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The University of Oklahoma, Ed.D., 1975
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THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

A STUDY OF THE EFFECTS OF INCOME, PHYSICAL HEALTH, SEX
AND MARITAL STATUS ON THE LIFE SATISFACTION
OF AGED INDIVIDUALS

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Norman, Oklahoma

1975

A STUDY OF THE EFFECTS OF INCOME, PHYSICAL HEALTH, SEX
AND MARITAL STATUS ON THE LIFE SATISFACTION
OF AGED INDIVIDUALS

APPROVED BY

Charles King
Eugene F. Galt
Blue Brighton
Raymond R. White

DISSERTATION COMMITTEE

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

One of the most obvious differences noted among America's elderly people is the degree of satisfaction held by different people. de Beauvoir (1970) made a sociological survey of thousands of elderly people. Among these were persons living in care centers such as nursing homes, rest homes, high rise apartments for the aged and those who dwelt in private or semi-private homes by themselves or with family and/or friends. de Beauvoir summed his findings in the following conclusion:

While there are many elderly persons who have achieved a certain amount of security in their dotage, this certainly seems to be the exception rather than the rule. The anxieties which arise from loss of health, close friends, family, and income seem to hasten the end ... The plight of the elderly American may be summarized as a 'catastrophe'. (pp. 160-161)

However, other gerontologists seem to present another dimension to the epoch of the aging. Bernice Neugarten (1971) conducted interviews with over two-thousand elderly people from nineteen different cultures (including the United States). She found that over sixty percent (60%) of those interviewed felt that they were living a meaningful existence. Moreover, hardly anyone expressed a desire to live his or her life over again, and most expressed great reluctance to raise children in today's world.

What causes such discrepancies in research findings? Do they come from differences in researchers, differences in the information sought, or true differences in the aged persons being asked to participate?

A few researchers have attempted to explain the degree of life satisfaction being experienced by the elderly in terms of their past relationships with God and man. Sherrill (1966) summarizes the results of good and bad relationships with your fellowman in the following passage:

Love, kindness, consideration, poured out into human relations in the twenties, the thirties, and the forties, now begin to bear such a harvest as they could not bear much earlier, for one now begins to move into old age loved, respected, trusted, even venerated. But, on the other hand, if one has invested his relations to the members of his family with selfishness, with distrust and suspicion, or with rejection and hatred, then the bitter bread he has cast on the waters comes back to him more bitter still. And as he moves on toward the end he is borne up by the bonds of a steadily strengthening love, or else he begins to feel himself deserted and lonely long before he has lived out his years. (p. 194)

Perhaps a more popular approach to studying the differences between those elderly persons who are satisfied and those who are dissatisfied has been through the isolation of factors which are related to life satisfaction. Several such studies are cited in the Review of Related Literature.

Nationwide attention was focused on the aged by a White House Conference for the aged in 1971. While the results of this Conference were instrumental in alleviating

many of the problems associated with aging, inflation and the increased number of elderly persons have multiplied the total problem significantly.

At the present time it would appear that accurate, timely, objective information concerning the life satisfaction of elderly people would be very helpful in planning their future. What variables are associated with life satisfaction or the lack of it? Are these variables based in the physiological, psychological, or sociological areas? How can such information be used in helping the aged to enjoy life more? These are a few of the questions which were investigated in the present study.

Statement of the Problem

The purpose of this study was to determine the effects of income, physical health, sex, and marital status on the life satisfaction of aged individuals. More specifically, the purpose of the present study was to compare the Life Satisfaction Index scores of aged persons from four income levels, four health categories, two sex groups, and four marital status categories.

Hypotheses Tested in the Study

In order to achieve the purposes stated for the study the following null hypotheses were tested for significance at the .05 level.

- Ho₁ There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four income categories.

- Ho₂ There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four physical health categories.
- Ho₃ There will be no statistically significant difference between the Life Satisfaction Indices computed for the aged male participants and the Life Satisfaction Indices computed for the aged female participants.
- Ho₄ There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four marital status categories.

