# THE RELATIONSHIP OF OBJECTIVE AND SUBJECTIVE FAMILY INCOME ADEQUACY TO SELECTED MEASURES OF PERCEIVED LIFE QUALITY

Dissertation for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY NORLEEN MARION ACKERMAN 1977

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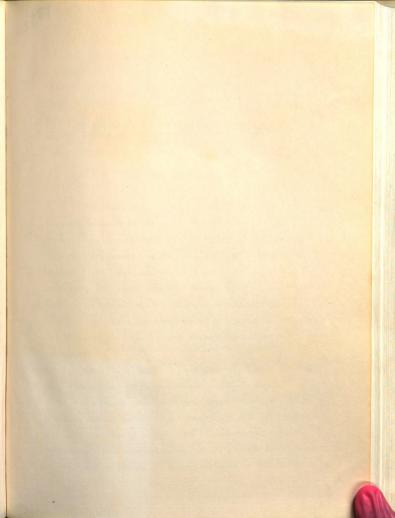




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### ABSTRACT

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## ABSTRACT

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By

# Norleen Marion Ackerman

The study was designed to relate family income adequacy to selected measures of life quality. The three research questions were (1) What was the relationship between income adequacy and selected life quality measures? (2) What was the relationship between the congruency of income adequacy measures and selected life quality variables? and (3) Did groups who differed in level of objective adequacy, level of subjective adequacy, and in congruency differ with respect to contextual variables?

Subjective family income adequacy was an assessment made by the respondent-heads of family units.

Objective adequacy was an income-needs ratio computed by dividing family income by a consumption standard which was adjusted for family composition and geographic area of residence. The consumption standard, and the equivalence scales used to adjust it, were developed by the Bureau

of Labor Statistics and were based on family income needs for a moderate level of living. Congruency was a measure of the degree of agreement and direction of disagreement between objective and subjective family income adequacy. The life quality measures were satisfaction with perceived family income, level of consumption, and overall life quality.

The data used were collected in the fall of 1974 by the Survey Research Center of the University of Michigan. The data are identified as the Economic Incentives, Values and Well-Being Project, Part IV. The 1,046 interviewed respondents were husband or wife or one adult heads of family units or individuals living alone. They were drawn from a multistage area probability sample of private households in the contiguous United States. The results were generalizable to the family types and geographic area specified.

The major statistical procedures implemented to test the hypothesized relationships were two-factor analysis of variance, one-way analysis of variance, and multiple classification analysis. Parametric and non-parametric statistics were used with contextual variables to describe groups of respondents which differed in levels of income adequacy and congruency.

Results of the analysis indicated that satisfaction with family income, level of consumption, and overall life quality increased as family income increased.

More of the variance in satisfaction was explained by
subjective adequacy levels than by objective adequacy
levels. Subjective and objective adequacy together, however, explained more of the variance than did either
measure individually.

Results indicated that family income adequacy, objectively and subjectively measured, was more strongly related to those satisfaction variables most directly involving money resources: family income and level of consumption. Family income adequacy was less strongly associated with overall life quality, a more global measure where the effect of income adequacy was more diffuse.

For each of the three life quality variables, satisfaction scores were similar for the congruency groups whose subjective adequacy level was as high as, or higher than, their objective adequacy level. However, for those congruency groups whose subjective adequacy level was lower than their objective adequacy, satisfaction was significantly lower on all three life quality measures. While congruency groups did differ in satisfaction, the group differences explained very little of the variation in satisfaction with family income, level of consumption, and overall life quality.

Variation in contextual measures as family income adequacy increased were, in most instances, similar for objective and subjective adequacy. As income adequacy increased, the number of children and the age of the oldest child decreased, indicating reduced demands on income. As income adequacy increased, family money income increased, as did those characteristics associated in previous research with higher incomes: being male. being white, having more education, and, for male respondents, having a white collar occupation. Objective and subjective adequacy groups did differ, however, in the occupational trends of female respondents. As objective adequacy increased, fewer females were housewives; as subjective adequacy increased, more females were housewives. The higher subjective adequacy where the respondent was a housewife may be due to the economic value of additional household production by the wife, or might be due to the value placed on leisure time. Neither of these were included in computing the objective adequacy ratio used here.

The congruency group with the lowest satisfaction scores had assessed their subjective adequacy as being at least two levels lower than was their objective adequacy level. They might be termed better off than they think they are. The group had the youngest respondent-heads and the youngest age of oldest child, indicating younger

families. They had the second highest income and education of the five congruency groups. They scored highest on the material wishes index, were experiencing deteriorating financial situations, and had not achieved their consumption goals. These characteristics, and the general economic situation of families in the fall of 1974, indicate that the theory of relative deprivation might explain their dissatisfaction.

The conclusions reached on the basis of this research are that (1) the objective adequacy ratio developed and used here is a useful method for standardizing income adequacy by family size, (2) income adequacy needs to be measured both objectively and subjectively in order to explain variation in perceived life quality measures, and (3) incongruency between objective and subjective adequacy can identify those among the higher levels of objective income adequacy who are more dissatisfied with selected life quality measures.

THE RELATIONSHIP OF OBJECTIVE AND SUBJECTIVE
FAMILY INCOME ADEQUACY TO SELECTED MEASURES
OF PERCEIVED LIFE QUALITY

By

Norleen Marion Ackerman

### A DISSERTATION

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Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Family Ecology

### ACKNOWLEDGMENTS

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1977

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Dr. Oyer's comments and questions were valuable in interpreting study results.

Other faculty members provided guidance and support. Dr. Peter Gladhart gave prompt replies to set analysic questions and reviewed parts of the Silver and Dr. Margaret Bublon's leterest and knowledge of the quality research were helpful. Dr. Linds to the careful review and questions on the study finding were valuable.

The data used here were collected by Burkhston Strumpel, Gerald Guria, and Richard Courts and saids

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Other faculty members provided guidance and support. Dr. Peter Gladhart gave prompt replies to data analysis questions and reviewed parts of the dissertation. Dr. Margaret Bubloz's interest and knowledge of life quality research were helpful. Dr. Linda Nelson's careful review and questions on the study findings were valuable.

The data used here were collected by Burkhard
Strumpel, Gerald Gurin, and Richard Curtin and made

available through the Inter-University Consortium for Political and Social Research and the Michigan State University Political Science Department. Neither the collectors, the Consortium, nor the Political Science Department bear any responsibility for the analysis nor the interpretation presented here. Appreciation is expressed, however, to Dr. Strumpel and his colleagues, for early release of the data, and to Ann Robinson and Harriet Dhannak for facilitating the transfer of the data.

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produced, as measured by the Gross Mataonal Product; and
such as counts of medical personnel and facilities avail-
These economic and social indicators are quanti-
with them. This was emphasized by Angus Campbell in 1971

# CHAPTER I

### INTRODUCTION

One of the concerns of a nation is the level of living or the well-being of the families and individuals who are its citizens. Well-being has been measured for many years by economic indicators, such as family income and per capita income; the total of goods and services produced, as measured by the Gross National Product; and changes in prices, as measured by the Consumer Price Index. These have been supplemented by social indicators, such as counts of medical personnel and facilities available, indexes of crimes reported, and acres of recreation lands.

These economic and social indicators are quantitative, objective measures. They do not measure the quality of the environment in which people live, nor of the goods and services they use, or people's satisfactions with them. This was emphasized by Angus Campbell in 1971 when he said:

Since World War II we have seen average family income rise dramatically and the number of families below the poverty line reduced by more than half. . . . But

during those same years, we have seen a prodigious increase in the crime rate, . . . a spreading epidemic of the use of drugs. . . Civil disobedience and civil disorder are an everyday occurrence. It would take a brave man, indeed, to argue that the quality of life in these United States has been improving. . . . (pp. 2-3)

Increasingly, the view of the better life as one in which people accumulate more and more things has been questioned. Today, the concern is for quality of life rather than for additional material possessions. While objective indicators of the quality of life have been developed and used, subjective or perceptual indicators are also important. Regarding subjective indicators, Strumpel (1975b) states:

It is one of the often-stated purposes of the social indicators movement to measure output rather than input, well-being rather than command over material resources, personal health rather than the number of hospital beds, . . Individual citizens, to the advocates of subjective or perceptual indicators, . . . are the final judges of societal output and welfare. One way of obtaining their verdict is to monitor people's satisfaction or happiness with their circumstances, their expectations of the future. . . . (Strumpel, 1975b, p. 2)

Just as the nation has studied economic indicators over time, economists, family economists, and others have studied the expenditures of families (U.S. Dept. of Agriculture, 1935; Morgan, 1958). These studies have documented how families do spend their money and have served as the basis for determining family income requirements to meet certain expenditure patterns and certain levels of living. However, such studies do not tell us how the command over

resources, and the resultant attainable level of living relates to perceived overall life quality and its component parts, or domains. These studies have focused on the resource base, the input to well-being, not on the output of well-being or the satisfaction derived from it.

termed quality of life, is more than a matter of the conditions of the physical, economic, and social setting. It is also a matter of how these are judged by oneself and others. The standards applied to the life situation, as well as the situation itself, influence the assessment of life quality. As Campbell and Converse (1972) state:

We have become deeply impressed at the degree to which subjective states can "pull apart" from what might be deducted on the basis of our current ways of understanding objective situations. . . . man . . . can display bitter discontentment with objective situations that by retrospective standards are overflowing with abundance. Both the fact of dislocations between the objective and subjective, as well as the social importance of such dislocations has been . . . illustrated in recent decades by the revolution of rising expectations. Discontentment with objective conditions has appeared to be increasing over exactly the same period that those conditions have at most points and by most criteria been improving. . . . (pp. 8-9)

We know little about the subjective assessments families make of their economic situations, or about how these assessments compare with objective assessments of family well-being. Are they similar? If not, how does the incongruency influence satisfaction with perceived overall life quality, and with those domains more

directly related to economic factors, particularly family income and the family's level of consumption?

Family economists work with individuals and families, providing information and counseling in the management of family resources to obtain family goals which enhance the level of living and quality of life of the family. As they do so, family economists need to be aware of both the objective and subjective assessment of family resources, their degree of congruency, and their relationship to satisfaction with the goals attained through resource use.

# Statement of the Problem

Perceived overall life quality is viewed as the satisfaction derived from one's level of living. The malevel of living is achieved through the use of resources to attain goals. Hence, goals defined, implemented, and achieved, i.e., managerial activity, lead to the desired end, satisfaction with perceived overall life quality.

The ability to achieve goals is determined, in part, by the availability of family money income. The adequacy of that income can be viewed both objectively, in relation to budget standards, and subjectively, in the perceptions of family members.

The primary purpose of this research is to determine the relationship between income adequacy and satisfaction with perceived overall life quality and two of its component parts, perceived family income and perceived level of consumption. Income adequacy is measured objectively and subjectively, and the two measures are combined in a measure of congruency.

The secondary purpose of this research is to describe the members of groups which differ in level of subjective adequacy, level of objective adequacy, and degree of congruency. Groups are differentiated with respect to the demographic characteristics of the families, and the demographic characteristics and economic perceptions of the respondent-heads.

# Conceptual Framework

A managerial conceptual framework is used in this study. The respondents are family heads who are either the husband or wife or the one adult in the family unit. The focus is on the family's money resources and their relationship to the satisfaction derived from goal achievement. The respondent's perception of the adequacy of the family's money income and perception of personal satisfactions with selected life domains is elicited. It is recognized that these personal perceptions are likely to be influenced by the respondent's situational context as a member of the family unit.

Money income is viewed as the resource to be managed. Satisfactions are viewed as the evaluation of

their money income to achieve the goals from which satisfaction is derived.

The resource input to the managerial process, while not the only input, is important to the success of the process. As Gross, et al., (1973) observe:

Without resources, no amount of motivation or application of the managerial process will result in the achievement of goals. On the other hand, large stocks of resources will contribute nothing to satisfaction unless individuals or families are motivated and capable of managing their use. (b. 175)

Availability of resources has been assumed to be related to goal satisfaction:

Recognizing, developing, allocating and using human and material resources in ways that achieve one's goals contributes substantially to satisfaction with living. Each activity is an important component. And research data now point to a possible correlation between how effectively families deal with one or more of these components and their general quality of living. (Schlater, 1970, p. 48)

Adequacy of money income can be judged in relation to a standard developed outside the family unit, such as a standard budget. Resource adequacy can also be judged by a family member, in relation to that individual's perception of family needs and wants. Gross, et al., (1973) state that "the adequacy or inadequacy of resources can be assessed only in relation to goals" (p. 174). Speaking of economic resources in particular, Deacon and Firebaugh (1975) state: " . . . the gap between economic goals and accomplishments affects the degree to

which economic well-being is perceived as adequate"
(p. 242). To better understand family management, it
is necessary to understand the factors affecting satisfaction with goal achievement. It appears that both
objective and subjective factors must be examined.

The standards specified and used influence the amount of resources used and provide a basis for evaluating the level of goal achievement. The degree to which standards are met influences the level of satisfaction derived from goal achievement. As Paolucci, et al., state:

Standards "measured" in qualitative terms . . . tend to be subjective . . . Examples . . . include "quality of life." . . . Qualitative standards describe what the family considers to be essential; family members will exert effort to secure them and feel dissatisfied and uncomfortable if they are not attained. (Paolucci, et al., 1977, p. 133)

While standards are applied to individual goals, they are also applied to complexes of goals. Gross, et al., (1973) observe that "Standards of living differ from separate standards in that they consist of clusters of standards woven into organic wholes, each part related to every other part" (p. 128).

Just as there are clusters of standards, there are also clusters of goals:

In actual life . . . there is . . . a "tangled web" of goals—a goal complex. In this chain all purposes or ends are considered goals up to the final one or ones, which are probably values. These

later ends are increasingly vague—a characteristic more common to values than to goals. (Gross, et al., 1973, p. 126)

In a hierarchy of goals, short-term or specific goals form the steps which build toward more long-term or more general goals, until one reaches final goals. The sum of present goal achievement forms the content or level of living. The level of living, together with one's aspirations and expectations of future changes in one's level of living, form the quality of life. The evaluation of one's quality of life is referred to in this study as satisfaction with perceived overall life quality. Such satisfaction could be referred to as the ultimate goal of the managerial process, or the terminal value which motivates behavior.

# Research Objectives

The objectives of the research are:

- To determine whether there is a relationship between family income adequacy, objectively and subjectively measured, and satisfaction with family income, level of consumption, and overall life quality.
- To determine whether there is a relationship between the congruency of objective and subjective family income adequacy and satisfaction with perceived family income, level of consumption, and overall life quality.

3. To determine whether there are differences between the levels of objective and subjective family income adequacy, and congruency groups, with respect to contextual variables.

The model of the relationships studied are shown in Figure 1.

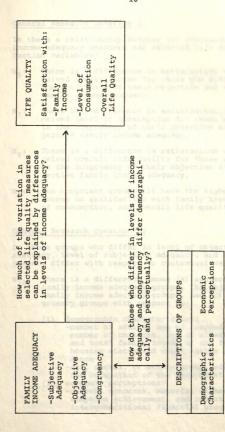
# Hypotheses

The hypotheses formulated for this study are stated below in the form of expected findings:

# General Research Question 1:

Is there a relationship between income adequacy and selected life satisfaction variables?

- H1: There is a difference in satisfaction with perceived family income for those who differ in objective and subjective family income adequacy.
- H<sub>2</sub>: There is a difference in satisfaction with perceived level of consumption for those who differ in objective and subjective family income adequacy.
- H<sub>3</sub>: There is a difference in satisfaction with perceived overall life quality for those who differ in objective and subjective family income adequacy.
- H<sub>4</sub>: As the level of subjective family income adequacy increases, there is an increase in satisfaction with perceived: (a) family income, (b) level of consumption, (c) overall life quality.
- H<sub>5</sub>: As the level of objective family income adequacy increases, there is an increase in satisfaction with perceived: (a) family income, (b) level of consumption, (c) overall life quality.



subjective life quality. Fig. 1. Model of the relationship of levels of objective and family income adequacy, and their congruency, to selected measures of

# General Research Question 2:

Is there a relationship between the congruency of income adequacy measures and selected life satisfaction variables?

- H<sub>6</sub>: There is a difference in satisfaction with perceived family income for those who differ in the congruency of their objective and subjective family income adequacy.
- H<sub>7</sub>: There is a difference in satisfaction with perceived level of consumption for those who differ in the congruency of their objective and subjective family income adequacy.
- H<sub>8</sub>: There is a difference in satisfaction with perceived overall life quality for those who differ in the congruency of their objective and subjective family income adequacy.
- H<sub>9</sub>: The congruent group will have the highest mean scores on satisfaction with family income, level of consumption, and overall life quality.

# General Research Question 3:

Do those groups who differ in level of objective adequacy, level of subjective adequacy, and in congruency differ with respect to contextual variables?

- H<sub>10</sub>: There is a difference among (a) subjective family income adequacy groups, (b) objective family income adequacy groups, and (c) congruency groups with respect to:
  - (i) demographic characteristics:
    -number of adults, age of respondent-head,
    number of children, age of oldest child,
    and total family income of the family unit;
    housing status and urbanization of residence

-sex, racial, or ethnic group, education
and occupation of the respondent

(ii) economic perceptions: -current concerns, material wishes, consumption achievement, and recent and intergenerational financial progress

# Assumptions

The assumptions upon which this study are based

are:

- Respondent-heads have accurately reported their total family income for the most recent calendar year, 1973.
- 2. The total family income is allocated to the family unit living in the respondent-head's household and is not also providing for others living outside the household, e.g., not providing alimony or child support to another family unit, nor providing support for someone in a nursing home.
- 3. The Bureau of Labor Statistics standard budgets
  developed for urban wage earners and clerical
  workers may be applied to all families.
- 4. The age of the female spouse may be substituted for the age of the male spouse when using the Bureau of Labor Statistics equivalence tables for differences in family composition.
- 5. Respondent-heads can assess their subjective family income adequacy, and their satisfaction with perceived family income, level of consumption, and overall life quality.

# Definitions

Overall Life Quality. -- A person's subjective evaluation of the satisfaction, acceptance, or pleasure derived from his present level of living, related to felt needs and wants.

Level of Consumption. -- Encompasses the food, fuel, and other nondurable goods used up, the services of houses, automobiles, clothing, and other durable and semidurable goods utilized; the services of human beings and public goods and services used by the individual or the family during a given period of time (Davis, 1945).

Standard of Consumption. -- Encompasses the same entities as level of consumption, but is a normative concept describing what a person or family realistically desires, and strives to achieve (Davis, 1945).

Level of Living. -- Includes all goods, services, and conditions consumed or experienced in living: those goods and services acquired in the marketplace plus nonmarket goods, services, and conditions such as public facilities, social status, and location of residence (Davis, 1945).

Standard of Living. --Includes the same entities as level of living, but is a normative concept describing what a person realistically desires and strives to achieve (Davis, 1945).

Money Income. -- The total income in money before taxes which a family receives in a one-year time period.

Real Income. -- The total family income from money income, home production, services derived from goods owned, and services derived from public goods.

Objective Family Income Adequacy (Objective Adequacy).—The assessment of budget makers as to the adequacy of the total money income of the family unit. It is based on expenditure studies and scientifically determined needs and is adjusted for family composition and geographic region of residence. Also referred to as economic well-being.

Subjective Family Income Adequacy (Subjective Adequacy).--The personal judgment of the individual as to whether family income is adequate. It is assumed to be based on one's knowledge of family income and family qoals, or family needs and wants.

## Money is an im CHAPTER II of exchange, yet

### REVIEW OF LITERATURE

Research and related litera#ure are reviewed in five major categories: basic concepts, objective measures of economic well-being, subjective measures of economic well-being, congruency between objective and subjective measures, and satisfaction with selected measures of perceived life quality.

# Basic Concepts

Two types of basic concepts are discussed: income concepts and standards and levels of consumption and living. Any measure of economic well-being has, as one of its components, a measure of income. Three major concepts related to income appear in the literature: money income, real income, and psychic income. Money income is "the flow of purchasing power that comes into the control of an individual or family in a given period of time" (Fitzsimmons & Williams, 1973, p. 6). Money income includes the wages and salaries of family members, capital income such as rent, interest, dividends, and royalties; business and farm income not allocated to

labor; and transfer income. Hence, it includes market transactions where the goods or services have been given a dollar value.

Money is an important medium of exchange, yet there are other means of acquiring goods and services. In the evaluation of the well-being of families, one is interested in the total income available to families, whether in the form of money, in the provision of services, or goods provided in kind. This can be measured by real income, which has been defined as:

for the satisfaction of human wants and needs over a given period of time. . . . The concept of real income is a recognition of the contribution to the family made by resources other than money and includes the use of family time, energy and abilities along with community resources. (Gross, et al., 1973, p. 487)

Gross, et al., indicate a preference for the use of real income as a measure, stating: "... real income is a more accurate basis than is money income for comparing the welfare of different families at a given point in time ..." (p. 487).

The third income concept is that of psychic income. It is: "... the enjoyment or satisfaction derived by people from use of their real income in a period of time" (Fitzsimmons & Williams, 1973, p. 261). The authors express a preference for measures of psychic income, saying: "Psychic income might be the most

important form, since people are primarily interested in satisfaction realized rather than in the goods themselves" (p. 261).

While it might be concluded that the hierarchy of preferred concepts is from psychic down to real income, then to money income, actual use of the concepts in research is the reverse. As Fitzsimmons and Williams (1973) state: "... because enjoyment and satisfaction are difficult to observe and evaluate, money and real income are more often used as a measure of the family's well-being" (p. 261). Money income is more commonly used than real income in research because it is a more familiar concept and the information about it is less expensive to obtain and to develop for use in analysis.

