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To the Graduate Council:

I am submitting herewith a thesis written by John R. Anania, entitled "Factors Related to Level of Living For Residents in an East Tennessee County." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

Franklin O. Swinford
Major Professor

We have read this thesis and recommend its acceptance:

H. B. Badenhop

Accepted for the Council:

Hilton A. Smith
Vice Chancellor for
Graduate Studies and Research

# FACTORS RELATED TO LEVEL OF LIVING FOR RESIDENTS IN AN EAST TENNESSEE COUNTY

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A Thesis

Presented to

the Graduate Council of

The University of Tennessee

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

John R. Anania

December 1971

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ABSTRACT

Data from 531 married couples residing in Hamblen County, Tennessee, surveyed in 1968, were examined to delineate socioeconomic factors related to standard of living. Stepwise regression analysis was used to determine the relationship between 13 socioeconomic characteristics and a 16 item level of living index. Because of the use of dummy variables to measure several socioeconomic characteristics, a total of 24 items were coded. The model containing 24 socioeconomic items was reduced to nine items assessing six characteristics.

The results indicated that total income of family, educational attainment of wife, age of husband and professional occupation of husband had significant and positive relationships with level of living. Age of husband at time of first marriage and number of living children had significant and negative relationships.

Regression analyses of the nine socioeconomic items, based on area where husband was reared, were also made. The results of the analyses for the three subgroups, native couples, couples from adjacent counties, and couples from other areas, showed total income of family and educational attainment of wife to have significant and positive relationships with level of living. Total income of family had the highest relationship for couples from other areas.

The $R^2$ values between the nine items and level of living index were .43, .44 and .54, respectively, for native couples, couples from adjacent counties, and couples from other areas. The $R^2$ value for all 531 couples was .45.

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# CHAPTER I

## I. INTRODUCTION

Measuring the standard of living of people is a problem that arises both in the definition of a standard and in the development of an adequate measurement technique. Different definitions imply different measurement techniques. Kyrk views standard of living as a subconscious force affecting the selections each individual makes in terms of goods and services. The view implies that standard of living is viewed in terms of income and the pay-off between available alternatives.[1] A second definition, articulated by a subcommittee on rural levels and standards of living stated it in terms of an expectation level of living, either as sought by the people themselves or as defined by technical researchers.[2] In the present study, a definition was employed that viewed standard of living as a function of relevant socioeconomic characteristics.

The terms level of living and standard of living are used interchangeably throughout the present study. Both refer to actual possession of home items and not expected or desired possession of home items.

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[1]Hazel Kyrk, The Family in the American Economy (Chicago 37: The University of Chicago Press, 1953), p. 374.

[2]Report of the Ad Hoc Subcommittee on Rural Levels and Standards of Living, The Rural Sociological Society, "Sociological Research in Rural Levels and Standards of Living," Rural Sociology, Number 2, XXI (June, 1956), pp. 184-85.

## II. OBJECTIVE

The objective of the present study is to identify the relationship between selected socioeconomic characteristics and level of living for 531 married couples residing in Hamblen County, Tennessee. The study was based on data collected in a survey conducted in Hamblen County during the summer of 1968. Hamblen County is located in East Tennessee, approximately 45 miles northeast of Knoxville. The 1970 population of Hamblen County was 38,969 with 53 percent residing in urban areas. During the 1960-70 decade the population increase was 17 percent and for the 1950-60 decade 38 percent. Net in-migration in the 1950-60 decade was 21 percent, the highest in a Tennessee county, and in the 1960-70 decade net in-migration was four percent or somewhat above average for the State.

The 1968 survey of Hamblen County residents covered 661 households. Data from one hundred and twenty households were excluded from the present analysis because the household did not contain a married couple. For the sample of 531 married couples, data were analyzed relating to material possessions in the household and socioeconomic characteristics of the couple. A stepwise regression analysis was used to determine the relationship between 13 socioeconomic characteristics and a level of living score based on the possession of 16 selected home improvement items.

The socioeconomic characteristics used were total family income, income of husband, number of children, occupation, age, educational attainment, age at time of marriage and place where reared. The

latter five characteristics were scored for both husband and wife, thus giving a total of 13 characteristics. Occupation and place where reared were scored by dummy variables which produced a total of 24 items of data. The 16 selected home improvement items used were telephone, electric or gas range, refrigerator, deep freezer, automatic clothes washer, clothes dryer, television, color television, piped-in-water, hot water heater, flush toilet, bath or shower, dishwasher, air conditioning, central air conditioning and air conditioning in car.

The development of a standard of living index and the measurement of the 13 socioeconomic characteristics are presented in detail in Chapter II. The first section of the chapter deals with the development of a standard of living index using 16 selected home improvement items. The second section of the chapter deals with the measurement of the 13 socioeconomic characteristics.

The findings are presented in Chapter III. The first section of the chapter deals with a stepwise regression analysis between 13 socioeconomic characteristics and the standard of living index for all 531 couples. The second sector deals with a stepwise regression analysis between the socioeconomic characteristics and the standard of living index for three subgroups of couples which were determined on the basis of where the husband was reared.[3]

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[3]The area where husband was reared was reduced to three categories for the analysis. In the present study 256 household heads were reared in Hamblen County, 146 were reared in adjacent counties and 129 were reared in other areas. Adjacent counties are the seven counties closest to Hamblen County and other areas refer to near adjacent counties, other Tennessee counties, near adjacent states and other states.

Chapter IV deals with the summary and conclusions of the present study. The remainder of the present chapter includes a review of findings of several other similar studies.

## III. REVIEW OF LITERATURE

While many statistics are available concerning cost and standard of living, data concerned with socioeconomic characteristics related to standard of living of people are scarce.

The standard of living concept is difficult to measure because it varies from person to person, over time and within groups. The standard reflects both the way we produce goods and our attitudes and beliefs concerning those goods. Kyrk stated that material possessions such as bathrooms, television sets, and refrigeration may be components of the American standard of living, but that certain values such as health, cleanliness and physical comforts must also be included.[4] She postulated three approaches to gain insight into the standard of living of a particular group. The first approach centers on the ability of the group to secure material possessions such as food products, clothing, housing, furniture, heating and lighting system, plumbing and refrigeration. The age of marriage, level of childrens' education, and occupation of wife are relevant to this approach to standard of living. The second approach involves an investigation of the type and organization of goods and services that the group chooses for use and

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[4] Kyrk, op. cit., p. 378.

enjoyment. The third and most difficult approach focusses on an analysis of the essential values of the group, such as health, beauty, knowledge, comfort, and creation, and how these beliefs relate to standard of living.