In addition to the four hypotheses, the researcher investigated several ancillary research questions. These were not hypothesized, however, since the theoretical framework would not allow these to be stated as hypotheses (Good, 1973). The particular biographical information used in making ancillary comparisons among the participants' LSI scores was taken from information reported on the Biographical Information Questionnaire shown in Appendix A. The particular areas chosen for making secondary comparisons were as follows:

- (1) race (four categories)
- (2) religion (four categories)
- (3) family income before retirement (five levels)
- (4) amount of education (five levels)
- (5) type of dwelling (six types)
- (6) physical mobility (three categories)
- (7) amount of monthly sickness (four categories)

Limitations of the Study

Certain limitations were placed on the present study in order to make it possible. The three most important of these limitations were as follows:

(1) The populations of aged persons were limited to those who were residents of one of the three nursing homes chosen for the study, residents of the high rise apartment complex for the aged (part of a model cities program) chosen for the study, and participants enrolled in a senior citizens' educational program at a community college who were chosen for the present study. Participants included those who were affiliated with these organizations between the times of July 1, 1974 and January 1, 1975.

(2) The biographical information collected in the study was limited to that collected with the Biographical Information Questionnaire shown in Appendix A.

(3) The life satisfaction information collected in the study was limited to that collected with the Life Satisfaction Index shown in Appendix D.

Definition of Terms

In order to avoid multiple interpretations of terms, the following explanations and definitions of terms were provided.

(1) Aged person/elderly person: Those persons who participated in the study who were from one of the three

nursing homes, the high rise apartment complex for the aged, or the senior citizen's educational program at the community college. Most of these persons were at least sixty years of age.

(2) Life Satisfaction Index: The amount of life satisfaction being experienced by an individual as reflected in the scores taken from the Life Satisfaction Index instrument shown in the final section of Appendix D. A high score from this instrument indicates a high level of life satisfaction and a low score indicates a low level of life satisfaction. Information concerning the development of the Index is presented in Chapter III.

(3) Annual income: The present income indicated by aged participants on Item #1 of the Biographical Information Questionnaire shown in Appendix A. The income levels shown in Table 1 coincide with those established by public welfare, social security, teacher retirement, and civil service.

(4) Physical health: The physical status indicated by the aged person on Item #12 of the Biographical Information Questionnaire. The categories of physical health were (1) very good, (2) good, (3) average, and (4) poor.

(5) Religion: The religious affiliation indicated by the aged participants on the "Religion" section of the Biographical Information Questionnaire. The categories of religion were (1) Protestant, (2) Catholic, (3) Jewish, and (4) Other.

TABLE 1

INCOME LEVELS SELECTED BY THE AGED PARTICIPANTS
IN INDICATING THEIR PRESENT ANNUAL INCOME

Income Range (Level)	M A R I T A L S T A T U S	
	Single	Married
Very Low	Less than \$1,999	Less than \$2,499
Low	\$2,000 to \$2,999	\$2,500 to \$5,399
Medium	\$3,000 to \$4,999	\$5,400 to \$6,499
High	More than \$5,000	More than \$6,500

(6) Family income before retirement: One of the five levels of income indicated by Item #2 on the Biographical Information Questionnaire.

(7) Amount of education: One of the five levels of educational experience shown on Item #6 of the Biographical Information Questionnaire.

(8) Type of dwelling: One of the six types of dwellings indicated by Item #9 of the Biographical Information Questionnaire.

(9) Mobility: One of the three levels of mobility indicated by Item #10 of the Biographical Information Questionnaire.

(10) Amount of sickness: One of the amount-of-sickness categories indicated by Items #13, #14, and #15 of the Biographical Information Questionnaire.