Of the three income concepts, money income and real income are objective measures of income; psychic income is a subjective measure, not of income itself, but of the satisfaction derived from the use of income.

A 1945 article by Davis provides the benchmark commonly used by family and consumer economists to develop conceptual definitions which distinguish between consumption and living, and between level and standard.

The distinctions Davis draws are:

Consumption means the commodities, their uses, and services consumed; living includes consumption and much more: working conditions, cushions against major and minor shocks, freedoms of various kinds, and what I have called "atmosphere." The Level of

consumption or living, . . . is that actually experienced, enjoyed or suffered by the individual or group; the standard of consumption or living is the level that is urgently desired and striven for, . . (pp. 2-3).

Davis sometimes uses the word "content" rather than level, feeling that content better suggests composition and quality as well as size. With these terms, he develops the following definitions:

Actual consumption or consumption level is . . . a sort of aggregate of the food, fuel, and other nondurable goods used up; the services of houses, automobiles, clothing and other durable and semidurable goods utilized; and the services of human beings used, by an individual or group, in a given period of time. (pp. 3-4)

The consumption standard . . . is the consumption level that is earnestly desired and eagerly striven for, in respect of quantities, qualities, and proportions of the various goods consumed or wanted for consumption. (p. 6)

The content of living is a reality experienced by an individual or group. It is made up of a complex combination of consumption, working conditions, possessions, freedoms, and "atmosphere," and the balance or harmony among them, in relation to needs and felt wants. (p. 7)

The standard of living . . is the . . . content of living . . . which an individual or group earnestly seeks and strives to attain, to maintain if attained, to preserve if threatened, and to regain if lost. . . . it is no less a reality than the experienced content of living. (p. 9)

With changes in wording and updating of the terms used, these definitions are very much in use today (Schlater, 1970; Hafstrom & Dunsing, 1973; Rudd & Kline, 1976).

### Objective Measures of Economic Well-Being

Approaches to the objective measurement of economic well-being include the measurement of command over resources, the measurement of resources used or available for use, and the combination of these first two measures in the development of income-consumption needs ratios.

The first approach measures income or financial resources. The concepts of money income and real income, defined above, are examples of this approach. Real income includes nonmoney transfers, services from durable goods, and nonmoney income from unpaid work, of which unpaid housework is likely to be the largest component, as well as the components of money income.

A second approach to the objective measurement of economic well-being is that of measuring consumption. Two examples of this are the level of expenditures and the money value of consumption. The level of expenditure approach sums the purchases of the family unit during a given time period. It excludes goods and services obtained without the use of money and the value of services obtained from durable goods purchased during earlier time periods. It includes the total price of durable goods purchased during the current time period even though the service life of those goods extends through future time periods. This method of accounting for durable goods results in overestimating the

consumption of families during their establishment years when the investment in durable goods is larger, and underestimates the consumption of the elderly who continue to use a flow of services from durable goods purchased in earlier time periods.

The money value of consumption approach quantifies the total value of goods and services consumed during a given time period regardless of whether expenditures of money are involved. It excludes current expenditures for durable goods (including only their service value during the present time period). It also excludes expenditures for nonconsumption items, such as life insurance and those gifts and contributions which go to persons outside the immediate family.

Money income and the level of expenditures are simple measures of those income and consumption items, respectively, which have market prices. Real income and the money value of consumption are more comprehensive measures, attempting to include all items of current income or consumption, regardless of whether financial transactions are involved.

The third approach to the objective measurement of economic well-being is more holistic. It relates income to a consumption standard which is usually adjusted for differences in family composition. These measures have been termed "well-offness ratios,"

"income-needs ratios," and "welfare ratios" (Morgan & Smith, 1969; Morgan, et al., 1974; Strumpel, 1976).

The basic format of a welfare ratio equation is an income component in the numerator and a consumption standard in the denominator. The income component may be total money income or total real income, measured in varying degrees of completeness. The denominator, or the consumption component, however, is somewhat different from consumption itself. It is a consumption standard which has been adjusted for differences in family composition. Three examples of denominators, using different consumption standards, are reviewed here.

First, a welfare ratio which considers the number of family members and makes some adjustment for economies of scale is used by Strumpel (1976), Curtin (1976), and Yuchtman (1976). It is computed by:

Welfare Ratio = Total yearly money income of the family unit \$1,400 + (\$700 x number of family members)

The denominator of this equation recognizes a basic consumption package, indicated by the \$1,400, required by one family member which also is shared with other family members. It adds a given amount, \$700, for the additional individual needs of each family member.

A second, and more complex, set of consumption standards adjusts for the age of the head, age of the oldest child, number of adults, and number of children. These are the standard budgets developed by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. Budgets have been developed at lower, moderate, and higher levels of living. The dollar value of the standard budgets, for a selected family of four in the fall of 1973, is \$8,181 for the lower level, \$12,626 for the moderate level, and \$18,201 for the higher level of living (U.S. Department of Labor, undated). Equivalence scales are provided for adjusting either the consumption budget, or the family income needed to achieve that budget, for families of differing composition (U.S. Department of Labor, 1968). Another set of equivalence scales is available to adjust the BLS budgets for geographic area of residence (U.S. Department of Labor, undated).

The BLS budgets are based on the dollar value of selected market baskets of consumption items. These market basket items are derived primarily through a Survey of Consumer Expenditures and scientifically identified consumption needs, where such needs have been determined. The Survey of Consumer Expenditures is conducted about every ten years, with new market baskets of consumption items identified following the survey and new standard budgets developed. The cost of the budgets are updated annually with the Consumer Price Index.

Any one of the BLS budgets can be used in the computation of a welfare ratio, in an equation such as:

Welfare Ratio = Total yearly family income
BLS Standard BLS equivalence number
Budget x for family composition

Such an equation adjusts the BLS standard budget, which is developed for a selected family of four, for the composition of the particular family for whom the ratio is being computed. The larger the resulting welfare ratio, the better off the family is economically.

The consumption needs standard developed by Orshansky, which is the official United States poverty threshold, can also be used to compute a welfare ratio. That standard starts with the United States Department of Agriculture food requirements, adding up the individual requirements of family members and then adjusting for economies of scale in feeding people. Additional economies of scale are allowed for by using three times the food requirement as a total needs estimate, except for families of one or two, where a multiplier larger than three is applied. An additional adjustment is made for farm families to allow for their greater nonmoney income (Orshansky, 1965a, 1965b). Morgan, et al., (1974) in their work, used a welfare ratio which was a modification of the methodology of Orshansky.

The determination of consumption needs poses some special problems. For example, although nutritional needs have been scientifically identified, those needs can be met through an array of possible foods which vary greatly in price. "Needs" standards thus are normative; they are selected by the developer of the standard. In the instance of the BLS budgets, such judgments of needs are made with reference to the food consumption patterns of families as those patterns are identified through the Survey of Consumer Expenditure data.

## Relationships Between Measures of Objective Income

Research studies have been conducted which compare money income and the money value of consumption, and which report correlations between income measures and welfare ratios.

Rudd and Kline (1976) compare the measures of money income, defined as total family income after taxes, and the money value of consumption for rural families in the United States. They conclude that:

Findings suggest that for rural families money value of consumption is linearly related to income, that the variance of money value of consumption is proportional to income and that money value of consumption is more equally distributed than income.

. . . A comparison of how the two measures . . . rank rural families by consumption status indicates that income is most likely to rank families inaccurately at very low and very high levels of income. (p. 1)

However, these findings apply only to rural families.

Rural families are more likely to engage in more hours of home production and, thus, to consume more goods and services without paying for them in the market. Evidence of this is reported from a 1964 study which found that one factor differentiating the number of hours of home production by family heads and their spouses is urban or rural residence. Those who live in rural areas report 861 hours of home production per family per year (excluding housework), while those not living in rural areas report only 292 hours of home production per year (Morgan, et al., 1966). Thus, for a sample of all families in the United States, the difference between real income and money income is likely to be less than in the sample analyzed by Rudd and Kline.

A study by Morgan and Smith (1969) considers the strength of association between components within a simple and a more complex welfare ratio. The simpler welfare ratio is computed by dividing family income by family consumption needs. The more complex ratio multiplies a net real income figure (money income plus nonmoney income minus costs of earning an income) by leisure time, then divides the product by family consumption needs. Morgan and Smith conclude that:

. . . a more complete measure of economic welloffness is still heavily dominated by real income and real income is dominated by money income. But this is no reason for complacence. . . . there are differences, and, more important, the domination will almost certainly turn out to be less at the bottom of the income distribution. (p. 455)

Morgan and Smith (1969) also examine the relationships between eleven different measures of economic status; some of these are income measures, others are ratios of economic well-being. The simplest of the measures is total money income of the family for one year. The correlation between money income and net real income, as measured here, is .99, indicating a very strong association between the two measures. The correlations between total money income and two different welfare ratios is somewhat less, but still quite strong. Those correlations with total money income are .85 for the dollar income/needs ratio and .84 for the net real income/needs ratio. The correlations of a food only ratio, computed by dividing food consumption by food needs, is lower with income measures, .34 with money income, and .35 with net real income, than with economic welfare ratios, .52 with the money income/needs ratio, and .54 with the net real income/needs ratio.

Regarding the correlations of all eleven measures,
Morgan and Smith observe that:

. . . they [the correlations] become progressively smaller as our measures become more complex, taking account first of family structures, then of differences in leisure, and finally in differences in what the family must pay for housing. One indication of the validity of the adjustment for family

size is that the food adequacy measure . . . correlates more highly with the ratios of income to needs than it does with any of the absolute income measures. (pp. 456-57)

## Subjective Measures of Economic Well-Being

The economic welfare of individuals or families has tended to be measured in terms of the objective presence or absence of financial resources. This approach ignores the psychological perspective of the person. As Cantril has stated (1965):

Everyone--whether of high or low status, . . . has subjective standards which guide behavior and define satisfactions. . . The problem is to learn what these standards are in a person's own terms and not judge them by our own standards. (p. 21)

Factors other than current command over resources are a part of the person's subjective judgment of the adequacy of his income. Macdonald (1963) provides an illustration of one factor:

A childless young couple with \$3,000 a year is not poor in the way an elderly couple might be with the same income. The young couple's statistical poverty may be a temporary inconvenience; if the husband is a graduate student or a skilled worker, there are prospects of later affluence or at least comfort. But the old couple can look forward only to diminishing earnings and increasing medical expenses. (pp. 91-92)

While numerous budget studies have been done, and a number of needs standards developed, less study has been made of people's subjective judgments of income and its adequacy (U.S. Department of Agriculture, 1935; Morgan, 1958).

The perceived income adequacy of homemakers under the age of sixty-five, with one or more children living at home, is reported for randomly sampled selected areas in thirteen states. Much higher percentages of a sample of black families in east central Texas report their incomes are not adequate than do rural migrants in California or than do rural families and urban low-income area families sampled in the midwest. The highest frequencies of incomes perceived as being adequate occurs in the four rural small places family samples in the midwest (Iowa Agriculture and Home Economics Experiment Station, 1974).

Rainwater (1974) has researched the subjective dimension of the level of living, or "the assessment people make of how well or poorly people are enabled to live at a given income" (p. 110). In a 1971 survey using a quota sample of Bostonians, respondents were given qualitative, descriptive labels of the level of living of specified families and asked to name the dollar amount of income the family would need to live at that level. An example of the questions is:

Mr. and Mrs. Smith have two children and are generally considered to have a <u>comfortable</u> living, not particularly high and not particularly low. What is the lowest income they could have and still be considered to have a comfortable level of living? (p. 95)

Similar questions were asked for levels of living labeled as "poor," "get along," "prosperous and substantial,"

and "rich." These levels of living were chosen by the researcher to designate points along a continuum from a very low level of living to a very high level of living. Analysis of the dollar amounts of income respondents named as being needed for the qualitatively described levels of living reveals that:

Taking comfort as 100 percent, we find that poverty requires an income slightly less than half of the comfortable level, while getting along connotes a living level requiring about two-thirds of the income required to be comfortable. For the prosperous, substantial level, something over a quarter again as much is necessary, and being rich requires over twice as much money. (p. 111)

Additional analysis indicates that the respondents' background characteristics and their implicit scale of dollars seldom accounts for more than a few percent of the variance in the dollar amounts of income named.

When the respondents are separated by social class, they all name similar dollar amounts of income for the lower levels of living. The working class, however, see the lower limit of richness to be about four times the upper limit of poverty while, for the upper middle class, richness starts at an income that is six times the poverty line. However, there is a great deal of variation in dollar amounts stated within the classes of respondents.

Two criteria in the phrasing of the questions seem to influence the dollar amount of income named by the respondents. The specified level of living is

clearly the most important source of variation. Yet, when the level of living is controlled, there is a strong relation between family size and the dollar amount of income needed by respondents. Significant interaction between living level and family size results in greater dollar increments for additions to family size at higher levels of living. In the judgment of the Boston sample, couples with five children need about 50 percent more income than couples with no children in order to be equally well-off economically.

Rainwater (1974) also analyzes time series data from the Gallup Polls. This provides information on people's conceptions of the yearly income needs for two levels of living, a "get along" level and a higher level described as "health and comfort." The question regarding the "get along" level was used almost yearly from 1946 to 1969. It asked: "What is the smallest amount of money a family of four (husband, wife, and two children) needs to get along in this community?" (p. 52). The mean amount reported by respondents is \$2,226 in 1946 and \$6,225 in 1969. Measured in constant dollars, there is about a 50 percent increase in the amount of goods and services Americans felt were necessary for a family to get along, over the 23-year period. The incomes stated range from 46 to 58 percent of per family disposable

income. The incomes stated average 106 percent of the take-home pay of a worker in private nonagricultural industry.

Factors which influence the amount specified are the respondent's family income, the amount the family spent on food, the respondent's educational level, and the size of the community. Correlations between these factors and the get-along income range from .21 to .30. Factors which have minimal effect are race, sex, number of children, and, after controlling for community size, region of the United States.

Analysis of the Gallup Poll question which specifies a somewhat higher level of living, described as "health and comfort," shows a similar 50 percent increase in the constant dollar amount of income reported as needed over the 25-year period from 1939 to 1963. The income amount stated ranges from about two-thirds to a little over three-fourths of per family disposable income.

# Congruency Between Objective and Subjective Measures

There is some evidence that people view their income adequacy or economic well-being from both an objective and a subjective perspective. A limited amount of research examines the relationship between these objective and subjective measures of income adequacy.

Rainwater (1974) compares the Gallup Poll question on the amount of income needed to live at a level of "health and comfort" with the Ornati budget for a minimum comfort level of living. He concludes that "there is quite a high degree of agreement between budget makers and the public" in their judgments of the income needed for this level of living (p. 52).

Comparisons are also made between the subjective judgments on the Boston sample and several objective budget standards with respect to the increments of income needed by larger families, if they are to maintain the same level of living as family size increases. As the number of children in the family increases, Rainwater determined that all of the objectively computed equivalence scales of increasing income needs increase much more rapidly than does the scale developed from the subjective judgments of the Boston sample. The difference is greatest when the Boston sample's responses are compared with the equivalence scales of the Bureau of Labor Statistics.

The motivation for, and the dilemma of, the search for congruity between objective and subjective measurements is pointed out by Campbell, Converse, and Rodgers (1976):

Whenever one begins to explore unfamiliar terrain with unfamiliar measuring instruments . . . the nearest approach to a guide is common sense expectation. . . . most of the strong expectations

derive in one way or another from the simple proposition that "the better people's situations are, the more satisfied they should be with them." If we are to go on to ask what we mean by "better," we typically mean "objectively better." . . . we are moving into something of an impasse, if we carry this reasoning to its logical extreme. If the only data we were to trust were those in which reports of satisfaction were congruent with objective satisfaction, however defined, then we would have served little purpose in investigating subjective perceptions to begin with. Yet if this kind of subjective investigation has any particular inspiration at all, it depends on the observation, rather well documented, that subjective assessments do depart from objective situations in meaningful and important ways, about which all too little is known.

Our dilemma is thereby sharpened. We become most suspicious of bias or measurement inadequacy when subjective assessments come into conflict with objective situations, although such discrepancies taken substantively are almost the principal reason for the conduct of the study. The only route out of the dilemma is to come to grips with the unexpected result with all the analytic tools and side information we can bring to bear, in order to learn what part of the finding, if any, stems from distortions that can be readily understood, and what part seems to reflect something of substantive interest in the real world. (p. 115)

When a person's subjective assessment of a situation differs from an objective assessment of it, there is incongruity, inconsistency, or dissonance between the two assessments. According to Festinger's theory of cognitive dissonance, the individual is motivated to overcome the dissonance. This can be done by (1) changing one of the elements in the dissonant relationship, (2) adding new cognitive elements that are consistent with one of the already existing cognitions, and/or (3) by decreasing the importance of the cognitive elements involved in the dissonant relationship. Thus,

the existence of dissonance within a person's cognitions should be observable in a person's actions (Festinger, 1957).

A special case of cognitive dissonance is recognized as relative deprivation. The conditions for a feeling of relative deprivation are (1) an expectation that is felt to be legitimate or deserved and that is expected to be fulfilled within a given time period and (2) a high perceived probability, which increases rather suddenly, that the expectation will not be fulfilled. Here, the dissonance occurs between the expectation which is thought to be deserved and its nonoccurrence; the dissonance felt is that of injustice or inequity (Morrison, 1971).

In sum, the fact that subjective and objective assessments may be inconsistent is the principal reason for the use of subjective assessments. An individual may not necessarily be aware of the objective assessment. In fact, if it disagrees with his subjective assessment, he may try to ignore it to avoid the incurrence of dissonance.

### Perceived Life Satisfactions

Two major studies conducted by the Survey Research Center of the University of Michigan in the early 1970s focused on people's perceptions of life satisfactions or quality of life (Campbell, et al., 1976; Andrews & Withey,

1974). A central theme of both studies was the interplay between the satisfactions people derive from different aspects of their lives and how these aspects combine to form their overall evaluations of perceived overall life quality.

Both studies indicate that a person's overall satisfaction with life is based largely on the satisfactions that flow from a variety of different domains. Andrews and Withey report that the four domains which contribute most to perceived overall life quality are satisfaction with (1) yourself, (2) your family life, (3) the amount of fun in your life, and (4) a money index developed from satisfactions with family income and level of consumption. The remaining domains of the twelve Andrews and Withey identify are your health, your job, goods and services, your house or apartment, things to do with your family, time to do things, spare time activities, and an index of satisfaction with national government.

Andrews and Withey (1974) observe that the twelve domains do as well in explaining satisfaction with overall life quality as do a much larger list. They indicate that information concerning income, sex, race, age, family life cycle stage, and education add nothing more to understanding why some people are content with their lives and others are not.

Nyblad (1975) concludes that there is no great variance in perceived life quality when age, sex, area of residence, or income vary. She finds that social factors contribute most to one's overall life quality, economic factors are second, and environmental factors last. Both Campbell, et al., and Andrews and Withey state that people reserve their ratings of greatest satisfaction for those parts of their lives that are the most personal and intimate. The more removed a domain is from the person, the more dissatisfied they are likely to be with that domain. In the Campbell, et al., study, respondents are most satisfied with their marriage, second most satisfied with their family life, and least satisfied with savings and investments. Satisfaction is also low in the domain of level of consumption, which Campbell, et al., refer to as standard of living (1976).

Andrews and Withey report that persons of low social and economic status, urban residents, and blacks find life less satisfying than do their counterparts. Young people are less pleased with their lives than are older people. In general, there is little difference in the satisfactions expressed by men and women (ISR Newsletter, 1974).

Campbell, et al., recognize the importance of income as a resource, stating (1976):

. . . when all resources and resource satisfactions are gathered together . . . the preeminence of satisfaction with one's standard of living as a predictor of such feelings is dramatic, and another income related satisfaction, that with savings, makes a substantial contribution as well. (p. 380)

The Campbell, et al., study provides an example of the importance of income as a resource. When asked "Up to now, have you been able to satisfy most of your ambitions in life or have you had to settle for less than you had hoped for?" almost 60 percent of the sample responded positively. However, the variation in responses is "more tightly associated with the classic resources of income and education than any of our other global measures of life satisfaction or felt well-being" (pp. 380-81). The 40 percent of the population who answered the question negatively were asked the further question "What are the main things that (have) stood in your way?" About one-half of those responding mentioned purely financial limitations; some of the other replies at least imply financial constraints (p. 381).

Because of the importance of variation in one's financial situation for feelings of well-being, as well as the greater amount of expressed dissatisfaction in this domain, much more detailed studies have been initiated, Campbell, et al., state. They refer to Strumpel as "a central and up-to-date reference" (p. n381).

Strumpel (1975a) observes that the "most straight-forward subjective correlate of an individual's objective

income position is his satisfaction with income" (p. 78). Yet, a more complete decomposition of subjective economic welfare would include, besides income satisfaction, satisfaction with one's level of consumption or the extent to which the present income is seen as providing for a comfortable life, perceived equity of monetary rewards from the job and income expectations (Strumpel, 1975a). The concept of satisfaction with level of consumption, according to Strumpel, serves "as a proxy for the degree to which present family income satisfies consumption needs or aspirations; also for the experience of financial constraint, the difficulty of making ends meet, or the felt denial of present wants in the sphere of consumption or income allocation" (p. 78).