Cowhig, in a 1960 study of Urban and Rural Levels of Living stated that researchers are limited in their analysis on standard of living by the difficulty of bridging the gap between the concept of a standard and data that is necessary to make a satisfactory measurement of it.[5] However, there is a general agreement among researchers that standard of living data require adequate descriptions regarding health, food and nutrition, conditions of work and information on recreation and entertainment. There is also a general agreement that information on the standard of living for the entire population is not available.

The limited socioeconomic factors characterizing the standard of living of people found in other studies are such items as total income of family, occupations of husband and wife, family size, educational attainment of household head, and age of household head. Cowhig found total income of family and occupation of the household head related to the level of living indicators. The level of living indicators used by Cowhig were availability of automobile, telephone, hot and cold

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[5]James D. Cowhig, Urban and Rural Levels of Living: 1960, United States Economic Research Service, Agricultural Economic Report No. 79, (Washington, D.C.: U.S. Department of Agriculture, 1965), p. 2.

water piped inside the house, a house in sound condition, and a person-per-room ratio.

Total income of family is important because it limits the quality and quantity of goods and services a family can afford. There is also a strong relationship between type of occupation and level of living. Thus, in Cowhig's study, white-collar workers possessed more items in the level of living index than other occupations.[6]

Data from a study conducted in Jackson County, Tennessee supported Cowhig's findings in that occupation of the household head was highly associated with level of living.[7] Professional workers were found to possess more home items than those in other occupations. A recent study by Leuthold on the level of living of the elderly showed occupation of the household head related to level of living.[8] Elderly household heads who held professional or semi-professional occupations had a higher level of living than those in other occupations.

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[6]Cowhig, op. cit., pp. 1-4.

[7]Frank O. Leuthold, Charles M. Farmer, and Merton B. Badenhop, "Migration of Young Adults from a Low-Income Rural County," Tennessee Farm and Home Science, Progress Report No. 63, University of Tennessee Agricultural Experiment Station, 1967, pp. 4-6.

[8]Frank O. Leuthold, "Level of Living of the Elderly in an East Tennessee County," Tennessee Farm and Home Science, Progress Report No. 78, The University of Tennessee Agricultural Experiment Station, 1971, pp. 4-7

Kyrk found that the occupation of the wife was also related to the standard of living in cases where the wife was forced into the labor market out of economic necessity.[9] The occupation of the wife contributed to the difference between the income of the household head and the cost of maintaining the standard.

A southern rural sociology technical committee study on low income families in the South found well-educated husbands and wives and small family size associated with high levels of living.[10] A recent study by Leuthold found family size negatively associated with standard of living.[11] He indicated that family size and home improvement items represented "major alternative investments".

The age of household head was another socioeconomic characteristic associated with standard of living. Cowhig stated that age of household head was associated with total income of family and age of children which subsequently affects the standard of living.[12] He concluded that household heads between 35 and 54 years of age possessed more home improvement items than any other age group.

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[9] Kyrk, op. cit., p. 373.

[10] S-44 Technical Committee, Factors Related to Levels of Living of Rural Households in Low-Income Areas of the South, Southern Cooperative Series Bulletin 142, The Texas A&M Agricultural Experiment Station, December, 1968, pp. 24-25

[11] Frank O. Leuthold, "Characteristics of Married Couples Related to Family Size in Tennessee," Tennessee Farm and Home Science, Progress Report No. 77, The University of Tennessee Agricultural Experiment Station, 1971, pp. 15-18.

[12] Cowhig, op. cit., p. 3.

Educational attainment has been found related to standard of living. Sharp and Ramsey stated that "education is well established as an aspect of socioeconomic status and as a correlate of level of living."[13] In the findings of the Southern rural sociology committee, educational attainment affects total income of family and subsequently the level of living.[14] In the level of living of the elderly study by Leuthold, high level of education was associated with high level of living.[15]

With limited data available for use in the present study, the analysis of socioeconomic characteristics and number of home improvement items represents only a partial description of factors that are related to standard of living for the urban and rural population of Hamblen County.

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[13]Emmit F. Sharp and Charles E. Ramsey, "Criteria of Item Selection in Level of Living," Rural Sociology, Number 2, XXVIII, (June, 1963), p. 151.

[14]S-44 Technical Committee, op. cit., p. 24.

[15]Leuthold, "Level of Living of the Elderly in an East Tennessee County," p. 5.

## CHAPTER II

## METHODOLOGY

In the summer of 1968 a survey designed to obtain information on migration patterns and socioeconomic characteristics of household heads was conducted in Hamblen County, Tennessee. Data were collected as part of the Tennessee Agricultural Experiment Station Hatch Project 274, Migration Patterns of Tennessee Population, Department of Agricultural Economics and Rural Sociology, University of Tennessee, Knoxville.[16] Information was obtained by personal interview from 661 household heads. In the survey a household was defined as a married couple, a formally married individual or a single person age 30 or over. Data from present study were limited to that of the married couples surveyed.

The first section of this chapter provides a framework for the development of a level of living index. The second section deals with the measurement of the 24 socioeconomic items used to measure the 13 independent variables.

### Development of the Level of Living Index

To measure standard of living, information was obtained on 16 selected home improvement items. A summary of items used in the

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[16] For More Detailed Information on Sample Methodology, see: James E. Howard, "Migration Patterns of Residents in a High In-Migration County, Tennessee" (Unpublished Master's thesis, The University of Tennessee, Knoxville, 1969).

level of living index for the 531 married couples are presented in Table I. The average number of home improvement items for the 531 married couples was 9.7 items. Seven of the home improvement items were commonly possessed items with 90 percent or more of the households containing them. The data indicate that married couples who migrated from other areas possessed an average of 10.5 home items compared with 9.6 home items for native married couples and 9.1 items for couples from adjacent counties.

A stepwise regression analysis between the 16 individual home improvement items and total number of the 16 home items are presented in Table II. The first six home items to enter the regression analysis explained 91.1 percent of the total variation of the 16 item score and nine items explained 97.8 percent. Thus, a shorter list of home items would serve as a good substitute for the 16 home item index.

The level of living index containing 16 home improvement items was used in the present study because (1) all 105 item to item coefficients for 15 home items (excluding the regrigerator) were positive and 76 were statistically significant based on a two tail test at the .05 level of probability and (2) the predictive value with the socioeconomic variables of the total home item index was slightly higher for the 16 items than the index composed of the first nine items to enter the regression equation.

