figure 4.  Path Model for Changed Housing

of the household head.   It further analyzed the influence of the
family and its present housing on the family's desire to change
present housing.

Of the family characteristics, race and education did not have
a direct effect on the family's desire to change present housing.
Sex of household head had a negative influence on desire to change
housing as did age of the household head.   Income had slight influ-
ence on desire to change present housing.   Thus, these relationships
resulted from a large number of elderly females living in large
homes all by themselves, which they owned.   They had no desire to
change present housing or move.

The housing characteristics which had a direct influence on a
desire to change present housing were structural quality, location,
and the number of square-feet-per-person.   Tenure and person-per-
room did not have a strong enough influence on desire to change
present housing to remain in the model.   It was found that people
with good structural quality did not verbalize as strong a desire
to change present housing or move.   Poor structural quality was by
far the strongest influence for wanting to move or change present
housing; whereas, space and location measures were very weak influ-
ences by comparison.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

As a result of discrimination and negligence, problems related
to housing in low-income rural areas have become progressively worse.
A lack of awareness about existing housing conditions has added to
the problem. Research should be designed to identify the problems,
and develop recommendations which would reach these specific needs.

The main purpose of this study was to examine the impact of
race on the housing of families in low-income rural areas of Oklahoma.
A further purpose was to examine the influence of race, along with
other family and housing factors as they influence a family's desire
to change their present housing by making alterations or moving. In
this particular study, the data came from the S-95 Southern Regional
Research Project. The regional project focused on housing environ-
ment for low-income families in rural areas.

The method for collecting the data was an interview schedule.
This schedule was developed as a result of the pretest for this
S-95 project by the research directors from the southern states.
Interview questions were designed to collect data on present

housing conditions, desired housing, housing quality, socio-
demographic characteristics of the family and satisfaction with
housing.

This sample included a total of 400 families. The interviewers
administered the interview schedule to the wife of the male head of
the female head of the household. The male head would be interviewed
if there was no female head of the household. These families were
selected from two counties in Oklahoma, Adair and Okfuskee.

This sample was composed of 70 percent whites, 21 percent Indians,
8 percent blacks. The majority of the respondents lived in open
country rural nonfarm areas. Family size ranged from one to twelve
persons, the mean being 3.08 persons per households. The mean age
of the household head was 55 years. Family income ranged from $23
per month to $1600 per month with a mean monthly income of $445.
Seventy-six percent of the sample were recorded as owners and 23
percent were renters. Structural quality of the household ranges
from good to poor. The mean square-feet-per-person was 520. The
range of persons-per-room was from .13 through 2.33 persons per
room with a mean of .635 persons-per-room.

Contingency table analysis was used to test hypotheses one and
two by analyzing the relationship between two variables at a time.
The results were summarized as follows:

Summary for Hypothesis One

Hypothesis one was--there would be no relationship between race
and the socioeconomic characteristics (family size, sex, age, and
education of the household head, and income). A gamma was used to

identify the strength of the relationship between the different socioeconomic characteristics. A moderate association was found between race and family size, and sex of the household head. A negative gamma between race and education of the household showed that nonwhites had a higher level of education. This may be partially a result of available educational opportunities, and the high percentage of elderly black people in this particular sample who had less education. A low association with race was found for age of the household head and income. It appeared that race was more strongly related to family size and sex of the household head than to education of the household head and family income. However, significant chi-square values were found for the relationship between race and all of the socioeconomic variables; therefore, hypothesis one was rejected.

## Summary for Hypothesis Two

Hypothesis two was--there would be no relationship between race and the present housing conditions. Location, tenure, structural quality, and space were measures of present housing conditions. Space was found to be moderately related to race in that nonwhite families had less square-feet-per-person and a larger number of persons-per-room. A less strong relationship was found between race and location. These relationships were significant as measured by the chi-square tests. Race was not significantly related with either tenure or structural quality. Since space and location were related with race, the hypothesis was rejected for these two

relationships. The null hypothesis was accepted for the tenure and structural quality since these two aspects of housing were not found to be related to race.

## Test of Theoretical Path Model

Path analysis was chosen as the means for simultaneously examining the relationships among the variables contained in the model.