Strumpel (1975a) notes that satisfaction stands for acceptance rather than approval:

Some people, more easily than others, accept undesirable and undesired situations and environments. As a yardstick against which to measure reality they employ a barely acceptable minimum of "tolerability." Others use a "fair," "good," or even "ideal" state of affairs as anchoring points for the evaluation of their reality. There is reason to assume that the use of different standards is not randomly distributed over persons or domains. It has been noted, for instance, that underprivileged groups (as long as there is little hope for betterment) tend to be complacent, even to express much satisfaction with their condition, while the perceived possibility of change has been observed to arouse aspirations. (p. 79)

Strumpel feels that if an individual's standards for evaluating his condition are tainted by the perception

of its persistence, satisfaction scores by domain appear in a new perspective. Marriage is likely to be considered rather permanent; one's job, or at least the kind of job one can hope to occupy, is somewhat fixed. In contrast, people's income and level of consumption change; variations in income, prices, and material needs occur constantly and are often difficult to anticipate (Strumpel, 1975a).

In addition, the social acceptability of dissatisfaction differs from domain to domain. Dissatisfaction
with income and level of consumption is accepted in a
culture stressing mobility, opportunities, and individual
progress. This is less true of the job, and not at all
true of marriage (Strumpel, 1975a).

Strumpel has found a strong relationship between satisfaction with income, reports of past increases in income, and a sense of well-being. The relationship is constant, even after the effects of income level are taken into account. The distribution of satisfaction across the income distribution suggests that the societal average serves as the reference point for lower-income Americans; their dissatisfaction is highly correlated with the distance from the mean (Strumpel, 1975a). The members of households with somewhat higher incomes, those who are comfortable to fairly affluent but not wealthy, do not become much more satisfied with further

increments of income, according to Katona (1964).

Strumpel (1976) also reports that satisfaction with one's level of consumption responds to reality; actual income correlates positively with measured satisfaction with level of consumption.

In sum, a number of measures of objective income adequacy have been developed and used in research. Few measures of subjective adequacy have been empirically tested; little has been researched in the area of congruency. In recent years, work has been done on satisfaction with overall life quality, with analysis of those domains which contribute to satisfaction with overall life quality. Economic domains are a contributor to life quality, with the strength of their relationship appearing to be less than the social domains but more than the environmental domains.

#### CHAPTER III

#### **METHODOLOGY**

This study is undertaken to determine the relation-ship of family income adequacy to selected measures of satisfaction with perceived life quality and to specific contextual variables. Data collected in a national study conducted by the Survey Research Center (SRC) of the University of Michigan are used to test the research hypotheses.

This chapter describes the data source, sampling and data collection procedures used in the SRC study, selection and description of the study sample, development of specific variables, and data analysis procedures.

#### Data Source

The data used in this study were collected from households during September-November 1974, as a part of the Fall Omnibus Study of the Survey Research Center of the University of Michigan. These data are identified as SSA-3512, Part IV, "Economic Incentives, Values, and Subjective Well-being" by Burkhard Strumpel, et al.

(Inter-University Consortium for Political and Social Research, 1976-77, pp. 119-20).

Information from the Bureau of Labor Statistics (BLS) United States Department of Labor is used in the development of the objective family income adequacy measure.

# Procedures for Sampling and Data Collection

The SRC interview population is a cross-sectional sample of American adults, eighteen years of age or older, who live in private households in the United States, excluding Alaska and Hawaii. Transients and individuals living in institutions, dormitories, large rooming houses, or on military bases are not included.

The households are selected through a multi-stage area probability sampling technique. Probability selection is enforced at all stages of sampling. The interviewer has no freedom of choice among housing units or among household members within a sample dwelling. The final SRC sample consists of 1,519 individuals.

Data are collected by personal interview with the selected respondent in each household. Trained SRC interviewers use the interview schedule prepared for the study. That schedule contains fixed questions with either fixed answers or open-ended answers. Additional items are gathered by interviewer observation, e.g., race and sex of the respondent.

Data are coded, transformed, and then stored on magnetic tape by the SRC staff. A copy of the magnetic tape was made available to the researcher by the Inter-University Consortium for Political and Social Research, Ann Arbor, through the Michigan State University Department of Political Science, a Consortium member.

### Selection of the Study Sample

A sample of 1,046 of the 1,519 respondents to the fall 1974 SRC survey of Strumpel, et al., are used for this study. The criteria for selecting the study sample are (1) complete data on life satisfaction measures and subjective family income adequacy and (2) availability of specific information required to compute the objective family income adequacy measure.

The first criterion reduces the sample by less than 100 persons. The deletions for not providing onthe-scale responses to the 3 satisfaction variables include 44 on perceived overall life quality, 20 on perceived level of consumption, and 22 on perceived family income. An additional 6 respondents who did not provide information on subjective family income adequacy are deleted.

The second criterion, presence of all information necessary to compute objective income adequacy measures, requires survey data on age of family head, age of oldest child, number of parents in the household, number of

children under 18 in the household, and total family income before taxes in 1973. This criterion also requires BLS income equivalence numbers to adjust the BLS standard budget for differences in family composition.

The deletions by the second criterion include 159 respondents who did not provide information on their total family income and 331 who could not be assigned the most specific type of BLS family income adjustment equivalence This most specific type of equivalence number is based on the age of the family head, age of oldest child, and presence of husband and wife, or one parent, or one adult living alone (see Appendix A). The BLS age of male family head classification for equivalence numbers is reinterpreted in this study to be the male or female respondent-head. Still, 71 adult children and 8 respondent-heads are deleted because the age of the head is not Seven families are deleted because they are unusual age-of-parent, age-of-child combinations for which there are no specific BLS family income adjustment equivalence numbers.

While equivalence numbers are available for family units which include adult children living at home, such children, when not the survey respondent, cannot be identified in the SRC sample data. Therefore, all 237 cases with more adults in the family unit than just the respondent, and a second adult if the respondent is married, are deleted.

the comparability of their objective family income adequacy measures with those of other respondents is questioned. These are married respondents whose spouses do not live at home. Maintenance of two separate residences is likely to require more income to achieve the same moderate level of living. There is also the possibility that the respondent may have interpreted the question regarding total family income as being either the income of the family unit at that address or of the family unit including the absent spouse.

The sum of individual deletions is 676, while only 473 cases are deleted from the SRC sample in the formation of the study sample. Thus, 203 cases are deleted for multiple reasons. Possible examples of respondents deleted for multiple reasons are (1) the respondent who fails to give on-the-scale responses to two of the life satisfaction measures and (2) the respondent who is a parent of the family unit head, who does not report the family unit's total income in 1973.

### Description of the Study Sample

The sample selected for this study contains 1,046 respondents. The major characteristic on which the study sample differs from the SRC sample is that of marital status. There are 6.7 percent more married respondents in the study sample than in the SRC sample and 5.0 percent

less in the never married category. Other percentages—separated, divorced, and widowed—are quite similar in both samples, as shown in Table 1. The differences appear to be related to the second deletion criterion—that respondents who cannot be assigned specific BLS family income adjustment equivalence numbers are excluded from the study sample. The never married respondent—heads may more frequently share their family units with other adults, such as a nonrelated adult or an elderly parent who moves into their home. If this is the case, such respondents are deleted from the study sample.

Comparing response categories, a lesser difference between the SRC sample and the study sample is
that 2.5 percent less of the study sample are one-person
households and 2.5 percent more are married couples with
children under the age of 18 living at home, as shown
in Table 1. This difference is consistent with and
related to the difference in marital status between the
study sample and the SRC sample, but is less pronounced.

In all other characteristics compared, the study sample is very similar to the SRC sample. Comparisons of family income are shown in Table 2; comparisons of the respondent's sex, age, racial or ethnic group, education, and occupation are reported in Table 3. Since the samples are so similar, the results of the study are generalizable to those family units in private households

TABLE 1.--Marital status and family type

Characteristics of the	Study Sample		SRC Sample	
Respondent-Head	N	8	N	ક
Marital Status	1046	100.0	1519	100.0
Married	767	73.3	1101	66.6
Separated	34	3.3	50	3.3
Divorced	57	5.4	87	5.7
Widowed	98	9.4	160	10.5
Never married	90	8.6	206	13.6
Not ascertained	-	-	5	.3
Family Type	1046	100.0	1519	100.0 <sup>a</sup>
One person	215	20.5	284	23.0
One adult, one or more children	64	6.1	75	6.1
Married couple, no children at home	342	32.7	405	32.8
Married couple, children age 17 or younger living at home	425	40.6	471	38.1
Other family typesb	-	-	284	-

<sup>&</sup>lt;sup>a</sup>Percentages exclude the category "other family types."

bFamily units which include other adults in addition to the respondent-head and, if the respondent is married, the respondent's spouse.

TABLE 2.--Total family income before taxes in 1973

1973 Family	Study Sample			SRC Sample		
Income	N	8	cum. %	N	8	cum. %a
Under \$2,000	46	4.4	4.4	57	4.2	4.2
\$ 2,000- 2,999	51	4.9	9.3	72	5.3	9.5
3,000- 3,999	59	5.6	14.9	73	5.4	14.9
4,000- 4,999	34	3.3	18.2	50	3.7	18.5
5,000- 5,999	44	4.2	22.4	62	4.6	23.1
6,000- 7,499	78	7.5	29.8	94	6.9	30.0
7,500- 8,999	78	7.5	37.3	94	6.9	36.9
9,000- 9,999	63	6.0	43.3	73	5.4	42.3
10,000-10,999	79	7.6	50.9	98	7.2	49.5
11,000-12,499	71	6.8	57.5	94	6.9	56.4
12,500-14,999	109	10.4	68.1	148	10.9	67.3
15,000-17,499	95	9.1	77.2	123	9.0	76.3
17,500-19,999	71	6.8	83.9	84	6.2	82.5
20,000-22,499	54	5.2	89.1	76	5.6	88.1
22,500-24,999	33	3.2	92.3	45	3.3	91.4
25,999-29,999	24	2.3	94.6	37	2.7	94.1
30,000-34,999	27	2.6	97.1	36	2.6	96.8
35,000 or more	30	2.9	100.0	44	3.2	100.0
Don't know	-	_		40	_	
Not ascertained	-	-		119	-	
TOTAL	1046	100.0		1519	100.0	

aPercentages exclude the categories "don't know"
and "not ascertained."

TABLE 3.--Characteristics of the respondent

Characteristic	Study Sample		SRC Sample		
	N	8	N	<del></del>	
Sex					
Male Female	463 583	44.3 55.7	654 865	43.1 56.9	
Age					
18 to 34	418	40.9	582	38.3	
35 to 54 55 to 64	333 151	31.8 14.4	488 221		
65 to 94	144	13.8	219		
Racial or Ethnic Group					
White	914	87.4	1298	85.5	
Black	94	9.0	159	10.5	
Chicano, Puerto Rican,	0.0		2.2		
Mexican- or Spanish-American American Indian	23	2.2	33	2.2	
Oriental	6 6	.6 .6	6 8	. 4 . 5	
Other	3	.3	7	.5	
Not ascertained	_	-	8	.5	
Education					
Up to 8 grades	176	16.8	263	17.3	
9 to 11 grades	125	12.0	202	13.3	
High school diploma	355	33.9	504 312		
Some college, no degree Bachelor's level degree	209 132	20.0 12.6	166	20.4 10.9	
Advanced degree	49	4.7	62	4.1	
Occupation					
Unemployed, retired, disabled	171	16.3	256	16.9	
Housewife, widow	240	22.9	331	21.8	
Laborers and service workers	107	10.2	174	11.5	
Operatives	86 75	8.2	130	8.6	
Craftsmen and foremen Clerical and salesworkers	75 136	7.2 13.0	115 204	7.6 13.4	
Managers	113	10.8	156	10.3	
Professionals	118	11.3	150	9.9	
Not ascertained	_		3	.2	

NOTE: N = 1046 for the study sample and N = 1519 for the SRC sample.

in the United States, excluding Alaska and Hawaii, which include no adults other than the husband and wife or the one-adult head.

#### Description of Variables

#### Income Adequacy Variables

The independent variables in this study are subjective family income adequacy, objective family income adequacy, and the congruency or agreement between objective and subjective income adequacy.

Subjective family income adequacy is developed from the question "Do you feel that your total (family) income is enough for you (and your family) to live as comfortably as you would like at this time?" The four response options are "very comfortably," "comfortably," "not too comfortably," and "not at all comfortably." Thus, while the study analyzes subjective income "adequacy," the scale by which respondents judged their subjective income speaks of "comfort."

Does the word "comfort" lead respondents to indicate a lower level of income adequacy than might a less luxurious sounding average income term? It does not seem to do so, judging by study data. The modal value in the study is "comfortably," the response of 58.6 percent of the sample. The next largest category is "not too comfortable," 25.6 percent of the sample. Hence,

a "comfort" based scale of measurement does not appear to have depressed the distribution. The distribution of the study sample by subjective family income adequacy is given in Table 4.

TABLE 4.--Subjective family income adequacy distribution

Group	Income Adequacy Description	Number	Percentage	Cumulative Percentage
SA-l <sup>a</sup>	Not at all adequate	62	5.9	5.9
SA-2	Less than adequate	268	25.6	31.5
SA-3	Adequate	613	58.6	90.2
SA-4	Very adequate	103	9.8	100.0
	TOTAL	1046	100.0	

asA is subjective family income adequacy.

The second income adequacy variable is objective family income adequacy. Unlike subjective family income adequacy, it is not based on the respondent's perception. It is a computed welfare ratio which represents the relation of family income to the income that family unit would need to live at the moderate level of living envisioned by the designers of the BLS standard budget.

The objective adequacy ratio was developed through a series of steps. First, each respondent is assigned a BLS family composition equivalence number which adjusts the BLS standard budget at the moderate level, \$12,626,

for differences in income needs based on differences in the number and ages of people in the family unit. For example, one person under the age of 35 and living alone is assigned an equivalence number of 37, indicating that a person needs 37 percent of the income required by a family of four, with a head age 35-54 and the oldest child age 6-15, to achieve an equivalent level of living.

Secondly, each respondent is assigned a BLS geographic equivalence number to adjust the moderate level standard budget for regional differences in income needs based upon climate and life styles. For example, a respondent living in Boston is assigned a geographic equivalence number of 118, indicating that that family needs an income of 118 percent of the U.S. average standard budget income level to attain the same moderate level of living.

The objective family income adequacy variable is then calculated by the following equation:

Objective Adequacy	=	•	Total	family	income			
Ratio		Standard budget; moderate level	v	Adjustment for fam: composition 100	ily "	g	djustment eographic egion 100	for

The resulting ratios are grouped into six ordinal categories of objective family income adequacy. These categories, their descriptions, and frequencies are reported in Table 5. Just under 30 percent of the

sample have objective adequacy ratios of less than 100, indicating that they do not have a sufficient family income in 1973 to attain the level of living represented by the BLS standard budget at a moderate level of living. The middle groups in the sample, those with ratios of 100 to 299, are 68.6 percent of the total. They have from one to just under three times the income needed to attain the level of living represented by the BLS moderate level standard budget.

TABLE 5.--Objective family income adequacy distribution

Group	Objective Adequacy Ratio	Number	Percentage	Cumulative Percentage
OA-1 <sup>a</sup>	16-49 <sup>b</sup>	79	7.6	7.6
OA-2	50-99	233	22.3	29.8
OA-3	100-149	247	23.6	53.4
OA-4	150-199	180	17.2	70.7
OA-5	200-299	186	17.8	88.4
OA-6	300 or more	121	11.6	100.0
	TOTAL	1046	100.0	

<sup>&</sup>lt;sup>a</sup>OA is objective family income adequacy.

The distributions of objective family income adequacy ratios and of total family income in 1973 are listed by percentiles in Table 6. A caution in reading the table is that it should not be assumed that the

bThe ratio is obtained by dividing total family income by family needs adjusted for family composition and geographic region.

family which is at the 50th percentile of the objective income adequacy is the same family which is at the 50th percentile of the family income distribution.

TABLE 6.--Objective adequacy ratios and total family income distribution by percentiles of the study sample

Percentile	Objective	Total Family
	Adequacy Ratio	Income in 1973
5th	43	Under \$2,000
10th	57	\$ 3,000-\$3,999
15th	71	4,000- 4,999
20th	81	4,000- 4,999
25th	91	6,000- 7,499
30th	100	7,500- 8,999
35th	111	7,500- 8,999
40th	122	9,000- 9,999
45th	131	10,000-10,999
50th	143	10,000-10,999
55th	151	11,000-12,499
60th	164	12,500-14,999
65th	179	12,500-14,999
70th	198	15,000-17,499
75th	217	15,000-17,499
80th	241	17,500-19,999
85th	272	20,000-22,499
90th	319	22,500-24,999
95th	405	30,000-34,999
100th	988	35,000 or more

The objective adequacy ratio is a measure of family income divided by family income needs. A large family with an income at the 50th percentile would have an objective adequacy ratio which is less than that of a one-person family unit which is at the 50th percentile of the income distribution.

Table 6 indicates that the median objective adequacy ratio for the study sample is 143, or 143 percent of

the income needed to live at the moderate level of living represented by the budget standard. It also shows that the median income of the study sample family units is \$10,000 to \$10,999. Seventy percent of the families in the study sample have incomes large enough to live at or above the BLS moderate level standard budget.

The third income adequacy variable, congruency, is a measure of the degree of agreement and direction of disagreement between a respondent's objective and subjective family income adequacy. Congruency groups are identified and coded by the matrix of objective and subjective adequacy groups shown on page 56.

As Figure 2 illustrates, OA-3, OA-4, and OA-5 are treated alike in developing the congruency groups. This is because post hoc contrasts during the early stages of data analysis show these three groups do not differ significantly from each other in their mean scores on the satisfaction variables.

The congruent group in the congruency variable is C-3. C-2 and C-4 are one degree away from being congruent. C-1 and C-5 are two degrees away from being congruent. C-1 and C-2 differ from the congruent group in that their subjective adequacy is higher than their objective adequacy. They could be termed worse off than they think they are. C-4 and C-5 differ from the congruent group in that their objective adequacy is

Group	Groups by Level		Groups by	Level of (	Objective Ir	Groups by Level of Objective Income Adequacy	ıcy
Incom	Income Adequacy	0A-1 Ratio 16-49	0A-2 Ratio 50-99	0A-3 Ratio 100-149	0A-4 Ratio 150-199	OA-5 Ratio 200-299	OA-6 Ratio 300-988
SA-1	SA-1 Not at all adequate	C-3	C-4	C-5	C-5	C-5	C-5
SA-2	Less than adequate	C-2	C-3	C-4	C-4	C-4	C-5
SA-3	Adequate	C-1	C-2	C-3	C-3	C-3	C-4
SA-4	Very adequate	c-1	C-1	C-2	C-2	C-2	C-3

Fig. 2. Congruency groups identified by their levels of objective and subjective family income adequacy

higher than their subjective adequacy. They could be called better off than they think they are.

The frequency distribution of the congruency groups is reported in Table 7. Over half of the study sample, 54.0 percent, are in the congruent category. Their objective and subjective family income adequacy levels are in agreement. The remaining respondents are about equally distributed between those who differ from the congruent group, C-3, in that their subjective income adequacy is greater than their objective income adequacy, and those that differ in the opposite direction.

TABLE 7.--Congruency group frequency distribution

Group	Description	Number	Percentage
C-1	SA>>OA <sup>a</sup>	29	2.9
C-2	SA > OA	202	19.3
C-3	SA = OA	565	54.0
C-4	SA < OA	219	20.9
C-5	SA< <oa< td=""><td>31</td><td>3.0</td></oa<>	31	3.0
	TOTAL	1046	100.0

<sup>&</sup>lt;sup>a</sup>C is congruency, SA is subjective adequacy, and OA is objective adequacy.

## Satisfaction Variables

The dependent variables in the study, to which the income adequacy variables are related, are measures of satisfaction with perceived family income, perceived

level of consumption, and perceived overall life quality.

They are measured on a seven-point scale. Values of the scale are "delighted," "pleased," "mostly satisfied,"

"mixed," "mostly dissatisfied," "unhappy," and "terrible."

To be used as a dependent variable in the analysis of variance and multiple classification analysis, the satisfaction variables are assumed to be (1) at an interval level of measurement and (2) normally distributed. These assumptions are now discussed.

Andrews and Withey have treated items measured on the seven-point Delighted-Terrible Scale as interval data. They base that decision on a comparison of the Delighted-Terrible Scale with several other scales. They observe that:

We find that . . . the intervals between the five least positive categories of the Delighted-Terrible Scale are all approximately equal. . . . However, the interval between mostly satisfied and pleased is somewhat less than that between the more negative categories, and the interval between pleased and delighted is only about half the size of the others . . .

The above findings suggest that respondents tend to use all of the most promising scales in approximately the same way, (and) that the meaning they attach to scale categories seems not to be much influenced by what is being evaluated... (Andrews & Withey, 1976, pp. 7-9)

The conclusions quoted above are based on the comparison of seven items, each having been measured on a number of scales. Two of the three satisfaction variables used in this study are among those seven items.

Since Andrews and Withey state that the meaning attached to scale categories seems not to be much influenced by what is being evaluated, this researcher assumes that perceived family income can also be treated as an interval measure.

Descriptive statistics of the distribution of the satisfaction variables are reviewed regarding the assumption of normality. To be perfectly normal, a satisfaction variable has a mean and median of the same value (Blaloch, 1972, p. 70) and zero skewness. As shown in Table 8, the mean and median values of each of the satisfaction variables are very similar and can be assumed to be normal. Each satisfaction variable, however, is somewhat asymmetric. They vary in skewness from -.72 for family income to -1.10 for level of consumption.

TABLE 8.--Descriptive statistics for satisfaction variables

Descriptive Statistic	Family Income	Level of Consumption	Perceived Overall Life Quality
Central Tendency			
Mean	5.35	5.11	4.32
Median	5.47	5.25	4.65
Variability			
Variance	1.41	1.45	2.14
Standard deviation	1.19	1.20	1.46
Standard error	.04	.04	.05
Symmetry			
Skewness	93	-1.10	72
Kurtosis	1.39	1.59	17

Kurtosis is a measure of the peakedness of the distribution. A normal curve, using the SPSS computational equation, has a kurtosis of zero. The satisfaction with family income variable is very nearly normal, having a kurtosis of -.17. The other two satisfaction measures have kurtosis values of 1.38 and 1.59, indicating that there is less variance in the study sample responses than would be expected in a normal distribution.