## Measurement of Socioeconomic Characteristics

In the present section, the measurement of the socioeconomic

TABLE I. SUMMARY OF 16 SELECTED HOME IMPROVEMENT ITEMS FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| | Home Improvement Items | Native Couples (N=256) | Couples from Adjacent Counties (N=146) | Couples from Other Areas (N=129) | All Couples (N=531) |
|---|---|---|---|---|---|
| | | Percentage | | | |
| 1 | Refrigerator | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 | Electric or Gas Range | 98.8 | 98.6 | 100.0 | 99.1 |
| 3 | Television | 97.7 | 96.6 | 99.2 | 97.7 |
| 4 | Piped-in-Water | 96.9 | 95.9 | 99.2 | 97.2 |
| 5 | Hot Water Heater | 95.3 | 93.8 | 99.2 | 95.9 |
| 6 | Flush Toilet | 93.8 | 92.5 | 98.5 | 94.5 |
| 7 | Bath or Shower | 93.8 | 92.5 | 97.7 | 94.4 |
| 8 | Telephone | 84.0 | 69.2 | 83.7 | 79.8 |
| 9 | Automatic Clothes Washer | 65.6 | 60.3 | 75.2 | 66.5 |
| 10 | Deep Freezer | 44.9 | 41.1 | 38.0 | 42.2 |
| 11 | Clothes Dryer | 35.9 | 29.5 | 52.7 | 38.2 |
| 12 | Air Conditioning | 20.3 | 16.4 | 27.9 | 21.1 |
| 13 | Color Television | 18.0 | 12.3 | 31.0 | 19.6 |
| 14 | Air Conditioning in Car | 10.5 | 8.2 | 24.8 | 13.4 |
| 15 | Dishwasher | 6.3 | 3.4 | 13.2 | 7.2 |
| 16 | Central Air Conditioning | 2.7 | 4.1 | 7.8 | 4.3 |
| Average Number of Items | | 9.6 | 9.1 | 10.5 | 9.7 |

[a]Residence of couple was based on area where husband was reared. Couples where the husband reared in Hamblen County were labeled native couples.

TABLE II. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN 16 INDIVIDUAL HOME IMPROVEMENT ITEMS AND TOTAL OF 16 HOME ITEMS FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968

| | Home Improvement Item[a] | Percent of Families Possessing Item (N=531) | Net Regression Coefficient[b] | Standard Error | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|---|
| 1 | Automatic Clothes Dryer | 38.2 | 1.00660 | 0.00504 | .4559 | .4559 |
| 2 | Flush Toilet | 94.5 | 1.00130 | 0.02778 | .6362 | .1804 |
| 3 | Air Conditioning in Car | 13.4 | 0.99294 | 0.00692 | .7457 | .1094 |
| 4 | Deep Freezer | 42.2 | 1.00340 | 0.00412 | .8262 | .0806 |
| 5 | Automatic Clothes Washer | 66.5 | 0.99944 | 0.00520 | .8731 | .0469 |
| 6 | Air Conditioning | 21.1 | 0.98978 | 0.00549 | .9110 | .0379 |
| 7 | Telephone | 79.8 | 1.00150 | 0.00523 | .9399 | .0289 |
| 8 | Color Television | 19.6 | 0.99531 | 0.00546 | .9658 | .0259 |
| 9 | Dishwasher | 7.2 | 0.98673 | 0.00860 | .9783 | .0125 |
| 10 | Piped-in-Water | 97.2 | 1.00070 | 0.02019 | .9855 | .0072 |
| 11 | Central Air Conditioning | 4.3 | 1.05870 | 0.01061 | .9916 | .0061 |
| 12 | Television | 97.7 | 1.00020 | 0.01327 | .9958 | .0042 |
| 13 | Electric or Gas Range | 99.1 | 1.00100 | 0.02029 | .9973 | .0015 |
| 14 | Hot Water Heater | 95.9 | 0.99845 | 0.02381 | .9988 | .0015 |
| 15 | Bath or Shower | 94.4 | 1.00100 | 0.02591 | .9997 | .0009 |
| 16 | Refrigerator | 100.0 | | | | |

[a]Variables are listed in the order they entered the regression equation. The refrigerator failed to enter the regression equation because all couples had a refrigerator.

[b]Constant (a) = 0.99703; Standard Error of Estimate = 0.0437; Mean of the Dependent Variable, Total Number of Home Items = 9.7.

characteristics are discussed. The socioeconomic characteristics measured were age of husband, age of wife, educational attainment of husband, educational attainment of wife, occupation of husband, occupation of wife, number of living children, age of husband at time of marriage, age of wife at time of marriage, income of husband, total income of family, area where husband was reared and area where wife was reared. Because of the use of dummy variables for occupation and place where reared, a total of 24 items were used. The method of measurement for each of the 13 socioeconomic characteristics is discussed below:

Age of husband was scored in actual years of age of respondent.

Age of wife was scored in actual years of age of respondent.

Educational attainment of husband was scored in actual years of school completed by the husband.

Educational attainment of wife was scored in actual years of school completed by the wife.

Occupations of husband was scored according to the present major occupation of the husband, except for men who were retired. The occupational categories originally scored from survey data were factory, trade, semi-professional, professional, labor, student, military, unemployed and not applicable or retired. Dummy variables were used to score present occupation for the regression analysis. In the regression analysis the semi-professional and professional categories were grouped together as were the occupations of farmer, student, military and unemployed. Few men were classified in the latter three occupations and this category was excluded from the

regression analysis. The occupation of retired men was scored as their major occupation before retiring.

Occupation of wife was scored according to the present major occupation of the wife. The occupational categories originally scored in the survey were housewife, factory, trade, semi-professional, professional, labor and student. Dummy variables were used to score present occupation for the regression analysis. The trade, semi-professional and professional categories were grouped together into one category. The category of student was excluded from the regression analysis.

Number of living children was scored as the number of living children of the couple.

Age of husband at time of marriage was scored as actual age at time of first marriage of the husband.

Age of wife at time of marriage was scored as actual age at time of first marriage of the wife.

Income of husband was the earned or labor income and was scored in hundred dollar units.

Total income of family includes the income of the husband, wife and of adult aged children residing at home and was scored in hundred dollar units.

Area where husband was reared was scored according to place where the husband was primarily reared. The areas scored were Hamblen County, adjacent counties and other areas. Dummy variables were used to score place where reared for regression analysis.