CHAPTER II

REVIEW OF LITERATURE AND THEORETICAL RATIONALE

A variety of terms, adaptation, competence, morale, and happiness, have been employed in attempts to define and measure the psychological well being of aged individuals (Neugarten, et. al. 1961). The results of such research have been contradictory and have received cogent criticisms. Many of these criticisms have been that studies concentrate more on individual reactions to particular areas of life instead of exploring over-all life satisfaction. Still other studies are laden with value judgements. The evaluation of emotionally charged subjects inevitably involves value judgements, but this aspect might have been decreased by explicit choices of terms and criteria.

Adaptation to Retirement

The economic variable and its relationship to the life satisfaction of the elderly has been surveyed more often and with greater precision than others. Forced retirement at age sixty-five has created massive problems as older individuals shift from the status of worker to retiree. Consequences of this shift and the adjustment to it have been the subject of a number of studies.

Research conducted by Shanas (1970) discounted the social myth of our culture stressing the deleterious effect

that retirement from work has on health. She reported evidence to indicate that health generally improved after retirement. Data from her research clearly showed poor health to be a cause of retirement, but that retirement was not a cause of poor health.

Maddox (1970) listed several important conditions which affect adaptation to retirement. His research supported the probability that an individual's satisfaction with work predicts a long-run satisfactory adaptation to retirement. Personal achievement at work, personal resources developed in the process of education, and the network of social relations developed in adult years, became important resources for satisfactory adaptation in retirement just as they were for pre-retirement life.

The Cornell Study of Occupational Retirement (Streib, 1971) also supported the possible relationship between satisfaction with life and retirement. Although the investigator admitted the sampling was not representative, the qualitative data indicated economic deprivation less traumatic than some people had maintained. The average retiree's income of this group had declined fifty-six percent, but the proportion who had negative feelings about this decline were not as marked as had been anticipated.

Data from Thompson's (1973) investigation of the social psychological impact of retirement upon males 67 and older revealed lower morale among the retired. The magnitude of the relationship was, however, extremely small when the

combined effects of health, age, and income were partialled out. Results of the study justified the conclusions that poorer health, lower incomes, and advanced age, and not simply retirement, explained the lower morale of these retired men.

The major foci of the studies just presented dealt with the individual's adaptation to retirement. Adaptation and adjustment to retirement is an area in which there is great need for research. Adaptation, defined sociologically, denotes a slow modification of individual behavior in adjustment to a general cultural environment and does by no means indicate satisfaction. Therefore, total life satisfaction cannot be equated with adaptation.

Morale of the Aged

Another approach to studying the life style of the aged has been through the investigation of morale. Gubrium (1970) made an analysis of the effect of age concentration in local environment on morale among the aged. Prior studies had supported the belief that age concentration, health, and income positively affected morale, but little attention had been focused on the relationship of the effects. The theoretical study suggested a linkage and presented data to support it. Information from this investigation as revealed through interviews of the two hundred ten subjects, sixty years of age and over showed little positive association between age concentration and morale

for persons who had good health and high solvency. Among old people with poor health and low solvency, however, there was a positive relationship. As environmental age-concentration increased, morale tended to increase. It seems that older people who are solvent are not limited by their immediate environment, but social integration becomes crucial when solvency is low and health is poor.

Using a sample of retired men 65 years and older, Thompson (1972) surveyed factors influencing the morale of retired men. His basic premise was that the primary source of a man's social position and self-identity was his work and that as a result, separation from work upon retirement, undermined his role identities and self-concept and led to demoralization. The major findings showed social activity not to be an intervening variable between age linked socioeconomic factors, and age associated variables to be a weak predictor of morale. Participation in clubs and organizations was found to be an antecedent to perception of health and morale. Perception of health, however, was without question the most important predictor of age associated morale.

The morale of any individual is associated with state of mind and could be strongly influenced by surroundings and association. With both surroundings and associations of aged individuals limited, morale may not be an adequate measure of total life satisfaction.