Most research reports on the effects of sample non-normality have concluded that the ordinary F and t statistics are robust, i.e., they are immune to violations of this assumption. As Lindquist states (1953):

. . the F-distribution is practically unaffected by lack of symmetry, per se, in the distributions of criterion measures, but is slightly affected if the distribution of criterion measures is roughly symmetrical but either very flat or very peaked. In the latter cases, the probabilities read from the normal-theory F-table are too small to represent the true risk of a Type I error and due allowances should be made for this in the interpretation of results. In such cases . . . when the "apparent" risk (as read from the F-table) of a Type I error is 5%, the true risk may be as large as 8%, and when the apparent level of significance of an F-test is the 1% level, the actual level of significance may be the 2% level (approximately). (p. 81)

In this study, the kurtosis of satisfaction with family income is very slight, so no allowance needs to be made. The other two satisfaction measures are somewhat peaked, but not extremely so.

### Contextual Variables, Demographic

The contextual variables are used in this research to describe the differences between respondents who differ in the subjective adequacy, objective adequacy, and congruency groups to which they belong.

The contextual variables are of two types, demographic characteristics and economic perceptions of the respondent. Those demographic characteristics which are of an interval level of measurement, the age of the respondent, age of oldest child in the family unit, number of children, number of adults and family income, are analyzed by one-way analysis of variance. The other demographic variables, which include the sex, racial or ethnic group, education, and type of occupation of the respondent; as well as the housing status and urbanization of the family unit's residence, are analyzed with nonparametric statistics.

The coding variations of the demographic contextual variables are described in detail in Appendix B.

## Contextual Variables, Economic Perceptions

Five economic perception variables are developed.

They are current concerns, an index of wishes for material things, achievement of consumption goals, recent financial progress, and intergenerational financial progress.

These are explained briefly here and in greater detail in Appendix B.

During the interview, the respondent was handed a card with a list of five possible current concerns. The respondent was asked to name those items which were presently of concern and to rank the first and second most important concerns. The first ranked concern of each respondent is included in the current concerns variable.

The material wishes index is the sum of the respondent's degree of interest in having a better car, a new set of furniture, better household appliances, more money to spend on vacations and leisure time activities, and much more savings or financial reserves.

The consumption achievement variable is a combination of how one's present level of consumption compares with what one had expected and one's judgment of the likelihood of attaining the consumption goals to which one aspires.

The recent financial progress variable combines one's perception of financial progress, or the lack of it, in the past year and expected financial progress in the coming year. It is developed and coded as has been done in past Economic Behavior Program studies of the Survey Research Center (Katona, 1972; 1975).

Intergenerational financial progress measures the respondents' judgments of whether they are better or worse off or the same as their parents.

While some of the economic perceptions have some hierarchial order, they are all treated as categorical measures; and nonparametric statistics are used in testing the hypotheses. This is done for consistency and comparability across the noninterval level contextual variables.

### Analyses of Data

Both parametric and nonparametric techniques are used in hypotheses testing. An alpha level of .05 is used in two-tailed tests to determine the probability of a Type I error, i.e., that the null hypothesis is rejected when in fact it is true.

The statistics used to generate alpha levels are not the only criteria for evaluation of the hypotheses. Tests of the degree of association are also used. Significance is tested by the F-statistic in analysis of variance, by the t-statistic in post hoc contrasts, and by the chi square for nonparametric models. The degree of association, or the amount of variance explained, is tested by Cramer's V in nonparametric models. In parametric models, the degree of association for individual independent variables is tested by eta square; when there are two independent variables their adjusted association

is measured by beta square and their total combined effect is measured by multiple R and multiple R squared.

## Statistical Models

Analysis of variance is used to test the differences among income adequacy groups in their mean scores on satisfaction variables and their mean scores on some demographic contextual variables. The assumptions of the model are:

- Dependent variables are continuous with equal appearing intervals
- 2. Normality, the sample is drawn from a population that was normally distributed
- 3. Independence of observations
- 4. Homoscedasticity

With regard to the satisfaction measures as dependent variables, the first two assumptions have been discussed earlier and are assumed to be satisfied.

The third assumption, independence of observations, is reviewed. It requires that observations be independent in that respondents are not matched or paired in any systematic manner. One income adequacy variable in the study is not independent of the others. The congruency variable is developed from the objective and subjective adequacy variables. Hence, any error in congruency is not independent of error in objective or subjective adequacy.

To meet the requirement of independence of observations, the analysis is designed to separate congruency analysis from the analysis which utilizes the objective and subjective income adequacy variables. First, factorial analysis of variance is used to test the relationship of objective and subjective income adequacy with each of the satisfaction measures. Then the relationship of congruency to each of the satisfaction measures is tested through one-way analysis of variance. This approach preserves the independence of the variables.

Homoscedasticity, or the homogeneity of variance, is the fourth assumption in analysis of variance. Mean scores of the satisfaction variables for groups in each of the income adequacy variables were reviewed. Their variance is judged to be similar, thus meeting the assumption of homoscedasticity. This judgment is supported by Lindquist (1953) who states: "In general, unless the heterogeneity of either form or variance is so extreme as to be readily apparent upon inspection of the data, the effect upon the F-distribution will probably be negligible" (p. 86).

After the analysis of variance, in those instances where the F-statistic reveals significant differences between groups, post hoc contrasts are implemented.

This technique contrasts one or more groups with another group or groups to determine which of the groups differ

in mean scores on the dependent variable. T-tests of the pooled variance are used to test the significance of the differences, because pooled variance provides the best control over variance.

Multiple classification analysis is used to test the strength of association between income adequacy variables and satisfaction variables. The eta square statistic is the correlation ratio and indicates the proportion of the total sum of squares explainable by one factor or income adequacy variable (Andrews, et al., 1973, p. 7). For example, an eta square of .56 means that approximately 56 percent of the variation in the dependent variable is explained by the independent variable. Beta provides a measure of the ability of one factor to explain variation in the dependent variable after adjusting for the effects of all other factors. Multiple R squared, the multiple correlation coefficient squared, estimates the proportion of variance in the dependent variable explained by all factors together (p. 7).

In the last step of the analyses, the income adequacy variables are related to contextual variables. The purpose is to describe the membership of the four subjective, the six objective, and the five congruency groups. The analysis describes, for example, how the respondents in the different groups differ in age of head, number of children, and family income.

The contextual variables are of two types, demographic characteristics of the respondent and his family and economic perceptions of the respondent. One-way analysis of variance, followed by post hoc contrasts, is used to relate each of the income adequacy variables to each of those demographic variables which are at an interval level of measurement. Eta square statistics are computed to determine the strength of association.

Nonparametric models are used to test the relationship of income adequacy variables to those demographic
variables which are at a categorical level of measurement.
Chi square is used to test significance and Cramer's V
to test the strength of association. These same nonparametric statistics are used to test the relationship
of income adequacy variables to contextual variables
regarding economic perceptions.

Chi square is a symmetric nonparametric test of statistical significance (Mueller & Schuessler, 1961, p. 402). The assumptions of the statistic were reviewed, with emphasis on theoretical cell size. Snedecor and Cochran (1967) discuss cell size requirements and their importance, stating:

The  $x^2$  is a large-sample approximation, based on the assumption that the distributions of the observed numbers . . . in the classes are not far from normal. This assumption fails when some or all of the observed numbers are very small. Historically, the advice most often given was that the expected number in any class should not

be less than 5, and that, if necessary, neighboring classes should be combined to meet this requirement. Later research . . . showed that this restriction is too strict. Moreover, the combination of classes weakens the sensitivity of the  $\mathbf{x}^2$  test. We suggest that the  $\mathbf{x}^2$  test is accurate enough if the smallest expectation is at least 1, and that classes be combined only to ensure this condition. (p. 235)

Classes of the contextual variables, when necessary, are combined to meet Snedecor and Cochran's criterion of an expected frequency of at least one.

Cramer's V is used to test the strength of association of two nominal variables (Nie, et al., 1975, pp. 224-25). It is similar to phi and is used with contingency tables which are larger than 2 x 2. Cramer's V adjusts phi for the number of rows or columns in a table, whichever is one lesser number. Cramer's V varies from zero when no association exists to 1.0 when the two variables are perfectly associated. Like chi square and phi, Cramer's V is a symmetrical statistic (Blaloch, 1972, p. 297).

### Computer Programs

The Control Data Corporation 6500 model computer at Michigan State University is used to perform all of the analyses. The programs to develop the variables and compute the statistics used in this study are a part of the 6.0 version of the Statistical Package for the Social Sciences (Nie, et al., 1975). All of the

computations are implemented at the Michigan State University Computer Laboratory.

#### CHAPTER IV

#### RESULTS OF DATA ANALYSES

The results of data analyses are reported in four sections of this chapter under the headings of (1) income adequacy and satisfaction, (2) congruency and satisfaction, (3) income adequacy, congruency and contextual variables, and (4) summary of results. Each research hypothesis is stated, then the statistical test used, and its results are reported.

### Income Adequacy and Satisfaction

In this section the research question is: Do those who differ in level of objective and subjective family income adequacy differ in their satisfaction with perceived family income, level of consumption, and overall life quality? Factorial analysis of variance, means and standard deviations, and post hoc contrasts are used to test the research hypotheses. The first set of hypotheses suggest that differences exist:

H<sub>1</sub>: There is a difference in satisfaction with perceived family income for those who differ in objective and subjective family income adequacy.

- H<sub>2</sub>: There is a difference in satisfaction with perceived level of consumption for those who differ in objective and subjective family income adequacy.
- H<sub>3</sub>: There is a difference in satisfaction with perceived overall life quality for those who differ in objective and subjective family income adequacy.

Two-way factorial analysis of variance, using a classical approach and a fixed effects model, is used in the first step of the analysis (Nie, et al., 1975; Overall & Spiegel, 1969). The factors are objective and subjective income adequacy. They are related to family income, level of consumption, and overall life quality in three separate analyses.

In reviewing the results of factorial analysis of variance, one first checks for interaction between the factors. If interaction is significant, the assumption of additivity is violated and a different analysis technique is needed. If interaction is not significant, one can proceed to review the main effects, which are the additive effects of the individual factors. If main effects are significant, the individual effect of each factor on the dependent variable while controlling for the other factor is reviewed (Blaloch, 1972, p. 483).

Results of the tests of the first three hypotheses are reported in Table 9. For each of the satisfaction variables, which are reported by variable by sections A,

TABLE 9.--Two-way analysis of variance for mean differences in satisfaction for objective and subjective income adequacy

				· ·	
Source of Variation	Sum of Squares	đf	Mean Squares	F-stati (Probabi	
A. Satisfaction w	ith Percei	ved Fa	mily Inco	me	
Main Effects Subjective	809.601	8	101.200	73.265	(.001) <sup>a</sup>
Adequacy Objective	537.140	3	179.047	129.623	(.001) <sup>a</sup>
Adequacy 2-way Interaction	26.675	5	5.335	3.862	(.001) <sup>a</sup>
SA x OA <sup>b</sup> Residual	18.471 1413.061	14 1023	1.319 1.381	.995	(.999)
Total	2241.133	1045	2.145		
B. Satisfaction w	ith Percei	ved Le	vel of Co	nsumption	<u>1</u>
Main Effects Subjective	377.452	8	47.182	42.853	(.001) <sup>a</sup>
Adequacy Objective	204.105	3	68.035	61.793	(.001) <sup>a</sup>
Adequacy 2-way Interaction	39.726	5	7.945	7.216	(.001) <sup>a</sup>
SA x OA Residual	11.340 1126.344	14 1023	.810 1.101	.736	(.999)
Total	1515.136	1045	1.450		
C. Satisfaction w	ith Percei	ved Ov	erall Lif	e Quality	ζ,
Main Effects Subjective	176.364	8	22.046	17.579	(.001) <sup>a</sup>
Adequacy Objective	116.437	3	38.812	30.948	(.001) <sup>a</sup>
Adequacy 2-way Interaction	13.739	5	2.748	2.191	(.052)
SA x OA Residual	13.398 1282.956	14 1023	.957 1.254	.763	(.999)
Total	1472.719	1045	1.409		

<sup>&</sup>lt;sup>a</sup>Significance level:  $p \stackrel{\leq}{-} .05$ .

bSA is subjective adequacy, OA is objective adequacy.

B, and C of the table, there is no significant interaction between objective and subjective family income adequacy. Thus, the factorial analysis of variance assumption of additivity of the two factors is met. The main effects, which are the sum of the individual effects, for each of the satisfaction variables are significant at the .001 level.

Next, one looks at the individual effect of one factor while controlling for the other factor. The effect of subjective income adequacy on each of the three satisfaction variables, while controlling for objective adequacy, is significant at the .001 level. Those who differ in subjective adequacy do differ in satisfaction with family income, level of consumption, and overall life quality.

The effect of objective adequacy on satisfaction with family income and satisfaction with level of consumption is significant at the .001 level. Those who differ in objective adequacy do differ in satisfaction with family income and satisfaction with level of consumption. The effect of objective adequacy on satisfaction with overall life quality is not significant; its probability is .052.

The fact that objective and subjective income adequacy do have some commonality is revealed by an examination of the sum of squares for each satisfaction

variable. In each instance, the sum of squares for the main effects is greater than the sum yielded by adding the sum of squares for the individual effects of the objective and subjective income adequacy factors. For example, in the case of satisfaction with family income, the sum of squares for main effects is 809.601 while the total yielded by adding the sum of squares for subjective adequacy, 537.815, and the 26.675 sum of squares for objective adequacy is 563.815. The difference of 245.786 is the commonality, the amount of variance explained equally well by either of the income adequacy variables. In the two-factor classical model for analysis of variance, this variance is removed to obtain the unique contribution of each of the factors to difference in the mean score on a satisfaction variable.

An alternative analysis technique is used to further explore the relationship of objective adequacy to satisfaction with overall life quality. This relationship does not reach significance in two-way factorial analysis of variance. In one-way analysis of variance, where the total effect of objective adequacy is measured, without adjustment for its commonality with subjective adequacy, the relationship of objective adequacy to

overall life quality is significant at the .000 \* level. This is reported in Table 10.

TABLE 10.--One-way analysis of variance for mean difference in satisfaction with overall life quality for objective adequacy

Source of Variation	Sum of Squares	df	Mean Squares	F-statistic (Probability)
Between Groups	59.927	5	11.985	8.823 (.000) <sup>a</sup>
Within Groups	1412.792	1040	1.359	
TOTAL	1472.719	1045		

<sup>&</sup>lt;sup>a</sup>Significance level:  $p \leq .05$ .

In summary, H<sub>1</sub> and H<sub>2</sub> are supported. H<sub>3</sub>, when phrased in terms of two-way factorial analysis of variance, is not significant. In one-way analysis of variance, both objective and subjective adequacy groups do differ in mean scores on satisfaction with overall life quality. Thus, differences in the level of income adequacy, individually as well as in combination, are related to differences in mean scores on each of the satisfaction variables.

In addition, a comparison of the sums of squares for income adequacy factors within each of the satisfaction

The SPSS statistical package reports probabilities of .000, .0000, and (0). All of these can be interpreted as having probabilities of less than .001.

variables shows that more of the variation in mean scores is explained by subjective adequacy than by objective adequacy. For example, in the case of satisfaction with family income, the sum of squares for subjective adequacy is 537.140, which is much greater than the 26.675 sum of squares reported for objective adequacy in Table 9. Thus, subjective adequacy explains more of the difference in satisfaction mean scores than does objective adequacy.

Having determined that differences in mean scores on satisfaction do exist for those who differ in objective and subjective family income adequacy, the next set of hypotheses consider which groups differ and the direction of that difference. They are:

- H<sub>4</sub>: As the level of subjective family income adequacy increases, there is an increase in satisfaction with perceived: (a) family income,
   (b) level of consumption, (c) overall life quality.
- H<sub>5</sub>: As the level of objective family income adequacy increases, there is an increase in satisfaction with perceived: (a) family income, (b) level of consumption, (c) overall life quality.

H<sub>4</sub> is supported. Each of the four levels of subjective income adequacy is significantly different at the .000 level from the other three levels of subjective income adequacy as shown by the contrasts reported in Table 11. The mean scores on satisfaction measures, reported in the same table, show that satisfaction with

TABLE 11.--Means, standard deviations, and post hoc contrasts of effects of subjective adequacy on satisfaction variables

Type of Analysis	Number of Cases	Satisfa Per Famil	Satisfaction With Perceived Family Income	Satisfa Percei of Con	Satisfaction With Perceived Level of Consumption	Satisfa Perceiv Life	Satisfaction With Perceived Overall Life Quality
Group Differences		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
SA-1 Not at all adequate	62	2.177	1.313	3.661	1.629	4.274	1.766
adequate	268 613	3.355	1.389	4.582	1.303	4.978	1.242
SA-4 very adequate	103	5.369	.907	6.126	969.	5.952	.922
Groups Contrasted		Pooled T-st	Pooled Variance Testatistic (Probability)	Pooled T-st	Pooled Variance T-statistic (Probability)	Pooled T-st (Prob	Pooled Variance T-statistic (Probability)
SA-1 and SA-2 SA-2 and SA-3 SA-3 and SA-4		-7.060 -16.566 14.599	q (000°) q (000°)	-6.147 -9.455 -7.139	q(000°) q(000°)	-4.451 -6.531 -3.665	q(000°) q(000°)

al042 degrees of freedom.

bsignificance level: p < .05.

family income, level of consumption, and overall life quality increases as level of subjective income adequacy increases.

In regard to objective income adequacy, H<sub>5</sub>, the results are less clearcut. Therefore, the relationship of objective adequacy to each of the satisfaction variables will be handled individually.

# Satisfaction with Perceived Family Income

For perceived family income, satisfaction mean scores increase as the objective adequacy ratio increases. However, for groups OA-3, OA-4, and OA-5, the difference in mean scores on satisfaction with family income is less than for the groups with lower objective adequacy ratios, or for those with the highest objective adequacy ratios, as shown in Table 12.

This lesser difference between objective adequacy group mean scores on satisfaction with family income becomes more apparent when the groups are contrasted and t-tests of significance are applied. Contrasts between groups with objective adequacy ratios of 100 to 299 have a lower level of significance or are not significant. The comparison of OA-3 and OA-4 is significant at the .040 level; the comparison of OA-4 and OA-5 is not significant. Contrasts between groups with lower adequacy ratios, OA-1 with OA-2 and OA-2 with OA-3, are

TABLE 12.--Means, standard deviations, and post hoc contrasts of effects of objective adequacy on satisfaction variables

Typ	Type of Analysis	Number of Cases	Satisfact Perce Family	Satisfaction With Perceived Family Income	Satisfaction Perceived L of Consumpt	atisfaction With Perceived Level of Consumption	Satisfac Perceive Life (	Satisfaction With Perceived Overall Life Quality
Group Di	Group Differences		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Н с	16-49ª	79	3.190	1.641	4.101	9.	9.	1.508
ı m	100-149	247	• •	. 4.	18	1.045	38.	14
4	150-199	180	4.589	1.357	. 32	0	.31	14
0A-5	200-299	186	4.688	.2	5.301	1.043	0	1.036
യ	300-988	121	5.107	.01	.71		. 58	8
(	•		Pooled V	Variance <sup>b</sup>	Pooled	Variance <sup>b</sup>	Pooled	Variance <sup>b</sup>
Groups	Groups Contrasted		T-sta (Proba	T-statistic <u>Probability</u> )	T-st (Prob	$ extbf{T-statistic}{ extbf{Probability}}$	T-st	$ extbf{T-statistic}{ extbf{Probability}}$
			-3.516	°(000)	-4.336	o00°)	4	o000°)
0A-2 a	and 0A-3		-3.916	6	•	6	-1.555	(.120)
			-2.055	(.040) <sup>C</sup>	0	(191)	.67	2
			•	$\overline{}$	. 22	6	$\sim$	(.015)
	and 0A-6		•	o (000°)	S	(,002) <sup>C</sup>	S	6
	and OA-3,4,5	10	9.	6	.02	$\overline{}$	.36	
OA-3,4	,5 and OA-6	10	-4.215	o (000°)	-3.964	o (000°)	-1.300	(.194)

<sup>a</sup>The numerical descriptions of the groups, as OA-1 is 16-49, are the objective income adequacy ratio of members of the group.

b<sub>1040</sub> degrees of freedom.

csignificance level: p < .05.

significantly different at the .000 level of probability. The contrast between the two groups with the highest adequacy ratios, OA-5 and OA-6, is also significant at the .000 level of probability.

Thus, the effect of objective income adequacy on satisfaction with perceived family income is greatest at the extremes of the distribution. Very high and quite low objective adequacy ratios make a significant difference in satisfaction. Differences in satisfaction mean scores within the middle objective adequacy groups are consistent in direction but are smaller in magnitude and are sometimes not significant.

Because mean scores on satisfaction with family income are less significant for OA-3 and OA-4, and not significant for OA-4 when contrasted with OA-5, these three groups are combined for two additional contrasts. The contrasts of OA-2 with OA-3,4,5 and of OA-3,4,5 with OA-6 are significantly different at the .000 level of probability. This produces four groups which are significantly different at the .000 level of probability. These groups are OA-1, OA-2, OA-3,4,5, and OA-6.

In summary, with regard to H<sub>5a</sub>, the results of analysis show that satisfaction with perceived family income increases as the level of subjective adequacy increases. However, the difference in satisfaction mean scores is significant for only four of the five compared

pairs of objective income adequacy groups. Difference in satisfaction is slight for those with objective adequacy ratios of 100 to 299. By combining three of the objective adequacy groups which have quite similar satisfaction mean scores, four levels of objective family income adequacy which differ significantly in satisfaction with family income mean scores are identified.