Area where wife was reared was scored according to place where the wife was primarily reared. The areas scored were Hamblen County, adjacent counties and other areas. Dummy variables were used to score place where reared for the regression analysis.

A detailed breakdown of the socioeconomic characteristics of the 531 married couples and for the couples based on area where husband was reared is presented in Table III. Regression analysis on factors related to standard of living was also computed on each subgroup. The subgroups contained 256 married couples, 146 couples from adjacent counties and 129 couples from other areas.

The intercorrelations of the independent variables are presented in Table IV. Many of the independent variables were highly intercorrelated.

TABLE III. SUMMARY OF SOCIOECONOMIC CHARACTERISTICS BASED ON AREA WHERE HUSBAND WAS REARED FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968

| Socioeconomic Characteristics | Area Where Husband Was Reared | | | |
|---|---|---|---|---|
| | All Areas (N=531) | Hamblen County (N=256) | Adjacent Counties (N=146) | Other Areas (N=129) |
| | Average | | | |
| Age of Husband | 40.7 | 41.1 | 40.1 | 40.8 |
| Age of Wife | 37.6 | 38.1 | 37.0 | 37.5 |
| Education of Husband | 9.9 | 9.5 | 9.1 | 11.5 |
| Education of Wife | 10.3 | 10.1 | 9.7 | 11.3 |
| Number of Living Children | 2.3 | 2.0 | 2.6 | 2.4 |
| Age of Husband at Marriage | 23.1 | 23.3 | 22.9 | 23.0 |
| Age of Wife at Marriage | 20.0 | 20.2 | 19.4 | 20.6 |
| Number of Home Items | 9.7 | 9.6 | 9.1 | 10.5 |
| Income of Husband | $5,804 | $5,476 | $4,834 | $7,551 |
| Total Income of Family | $7,208 | $6,869 | $6,181 | $9,045 |
| | Percentage | | | |
| Occupation of Husband | | | | |
| Professional-Semi-Prof. | 21.3 | 14.8 | 13.7 | 42.6 |
| Trade | 26.9 | 28.1 | 26.7 | 24.8 |
| Factory | 39.4 | 43.0 | 44.5 | 26.4 |
| Labor | 4.0 | 4.3 | 4.8 | 2.3 |
| Farmer | 6.0 | 8.2 | 6.9 | .8 |
| Other | 2.4 | 1.6 | 3.4 | 3.1 |
| Occupation of Wife | | | | |
| Housewife | 62.1 | 60.2 | 65.8 | 62.0 |
| Professional-Semi-Prof. | 14.5 | 12.5 | 11.6 | 21.7 |
| Factory | 19.4 | 22.7 | 19.2 | 13.2 |
| Labor | 3.4 | 4.3 | 2.7 | 2.3 |
| Other | .6 | .3 | .7 | .8 |
| Where Husband Was Reared | | | | |
| Hamblen County | 48.2 | 100.0 | -- | -- |
| Adjacent Counties | 27.5 | -- | 100.00 | -- |
| Other Areas | 24.3 | -- | -- | 100.0 |
| Where Wife Was Reared | | | | |
| Hamblen County | 48.6 | 78.5 | 24.0 | 17.1 |
| Adjacent Counties | 27.3 | 14.9 | 63.7 | 10.8 |
| Other Areas | 24.1 | 6.6 | 12.3 | 72.1 |

TABLE IV. INTERCORRELATION MATRIX OF 24 ITEMS REPRESENTING 13 SOCIOECONOMIC CHARACTERISTICS FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Age of Husband | -- | 95 | -25 | -22 | 22 | -21 | 07 | 04 | 07 | 09 |
| 2 Age of Wife | | -- | -24 | -24 | 24 | -19 | 05 | 02 | 05 | 10 |
| 3 Education Attainment of Husband | | | -- | 60 | -12 | -09 | -16 | 46 | -18 | -04 |
| 4 Education Attainment of Wife | | | | -- | -10 | -09 | -09 | 34 | -10 | -18 |
| 5 Occupation of Husband: Farmer | | | | | -- | -20 | -15 | -13 | -05 | 10 |
| 6 Occupation of Husband: Factory | | | | | | -- | -49 | -42 | -16 | -09 |
| 7 Occupation of Husband: Trade | | | | | | | -- | -32 | -12 | -03 |
| 8 Occupation of Husband: Professional | | | | | | | | -- | -11 | 05 |
| 9 Occupation of Husband: Labor | | | | | | | | | -- | 04 |
| 10 Occupation of Wife: Housewife | | | | | | | | | | -- |
| 11 Occupation of Wife: Factory | | | | | | | | | | |
| 12 Occupation of Wife: Professional | | | | | | | | | | |
| 13 Occupation of Wife: Labor | | | | | | | | | | |
| 14 Number of Living Children | | | | | | | | | | |
| 15 Age of Husband at Time of Marriate | | | | | | | | | | |
| 16 Age of Wife at Time of Marriage | | | | | | | | | | |
| 17 Income of Husband | | | | | | | | | | |
| 18 Total Income of Family | | | | | | | | | | |
| 19 Husband Reared in Hamblen County | | | | | | | | | | |
| 20 Husband Reared in Adjacent Counties | | | | | | | | | | |
| 21 Husband Reared in Other Areas | | | | | | | | | | |
| 22 Wife Reared in Hamblen County | | | | | | | | | | |
| 23 Wife Reared in Adjacent Counties | | | | | | | | | | |
| 24 Wife Reared in Other Areas | | | | | | | | | | |

TABLE IV (Continued)