Ingraham (1974) recounts the reaction and personal experiences of a group of participants who were members of the Teacher's Insurance and Annuity Association-College Retirement Equities Fund. Several members of this organization responded to a survey questionnaire concerning their happiness and well being after retirement. The financial status of this group appeared atypical, however, in comparison to the overall population of retired persons. Fewer than twenty - five percent (25%) of those surveyed reported their standard of living was lowered by retirement. More than fifty percent (50%) felt their income allowed them to live well.

Summarization of Ingraham's findings were relatively impossible since the most striking characteristic of the results was diversity. A few of the major findings were as follows: (1) The majority of the group's attitude toward retirement seemed conditioned by their relationships with others; (2) Those who spoke of their marriage did so with great appreciation for their spouse; (3) Affection for children seemed overwhelming. In some cases, it appeared to lead to almost pathological self obligation, in order to guard against interfering in their children's lives; (4) According to self report except for the few cases of ill health or recent bereavement, the attitude of the group could be described as one of contentment and serenity.

Theories of Aging

Havighurst (1968) contrasted two theories used in his study of the psychological well being of older people. The activity theory, which focuses upon overt behavior, implies that except for the inevitable changes in biology and health, old people are the same as the middleaged. Consequently, the less the individual varied from the pattern of activity that characterized him in middle age, the greater is his well being. The other theory, commonly known as the disengagement theory, state that decreased social interaction is interpreted as a process characterized by mutuality. Both society and the aging person withdraw, with the aging individual accepting, even desiring, decreased interaction. This theory is based on the individual's internal frame of reference and implies the individual is the only proper judge of his well being.

Numerous studies have been made using these points of view. Most of the measuring instruments combine elements of both approaches. The Chicago Attitude Inventory (Cavan, et.al. 1949) asked subjects about economic situations, work, family, friends, home, and in addition about happiness and feelings of usefulness. While emphasis was upon feelings of satisfaction, a high score depended directly on a high level of activity.

Beckman, Williams, and Fischer (1958) examined the extent of difference among older persons in their adjustment

to life. It was hypothesized that adjustment was related to utilization of potential in a socially acceptable manner. For this study information and opinion items with diagnostic potential were devised or selected from earlier research. A total of 118 subjects with a mean age of 62.5 years completed the questionnaires. Analysis of the data indicated several noteworthy findings. Contentment in later years was not related to a person's sex. Satisfaction with life tended to decrease as age increased. Residence with one's family, employment, and assurance of an income adequate for better than marginal subsistence engendered satisfaction. Amount of schooling and participation in organizations also influenced ratings on adjustment.

The Beckman, Williams, and Fischer (1958) study confirmed the findings of the Kutner Survey (1956) which had found poor adjustment associated with low economic status as gauged by income and occupational level. Both of these studies did, however, discount the Prairie City Study (Havighurst & Albrecht, 1958) in which data indicated satisfactory adjustment was as probable for the poor as for the wealthy.

In a review of causes of economic insufficiency among the elderly, Field (1968) directed attention to the need of elderly people to maintain their independence. She emphasized the importance of the continuation of work since it served not only as an economic resource but as an activity

outlet which is a necessary element in the maintenance of well being.

Eteng (1972) tested the disengagement theory against the extended specification of the activity framework. Nine propositions on the correlates of retirement and life satisfaction were tested using the data on a group of retirees 65 years and older. These individuals were residents of three midwest communities of varying gradations of the rural-urban continuum. The propositions gained moderate to strong support even when control variables were considered. The decrement in the amount of status resources; health quality, occupational status, and income level, tended to hamper satisfaction with retirement and life choices. Discontinuities in position sequence measured by change in roles as well as by perceived change in life space were markedly influential in determining the level of satisfaction. Anticipatory socialization, generally reflected the amount of pre-retirement planning, reading, and discussion, increased the retirees level of satisfaction. The findings, contrary to the disengagement thesis, suggested a close synthesis of the sociopsychological orientations to gerontological investigations.