# Satisfaction with Perceived Level of Consumption

For perceived level of consumption, satisfaction mean scores increase as objective adequacy ratios increase with one exception. Groups OA-4 and OA-5 had satisfaction mean scores which are essentially the same.

The results of contrasting adjacent objective adequacy groups by their mean scores on satisfaction with level of consumption show a pattern quite like the contrasts of the same groups by their mean scores on satisfaction with family income. Differences in means scores on satisfaction with level of consumption are significant at the .000 level for those groups with low objective adequacy ratios, OA-1 with OA-2 and OA-2 with OA-3.

Those groups with the highest objective adequacy ratios, OA-5 and OA-6, are significantly different at the .002 level. Contrasts involving the middle groups on objective income adequacy do not reach the .05 alpha level selected by this study. The contrast of OA-3 with OA-4 has a

probability of .191 and the contrast of OA-4 with OA-5 has a probability of .822.

Again, the effect of objective income adequacy on a satisfaction variable is greatest at the extremes of the objective adequacy distribution. Very high and quite low objective adequacy groups, when contrasted with their adjacent objective adequacy groups, do differ significantly in satisfaction with perceived level of consumption.

Two additional contrasts are implemented to compare the combined group, OA-3,4,5 with objective adequacy groups OA-2 and OA-6. These contrasts are significant at the .000 level. This produces four groups which are significantly different at the .000 level of probability. These groups are OA-1, OA-2, OA-3,4,5, and OA-6.

In summary, with regard to H<sub>5b</sub>, the results of analysis show that satisfaction with perceived level of consumption increases as objective income adequacy increases, with one exception. Groups OA-4 and OA-5 are very much alike in satisfaction mean scores. The difference in satisfaction mean scores is significant for three of the five compared pairs of adjacent objective adequacy groups. Differences in satisfaction are not significant for those with objective adequacy ratios of 100 to 299. By combining three objective adequacy groups which have similar means scores on satisfaction, four

levels of objective family income adequacy which differ significantly in satisfaction with level of consumption are identified.

# Satisfaction with Perceived Overall Life Quality

For perceived overall life quality, combining six objective adequacy groups into three levels of adequacy provides all the differentiation of income adequacy needed to explain variation in satisfaction with overall life quality. Those with the lowest objective adequacy ratios have the lowest mean scores on satisfaction with overall life quality. Those in groups OA-2, OA-3, and OA-4 have similar mean scores on satisfaction with life quality; and those with the highest objective adequacy ratios, OA-5 and OA-6, have similar satisfaction mean scores. Clustered into these three levels of objective adequacy, OA-1, OA-2,3,4, and OA-5,6, satisfaction with perceived overall life quality increases as objective adequacy increases. However, within the clusters OA-2,3,4 and OA-5,6, the pattern of increasing satisfaction with increasing objective income adequacy ratios is not present.

For consistency with the analysis of the two other satisfaction variables, the same set of contrasts is implemented here. As before, the two groups with the lowest objective income adequacy ratios, groups OA-1 and

OA-2, differ at the .000 level of probability. The one other contrast which is significant is that between groups OA-4 and OA-5, significant at the .015 level. The contrast between the two highest groups, OA-5 and OA-6, has a probability of .879. Thus, the dividing line in differentiating moderate from high satisfaction scores by objective adequacy groups has shifted down to the difference between groups OA-4 and OA-5. For the other two satisfaction variables, family income and level of consumption, that dividing line between middle and higher objective income adequacy has been between groups OA-5 and OA-6.

The dividing line between low and middle objective income adequacy ratios, with regard to their satisfaction with overall life quality, has also shifted downward.

OA-2 is significantly different from OA-3 for the other two satisfaction variables, family income and level of consumption. Here the dividing line between low and middle objective adequacy groups in their satisfaction with life quality is between OA-1 and OA-2. The mean scores on satisfaction with life quality are quite similar for groups OA-2 and OA-3, being 5.223 and 5.389, respectively. Contrasts of OA-2 with OA-3 and OA-3 with OA-4 show that these paired groups do not differ significantly from each other.

As with the other satisfaction variables, two additional contrasts are performed. For consistency, groups OA-3,4,5 are clustered and then contrasted with OA-2 and OA-6. The contrast of OA-2 with OA-3,4,5 is significantly different at the .018 level; the contrast of OA-3,4,5 with OA-6 is not significant. Thus, the set of four groups identified here are significantly different in two of three cases. The four groups and their probabilities are shown in Table 13.

TABLE 13.--Probability of difference in mean scores on overall life quality for adjoining objective adequacy groups

Group	Objective Adequacy Ratios	Pooled Variance T-statistic (Probability) <sup>a</sup>
OA-1	16-49	
OA-2	50-99	-3.640 (.000) <sup>b</sup>
OA-3,4,5	100-299	-2.363 (.018) <sup>b</sup>
OA-6	300-988	-1.300 (.194)

aT-statistic and probability indicated for contrasts of that group with the one immediate preceding it in the table.

In summary, with regard to H<sub>5c</sub>, the results of analysis showed that satisfaction with perceived overall life quality increases as objective income adequacy ratios increase if the objective adequacy groups are

bSignificance level: p < .05.

clustered into low, medium, and high adequacy ratio categories rather than left as six more differentiated categories. There is a significant difference in satisfaction with overall life quality between those with adequacy ratios which are low, OA-1, and those with moderate adequacy ratios, starting with group OA-2. There is also a significant difference in mean scores on satisfaction with overall life quality between those with moderate adequacy ratios and those with higher adequacy ratios, the dividing point being between OA-4 and OA-5.

Strength of association. Having identified subjective and objective adequacy groups which differ significantly in mean scores on satisfaction variables, the next research question is: How much of the variation in satisfaction mean scores is explained by groups who differ in objective and subjective family income adequacy?

Table 14 provides a summary of the contributions of objective and subjective adequacy to explaining the variance in satisfaction variables. The individual contribution of each factor is shown by eta square.

The contribution of subjective adequacy to explaining differences in mean scores on satisfaction, as determined by eta square, is .35 for family income, .32 for level of consumption, and .11 for overall life quality. Thus, 35 percent, 32 percent, and 11 percent

TABLE 14.--Strength of association between income adequacy and satisfaction

	Sati	sfaction with P	erceived:
	Family	Level of	Overall
	Income	Consumption	Life Quality
Subjective Income Adequacy			
Eta <sup>a</sup>	.59	.47	.33
Eta Square <sup>b</sup>	.35	.22	.11
Beta <sup>C</sup>	.54	.40	.31
Objective Income Adequacy			
Eta	.35	.34	.20
Eta Square	.12	.12	.04
Beta	.12	.18	.10
Multiple R	.601	.499	.340
Multiple R Square	.361	.249	

<sup>&</sup>lt;sup>a</sup>Eta is an unadjusted score for an individual factor.

bEta Square is the equivalent of multiple R Square for an individual factor.

CBeta is an eta score adjusted for the contribution of other factors.

of the variation in satisfaction scores is explained by subjective adequacy. The strength of association, or amount of variance explained, decreases as one moves from satisfaction variables more closely related with economic matters, family income and level of consumption, to the satisfaction variable which encompasses a wider range of life experiences and is therefore more diffusely related to economic matters, perceived overall life quality.

The contribution of objective adequacy to explaining differences in mean scores on satisfaction, as determined by eta square, is .12 for family income, .12 for level of consumption, and .04 for overall life quality.

As before, the strength of association is greater for the two satisfaction variables more closely related to economic matters than it is for satisfaction with overall life quality. Note, however, that less of the variance in satisfaction mean scores is explained by objective adequacy than is explained by subjective adequacy. For example, in Table 14, the eta square statistic for satisfaction with family income was .35 for subjective adequacy and .12 for objective adequacy.

A comparison of the beta and eta scores of the two income adequacy measures shows the relative effect of each of the other. Beta scores for subjective adequacy are somewhat smaller than eta scores, representing the adjustment for the other factor, objective adequacy.

The adjustment is from .59 to .54 for family income; from .47 to .40 for level of consumption, and from .33 to .31 for overall life quality. In contrast, the beta scores for objective income adequacy are more greatly reduced from the eta scores, representing the adjustment for the other factor, subjective adequacy. Thus, the unique contribution of objective adequacy to variation in satisfaction is less. This is shown by the changes from eta to beta of .35 to .12 for family income, of .34 to .18 for level of consumption, and of .20 to .10 for overall life quality.

However, the magnitude of change from eta to beta scores is somewhat different for level of consumption than for the other two satisfaction measures. The adjustment from eta to beta is proportionately largest for level of consumption among the three sets of subjective adequacy statistics. And the adjustment from eta to beta is proportionately smallest for level of consumption among the three sets of objective adequacy statistics. It appears that the contribution of objective adequacy has greater uniqueness in its contribution to level of consumption than in its contribution to the two other satisfaction measures. Likewise, subjective adequacy has less uniqueness in its contribution to level of consumption than in its contribution to the other two satisfaction measures.

The final set of statistics, multiple R and multiple R square, provide a summary measure of the total contribution of objective and subjective adequacy, taken together, to mean scores on the satisfaction measures. Again, the size of the contribution of income adequacy measures to satisfaction scores decreases as one moves from those most directly related to income to those less directly related to income. The multiple R square decreases from .36 for family income to .25 for level of consumption to .12 for overall life quality.

## Congruency and Satisfaction

One-way analysis of variance is used to test the relationship between congruency and each of the three satisfaction variables. The congruency groups are identified by the degree of agreement and direction of disagreement of their objective and subjective adequacy scores. Group C-3 is the congruent group, its members identify themselves with a subjective adequacy group which is equal to the group in which they are placed by their family's objective adequacy level. Groups C-1 and C-2 place themselves in higher subjective groups than their placement on the objective adequacy measurement. They might be called worse off than they think they are. Groups C-4 and C-5 place themselves in subjective adequacy groups which are lower than their

objective adequacy levels. They could be called better off than they think they are.

The hypotheses to be tested are:

- H<sub>6</sub>: There is a difference in satisfaction with perceived family income for those who differ in the congruency of their objective and subjective family income adequacy.
- H<sub>7</sub>: There is a difference in satisfaction with perceived level of consumption for those who differ in the congruency of their objective and subjective family income adequacy.
- H<sub>8</sub>: There is a difference in satisfaction with perceived overall life quality for those who differ in the congruency of their objective and subjective family income adequacy.

The results of one-way analysis of variance, as reported in Table 15, show that at least one congruency group differs from the others in the mean scores on satisfaction with family income, level of consumption, and overall life quality. Thus, H<sub>6</sub>, H<sub>7</sub>, and H<sub>8</sub> are all supported. Congruency group differences are significant at the .000 level of family income and at the .001 level for level of consumption and overall life quality.

Since there are significant differences between congruency groups on satisfaction mean scores, the next hypothesis deals with which groups differ:

H<sub>9</sub>: The congruent group will have the highest mean scores on satisfaction with family income, level of consumption, and overall life quality.

TABLE 15.--One-way analysis of variance for effects of congruency on satisfaction variables

Source of Variation	Sum of Squares	df	Mean Squares	F-Stat (Probab	
A. Satisfaction	with Perce	ived F	amily Incom	ne_	
Between Groups Within Groups Total	160.958 2080.175 2241.133		40.240 1.998	20.137	(.000) <sup>a</sup>
B. Satisfaction			nsumption		
Between Groups Within Groups	27.223 1487.913		6.806 1.429	4.762	(.001) <sup>a</sup>
Total C. Satisfaction	1515.136		o Ouality		
Between Groups Within Groups	33.624 1439.095	4	8.406 1.382	6.081	(.001) <sup>a</sup>
Total	1472.719	1045			

<sup>&</sup>lt;sup>a</sup>Significance level:  $p \leq .05$ .

Mean scores on the satisfaction variables and post hoc contrasts are implemented to test the hypothesis. The results are reported in Table 16.

H<sub>9</sub> is rejected. The congruent group, C-3, had the highest mean score on only one satisfaction variable, level of consumption. That mean score of 5.197 was not significantly different from the mean scores of 5.193 for C-2 and 5.172 for C-1 on satisfaction with level of consumption. Differences in satisfaction mean scores for congruency groups C-1, C-2, and C-3 were not significant for any of the three satisfaction variables.

Differences between the congruent group, C-3, and the incongruent groups who are described as better off than they think they are, C-4 and C-5, however, are significant at levels of .002 and .000. The congruent group has higher satisfaction scores than do groups C-4 and C-5 on all three satisfaction variables.

The findings show that when subjective adequacy is lower than objective adequacy, satisfaction mean scores are lower. The reverse situation, lower objective adequacy than subjective adequacy, does not result in lower satisfaction mean scores. In fact, those with lower objective than subjective income adequacy have mean scores on all three satisfaction variables which do not differ significantly from the mean scores of the congruent group, C-3. Thus, subjective judgments of

TABLE 16.--Mean scores, standard deviations, and post hoc contrasts of effects of congruency on satisfaction variables

Congruency Groups	Number of Cases	Satisfact Perce: Family	atisfaction With Perceived Family Income	Satisfac Perceiv of Cons	Satisfaction With Perceived Level of Consumption	Satisfaction Perceived Ov Life Quali	ction With ed Overall Quality
Group Differences		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
••	23	4.828	1.104	.17	1.104	48	986
C-2: SA>0A $C-3: SA = OA$	202 565	4.376	1.41/	5.193 5.197	1.296 1.134	$\vdash$	. 14
	219	3.836	1.502	4.890	1.233	۲.	1.232
•	1	Pooled Variance	zi,zz Zariance <sup>b</sup>	Pooled 1	Pooled Variance <sup>b</sup>	ole	variance <sup>b</sup>
Groups Contrasted		T-sta (Proba	T-statistic Probability)	T-sta (Proba	T-statistic Probability)	T-st (Prob	T-statistic Probability)
		•	.306	0	916.	.291	.771
C-2 and C-3		-1.519	.129	035	.972	•	.517
and		•	2000.	3.216	.001c	.19	.001c
and		•	2000°	$\infty$	.002 <sup>C</sup>	. 56	,000°
and		•	.000°	1.631	.103	.09	.036 <sup>c</sup>
,2,3 and		•	.000°	2.597	.010c	3.037	.002 <sup>C</sup>
	5	7.618	.000°	3.449	.001c	.18	5000°

<sup>a</sup>SA is subjective adequacy, OA is objective adequacy and C is congruency. The signs for C-1 to C-5 are: much greater than, somewhat greater than, equal to, somewhat less than, and much less than.

blo41 degrees of freedom.

Csignificance level is p < .05.

income adequacy have a depressing effect on satisfaction scores when subjective adequacy is lower than objective adequacy. Lower objective adequacy than subjective adequacy, however, does not have a significant effect on satisfaction means scores.

As a follow-up, three additional contrasts were run. For those who are better off than they think they are, C-4 and C-5, the degree of better-offness is significantly different at the .000 level for family income, at the .036 level for overall life quality, and is not significant for level of consumption.

The three congruency groups which do not differ significantly in satisfaction mean scores, C-1, C-2, and C-3, are clustered and contrasted with C-4 and then with C-4,5. For all three satisfaction variables the cluster of C-1,2,3 is significantly different from C-4 and C-4,5. These contrasts provide additional support to the findings above that those who have lower subjective than objective adequacy scores differ from the remaining three congruency groups and that their satisfaction mean scores are significantly lower.

In summary, congruency, in itself, does not appear to be the criterion on which groups differ. Only when income adequacy variables differ in the direction of lower subjective adequacy than objective adequacy do mean scores on the three satisfaction variables drop.

Subjective judgments of income adequacy are important in that when one feels one's income adequacy is lower than the BLS-based objective adequacy ratio defines it to be, one's satisfaction with family income, level of consumption, and overall life quality is lower.

While congruency groups C-4 and C-5 do differ significantly from C-1,2,3, the amount of variation in satisfaction mean scores is very small. The eta square statistic, which measures strength of association, is .0052 for family income, .0003 for level of consumption, and .0005 for overall life quality. This is very close to zero explanatory power. Thus, congruency groups provide an example of a variable which is significant but is not important. The importance is in the individual variables, objective adequacy and subjective adequacy, not in the degree of their congruency or the direction of their incongruency.

# Contextual Variables

One-way analysis of variance and nonparametric models are used to relate objective and subjective family income adequacy and congruency to contextual variables. The purpose of the analysis is to describe the membership of the objective and subjective adequacy and the congruency groups. For example, how do respondents in different subjective adequacy groups differ in education, number of children, and current concerns?

The contextual variables are of two types, demographic characteristics and economic perception. The hypothesis tested is:

- H<sub>10</sub>: There is a difference among (a) subjective family income adequacy groups, (b) objective family income adequacy groups, and (c) congruency groups with respect to:
  - (i) demographic characteristics: -number of adults, age of respondent-head, number of children, age of oldest child, and total family income of the family unit; housing status and urbanization of residence
    - -sex, racial, or ethnic group, education and occupation of the respondent
  - (ii) economic perceptions:
     -current concerns, material wishes, con sumption achievement, and recent and
     intergenerational financial progress

For each of the income adequacy variables, results of the analysis are reported first for demographic characteristics, then for economic perceptions. The demographic variables might be termed objective variables in that they are observable facts. The perception of the person is not an integral part of such measures as chronological age and housing status. Those contextual variables which are called economic perceptions, on the other hand, are the respondent's perceptions regarding selected economic matters.

## Subjective Adequacy Groups

<u>Demographic characteristics</u>. Each subjective adequacy group differs at a probability level of less

than .001 from all three other subjective adequacy groups on satisfaction mean scores on perceived family income, level of consumption, and overall life quality (Table 11). The subjective adequacy groups also differ in a number of their demographic characteristics and in their economic perceptions.

Five demographic characteristics of the respondent's family units are entered as dependent variables in one-way analysis of variance for the factor, subjective family income adequacy. All five characteristics are significant, as reported in Table 17. The strength of association as measured for the sample by eta square is highest for family income and number of children, at .123 and .121 respectively. Lower strengths of association occur for age of oldest child, .036, and age of the respondent head, .023. The remaining characteristic, number of adults in the family unit, has a very low strength of association, .008.

The four subjective adequacy groups differ in that, as subjective adequacy increases, (1) number of children and the age of the oldest child decreases, (2) the age of the respondent-head and total family income increases, and (3) the number of adults in the family unit increases slightly. Those subjective adequacy groups which are significantly different at the .05 level, as determined by post hoc contrasts, are identified in Table 18.

TABLE 17.--Subjective adequacy group means, standard deviations, and statistics for contextual variables which are demographic characteristics

Contextual Variables	Statistics	stics		SA-l <sup>a</sup> Not At All Adequate N = 62	SA-2 Less Than Adequate N = 262	SA-3 Adequate N = 613	SA-4 Very Adequate N = 103
Number of Children	Eta <sup>2</sup> .121 Prob. <sup>b</sup> .000 <sup>c</sup>	.121 .000°	Mean Std. Dev.	1.72	1.16	.93	. 49
Age of Oldest Child	Eta <sup>2</sup> Prob.	.036 .000°	Mean Std. Dev.	6.35	4.78	4.51	3.05
Number of Adults	Eta <sup>2</sup> Prob.	.008	Mean Std. Dev.	1.66	1.69	1.76	1.69
Age of Respondent- Head	Eta <sup>2</sup> Prob.	.023	Mean Std. Dev.	36.29	44.62	42.80	48.70
Family Income	Eta <sup>2</sup> Prob.	.123	Mean Std. Dev.	\$7,883	\$9,063 \$6,374	\$13,698	\$17,777

aSA is subjective income adequacy.

 $<sup>^{</sup>m b}$ Probability of the F-statistic from one-way analysis of variance.

Significance level: p < .05.

TABLE 18.--Post hoc contrasts of the difference between subjective adequacy groups on demographic characteristics

Groups	Number of Children	Age of Oldest Child	Number of Adults	Age of Respondent- Head	Total Family Income
Contrasted	Pooled Variance (T-test)	Pooled Variance (T-test)	Pooled Variance (T-test)	Pooled Variance (T-test)	Pooled Variance (T-test)
SA-1 & SA-2	3.076 (.002) a	2.002 (.046) <sup>a</sup>	466 (.641)	-3.496 (.000) <sup>a</sup>	-1.104
SA-2 & SA-3	2.449 (.014) a	.636	-2.365 (.018) <sup>a</sup>	1.472 (.141)	-8.348 (.000) a
SA-3 & SA-4	3.107 (.002) a	2.307 (.021) <sup>a</sup>	1.647	-3.282 (.001) <sup>a</sup>	-5.049 (.000) <sup>a</sup>

aSignificance level: p < .05.

Nonparametric statistics, the chi square and Cramer's V, are used to test the relationship of the remaining demographic characteristics to subjective adequacy. The results are reported in Table 19. The characteristics of race, education, occupation of male and female respondents, urbanization of residence and housing status are all significant. One characteristic, the sex of the respondent, had a probability of .112 on the chi square statistic.

The strongest association between demographic characteristics and subjective adequacy, as measured by Cramer's V, is that with the occupation of male respondents. The association is .254 on a scale where zero is no association and 1.00 is a perfect association.

The next highest strengths of association are race, at .182, and housing status at .174. Strengths of association in the .100 to .144 range are shown by urbanization of residence, occupation of female respondents, and education, as shown in Table 19.