| (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -19 | 05 | 10 | 32 | 37 | 26 | -00 | 03 | 02 | -03 | 00 | -02 | 02 | 00 |
| -19 | 04 | 08 | 32 | 21 | 33 | -02 | 01 | 03 | -03 | -00 | -03 | 01 | 02 |
| -03 | 19 | -17 | -20 | 02 | 10 | 49 | 47 | -10 | -16 | 28 | -09 | -17 | 28 |
| -03 | 33 | -15 | -19 | 01 | 12 | 39 | 40 | -06 | -14 | 21 | -05 | -15 | 21 |
| -08 | -08 | 00 | -00 | 06 | 10 | -09 | -12 | 09 | 02 | -13 | 00 | 06 | -07 |
| 24 | -12 | -04 | -01 | -11 | -08 | -19 | -14 | 07 | 07 | -15 | 13 | -04 | -10 |
| 00 | 03 | 03 | 03 | 01 | -02 | -09 | -08 | 03 | -00 | -03 | 00 | 07 | -07 |
| -21 | 19 | -05 | -04 | 07 | 05 | 49 | 46 | -15 | -11 | 30 | -15 | -11 | 29 |
| -05 | -03 | 07 | 01 | 05 | 06 | -15 | -16 | 02 | 03 | -05 | 02 | 07 | -09 |
| -63 | -53 | -24 | 15 | -02 | 01 | 13 | -15 | -04 | 05 | -00 | -01 | -04 | 05 |
| -- | -20 | -09 | -08 | -08 | -12 | -17 | 00 | 08 | -00 | -09 | 02 | 09 | -12 |
| | -- | -08 | -11 | 13 | 10 | 06 | 24 | -05 | -05 | 12 | -03 | -06 | 09 |
| | | -- | -00 | -01 | 04 | -10 | -08 | 05 | -02 | -03 | 05 | 00 | -06 |
| | | | -- | -12 | -14 | -02 | -02 | -14 | 12 | 03 | -14 | 08 | 08 |
| | | | | -- | 36 | 07 | 06 | 03 | -02 | -01 | -03 | -00 | 04 |
| | | | | | -- | 08 | 08 | 03 | -09 | 07 | -07 | -04 | 12 |
| | | | | | | -- | 90 | -08 | -14 | 24 | -09 | -14 | 25 |
| | | | | | | | -- | -07 | -14 | 23 | -08 | -12 | 22 |
| | | | | | | | | -- | -59 | -55 | -58 | -27 | -39 |
| | | | | | | | | | -- | -35 | -30 | 50 | -17 |
| | | | | | | | | | | -- | -36 | -21 | 64 |
| | | | | | | | | | | | -- | -60 | -55 |
| | | | | | | | | | | | | -- | -35 |
| | | | | | | | | | | | | | -- |

[a]Decimal points are dropped from the coefficients. All coefficients of .10 or more are statistically significant at the .05 level of probability. The 13 socioeconomic characteristics were measured by 24 items.

# CHAPTER III

## FINDINGS

In the present section, data on 13 socioeconomic variables of 531 married couples residing in Hmablen County, Tennessee were examined by the level of living index. Stepwise regression was used to analyze the relationship. With stepwise regression, a sequence of multiple linear regression equations are computed. At each step, one variable is added to the regression equation and the variable added is the one which makes the greatest reduction in the error sum of squares. The F levels for inclusion and deletion of the items were 0.01 and 0.005, respectively.

The 24 socioeconomic items entered the equation in the form of:

$$Y = a + b_1X_1 + b_2X_2 \ldots b_NX_N + e$$

where:

Y = the dependent variable, level of living index.

a = the intercept of the dependent variable.

b's = net regression coefficient.

X's = the 24 socioeconomic items.

e = error term.

### Relationship between Socioeconomic Characteristics and Level of Living

Data on the relationship between the 13 socioeconomic variables and the level of living index and the order the variables entered the equation

are presented in Table V. Two of the 24 items, husband reared in other areas and wife reared in other areas, failed to enter the regression equation. The F levels for the two items were insufficient for computation. Of the 22 socioeconomic items that entered the stepwise regression analysis, labor occupation of husband, age of husband at time of first marriage, number of living children, age of wife and wife reared in adjacent counties showed negative regression coefficients.

An $R^2$ of .4610 was obtained for the 22 socioeconomic items. The F values were significant for total income of family, educational attainment of wife, age of husband and age of husband at time of first marriage. The F ratio for the 22 variable model was 19.75 which was statistically significant at the .05 percent level of probability with 22 and 508 degrees of freedom.

The first seven socioeconomic items to enter the analysis explained 44.78 percent of the total variation in the level of living index. The 15 remaining socioeconomic items in the model explained 1.32 percent of the total variation.

From the original model of 24 socioeconomic items, ten items were subsequently eliminated because of high multicollinearity and the dropping of one dummy variable in each set. The criterion used in the selection of the 14 socioeconomic items was on the basis of which of the highly interrelated items first entered the original equation. Labor occupation of wife and farmer occupation of husband categories were not included in the regression analysis.

TABLE V. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN 13 SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968

| Variable | Simple "r" Coefficient of Correlation | Net Regression Coefficient[a] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|---|
| Total Income of Family | .614* | 0.01486 | 0.00549 | 7.33* | .3767 | .3767 |
| Educational Attainment of Wife | .411* | 0.14325 | 0.03986 | 12.92* | .4085 | .0318 |
| Age of Husband | .082 | 0.05612 | 0.02494 | 5.07* | .4218 | .0133 |
| Professional Occupation of Husband | .413* | 0.83330 | 0.56883 | 2.15 | .4329 | .0111 |
| Labor Occupation of Husband | -.184* | -0.83806 | 0.65357 | 1.64 | .4399 | .0070 |
| Age of Husband at Time of Marriage | .023 | -0.05622 | 0.02236 | 6.32* | .4434 | .0036 |
| Number of Living Children | -.044 | -0.06726 | 0.05230 | 1.65 | .4478 | .0044 |
| Trade Occupation of Husband | -.026 | 0.35705 | 0.53742 | 0.44 | .4506 | .0027 |
| Wife Reared in Hamblen County | -.020 | 0.09542 | 0.26596 | 0.13 | .4522 | .0017 |
| Housewife Occupation | -.130* | 0.69044 | 1.06490 | 0.42 | .4534 | .0012 |
| Income of Husband | .575* | 0.01060 | 0.00605 | 3.07 | .4568 | .0034 |
| Educational Attainment of Husband | .399* | 0.03493 | 0.03538 | 0.97 | .4580 | .0012 |
| Age of Wife | .065 | -0.02698 | 0.02494 | 1.17 | .4590 | .0010 |
| Age of Wife at Time of Marriage | .080 | 0.01181 | 0.02438 | 0.23 | .4593 | .0003 |
| Professional Occupation of Wife | .233* | 1.22040 | 1.08320 | 1.27 | .4595 | .0002 |
| Factory Occupation of Wife | -.028 | 1.12340 | 1.07800 | 1.09 | .4597 | .0001 |
| Labor Occupation of Wife | -.038 | 1.13160 | 1.15430 | 0.96 | .4607 | .0010 |
| Wife Reared in Adjacent Counties | -.140* | -0.11111 | 0.28084 | 0.16 | .4608 | .0001 |
| Husband Reared in Hamblen County | -.027 | 0.09702 | 0.26482 | 0.13 | .4609 | .0001 |
| Factory Occupation of Husband | -.175* | 0.08661 | 0.52994 | 0.03 | .4610 | .0000 |
| Husband Reared in Adjacent Counties | -.145* | 0.04842 | 0.27824 | 0.03 | .4610 | .0000 |
| Farmer Occupation of Husband | -.075 | 0.03014 | 0.61753 | 0.00 | .4610 | .0000 |

*Statistically significant at .05 percent level of probability.