Life Satisfaction

Perhaps the most extensive approach to studying the aged is through the life-satisfaction approach. These studies seem to concentrate more on the entire life style of the retired. The Kansas City Study of Adult Life (Neugarten, et.al.,

1961), one of the most extensive studies done, involved a study of the psychological and social factors of aging. Neugarten and her associates sought to develop a measure which would use the individual's own evaluation as a point of reference. The population for this study was members of two different groups. The first, a group of persons aged 50 to 70 years, possessed a definite bias toward middle class. The other group was composed of the middle socio-economic and working class of people from 70 to 90 years of age, but this group was not as middle class oriented as the first. Also, the people in the second group were more affluent and in better health than their counterparts.

The data for this study consisted of lengthy and repeated interviews covering attitudes, values, and patterns of life. Other variables included information on activities, association with others, income, religion, social interaction, attitudes, role models, and self image. All interview data on each respondent were utilized, hence, the ratings were biased not only on self report, but on inferences drawn from interview material which had been rated by two judges. A series of four interviews spaced approximately 1-2½ years were used. No correlation was shown between life satisfaction and age. No significant sex difference on scores were indicated, but the non-married subjects had significantly lower LSR scores. An Index of Social Characteristics based on level of education, area of residence, and occupation correlated (.39) with LSR scores, showing positive but

not marked relationship between life satisfaction and socioeconomic status.

To serve as an outside criterion by which these interviews could be rated, the investigators felt it desirable to have an experienced clinical psychologist interview the respondents and serve as an outside criterion for rating life satisfaction. Eighteen to 22 months lapsed before these clinical interviews began. By this time there had been further attrition of the study population. Eighty respondents were interviewed at length by the clinical psychologist and it was on his rating that a validity check of the LSR was made. The two judges scores correlated .64 with the rating made by the clinical psychologist. In general this was interpreted as providing a satisfactory degree of validation for the LSR.

As an additional part of this study Neugarten et,al. (1961) sought to develop a measure that would use the individual's own evaluation and would also be relatively independent of activity and social participation. Their research consisted of two different sets of procedures. They wanted to devise a short easily administered instrument that could be used in other studies and they wished to validate it against the Kansas City data.

A sample group of 60 persons, representing the full range of age, sex, and social class, was selected from the large group. Items and open-ended questions from the LSR

interviews were selected by item analysis. In addition certain other items were written. The resulting two instruments along with the interview were then given to 93 respondents. Computations were made on this group and as a result certain items were discarded. When the indices were tested in their final form the correlation was moderately high. (LSIA and LSR .55, LSIB and LSR .58, LSIA and LSIB with LSR .61). Since the derivation and validation of the indices proceeded as a single set of operations, the LSR could not be properly regarded as an outside criterion. Several factors contributed to this. More than a year's time elapsed between the first interview and the ones used for validation. Responses on the LSIA and LSIB were self reported and could not be expected to agree with evaluation of life satisfaction made by an outside observer. Attrition probably resulted in a superior group with regard to greater consistency for respondents of advanced age. Whether this greater consistency was an artifact of the measures or a reflection of an increasing consistency in psychological behavior in aged individuals is questionable. Whatever the explanation, the indices were accurate measures of life satisfaction for persons over 65 years of age.

In some ways the Kansas City study of behavior and life satisfaction supported the activity theory of optimal aging and at the same time, the data in some ways supported the disengagement theory. Neither theory is itself sufficient

to account for the findings. Havighurst (1968) indicates that as men and women move beyond age 70 in a modern industrial community, they regret the drop in role activity that occurs in their lives. At the same time most older people accept the drop as an inevitable accompaniment of growing old, and they succeed in maintaining a sense of worth and a satisfaction with past and present life as a whole. Other older persons are less successful in resolving their conflicts. They experience strong negative effects regarding losses of activity and these losses are accompanied by dissatisfaction with past and present life.