The four subjective adequacy groups differ in that (1) the two highest subjective adequacy groups are racially more white, (2) home ownership increases as subjective adequacy increases, (3) with the exception of SA-2, more males are in white collar occupations and more females are housewives as subjective adequacy rises, (4) educational level rises as subjective adequacy rises,

TABLE 19.--Modes, percentages, and statistics on contextual variables for subjective adequacy groups

			Percentage	Percentage of Group in Sample Mode Category	Sample Mode	Category
Contextual Variable	Statistics	Sample Mode: Category and Percentage	SA-1b Not At All Adequate N = 62	SA-2 Less Than Adequate N = 262	SA-3 Adequate N = 613	SA-4 Very Adequate N = 103
Sex of Respondent	Chi square .112 df = 3 Cramer's V .076	Female 55.7	59.7	61.2	54.0	49.5
Race of Respondent	Chi square .000ª df = 6 Cramer's V .182	White 87.4	77.4	78.7	91.5	91.3
Education of Respondent	Chi square .000a df = 15 Cramer's V .144	High School Diploma 33.9	30.7°	24.6	41.0	52.5
Occupation of Male Respondents (N = 463)	Chi square .000 <sup>a</sup> df = 18 Cramer's V .254	White Collar 42.5	28.0	26.9	45.4	65.4
Occupation of Female Respondents (N = 585)	Chi square .003 <sup>a</sup> df = 21 Cramer's V .120	Housewife 41.2	40.5	38.4	42.0	45.1
Urbanization of Residence	Chi square .029 <sup>a</sup> df = 21 Cramer's V .100	Rural 22.8	40.3 <sup>d</sup>	42.9	41.5	42.8
Housing Status	Chi square .000 <sup>a</sup> df = 6 Cramer's V .174	Owns or Buying 66.1	40.3	59.3	70.0	74.8

asignificance level: p < .05.

bSA is subjective adequacy.

<sup>C</sup>Percentages reported for SA groups are those above the median--those with more education than a high school diploma.

 $^{
m d}_{
m Percentages}$  reported for SA groups are those above the median--those in areas with a population of 50,000 or more.

with the exception of group 2, and (5) urbanization of residence rises as subjective adequacy rises, with the exception of SA-2.

Economic perceptions. Differences in economic perceptions variables by subjective adequacy groups are all statistically significant. The strength of association ranges from .257 down to .148, as illustrated in Table 20. The strongest association is between subjective adequacy and consumption achievement. If the respondents have met their past consumption goals, or expect to do so in the future, they are in a higher subjective adequacy group. Material wishes and current concerns have strengths of association with subjective adequacy of .207 and .198, respectively. Those with fewer material wishes, and those whose first ranked current concern is not financial security, subjectively judge their family income to be more adequate.

The strength of association between financial progress and subjective adequacy is .176 for recent financial progress and .148 for intergenerational financial progress.

The four subjective adequacy groups differ in economic perceptions in that, as subjective adequacy increases (1) more respondents have consumption goals they have achieved, (2) the respondents have a lower

	1
	1

TABLE 20. -- Modes, percentages, and statistics on economic perception variables for the subjective adequacy groups

Perceptual Variable	Statistics	Sample Mode Category and Percentage	SA-l <sup>b</sup> Not At All Adequate	SA-2 Less Than Adequate	SA-3 Adequate	SA-4 Very Adequate
Current Concerns	Chi square .000 <sup>a</sup> df = 15 Cramer's V .198	Financial Security 53.2	71.0	64.2	49.3	36.9
Material Wishes	Chi square .000 <sup>a</sup> df = 12 Cramer's V .207	16 - 20 Wish Index 32.9	51.6	44.4	27.4	10.6
Consumption Achievement	Chi square .000 <sup>a</sup> df = 9 Cramer's V .257	Not Achieved 33.7	14.5 <sup>d</sup>	20.5	41.1	62.2
Financial Progress, Recent	Chi square .000 <sup>a</sup> df = 12 Cramer's V .176	Deterioration 41.9	56.5	51.5	38.5	28.2
Financial Progress, Inter- generational	Chi square .000 <sup>a</sup> df = 6 Cramer's V .148	Better off 78.3	53.2	70.5	84.2	78.6

asignificance level: p ≤ .05.

bsA is subjective adequacy.

<sup>C</sup>Percentages reported for SA groups are those above the median--those with material wishes index scores of more than 20.

dercentages reported for SA groups are those above the median--those with expected and/or achieved gains. material wishes index score, (3) fewer respondents report financial security to be their first ranked current concern, (4) fewer respondents judge their recent financial progress to be negative, and (5) more respondents state they are better off than their parents had been at the same age (intergenerational financial progress).

## Objective Adequacy Groups

Demographic characteristics. Many of the objective income adequacy groups differ in their mean scores on satisfaction with family income, level of consumption, and overall life quality (Table 12). The objective adequacy groups also differ in a number of demographic characteristics and economic perceptions.

entered as dependent variables in one-way analysis of variance with the factor, objective adequacy. All five are significant at or below the .003 level, as shown in Table 21. The strength of association, as measured by eta square, is by far the greatest for family income. It has an eta square of .563. Such a result is to be expected because family income is the numerator in the equation by which objective adequacy ratios were computed. Objective adequacy is the ratio of family income to the denominator, family needs, with needs determined

TABLE 21.--Objective adequacy group mean scores, standard deviations, and statistics on contextual variables

				0A-1a	0A-2	0 <b>A-</b> 3	0A-4	0A-5	0A-6
<b>Contextual</b> Variables	Statistics	stics		Ratio 10-49	Ratio 50-99	Ratio 100-150	Ratio 151-199	Ratio 200-299	Ratio 00 pl
				N = 79	N = 233	N = 247	N = 180	N = 186	N = 121
Number of	Eta <sup>2</sup>	.102	Mean	1.64	1.36	1.21	.83	. 65	.17
Curraren	Fron.		Dev.	1.96	1.54	1.27	1.06	86.	.41
Age of	Eta <sup>2</sup>	.058	Mean	6.08	5.81	5.29	4.39	3.51	1.44
Child	Frob.	000	Dev.	6.57	6.38	5.89	5.94	5.40	3.99
Number of	Eta <sup>2</sup>	.029	Mean	1.58	1.70	1.78	1.80	1.77	1.62
Want cs	Fron.	000	Dev.	.50	.46	.41	.40	.42	. 49
Age of	Eta <sup>2</sup>	.017	Mean	41.07	45.64	42.30	41.09	42.70	47.74
kespongent- Head	Frob.		Dev.	16.80	18.97	17.11	15.83	15.62	16.20
Family	Eta <sup>2</sup>	.563	Mean	\$3,074	\$6,686	\$10,556	\$13,754	\$17,895	\$24,248
	Fron.	000	Dev.	\$1,447	\$3,469	\$4,666	\$5,905	\$6,612	\$7,799

aOA is subjective adequacy.

<sup>&</sup>lt;sup>b</sup>Probability of the F-Statistic from one-way analysis of variance.

CSignificance level: p < .05.

by the moderate level standard budget, adjusted for family composition and geographic region of the United States.

The other demographic variables tested by analysis of variance are the four characteristics used to determine the family unit's BLS family composition adjustment number. In strength of association with objective adequacy, number of children is highest, with an eta square of .102; age of oldest child was next, with an eta square of .058. The association of objective adequacy with variables involving adults in the family unit is lower, being .029 for number of adults and .017 for age of the respondent-head.

The six objective income adequacy groups differ in that, as objective adequacy increases, (1) family income increases, and (2) number of children and the age of the oldest child decreases. Those objective adequacy group differences which are significant at the .05 level, as determined by post hoc contrasts, are identified in Table 22. Contrasts are computed for objective adequacy groups OA-1, OA-2, OA-3,4,5, and OA-6, which are identified in earlier contrasts with satisfaction variables as being significantly different in eight of nine contrasts (Tables 11, 12, 13, and 16).

Nonparametric statistics, the chi square and Cramer's V, are used to test the relationship of the

TABLE 22. -- Post hoc contrasts of the difference between objective adequacy groups on demographic characteristics

Groups	Number of Children	Age of Oldest Child	Number of Adults	Age of Respondent- Head	Total Family Income
Contrasted	Pooled	Pooled	Pooled	Pooled	Pooled
	Variance	Variance	Variance	Variance	Variance
	(T-test)b	(T-test)	(T-test)	(T-test)	(T-test)
0A-1 & 0A-2 <sup>C</sup>	1.736 (.083)	.356	-2.134 (.033) a	-2.073 (.038) a	-5.172 (.000) a
OA-2 &	4.733	3.154	-2.463	-2.736	-17.827
OA-3,4,5	(.000) <sup>a</sup>	(.002)ª	(.014) a	(.006) a	(.000) <sup>a</sup>
OA-3,4,5	5.912	5.117	3.834	-3.360	-19.040
& OA-6	(.000) <sup>a</sup>	(.000) a	(.000) <sup>a</sup>	(.001)a	(.000) a

aSignificance level: p < .05.

bl040 degrees of freedom.

COA is objective family income adequacy.

remaining demographic characteristics to objective family income adequacy. All characteristics tested are significant at the .000 level, as reported in Table 23. Four characteristics have strengths of association of .21 to .27, as measured by Cramer's V. These are racial or ethnic group, education, occupation of male respondents, and housing status. Strengths of association between .10 and .19 are found for sex of respondent, occupation of female respondents, and urbanization of residence.

The six objective family income adequacy groups differ in that, as objective income adequacy increases, (1) fewer respondents are female, (2) more respondents have more than a high school education, (3) more male respondents have white collar occupations and fewer female respondents are housewives, and (4) more respondents are white, with the exception of group OA-5.

Economic perceptions. Differences in economic perceptions by objective adequacy groups are all significant at the .000 level, as reported in Table 24. The strengths of association are highest for two perceptions, material wishes and consumption achievement, at .148 and .163 respectively, as measured by Cramer's V. For most objective adequacy groups, material wishes index scores decrease and the number who have achieved their

TABLE 23. -- Modes, percentages, and statistics on contextual variables for objective adequacy groups

Contextual	7 7 7 7 7	١,	Sample Mode:	Pe	centage	of Group	Percentage of Group in Sample Mode Category	Mode Categ	ory
Variable	SCACIBCICS	<b>70</b>	Category and Percentage	0A-1 <sup>a</sup> 16-49	0A-2 50-99	0A-3 100-149	0A-4 150-199	0A-5 200-299	0A-6 300+
Sex of Respondent	Chi square . df = 5 Cramer's V .	.000 <sup>b</sup>	Female 55.7	67.1	64.4	56.7	51.7	53.2	39.7
Race of Respondent	Chi square .000 df = 5 Cramer's V .248	.000b	White 87.4	62.0	83.7	89.5	92.8	88.7	96.7
Education of Respondent	Chi square . df = 20 Cramer's V .	.000b	High School Diploma 33.9	11.4°	21.9	30.7	42.2	57.0	59.5
Occupation of Male Respondents (N = 463)	Chi square .  df = 10  Cramer's V .	.000b	White Collar 42.5	3.8	21.7	41.1	48.3	52.9	63.0
Occupation of Female Respondents (N = 585)	Chi square .000 df = 15 Cramer's V .187	.000 <sup>b</sup>	Housewives 41.2	49.1	40.0	47.9	34.4	38.4	35.4
Urbanization of Residence	Chi square .001 <sup>b</sup> df = 30 Cramer's V .108	001 <sup>b</sup>	Rural 27.6	46.8 <sup>d</sup>	34.8	40.1	38.3	50.0	56.8
Housing Status	Chi square , df = 5	.000 <sup>b</sup>	Owns or Is Buying 66.1	27.8	58.4	74.1	72.8	73.1	9.89

aOA is objective adequacy.

<sup>b</sup>Significance level: p ≤ .05.

Cpercentages reported are those above the median--those with more education than a high school diploma.

dercentages reported are those above the median--those in areas with a population of 50,000 or more.

TABLE 24. -- Modes, percentages, and statistics on economic perceptions objective adequacy groups

Economic Perception	Statistics		Sample Mode Category and Percentage	0A-1 <sup>a</sup> Ratio 16-49	OA-2 Ratio 50-99	OA-3 Ratio 100-149	OA-4 Ratio 150-199	OA-5 Ratio 200-299	OA-6 Ratio 300+
Current Concerns	Chi square .000 <sup>b</sup> df = 25 Cramer's V .121	30b 21	Financial Security 53.2	48.1	58.4	58.3	52.2	49.5	43.0
Material Wishes	Chi square .000 <sup>b</sup> df = 20 Cramer's V .148	q00	16-20 Wish Index 32.9	54.4 <sup>C</sup>	40.4	27.5	26.7	28.1	19.0
Consumption Achievement	Chi square .000 <sup>b</sup> df = 20 Cramer's V .163	30 <sup>b</sup>	Not Achieved 33.7	22.8 <sup>d</sup>	29.2	38.0	38.4	45.1	38.8
Financial Progress, Recent	Chi square .000 <sup>b</sup> df = 20 Cramer's V .091	00b	Deterioration 41.9	8.09	38.6	44.1	36.7	40.3	41.3
Financial Progress, Inter- generational	Chi square .000 <sup>b</sup> df = 10 Cramer's V .128	97 900	Better off 78.3	55.7	76.0	81.0	84.4	78.0	83.5

aOA is objective adequacy.

<sup>b</sup>Significance level: p ≤ .05.

<sup>C</sup>Percentages reported for OA groups are those above the median--those with material wishes index scores of more than 20.

dercentages reported for OA groups are those above the median--those with expected and/or achieved gain. level of consumption goals increases as objective adequacy increases. The strength of association with objective adequacy, as measured by Cramer's V, is .121 for current concerns, .091 for the family unit's recent financial progress, and .128 for intergenerational financial progress.

### Congruency Groups

Demographic characteristics. Five demographic characteristics of respondent's family units are entered as dependent variables in one-way analysis of variance for the factor, congruency. Three characteristics, family income, age of oldest child, and number of children, are significant at or below the .004 level, as shown in Table 25. Age of the respondent-head is significant at the .043 level. Number of adults is not significantly different by congruency group.

The strength of association between family income and congruency is .123, as measured by the eta square statistic. The association between congruency and child-related variables is .015 for both number of children and age of oldest child. Age of the respondent-head has a very low strength of association, .010.

The five congruency groups differ in that (1) family income increases as one moves from C-1 to C-5, (2) age of oldest child is lowest for the most incongruent groups, C-1 and C-5, and highest for the somewhat

TABLE 25.--Congruency group means, standard deviations, and statistics for contextual variables

<b>Contextual</b> Variables	Statistic	ics		C-1 <sup>a</sup> SA>>OA N = 29	C-2 SA>OA N = 202	C-3 SA = OA N = 565	C-4 SA <oa N = 219</oa 	C-5 SA< <oa N = 31</oa 
Number of Children	Eta <sup>2</sup> Prob.b	.015	Mean Std.	1.14	1.30	.94	. 83	1.00
Age of	Eta2	.015	Mean	3.52	5.55	4.74	5.60	3.00
Oldest Child	Prob.	.003	Std. Dev.	6.15	6.37	6.10	5.18	3.74
Number of	Eta 2	.083	Mean	1.59	1.72	1.76	1.70	1.68
Adults	FLOD.	• 120	Dev.	.50	.45	. 42	.46	.48
Age of	Eta <sup>2</sup>	.010	Mean	41.76	43.85	44.26	42.42	35.16
respondent- Head	From.	. 043	Dev.	20.59	17.78	16.82	16.60	14.52
Family	Eta <sup>2</sup>	.123	Mean	\$3,560	\$8,452	\$13,129	\$15,755	\$15,065
	F100.	100	Dev.	\$2,131	\$6,605	\$7,714	\$8,518	\$7,107

ac is congruency, SA is subjective adequacy, OA is objective adequacy.

 $<sup>^{</sup>m b}$ Probability of the F-statistic from one-way analysis of variance.

Csignificance level: p < .05.

incongruent groups, C-2 and C-4, (3) number of children is highest for groups C-1 and C-2 whose incongruency is in the direction of higher subjective adequacy, and (4) respondent-heads are younger in age for the most incongruent groups, C-1 and C-5, with the youngest mean age found for group C-5. Selected post hoc contrasts, testing the significance of congruency group differences, are reported in Table 26. The age of the respondent head and the total family income each have three of four contrasts which are significant at or above the .013 level.

Chi square and Cramer's V statistics are used to test the relationship of the remaining demographic characteristics to the congruency variable. Five of the seven characteristics are significant at or above the level of .027, as reported in Table 27. The occupation of male respondents and the sex of the respondent, with chi squares of .126 and .127, respectively, are not significant.

The strength of association, as measured by Cramer's V, is in the .098 to .120 range for all five variables which are significant. These variables are occupation of female respondents, housing status, urbanization of residence, and the race and the educational level of the respondent.

The five congruency groups differ in that (1) C-1 and C-2, which are incongruent in the direction of

TABLE 26.--Post hoc contrasts of the difference between congruency groups on demographic characteristics

Congruence Groups Contrasted	Pooled Variance	T-statistic
Number of Children		
$C-3$ and $C-1$ , $2^a$	1.975	.048 <sup>b</sup>
C-3 and C-5	262	.794
C-1 and C-2	607	.544
C-4 and C-5	667	.505
Age of Oldest Child		
C-3 and C-2,4	560	.576
C-3 and $C-1,5$	-1.835	.067
C-1 and C-5	.338	.735
C-1,5 and $C-2,4$	-1.544	.123
Age of Respondent-Head		
C-3 and C-1	772	.440
C-3 and C-5	2.900	.004 <sup>b</sup>
C-1 and C-5	2.482	.013 <sup>b</sup>
C-1,2,3,4 and $C-5$	2.482	.013b
Total Family Income		•
C-1 and $C-2$	-3.250	.001b
C-2 and C-3	-7.528	.000b
C-3 and C-4	-4.352	.000p
C-3 and C-5	-1.384	.167

<sup>&</sup>lt;sup>a</sup>C is congruency, the congruency groups are described in Figure 2.

bSignificance level: p ≤ .05.

TABLE 27. -- Modes, percentages, and statistics on contextual variables for congruency groups

		Sample Mode:	Percent	age of Gr	Percentage of Group in Sample Mode Category	ole Mode (	Category
Variable	Statistics	Category and Percentage	C-1 SA>>0A	C-2 SA>OA	C-3 SA = OA	C-4 SA<0A	C-5 SA<<0A
Sex of Respondent	Chi square .127 df = 4 Cramer's V .080	Female 55.7	65.5	59.4	56.3	52.1	38.7
Race of Respondent	Chi square .040 <sup>a</sup> df = 4 Cramer's V .098	White 87.4	82.8	81.2	88.8	90.06	87.1
Education of Respondent	Chi square .003 <sup>a</sup> df = 16 Cramer's V .106	High School Diploma 33.9	34.4 <sup>C</sup>	23.3	39.8	43.4	41.9
Occupation of Male Respondents (N = 463)	Chi square .126 df = 24 Cramer's V .117	White Collar 42.5	10.0	34.1	44.9	47.6	36.8
Occupation of Female Respondents (N = 583)	Chi square .014 <sup>a</sup> df = 24 Cramer's V .120	Housewives 41.2	31.6	50.0	40.6	37.7	16.7
Urbanization of Residence	Chi square $.027^a$ df = 21 Cramer's V .103	Rural non-SMSA 22.8	30.9 <sup>d</sup>	38.1	42.7	46.5	29.0
Housing Status	Chi square .000a df = 8 Cramer's V .127	Owns or is Buying 66.1	31.0	61.9	69.9	66.2	54.8

Significance level: p < .05.

bc is congruency.

 $^{\hbox{\it C}}\mbox{\it Percentages}$  reported are those above the median--those with more education than a high school diploma.

dercentages reported are those above the median--those in areas with a population of 50,000 or more. higher subjective adequacy, contain fewer white respondents and fewer persons with more than a high school education, (2) C-1 contains fewer home owners, and (3) C-5 contains fewer respondents who live in areas with a population of 50,000 or more and more female respondents who were not housewives.

Economic perceptions. Differences in economic perceptions by congruency group are significant at or above the .022 level for three of the five variables tested, as shown in Table 28. Material wishes and intergenerational financial progress are not significant. The strength of association for the three perceptions which are significant are similar, .108 for consumption achievement, .106 for recent family financial progress, and .091 for current concerns.

The five congruency groups differ in economic perceptions in that (1) C-1 and C-2 respondents (a) less frequently name financial security as their first ranked current concern, and (b) more frequently have achieved their consumption goals, and (2) C-5 respondents (a) more frequently rank financial security as their current concern, (b) more frequently report deterioration with regard to recent family financial progress, and (c) less frequently have achieved their consumption goals.

TABLE 28. -- Modes, percentages, and statistics on economic perception variables for congruency groups

Current Chi square .022 <sup>b</sup> Financial 37.9 47.0 Security Concerns Cramer's V .091 53.2  Material Chi square .211 Wish Index Cramer's V .070 32.9  Consumption Chi square .000 <sup>b</sup> Not 48.3 <sup>d</sup> 40.6  Achievement df = 16 Achieved Cramer's V .108 33.7  Financial Chi square .000 <sup>b</sup> Deterioration 41.4 36.1  Progress, df = 16 41.9	6.	SA>0A $N = 202$	SA = OA $N = 565$	SA<0A $N = 219$	<b>SA</b> << <b>0A N</b> = 31	
Chi square .211		47.0	52.0	60.3	77.4	1
Chi square .000 <sup>b</sup> Not 48.3 <sup>d</sup> df = 16	1.5°	33.2	29.2	33.3	48.4	1
Chi square .000 <sup>b</sup> Deterioration 41.4 df = 16	3.3g	40.6	39.7	25.6	13.0	1
Recent Cramer's V .106	. 4	36.1	40.9	47.5	58.1	118
Financial Chi square .183 Better Off 62.1 81.7 Progress, df = 8 78.3 Inter- Cramer's V .074 generational	1.1	81.7	78.9	76.7	71.0	i 1

ac is congruency.

bsignificance level: p < .05

<sup>C</sup>Percentages reported for C groups are those above the median--those with material wishes index scores of more than 20.

dpercentages reported for C groups are those above the median--those with expected and/or achieved gain.