[a]Constant (a) = 4.9367; Standard Error of Estimate = 1.8115; Mean of the Dependent Variable, Number of Home Items = 9.7.

The relationship between the 14 socioeconomic items and the level of living index and the order the variables entered the equation are presented in Table VI.

The regression results showed an $R^2$ of .4538. The standared error of estimate for the model was 1.8094. An F ratio of 30.62 was obtained which was statistically significant at the .05 percent level of probability with 14 and 516 degrees of freedom. The F values were significant for total income of family, educational attainment of wife, age of husband, professional occupation of husband and age of husband at time of first marriage.

Labor occupation of husband, age of husband at time of first marriage, number of living children and housewife occupation showed negative regression coefficients. The level of living of the 531 married couples could be expected to decrease for every unit increase in the above mentioned items. The occupational categories of the wife indicated a slight, but positive relationship with level of living; none of the occupations were significantly associated with level of living. The contribution of wife occupations in the model explained less than one percent of the total variation in the level of living index.

Relationship between Six Socioeconomic Characteristics and Level of Living

In the present section, data on six socioeconomic characteristics of 531 married couples residing in Hamblen County, Tennessee were examined by the level of living index. Only variables which had a F ratio at a stiatistically significant level, at the .05 level of

TABLE VI. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN EIGHT SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | Net Regression Coefficient[b] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|
| Total Income of Family | 0.02427 | 0.00212 | 131.6 * | .3767 | .3767 |
| Educational Attainment of Wife | 0.16891 | 0.03541 | 22.76* | .4085 | .0318 |
| Age of Husband | 0.02815 | 0.00699 | 16.23* | .4218 | .0133 |
| Professional Occupation of Husband | 0.93929 | 0.35454 | 7.02* | .4329 | .0111 |
| Labor Occupation of Husband | -0.83240 | 0.47997 | 3.01 | .4399 | .0070 |
| Age of Husband at Time of Marriage | -0.03833 | 0.01698 | 5.01* | .4434 | .0036 |
| Number of Living Children | -0.08444 | 0.05028 | 2.82 | .4478 | .0044 |
| Trade Occupation of Husband | 0.38338 | 0.31537 | 1.48 | .4506 | .0027 |
| Wife Reared in Hamblen County | 0.13619 | 0.20728 | .43 | .4522 | .0017 |
| Housewife Occupation | -0.13832 | 0.41094 | .11 | .4534 | .0012 |
| Wife Reared in Adjacent Counties | -0.11557 | 0.23247 | .25 | .4537 | .0003 |
| Factory Occupation of Husband | 0.07955 | 0.31016 | .07 | .4538 | .0001 |
| Professional Occupation of Wife | 0.06467 | 0.46260 | .02 | .4538 | .0000 |
| Factory Occupation of Wife | 0.04065 | 0.44388 | .00 | .4538 | .0000 |

*Statistically significant at .05 percent level of probability.

[a]Eight socioeconomic characteristics were measured by 14 items.

[b]Constant (a) = 5.8895; Standard Error of Estimate = 1.8094; Mean of the Dependent Variable, Number of Home Items = 9.71.

probability were included. The nine socioeconomic items were total income of family educational attainment of wife, age of husband, age of husband at time of first marriage, number of living children and professional, trade, factory, and labor occupations of husband.

This model was used for more detailed analysis of three subgroups of the 531 couples. The subgroups were composed of 256 native couples, 146 couples from adjacent counties, and 129 couples from other areas.

The relationship between the six socioeconomic characteristics of 531 married couples and the level of living index and the order the variables entered the equation are presented in Table VII. Of the nine items in the analysis, six had positive regression coefficients. Labor occupation of husband, age of husband at time of first marriage, and number of living children showed negative regression coefficients.

The standard error of estimate for the model was 1.8056. An $R^2$ of .4508 was obtained for the nine items. The F ratio of 45.52 was statistically significant at the .05 percent level of probability with 9 and 521 degrees of freedom.

The relationship between the six socioeconomic variables of 256 native couples of Hamblen County and the level of living index and the order the variables entered the equation are presented in Table VIII. Of the nine items in the regression analysis, three had negative regression coefficients. The items were labor and factory occupations of husband and age of husband at time of first

TABLE VII. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN SIX SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 531 MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | Net Regression Coefficient[b] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|
| Total Income of Family | 0.02461 | 0.00208 | 139.9 * | .3767 | .3767 |
| Educational Attainment of Wife | 0.17638 | 0.03383 | 27.19* | .4085 | .0318 |
| Age of Husband | 0.02893 | 0.00686 | 17.75* | .4218 | .0133 |
| Professional Occupation of Husband | 0.93985 | 0.34953 | 7.23* | .4329 | .0111 |
| Labor Occupation of Husband | -0.80162 | 0.47800 | 2.81 | .4399 | .0070 |
| Age of Husband at Time of Marriage | -0.03914 | 0.01685 | 5.39* | .4434 | .0036 |
| Number of Living Children | -0.10054 | 0.04898 | 4.21* | .4478 | .0044 |
| Trade Occupation of Husband | 0.42984 | 0.31295 | 1.89 | .4506 | .0027 |
| Factory Occupation of Husband | 0.15122 | 0.30555 | 0.24 | .4508 | .0003 |

*Statistically significant at the .05 percent level of probability.

[a]Six socioeconomic characteristics were measured by nine items.

[b]Constant (a) = 5.7361; Standard Error of Estimate = 1.8056; Mean of the Dependent Variable, Number of Home Items = 9.7.