When considered simultaneously with other family characteristics race was found to have only a slight influence on location. Nonwhite families were more likely to live in rural areas. Location was influenced to about the same degree by age, sex, and education of the the household head. Household heads who had more education, were older, and female were more likely to live in urban areas.

Race and income did not have a strong enough affect on tenure to remain in the model. In this sample, a sizeable percent of blacks, whites, and Indians were owners regardless of race and family income. Age of the household head had the strongest negative impact on tenure, while the influence of sex and education of the household head was approximately equal. The large number of elderly females, living alone in homes which they had purchased during the child rearing stages probably accounted for some of the directions of these relationships.

Race and age of the household head had a positive influence on structural quality. Education of the household head had the strongest impact on structural quality, which indicated the higher the number of years of education, the better the structural quality of

the dwelling.  The variables sex of the household head and income
did not have a strong enough influence to be retained in the model
for structural quality.

Race had an impact on square-feet-per-person, but the influ-
ences of age and education of the household head were stronger.  It
was found that white families with male heads lived in homes with
more square-feet-per-person.  In this sample, the number of elderly
females living alone in large homes probably accounted for the re-
versed relationship.  Income was not strong eough to be retained
in the model.

Race had a positive influence on persons-per-room.  This indi-
cated that nonwhite families had more persons-per-room.  The findings
pointed out that sex of the household head and income had an effect
on persons-per-room.  This relationship was the result of a large
number of elderly female heads of households living in a big house
all alone.

In the overall path model, race had the weakest influence on a
family's desire to change present housing.  Age of the household
head had the strongest indirect and direct impact on a family's
desire to change present housing, and then came education, and
sex of the household head.  These were the most influential be-
cause there was a large number of female, elderly heads of house-
holds, who owned their homes and lived alone.  These characteris-
tics of this particular sample caused tenure and persons-per-room
not to have a direct affect on a family's desire to change present
housing.

Conclusions

Overall, race played a minor role in explaining the kind of housing occupied by the families in this sample. Age of the household head seemed to be the strongest variable in all the models. The sample contained a large number of elderly female heads of household with fixed incomes, but they were homeowners with larger amounts of square-feet-per-person, and a small number of persons-per-room. The impact of age of household head, low income, and rural location affected relationships among race and other variables that would normally have evidence of racial discrimination, and the direction of the relationship would have been reversed.

Some of these findings from the analysis of data were in contrast to the findings in the review of literature. From the studies reviewed, race was found to be a stronger socio-economic characteristic of the family and the housing which the families occupied. The previous studies pointed out that the white families, with a male, middle-aged head of household, and with a high level of income were more likely to own more spacious homes of higher structural quality. In comparison, the nonwhite families were shown to have younger, female headed households, with lower incomes, and were renters of crowded dwellings. Previous studies were conducted primarily with samples from urban areas, whereas this study was conducted in a rural area. Thirty-four percent of the respondents were over 65 years of age. Many of these were elderly females who lived alone. These elderly respondents probably accounted for the difference between the findings of this study and previous ones.

## Recommendations

It is recommended by the author that:

1. This study be compared to the studies being conducted in other states in the Southern Region to see if similar relationships exist.

2. Other studies be designed and implemented to further investigate the relationships among variables in rural areas.

3. Other studies be made to continue improvements in collecting timely and relevant data and their analysis and interpretation.

4. Other studies be designed to examine the impact of other variables (age of the household head, total assets, low income, rural areas) outside the sample, on a family's desire to change present housing.

5. Other studies be designed and implementated toward a national program for income and employment opportunities for people of all races.

6. Other studies be established to qualify the poor (no matter what the race) for program participation.

7. Other studies to provide incentive or compensation payment for owners or renters of rural property, so they will be able to renovate or relocate their present housing in response to personal and community economic conditions.

8. Other studies with increased emphasis on education and training programs for all children and the establishment of special adult education and training centers in strategic locations.

9. Other studies with a combined effort on the part of the community leaders, program managers, architects, engineers, interior designers, extension workers, government agencies, and people who care to develop more effective programs and better implement existing programs directed towards the needs of low-income rural people.

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