#### Summary

The results of the data analysis can be summarized as follows (see Table 29):

- 1. Relationships between objective and subjective family income adequacy and satisfaction variables:
  - (a) The effects of objective and subjective adequacy, while somewhat correlated, are additive. Subjective adequacy explain more of the difference in satisfaction scores than does objective adequacy. Together, however, they explain more of the variation in satisfaction scores than either does alone.
  - (b) Objective and subjective adequacy are more related to the satisfaction variables dealing with items which have a more direct economic base, family income and level of consumption, than to the satisfaction scores for overall life quality, in which the economic base is more diluted by other factors.
  - (c) Satisfaction scores increase as subjective adequacy increases, and as objective adequacy increases. The differences in satisfaction mean scores are greatest for objective adequacy at the extremes of the objective adequacy distribution.

TABLE 29.--Summary of findings by hypothesis with significance level and strength of association

Focus of the		Subjective Family Income Adequacy	bjective Family ncome Adequacy	0	Objective Family Income Adequacy	Family dequacy	<b>н</b>	Congruency Between SA an	uency SA and OA
	qď	Eta <sup>2</sup>	Cramer's V	q <sub>d</sub>	Eta <sup>2</sup>	Cramer's V	φ <sub>d</sub>	Eta <sup>2</sup>	Cramer's V
Income adequacy variables related to satisfaction with:									
	н, .001	.35	н	100.	.12	4	н <sub>6</sub> .000	.005	
tion	H <sub>2</sub> .001	.22	H <sub>2</sub>	.001	.12	•4	н7 .001	000.	
uality	H <sub>3</sub> .001	.11	H <sub>3</sub>	3 .052	.04	<b></b>	нв .001	.001	
Income adequacy variables related to	H <sub>10</sub>			H <sub>10</sub>			н10		
Number of children Age of oldest child	000	.12		000	.10		.004	.02	
		10.		000	0.00		.125	10.	
Aye of respondent-nead Family Income		.12		000	. 56		.001	.12	
Sex	.112		80.	000		.16	.127		.08
Race Education	000.		8 <b>4.</b>	000		. 25	.040		.10
	000		.25	000.		.19	.126		.12
Occupation, females	000.		.12	000		.19	.014		.12
Housing status	000		.17	000		.27	000		15
Current concerns	000		.20	000		.12	.022		60.
Material wishes			.21	000.		.15	.211		.07
Consumption achievement			.26	000.		.16	000		.11
progress,	•		8.	000.		60.	000		.11
Financial progress, c	gen000		.15	000.		.13	.182		.07

<sup>a</sup>The findings for  $H_4$ ,  $H_5$ , and  $H_9$  do not lend themselves to this format. They are reported in Tables 11, 12, and 16.

<sup>b</sup>Probability of the F-statistic for those variables with reported eta<sup>2</sup> and probability of the chi square for those variables with reported Cramer's V.

- 2. The relationship between congruency and satisfaction variables:
  - (a) Those congruency groups who are better off than they think they are, C-4 and C-5, have lower mean scores on all three satisfaction variables. The strength of association between congruency and satisfaction variables, however, is very slight.
- 3. The description of those who are in the different groups of each of the income adequacy variables:
  - (a) Subjective adequacy groups differ in that, as subjective adequacy increases, family income increases, number of children and the age of the oldest child decreases, home ownership increases, more respondents are white, more males are in white collar occupations and more females are housewives, material wishes decrease, fewer list financial security as their first ranked concern, and more respondents have consumption goals which they have achieved.
  - (b) Objective adequacy groups differ in that, as objective adequacy increases, family income increases, the number of children and the age of the oldest child decreases, home ownership increases, more respondents are

white, more males are in white collar occupations and fewer females are housewives, material wishes decrease, and more respondents had consumption goals which they have achieved, with the exception of group OA-6 on consumption goals.

(c) Congruency groups differ in that, as the group number increases from C-1 to C-5 (increasing objective adequacy and decreasing subjective adequacy, with congruency at C-3), family income increases up to C-4 and then decreases, the number with financial security as the top ranked current concern increases, and the number whose consumption goals have been achieved decreases. In addition, the age of the respondent-head is lower in C-1 and lowest in C-5, the number of white respondents is lowest in C-1 and C-2, and home ownership is lowest for C-1 and second lowest for C-5.

#### CHAPTER V

#### OVERVIEW, DISCUSSION, AND IMPLICATIONS

The study is summarized and findings discussed in relation to related research studies and theories.

Implications of the findings are related to research and educational programs.

# Overview of the Study

Satisfaction is viewed as an evaluation of goal achievement, which results from the use of resources.

The satisfactions analyzed are those of the respondents, while income adequacy is that of the family units with whom the respondents share resources.

The primary focus of the research is on the relationship between family income adequacy, objectively and subjectively measured, and satisfaction with family income, level of consumption, and overall life quality. The degree of congruency between objective and subjective adequacy is also tested in relation to the three satisfaction variables. The secondary focus of the research is on the description of objective and subjective family income adequacy by contextual variables.

The data used in this research were collected in the fall of 1974 by the Survey Research Center of the University of Michigan and are identified as the Economic Incentives, Values, and Well-being Project, Part IV. A study sample of 1046 respondents who are the husband or wife or one-adult family head is drawn from the larger multistage area probability sample of private households in the contiguous United States.

Satisfaction and subjective family income adequacy variables from the larger study are used here. Information from the Bureau of Labor Statistics is used to develop a measure of objective family income adequacy. A measure of congruency is developed from the interrelationship of objective and subjective family income adequacy.

Family related contextual variables used in the research include the number of adults, number of children, age of oldest child, age of the respondent-head, and the total income of the family unit, housing status and urbanization of residence. Respondent-related contextual variables used are demographic characteristics: sex, race, occupation and education; and economic perceptions: current concerns, material wishes, consumption standard achievement, and recent financial progress.

Both parametric and nonparametric statistical models are used to test the hypothesized relationships and differences among variables.

# Discussion of Findings

The discussion of the findings is organized around the three research questions.

# Research Question 1:

Is there a relationship between income adequacy and selected life satisfaction variables?

The income adequacy of the family unit, whether assessed by the respondent or judged by the standards of budget makers, explains variation in each of the three satisfaction measures. Subjective adequacy accounts for more variance in satisfaction than does objective adequacy. This would appear to be a logical outcome. The respondent, as an individual within the family unit, can consider the adequacy of the family's income in relation to the particular goals of the family unit. Satisfaction is an assessment of goal attainment in relation to needs and wants. Hence, a measure of income which is assumed to assess the adequacy of income in relation to needs and wants should be more strongly related to satisfaction than one which does not consider the particular family's goals.

Each of the three satisfaction variables is found to increase as income adequacy increases. Greater income adequacy provides more resources for goal achievement. Thus, the family might be expected to derive greater satisfaction from goal achievement when more resources are available to facilitate goal achievement.

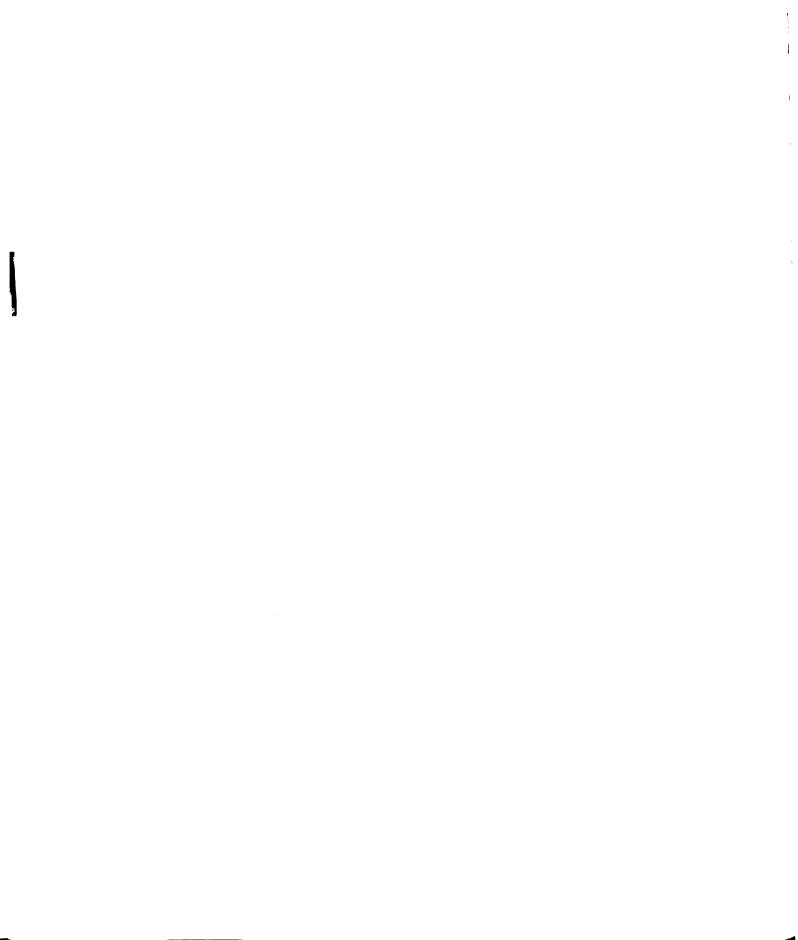
Past research reports have stated that income, unadjusted for family size, is correlated with life satisfaction. Hayes and Stinnett (1971) found that life satisfaction among husbands and wives in their middle years is significantly higher among those with higher income. From this, they suggest that life satisfaction may be dependent to a large extent on the earning capacity of the family and its resulting level of living.

Hafstrom and Dunsing (1973) relate both subjective family income adequacy and income before taxes, unadjusted for family size, to a variable which is comparable with satisfaction with overall life quality. For a sample of "typical" homemakers, they found subjective adequacy to have the highest correlation with life satisfaction; income before taxes has a lesser but still moderate correlation with life satisfaction. The findings in this research are consistent with those of Hafstrom and Dunsing. In both cases, subjective adequacy predicts more of the variation in life satisfaction than did objective adequacy. However, the objective adequacy

variable used in this research is adjusted for family composition and geographic area of residence. The objective measure used by Hafstrom and Dunsing is unadjusted family income.

Using data from a 1972 national sample of households, Strumpel relates satisfaction with family income to an income measure adjusted for number of family members. Within an overall pattern of increasing satisfaction with income as objective income increases, he found that satisfaction increases most steeply for the lowest 15 percent and the highest 10 percent of the sampling distribution. Between the extremes there is a long, gentle increase in satisfaction with family income, except for a dip at the thirtieth percentile (Strumpel, 1975a). The sample used in the study reported here also shows steeper increases in satisfaction with family income at the extremes of the distribution, but no dip. Satisfaction increases with each increase in objective adequacy across the six categories. The dip in Strumpel's data may be due to sampling error, since dividing the sample into twenty categories greatly reduces the number of cases in each category, as opposed to the six categories used here.

The effects of objective and subjective income adequacy, while having some commonality, are additive in the research reported here. The two measures together



explain more of the variation in satisfaction than does either alone. This finding gives evidence that the two kinds of indicators should be used as compliments to each other. Similar results regarding objective and subjective measures of a phenomenon are found in a study by Newman (1975) of the desire to change household residences. Among short-term residents, subjective indicators explain more of the desire to move than do objective indicators. Among long-term residents, the two types of measures are about equal in explaining the desire to move. Together, the objective and subjective indicators explain more of the desire to move than do either type of indicator alone.

In sum, this research, and that of Newman and of Hafstrom and Dunsing, demonstrate that subjective measures are stronger predictors than are objective measures. This research, as well as Newman's, gives evidence that the combined measures are better predictors than either type used alone.

Income adequacy, both objectively and subjectively measured, explains more of the variation in the satisfaction with family income and level of consumption than of the variation in overall life quality. A possible reason is that family income and level of consumption are domains of satisfaction in which goal achievement is likely to be facilitated or constrained by economic

resources. On the other hand, overall life quality is a much more generalized concept; all domains of one's life contribute to overall life quality. While income adequacy is significantly related to life quality, it is one factor among many. As a result its contributions are more diluted by the many other components of life quality.

# Research Question 2:

Is there a relationship between the congruency of income adequacy measures and selected satisfaction variables?

For each of the satisfaction variables, congruency groups C-4 and C-5, those who are better off than they think they are, differ from the remaining three congruency groups. Groups C-4 and C-5 are least satisfied with family income, level of consumption, and overall life quality. Those in groups C-1 and C-2, who are worse off than they think they are, have satisfaction scores which are not statistically distinguishable from the scores of the congruent group, C-3.

While C-5 has the youngest family heads and the youngest age of oldest child, indicating younger family units, group C-1 is second lowest in both of the categories. In other ways, the two most incongruent groups are quite different. Group C-1 contains more blacks, more female respondents, and is second lowest in

percentage of respondents with education beyond high school. In other research, these factors have been associated with lower levels of income (Schiller, 1973). Group C-1 does have the lowest income level in this sample. These respondents may have recognized their traditionally more limited economic opportunities and lowered their goals to a level which better coincided with their incomes. This would narrow the gap between what is and what is aspired to. More modest goals are more attainable, so satisfaction with goal attainment may have increased.

In contrast with group C-1, group C-5, which has the youngest family units in the sample, is second highest in education, has the most male respondents, the most white respondents, and the fewest female respondents who are housewives. These are factors associated, in other research studies, with higher incomes. And C-5 does have the second highest income level of the congruency groups.

The economic perception variables are also helpful in understanding group C-5's lower satisfaction
scores. Their consumption goal achievement is lowest,
their material wishes index scores (indicating stronger
wishes for more consumption items) are highest, they
are the group most concerned with financial security
and have the fewest respondents who report recent

financial progress. Their aspiration for more things and their failure to meet aspired to consumption goals would indicate unfulfilled aspirations. The gap between their goals and their present situation is likely to be wider than for the other congruency groups. Thus, when evaluating where they are in relation to where they would like to be, this wider gap could lead to lower satisfaction.

These suggestions of the adjustment in aspirations to one's economic situation as an explanation of the difference in satisfaction levels between groups C-1 and C-5 are based on Kurt Lewin's theoretical model of aspirations (Lewin, et al., 1944). Briefly, the model states that aspirations are not static, they tend to grow with achievement and decline with failure. Aspirations are influenced by the performance of family, friends, and other reference groups. Aspirations are reality oriented; it is common for them to be slightly higher or lower than the level of accomplishment.

From empirical studies, Katona (1975) reports that high levels of aspiration do occur following gratification of numerous wants for many people. People who do not desire any special expenditures are mostly old or poor. Katona states:

The relatively few desires expressed by low-income people appear to indicate that even our wishes and desires are reality tested: . . . Newer

articles or products used by relatively few people . . . are desired primarily by upper-income people who are well supplied with standard goods. (Katona, 1975, p. 157)

While the theory of aspirations is a possible explanation of the levels of satisfaction of groups C-1 and C-5, the theory of relative deprivation can also be applied to group C-5. This group is younger, racially contains more whites, contains more males, and contains more respondents with more education than the other congruency groups. In comparison with others, and by past experience, a group with these characteristics might realistically expect economic advancement.

However, at the time of this study in the fall of 1974, the country was experiencing the second year of double digit inflation and salary and wage increases were not keeping pace with price increases. Families were experiencing lower constant dollar income and higher prices on such basic commodities as food, clothing, and gasoline (Ackerman & Bowers, 1974). In an economy where people had come to expect a much more gradual inflation, outpaced by wage and salary increases, the economic conditions of 1973-74 are a rather sudden change, and are in opposition to what might have been previously expected. It is a rather sudden blockage to fulfillment of expectations which had previously appeared to be realistic. Thus, dissonance is created between the unfulfilled expectation which is thought to

be deserved and the inequity or injustice felt from its nonfulfillment. Thus, group C-5 may be experiencing relative deprivation.

Group C-1, having lowered its expectations in keeping with the lesser achievements of its reference groups of people who are also younger, but more racially black, more female, and less educated, does not have the same higher expectations as group C-5. Therefore, their expectations cannot be blocked to an equal degree by the inflation of 1973-1974.

# Research Question 3:

Do those groups who differ in level of objective adequacy, level of subjective adequacy, and congruency group differ with respect to contextual variables?

For the most part, objective and subjective adequacy groups have differences in contextual variables which would appear to agree with logical expectations. As income adequacy rises, as measured both objectively and subjectively, income rises, home ownership increases, more males are in white collar occupations, the number of children and the age of the oldest child decreases.

In one demographic characteristic the two kinds of measures present opposite results. If one contrasts the lower two categories of subjective adequacy with the upper two, one finds that as subjective adequacy rises, more female respondents are housewives. If one

contrasts the lower three objective adequacy groups with the upper three, one finds that fewer female respondents are housewives. While the pattern is not perfectly linear across all categories of either measure, this difference does exist. The nonhousewives are either employed or are retired or disabled; most are employed. Such employment should add to family unit income and increase its objectively determined income adequacy. The fact that subjective adequacy shows the reverse pattern might indicate the home production of the housewife adds appreciably to the nonmarket income of the family unit, a factor which is not incorporated into the objective adequacy measure. Or the higher subjective adequacy of groups which include higher percentages of housewives may indicate the economic value of the greater leisure time of the housewife. Since percentage of females employed and satisfaction with overall life quality are known to vary with marital status, it might be useful to extend the analysis, controlling for marital status.

Among congruency groups, C-5, those who are economically better off than they think they are, has the lowest average age for the respondent-head. It is the group which judges its income adequacy to be much lower than that adequacy is by the standards of budget makers. Such a difference might be the result of greater

aspirations, as discussed previously, possessed by this group. This group does have the highest score on the material wishes index, an indication of higher aspirations. This finding relates to that of Crosby. She found, among a random sample of homemakers, that the respondent's perception of difference between expected and present levels of living had an inverse relationship with the respondent's age (Crosby, 1970).

# Limitations of the Study

The general purposes of the study were accomplished. However, the advantages of a large and generalizable national sample of households acquired at little cost in time and money to the researcher were in part balanced by the need to accept and adapt measures used by others who did not have quite the same research goals.

One limitation has to do with the information available on the family's economic situation. Family income is measured by one question and grouped into eighteen categories. The data set does not include information on the level of debts or assets, other than home ownership, of the respondents. Thus, the objective adequacy measure used here is not as detailed as it might be. It could not consider longer term aspects of the family's financial situation. The two most incongruent groups have the youngest ages of respondent-heads in the sample and the youngest children. Since younger families

are known from other research to have the highest percentage of credit use and the highest percentage of debt, it is possible that data on debts and assets might provide further explanation of the results found here.

The research design used here did not control on third variables to explore their effects as suppressor or distorter variables (Rosenberg, 1968). Such methods could be used to further understand the relationships analyzed here.

The study does not consider possible demands on family income from outside the family unit living in that one household. If there are financial allocations for child support or alimony from a previous marriage or aged parents with financial needs to which the family unit contributes, these are not recognized in the computation of the objective adequacy ratio. If a researcher designed their own questionnaire and collected their own data, these possibilities could have been included.

# Implications for Further Research

The objective adequacy measure used here is compared with a measure of subjective adequacy in its ability to predict satisfaction with life quality and two of its domains. The objective adequacy measure might be further explored. How does it compare with a simple money income of the family measure in explaining satisfaction? How much of the variation in objective adequacy is due to

the income component of the ratio, and to the family composition component of the ratio?

In this research, the contextual variables are used to describe those who differ in congruency and those who differ in income adequacy, objectively and subjectively measured. Another research question would be to use the contextual variables to predict the respondent's income adequacy and congruency.

The demographic variables of the family unit, age of respondent-head, age of oldest child, number of children, and number of adults could be developed into a family life cycle variable. With that variable, differences in satisfaction and in income adequacy could be related to the stages of the life cycle.

A future study could be designed to determine differences in the level and standard of consumption of respondents and relate those differences to objective and subjective income adequacy. This would provide a measure of the gap between levels and standards, the magnitude of one's aspirations. The findings could lend support or refutation to the proposition that subjective adequacy is a judgment of the similarity or difference between present and desired level of consumption.

A future study might incorporate questions to obtain data on personality and self-concept of the respondent. They could be used to analyze and interpret

differences in satisfaction measures and subjective adequacy and congruency measures.

The research reported here analyzed data from only one family member, a respondent-head. To understand better the family as an interacting unit of individuals, data are needed from husbands, wives, and children. Their perspectives may differ, yet they all draw from and share the same pool of family resources, including family income.