TABLE VIII. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN SIX SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 256 NATIVE MARRIED COUPLES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | Net Regression Coefficient[b] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|
| Total Income of Family | 0.03104 | 0.00362 | 73.42* | .3876 | .3876 |
| Educational Attainment of Wife | 0.12603 | 0.05097 | 6.11* | .4022 | .0146 |
| Labor Occupation of Husband | -1.48170 | 0.66505 | 4.96* | .4145 | .0122 |
| Factory Occupation of Husband | -0.21334 | 0.42953 | 0.25 | .4198 | .0053 |
| Age of Husband | 0.01297 | 0.01033 | 1.58 | .4220 | .0022 |
| Age of Husband at Time of Marriage | -0.03012 | 0.02511 | 1.44 | .4256 | .0036 |
| Professional Occupation of Husband | 0.34495 | 0.52646 | 0.43 | .4273 | .0017 |
| Number of Living Children | 0.01272 | 0.07895 | 0.03 | .4273 | .0001 |
| Trade Occupation of Husband | 0.01124 | 0.43659 | 0.00 | .4273 | .0000 |

*Statistically significant at the .05 percent level of probability.

[a]Six socioeconomic characteristics were measured by nine items.

[b]Constant (a) = 6.4820; Standard Error of Estimate = 1.8288; Mean of the Dependent Variable, Number of Home Items = 9.6.

marriage. Level of living could be expected to decrease for every unit increase in the above mentioned items. The standard error of estimate for the model was 1.8288. An $R^2$ of .4273 was obtained. The F ratio for the model was 20.40 which was statistically significant at the .05 percent level of probability with 9 and 246 degrees of freedom. The F tests for total income of family, educational attainment of wife and labor occupation of husband were statistically significant at the .05 percent level of probability. These three items had an $R^2$ of .4145. The six remaining socioeconomic items explained 1.2 percent of the total variation. Two of these six remaining items, factory occupation of husband and age of husband at time of first marriage, had negative regression coefficients.

The relationship between the six socioeconomic variables of 146 married couples from adjacent counties and the level of living index and the order the variables entered the equation are presented in Table IX. The regression analysis showed number of living children and age of husband at time of first marriage to have negative regression coefficients of -0.305 and -0.080 respectively. The standard error of estimate for the model was 1.8607. An $R^2$ of .4354 was obtained. The F ratio for the model was 11.65 which was statistically significant at .05 percent level of probability with 9 and 136 degrees of freedom. Of the nine items to enter the analysis, five were statistically significant at the .05 percent level of probability. The five significant items had an $R^2$ of .4120. The occupational categories of professional, trade, factory and labor explained the remaining 2.34

TABLE IX. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN SIX SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 146 MARRIED COUPLES FROM ADJACENT COUNTIES RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | Net Regression Coefficient[b] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|
| Total Income of Family | 0.03746 | 0.00508 | 29.28* | .2857 | .2857 |
| Educational Attainment of Wife | 0.22291 | 0.07172 | 9.66* | .3311 | .0455 |
| Age of Husband | 0.05822 | 0.01461 | 15.88* | .3358 | .0246 |
| Number of Living Children | -0.30485 | 0.09384 | 10.55* | .3853 | .0295 |
| Age of Husband at Time of Marriage | -0.07992 | 0.03012 | 7.04* | .4120 | .0267 |
| Professional Occupation of Husband | 1.33100 | 0.69597 | 3.66 | .4277 | .0157 |
| Trade Occupation of Husband | 0.68588 | 0.58926 | 1.36 | .4341 | .0064 |
| Factory Occupation of Husband | 0.29907 | 0.56905 | 0.28 | .4353 | .0011 |
| Labor Occupation of Husband | 0.12782 | 0.86543 | 0.02 | .4354 | .0001 |

*Statistically significant at the .05 percent level of probability.

[a]Six socioeconomic characteristics were measured by nine items.

[b]Constant (a) = 5.0727; Standard Error of Estimate = 1.8607; Mean of Dependent Variable, Number of Home Items = 9.1.

percent of the total variation.

The relationship between the six socioeconomic variables of 129 married couples from other areas and the level of living index and the order the variables entered the equation are presented in Table X. Eight of the nine items in the analysis showed positive regression coefficients. A negative coefficient of -0.021 was obtained for age of husband at time of first marriage. The standard error of estimate for the model was 1.6406 or the lowest of the three subgroups. The F ratio was 15.52 which was statistically significant at the .05 percent level of probability with 9 and 119 degrees of freedom. An $R^2$ of .5399 was obtained for the 129 couples from other areas compared with .4273 for native married couples and .4354 for married couples from adjacent counties. Total income of family, professional occupation of husband, age of husband and educational attainment of wife explained 53.19 percent of the total variation in the level of living index for couples from other areas. The five remaining items, trade, factory and labor occupations of husband, age of husband at time of first marriage and number of living children explained 0.80 percent of the total variation.

In summary, the stepwise regression analysis between the nine socioeconomic items and the level of living index for 531 married couples was the model that best indicated which socioeconomic factors were related to standard of living. The main characteristics were total income of family, educational attainment of wife, professional occupation of husband, age of husband at time of first marriage and

TABLE X. SUMMARY OF STEPWISE REGRESSION ANALYSIS BETWEEN SIX SOCIOECONOMIC CHARACTERISTICS AND LEVEL OF LIVING INDEX FOR 129 MARRIED COUPLES FROM OTHER AREAS RESIDING IN HAMBLEN COUNTY, TENNESSEE, 1968[a]

| Variable | Net Regression Coefficient[b] | Standard Error | F Ratio | Multiple Coefficients $R^2$ | Multiple Coefficients Increase in $R^2$ |
|---|---|---|---|---|---|
| Total Income of Family | 0.01824 | 0.00281 | 42.10* | .4244 | .4244 |
| Professional Occupation of Husband | 1.19460 | 0.82105 | 2.12 | .4806 | .0563 |
| Age of Husband | 0.02961 | 0.01202 | 6.07* | .5022 | .0216 |
| Educational Attainment of Wife | 0.16579 | 0.06019 | 7.59* | .5319 | .0297 |
| Trade Occupation of Husband | 0.57762 | 0.81031 | 0.51 | .5382 | .0064 |
| Age of Husband at Time of Marriage | -0.02068 | 0.03812 | 0.29 | .5395 | .0013 |
| Labor Occupation of Husband | 0.35442 | 1.22790 | 0.08 | .5398 | .0003 |
| Number of Living Children | 0.01471 | 0.09049 | 0.03 | .5399 | .0001 |
| Factory Occupation of Husband | 0.08042 | 0.79830 | 0.01 | .5399 | .0000 |

*Statistically significant at the .05 percent level of probability.

[a]Six socioeconomic characteristics were measured by nine items.