# Implications for Educational Programs

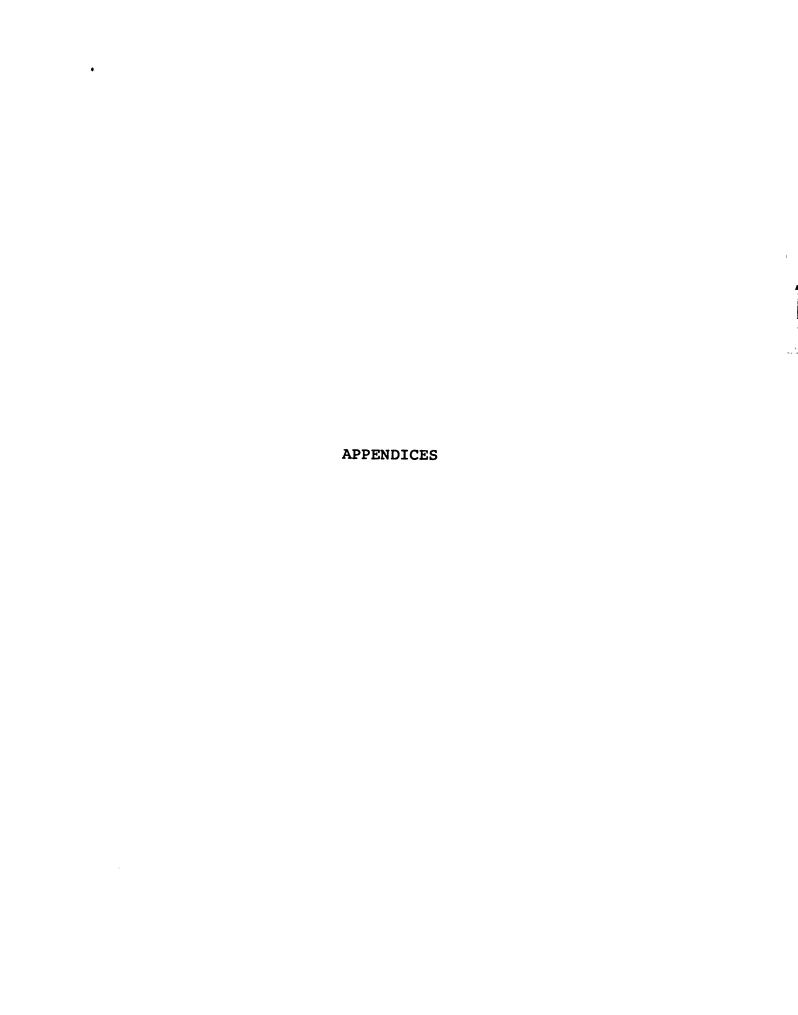
The findings here seem to indicate that educators working with families cannot assume that objective measures provide a complete picture of family income adequacy. Even more important is how the family views its income adequacy in relation to family goals. Exploratory discussions with the family will be needed to determine their goals, their felt needs and wants, before the educator can work with the family in assessing the ability of family resources to meet those goals.

Based on the aspiration theory, Katona's findings, and the increasing material wishes found here for those who were incongruent in that they are better off than they think they are, the educator needs to be alert to the influence of past goal achievement on the current level of aspirations. If past goals have not been reached, aspirations may be lowered, if past goals have

been attained, aspirations may increase. The educator will need to explore with the family whether the changes in aspirations fit, in degree, with the ability of family resources to facilitate reaching the new aspirations. For example, if increased economic well-being is a goal which has been achieved when the family head moves from unemployment to full-time employment, is the aspiration to buy several new household durables on credit greater than is warranted by the increase in family income? The educator might be able to aid the family in judging the stability of future income as well as its current sudden increase before the family allows their newly formed higher aspirations to lead to implementing goals to buy several durable goods on credit at one time. In effect, the educator would be asking the family whether their increased income is as great as their increased aspirations.

One of the areas of concern to an educator is how to increase the overall well-being of families who have low incomes and little prospect in the short term for an increase in the adequacy of their incomes. Every effort should be made to assist these families in managing their incomes. Their economic situation, however, limits what can be accomplished. One of the insights gained from this research, as well as other research, is that income adequacy has less effect on satisfaction

with overall life quality than on satisfaction with family income and with level of consumption. Thus, it might be well to focus educational programs on those domains of life satisfaction which are less constrained by income adequacy, such as family relations. This can enhance life satisfaction for the families and allow them to function at the best level possible, while both the families and professionals continue to work toward economic policies which will improve their economic well-being.



# APPENDIX A

# BUREAU OF LABOR STATISTICS EQUIVALENCE SCALES

#### APPENDIX A

# BUREAU OF LABOR STATISTICS EQUIVALENCE SCALES

TABLE 30.--Revised scale of equivalent income for urban families of different size, age, and composition

(4-person family-husband, age 35-54, wife, 2 children, older 6-15 = 100)

Size and Type of Family	Age of Head			
Size and Type Of Family	Under 35	35-54	55-64	
One person	37	38	33	
Two persons:				
Husband and wife	50	61	60	
One parent and child	40	59	62	
Three persons:				
Husband, wife, child under 6	62	69		
Husband, wife, child 6-15	62	83	89	
Husband, wife, child 16-17		92	89	
Husband, wife, child 18 or over		83	86	
One parent, 2 children	68	77	84	
Four persons:				
Husband, wife, 2 children, (older under 6)	71	79		
Husband, wife, 2 children, (older 6-15)	76	100	105	
Husband, wife, 2 children, (older 16-17)		114	126	
Husband, wife, 2 children, (older 18 or over)		96	110	
One parent, 3 children	88	97		
Five persons:				
Husband, wife, 3 children, (oldest under 6)	85	95		
Husband, wife, 3 children, (oldest 6-15)	94	115	119	
Husband, wife, 3 children, (oldest 16-17)		128	138	
Husband, wife, 3 children, (oldest 18 or over)		118	124	
One parent, 4 children	108	117		
Six persons or more:				
Husband, wife, 4 children or more, (oldest under 6)	98			
Husband, wife, 4 children or more, (oldest 6-15)	107	130	139	
Husband, wife, 4 children or more, (oldest 16-17)		145		
Husband, wife, 4 children or more, (oldest 18 or over)		149		
One parent, 5 children or more	124	137		

The scale values shown here are percentages to be applied to the total cost of a budget (excluding State and local income taxes and disability payments) for the base family (4 persons--husband, age 35-54, wife, 2 children, older child 6-15 years) to estimate the total income required to provide the same level of living for urban families of different size, age, and composition. In addition to the cost of goods and services for family consumption the total budget costs include gifts and contributions, life insurance, occupational expenses, employee contributions for social security, and Federal income taxes. Estimates of personal taxes paid to State and local governments and of payments for disability insurance may be added in those urban areas where applicable.

SOURCE: U.S. Department of Labor, 1968, p. 14.

TABLE 31.--Equivalence scale of comparative costs by city and region for the total budget for a four-person family at a moderate level of living, Autumn, 1973

Area	Index of Compar- ative Costs	Area	Index of Compar- ative Costs
Urban United		Lancaster	98
States	100	St. Louis	98
		Kansas City	99
Metropolitan areas	102	Baltimore -	99
South	93	Los Angeles	99
West	99	_	
North Central	101	Green Bay	99
Northeast	110	Cedar Rapids	100
		Seattle -	100
Nonmetropolitan		Portland	101
areas	90	Indianapolis	101
South	85	-	
West	90	Cleveland	101
North Central	93	Detroit	101
Northeast	98	Champaign-Urbana Minneapolis-	103
Austin	87	St. Paul	103
Houston	90	Philadelphia	103
Orlando	90	-	
Baton Rouge	90	Washington	103
Dallas	90	Milwaukee	105
		Chicago	105
Nashville	92	Buffalo	105
Atlanta	93	San Francisco	106
Dayton	93		
Bakersfield	93	Hartford	109
Wichita	94	New York	114
		Boston	118
Denver	96	Honolulu	118
Durham	96	Anchorage	131
Cincinnati	96	•	
San Diego	97		
Pittsburgh	97		

SOURCE: U.S. Department of Labor, undated, p. 19.

APPENDIX B

CODING VARIATIONS

; ;

#### APPENDIX B

#### CODING VARIATIONS

NOTE: The format in which the following information is presented is:

Study Variable: Tape variable number; interview schedule location. Wording of question or identification of interview schedule source of the data.

Values used in this study on source tape Description

Any additional information.

# I. SATISFACTION MEASURES

SATISFACTION WITH PERCEIVED FAMILY INCOME: V87; Blc. (How do you feel about) . . . The income you (and your family) have?

- 1. 1. Terrible
- 2. 2. Unhappy
- 3. 3. Mostly dissatisfied
- 4. 4. Mixed
- 5. 5. Mostly satisfied
- 6. 6. Pleased
- 7. 7. Delighted
- \*8,9,0. No feelings at all; Never thought about it; NA; DK.

SATISFACTION WITH PERCEIVED LEVEL OF CONSUMPTION: V88; Bld. (How do you feel about . . .) . . . Your standard of living—the things you have like housing, car, furniture, recreation, and the like? Same code as V87, above.

SATISFACTION WITH PERCEIVED OVERALL LIFE QUALITY: V85; Bla. How do you feel about your life as a whole?
Same code as V87, above.

#### II. INCOME ADEQUACY MEASURES

SUBJECTIVE FAMILY INCOME ADEQUACY: V96, B4. Do you feel that your total (family) income is enough for you (and your family) to live as comfortably as you would like at this time? Would you say very comfortably, comfortably, not too comfortably, or not at all comfortably?

<sup>\*</sup>Deleted from the study sample because of missing data.

SA-1 5. Not at all comfortably

SA-2 4. Not too comfortably

SA-3 2. Comfortably SA-4 1. Very comfortably

8,9 DK,NAa

# OBJECTIVE FAMILY INCOME ADEQUACY: A computed variable, developed as follows:

Each respondent was assigned a Bureau of Labor Statistics equivalence scale number which adjusts the BLS standard budget for a moderate level of living for differences in family composition. The variables used, which are reported in greater detail under "Contextual Variables, Demographic," on the pages which follow, were:

V21: Age of oldest child

V22: Number of children in the family unit

V45: Number of adults in the family unit

V48: Age of respondent

In addition, V27, marital status was used to delete from the sample those family units with two adults in which the second adult was not the spouse of the respondent.

- Each respondent was assigned a Bureau of Labor Statistics equivalence scale number which adjusts the BLS standard budget for a moderate level of living for differences in geographic location of residence. The variable used was V4; Probability sampling unit (PSU) code. Values of 001 to 996 identify specific PSU's in the sample. Selected examples of the code are:
  - 131-132 Detroit City
  - 133-134 Detroit suburbs
  - 365-366 Huston, Tex.
  - 697-698 Sheboygan, Wisc.
- The family income variable (see Contextual Variables, Demographic, which follows) was recoded to dollar amounts.
- The objective income adequacy measure was then computed, using the following formula:

Objective Adequacy:	_ Total famil	Total family income in 1973				
Ratio	Standard	Family	Geographic			
	Budget, ,	Composition	Location			
	Moderate X	Equivalence X	Equivalence			
	Level	Number	Number			
		100	100			

Deleted from the study sample because of missing data.

aDK is don't know; NA is not ascertained.

- 5. Computed ratios were then grouped into 6 values of an objective family income adequacy measure.
  - OA-1. O.A. ratio of 16-49
  - OA-2. O.A. ratio of 50-99
  - O.A. ratio of 100-149 OA-3.
  - O.A. ratio of 150-199 OA-4.
  - OA-5. OA-6. O.A. ratio of 200-299
  - O.A. ratio of 300 or more.

CONGRUENCY between objective and subjective family income adequacy: A built variable, developed as follows:

- Objective family income adequacy was reduced from the 6 values identified in the list above to 4 values by combining values 3, 4, and 5. This choice was made based on post hoc contrasts following one-way analysis of variance of the differences in satisfaction mean scores for the 6 levels of objective family income adequacy. Values 3, 4, and 5 did not differ significantly in satisfaction mean scores.
- Subjective family income adequacy was used in its same 2. form.
- A congruency matrix was developed and the cells were 3. coded as follows:

Tamala of	Levels of Objective Adequacy						
Levels of Subjective Adequacy	OA-1 Ratio 16-49	OA-2 Ratio 50-99	OA-3,4,5 Ratio 100-299	OA-6 Ratio 300 plus			
SA-1: Not at all adequate	C-3	C-4	C-5	C-5			
SA-2: Not too adequate	C-2	C-3	C-4	C-5			
SA-3: Adequate	C-1	C-2	C-3	C-4			
SA-4: Very adequate	C-1	C-1	C-2	C-3			

Fig. 3. The identification of congruency groups by their levels of objective and subjective family income adequacy.

### 4. The congruency groups are:

- C-1. SA>>OA: Subjective adequacy much greater than objective adequacy.
- C-2. SA > OA: Subjective adequacy somewhat greater than subjective adequacy
- C-3. SA = OA: Subjective adequacy equal to objective adequacy.
- C-4. SA < OA: Subjective adequacy somewhat less than

objective adequacy.

C-5. SA<<OA: Subjective adequacy much less than objective adequacy.

# III. CONTEXTUAL VARIABLES, DEMOGRAPHIC

SEX OF RESPONDENT: V40; Tl. Sex of respondent

- 1. 2. Female
- 2. 1. Male

RACE OF RESPONDENT: V42; T3. Racial or ethnic group.

- 1. 2. Black
- 1. 3,4,5,7. Other
- 2. 1. Caucasion
- \*\* 9. Not ascertained

EDUCATION OF RESPONDENT: V24; F15-F15a. Summary, respondent's education.

- 1. 1,2. Up to 8 grades
- 2. 3,4. 9 to 11 grades
- 3. 5,6. High school diploma
- 4. 7,8. Some college
- 5. 9. B.A. level degree
- 5. 10. Advanced degree
- \*\* 98. Don't know
- \*\* 99. Not ascertained

OCCUPATION OF RESPONDENT: V30; F20a-d. What is your main occupation? (What sort of work do you do?) Tell me a little more about what you do. What kind of (business/industry) is that in? Are you employed by someone else, are you self-employed or what?

- 0. 00. Unemployed, retired, or disabled.
- 1. 01. Housewives, widows
- 2. 50-91. Blue collar occupations
- 3. 10-45. White collar occupations

<sup>\*\*</sup> Recoded to mode, median, or mean for the variable, pending on the level of measurement.

NUMBER OF CHILDREN: V22; F2-F2a. Summary, number of people under 18 in respondent's family unit.

- x. x. Actual number (0-7) from listing box
- 8. 8. 8 or more

AGE OF OLDEST CHILD: V21; F2-F2a. Summary: respondent's oldest child from the listing box. a

- xx. Actual age (1-17) from listing box. XX.
- 00. 00. Inappropriate, no children in family unit.

NUMBER OF ADULTS: V45; T7. Listing box - total number of eligible persons in respondent's family unit.

- 1. 1. One adult
- 2. 2. Two adults
- 3-8. Three to eight adults

AGE OF RESPONDENT-HEAD: V48, T7c. Listing box - age of selected respondent.

- xx. xx. Actual age (18-97)
- 98. Don't know
- 99. Not ascertained

FAMILY INCOME: V39, F43-F44a. Now we would like to know how much income you and your family received in 1973, not just from wages but from all sources, before taxes and other deductions were made. Does that include everyone in your family who lives here? What should the letter be if you include everyone?

\$2,000 01. A. Under \$2,000

\$2,500

02. B. \$2,000 - \$2,999 03. C. \$3,000 - \$3,999 \$3,500

\$4,500 04. D. \$4,000 - \$4,999

\$5,500 05. E. \$5,000 - \$5,999

06. F. \$6,000 -\$7,499 \$6,750

07. G. \$7,500 - \$8,999 \$8,250

08. H. \$9,000 - \$9,999 \$9,500

\$10,500 09. I. \$10,000 - \$10,999

\$11,750 10. J. \$11,000 - \$12,499

aChildren identified as part of the family unit (V22) who were not the respondent's children (V21) were hand coded from the interview schedules and added to, or corrected for, in V21.

Deleted from the sample because of missing information.

Deleted from the sample because specific BLS equivalence scale numbers for families with more than two adults are not available.

```
$12,500 - $14,999
$13,750
         11.
             K.
                  $15,000 - $17,499
$16,250
         12.
              L.
                  $17,500 - $19,999
$18,750
         13.
             M.
                  $20,000 - $22,499
$21,250
         14.
             Р.
                  $23,750 - $24,999
         15.
$23,750
             Q.
$25,000
         16.
             R.
                  $25,000 - $29,999
                  $30,000 - $34,999
$32,500
         17.
             s.
$35,000
         18.
             T.
                  $35,000 or more
         98.
             Don't know
   *
         99.
              Not ascertained
```

HOUSING STATUS: V162; F38. Now I have a few questions about your home. (Do you/does your family) own or are you buying this (house/apartment), or do you pay rent,

- 3. Neither owns nor pays rent 1.
- 2. 2. Pays rent

or what?

3. Owns or is buying

URBANIZATION OF RESIDENCE: V12. Urbanicity code. In self-representing PSU's:

7. 1. SMSA's:

> Baltimore New York City Boston (all 5 boroughs) Chicago Philadelphia Cleveland Pittsburgh Detroit St. Louis Los Angeles San Francisco

Washington, D.C.

SMSA: the remainder of the self-representing 2. PSU's exclusive of places with populations of 1000,000 or more

In self-representing and nonself-representing PSU's:

SMSA: cities of 100,000 population or more, exclusive of those listed in code 1.

In nonself-representing PSU's, both SMSA and non-SMSA:

- SMSA: places 50,000 through 99,999 4. 4.
- 3. 5. SMSA and non-SMSA: places 10,000 through 49,999
- SMSA and non-SMSA: places 2,500 through 9,999 2.
- 1. SMSA: remainder of SMSA PSU (after everything 7. above has been removed)
- Non-SMSA: remainder of non-SMSA PSU's (after 1. 8. everything above has been removed.)

Deleted from the sample because of missing information.

CURRENT CONCERNS: V91-V95; B2, B3a-d. Please look at this card and tell me the letters of those things which you are most concerned about these days. (Anything else?) (Any others?) Of the things you mentioned, which is most important to you these days? Which comes next in importance? (A built variable.) Value (1) was selected from each of six tape variables and coded as follows:

- V91, 1. More free time, first ranked concern
- V92, 1. 2. More money to spend, first ranked concern
- V93, 1. More friendship, first ranked concern 3.
- More recognition, first ranked concern 4. V94, 1.
- V95, 1. More financial security, first ranked concern V91-V95. No concerns indicated 5. V95, 1.
- 6.

MATERIAL WISHES: V99-V104; B7, B7a-d. Would you please look at this card and tell me the number which comes closest to how you would feel if you were able . . . B7a. To have a better car.

- I would not want it 1.
- 2. 4.
- 3. 3.
- 4. 2.
- It would mean a great deal to me 1.
- \*\* Don't know 8.
- 9. Not ascertained

The remaining five variables, V100-V104, which have the same values a V99, are:

- To move to a more expensive home V100.
- V101. To buy a new set of furniture
- V102. To have better household appliances
- To spend more money on vacations and leisure-time V103. activities

To have much more savings or financial reserves. V104. The recoded variables were summed and bracketed to form the Material Wishes Index, which has the following values:

- Total of 6-10 1.
- Total of 11-15 2.
- 3. Total of 16-20
- Total of 21-25 4.
- Total of 26-30

CONSUMPTION ACHIEVEMENT: A variable built from V97, V98; B5, B6.

B5: Thinking back to what you had hoped for 3-5 years ago, would you say your present standard of living is better now, worse now, or about the same as you had expected it to be?

Recoded to mode, median, or mean for the variable, depending on the level of measurement.

- 1. 5. Worse
- 3. 3. Same
- 5. 1. Better
- \*\* 8. Don't know
- \*\* 9. Not ascertained

B6: Thinking of your future standard of living, what would you say are the chances that you will achieve what you hope for? Are they very good, good, or not so good?

- 1. 5. Not so go
- 3. 3. Good
- 5. l. Very good
- \*\* 8. Don't know
- \*\* 9. Not ascertained

B5 and B6 were formed into a matrix and the cells of the matrix were coded as follows:

TABLE 32.--The identification of consumption achievement values from variables V97 and V98

Achievement of Once Expected Level of Consumption	Chances of Achieving Hoped-for Future Level of Consumption				
or consumption	Very Good	Good	Not so Good		
Better	4	3	2		
Same	3	2	2		
Worse	2	2	1		

The values of the newly formed variable are:

- 1. Not achieved
- 2. Mixed
- 3. Reaches expectations
- 4. Exceeds expectations

PERCEIVED FINANCIAL PROGRESS, RECENT: The variable is built from V54, V57; Al A2.

Al: We are interested in how people are getting along financially these days. Would you say that you (and your family) are better off or worse off financially than you were a year ago?

Recoded to mode, median, or mean category, depending on level of measurement.

- 1. 1. Better off
- 2. 3. Same
- 3. 5. Worse now
- \*\* 8. Don't know
- \*\* 9. Not ascertained

A2: Now looking ahead—do you think that a year from now you (and your family) will be better off financially, or worse off, or just about the same as now?

- 1. l. Will be better off
- 2. 3. Same
- 3. 5. Will be worse off
- \*\* 8. Don't know
- \*\* 9. Not ascertained

A matrix was formed from Al and A2 and the cells of that matrix were coded to form the new variable:

TABLE 33.--The identification of perceived financial progress, recent, from variables V54 and V57

Financial	Financial Progress in the Coming Year					
Progress From Last Year	Will Be Better Off	Same	Will Be Worse Off			
Better Off	5	4	3			
Same	4	3	2			
Worse Now	3	2	1			

The values of the newly formed variable are:

- 1. Deterioration
- 2. Stagnation
- 3. Reversal
- 4. Intermittent gain
- 5. Cumulative gain

PERCEIVED FINANCIAL PROGRESS, INTERGENERATIONAL: The variable was developed from V143 and V145; F6, F7. Depending on the respondent's age, the question was either F6 or F7.

<sup>\*\*</sup>Recoded to mode, median, or mean category depending on level of measurement.

F6: Are you better or worse off financially than your parents were when they were your age?

- 1. 5. Worse
- 3. 3. Same
- 5. 1. Better
- \*\* 8. Don't know
- \*\* 9. Not ascertained

F7: When you were about 35 years old, were you better off or worse off financially than your parents were at that age? (Same codes as F6)

The new variable has the values and description below:

- 1. V143 or V145 was "worse"
- 3. V143 or V145 was "same"
- 5. V143 or V145 was "better"

<sup>\*\*</sup> Recoded to mode, median, or mean category depending on level of measurement.



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