[b]Constant (a) = 5.5207; Standard Error of Estimate = 1.6406; Mean of Dependent Variable, Number of Home Items = 10.5.

number of living children were the significant items. Total income of family explained the greatest percentage of the total variation in the level of living index for all 531 couples. Total income of family explained 37.67 percent of the total variation with the eight remaining items explaining 7.41 percent for all 531 couples. The occupational categories of the husband showed statistically significant F values with professional occupation. Labor occupation of husband and number of living children, as expected, showed negative regression coefficients. However, the negative regression coefficient for age of husband at time of first marriage was not expected; the simple "r" value was slightly positive for this variable, but after five other independent variables were entered in the regression equation, the regression coefficient switched to a negative and significant one.

The 531 married couples were subgrouped, based on place where husband was reared, to determine what relationship the nine socio-economic items had on the level of living of each subgroup of married couples. The results indicated that total income of family and educational attainment of wife were important factors in all three subgroups. However, total income of family was more important for couples from other areas than for couples from Hamblen County and adjacent counties; it was of least importantce for couples from adjacent counties. For instance, total income for the married couples from other areas explained 42.44 percent of the total variation in the level of living index compared with 38.76 percent for native married

couples and 28.57 percent for married couples from adjacent counties. Married couples from Hamblen County and adjacent counties could have been influenced to a greater extent by family variables such as financial help. Age of husband at time of first marriage showed a negative regression coefficient within each of the subgroups. Number of living children showed a negative and significant coefficient for married couples from adjacent counties, but small positive coefficients for the native couples from Hamblen County and couples from other areas. The original assumption was that as the family size became larger, standard of living would decrease for couples in each subgroup, but apparently the size of family produced no such effect on the couples from Hamblen County and other areas.

# CHAPTER IV

## SUMMARY AND CONCLUSIONS

In the present study, data from 531 married couples residing in Hamblen County, Tennessee, were examined to delineate socioeconomic factors related to standard of living. A model containing 24 independent socioeconomic items, assessing 13 characteristics, obtained from survey data were fitted by ordinary least squares in a stepwise regression form to determine the relationship between the socioeconomic characteristics and a 16 item level of living index.

The information on 16 home items was also used in a stepwise regression form, between the 16 individual home improvement items and the total number of the 16 home items, to develop a level of living index. The first six home items to enter the regression analysis explained 91.1 percent of the total variation of the 16 item score and first nine items explained 97.8 percent. The nine home items would serve as a good substitute for the 16 home item index. However, the level of living index containing 16 home improvement items was used in the present study.

To examine the relationship between the 13 socioeconomic characteristics and the level of living index, a stepwise regression analysis was used. Because of the use of dummy variables for several socioeconomic characteristics, a total of 24 items were coded. The results of the regression analysis of all 24 items showed total income of family, educational attainment of wife and age of husband to have a

significant and positive relationship with level of living. Age of husband at time of first marriage showed a significant and negative relationship. The first seven socioeconomic items to enter the analysis had an $R^2$ value of .4478. The remaining 15 items which entered the equation increased the $R^2$ value to only .4610.

From the original model of 24 socioeconomic items, ten items were eliminated because of the dropping of one item for each characteristic measured by dummy variables and because of multicollinearity between independent variables. The criterion used in the selection of the socioeconomic items with high intercorrelation was which item first entered the original equation. The results of the stepwise regression analysis showed an improvement over the original model with total income of family, educational attainment of wife, age of husband, and professional occupation of husband to have significant and positive relationships with level of living. Age of husband at time of first marriage showed a significant and negative relationship. An $R^2$ of .4538 was obtained for the 14 socioeconomic items.

The model was further reduced to nine socioeconomic items to assess six characteristics where all variables or one or more dummy items of a variable entered the equation at the .05 level of probability. The nine items were total income of family, educational attainment of wife, age of husband, age of husband at time of first marriage, number of living children and professional, trade, factory and labor occupations of husband. Total income of family, educational attainment of wife, age of husband and professional occupation of husband had significant and positive relationships with level of living.

Age of husband at time of first marriage and number of living children had significant and negative relationships. An $R^2$ of .4508 was obtained.

Regression analyses of the nine socioeconomic items based on area where husband was reared were also made. The subgroups were 256 native couples, 146 couples from adjacent counties and 129 couples from other areas. The results of the regression analysis between the three subgroups showed total income of family and educational attainment of wife to have a significant and positive relationship with level of living for all subgroups. Age of husband showed a significant and positive relationship for the couples from adjacent counties and other areas. Labor occupation showed a significant and negative relationship with level of living for the native couples. Number of living children and age of husband at time of first marriage showed negative and significant relationships for couples from adjacent counties. Also age of husband at time of first marriage showed a negative relationship with level of living, and number of children a positive relationship, for native couples and couples from other areas, but none of the relationships were significant.

An $R^2$ of .5399 was obtained in the third model of six characteristics for the couples from other areas compared to an $R^2$ of .4273 for native couples and an $R^2$ of .4354 for couples from other areas. While the $R^2$ values were similar for native couples and couples from adjacent counties, income was of somewhat lessor magnitude for couples from adjacent counties.

In conclusion, the stepwise regression model between the nine socioeconomic items and the level of living index for 531 married couples revealed that several socioeconomic factors were highly related to standard of living. The most highly correlated independent variables were total income of family, educational attainment of wife, professional occupation of husband, age of husband at time of first marriage and number of living children. Within the subgroups total income of family had the highest relationship for couples from other areas.

With limited data available for use in the present study, the 24 socioeconomic items included are only a partial list of the factors related to the standard of living of the married couples. The results of the present study are inconclusive because information was not available on other variables that influenced the family.

More empirical research is needed to give an adequate description of the factors related to level of living. Data are needed on such factors as health, food and nutrition, consumption and spending patterns, housing conditions, work conditions, physical comforts, behavior patterns of the married couple, financial assistance from parents, and nonmaterial aspects of living conditions such as recreation and entertainment. We must be able to differentiate between what people have and what they desire to have to give a more complete picture of the factors related to standard of living.

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VITA

John R. Anania was born in Clarksburg, West Virginia, on October 31, 1936. He attended Summit Park Elementary School and was graduated from Victory High School in 1954. He entered the United States Navy the following October and was Honorably Discharged in 1957. He entered Youngstown State University in February, 1958 and received a Bachelor of Science degree in Business Administration in June, 1962.

He entered the American Peace Corps in March, 1966 and served as a Volunteer in Mysore State, India, for three years. He entered the Graduate School at the University of Tennessee in September, 1969 and received a Master of Science degree with a major in Agricultural Economics in December, 1971.

He is married to the former Iona Gemma Nazareth of Mysore State, India, and has one child, John Jude, five months.