The relationship between levels of activity and life satisfaction are also influenced by personality types (Neugarten, 1971). Of the three dimensions, activity, satisfaction, and personality, on which there is data, personality seems to be the pivotal dimension between level of activity and life satisfaction. It is for this reason that neither the activity theory nor the disengagement theory is satisfactory.

Summary

Research studies which have attempted to define and measure the satisfaction of aged persons appear contradictory. The economic variable has been surveyed more than any other. Most of this research surveyed adaptation to retirement and life adjustment. Aged individuals, because of necessity or stress, may adapt to retirement conditions

and accomodate changing situations. Even so, adaptation and accomodation are not true indicators of total life satisfaction.

Conflicting data appeared in support of the activity theory of optimal aging in contrast to the disengagement theory. The level of social participation, as measured by activity, and health (as perceived by the individual) were influential measures in establishing levels of morale. Personality, however, was reported to be the pivotal dimension between level of activity and life satisfaction.

Neugarten (1961) felt that an instrument for measuring life satisfaction should be independent of both, activity and social participation, and should use the individual's own evaluation. Because she felt that an evaluation made by an interviewer could not agree with an evaluation made by the individual, she attempted to develop an instrument which would utilize the best of both evaluations.

CHAPTER III

METHODS AND PROCEDURES USED IN THE STUDY

In the present study survey procedures were used to determine the level of life satisfaction being experienced by two-hundred forty-eight (N=248) aged persons from three nursing homes, a high rise apartment complex for the aged (part of a model cities program), and older persons enrolled in a senior citizen's educational program at a community college. Participants were asked to complete a Biographical Information Questionnaire (Appendix A) and a Life Satisfaction Questionnaire. These two instruments were combined to form the data collection instrument shown in Appendix D. A pilot study was conducted using similar instruments while a small sample (N=29) of older people acted as the pilot study participants. Data from the two instruments were entered on IBM cards in order to facilitate the testing of several null hypotheses and to investigate the effects of selected variables upon the Life Satisfaction Index scores of aged persons.

The methods and procedures used in the study were classified as follows: (1) Pre-Survey Procedures, (2) Survey Procedures, and (3) Data Analysis Procedures. Each of these areas is discussed at length in this Chapter.

PRE-SURVEY PROCEDURES

The pre-survey procedures consisted of all those tasks which the researcher had to complete before the actual collection of the data began. The important aspects of these tasks are described in the following sections.

Choice of Research Design

The first pre-survey procedure was to choose the proper research design for the conduct of the study. The words "research design" are intended to mean the plan, structure, and strategy of investigation conceived to obtain answers to research questions and to control external sources of variation. The Plan is the overall scheme or program of the evaluation problem; the Structure is the more specific structure or paradigm of the actual manipulation of the independent variables being controlled; and the Strategy as used here is even more specific than the structure--it is the actual methods to be used in the gathering and analysis of the data.

A research design serves two basic purposes: (1) it provides answers to research questions posed by the investigator; and (2) it controls external sources (independent variables) of variation. In other words, it is through the design of a study that research is made effective and interpretable. Kerlinger makes the following statement in regard to research and evaluation designs:

. . . How does design accomplish this? Research design set up the framework for 'adequate' tests of the relations among variables. The design tells us, in a sense, what observations (measurements) to make, how to make them, and how to analyze the quantitative representations (data) of the observations. Strictly speaking, design does not 'tell' us precisely what to do, but rather suggests the directions of observation-making and analysis, how many observations should be made, and which variables (independent variables) are active variables and which are assigned. We can then act to manipulate (control) the active variables and to dichotomize or trichotomize or otherwise categorize the assigned variables. A design tells us what type of statistical analysis to use. Finally, an adequate (proper for the particular situation) design outlines possible conclusions to be drawn from the statistical analysis (pp. 196-197) (Parentheses material added).

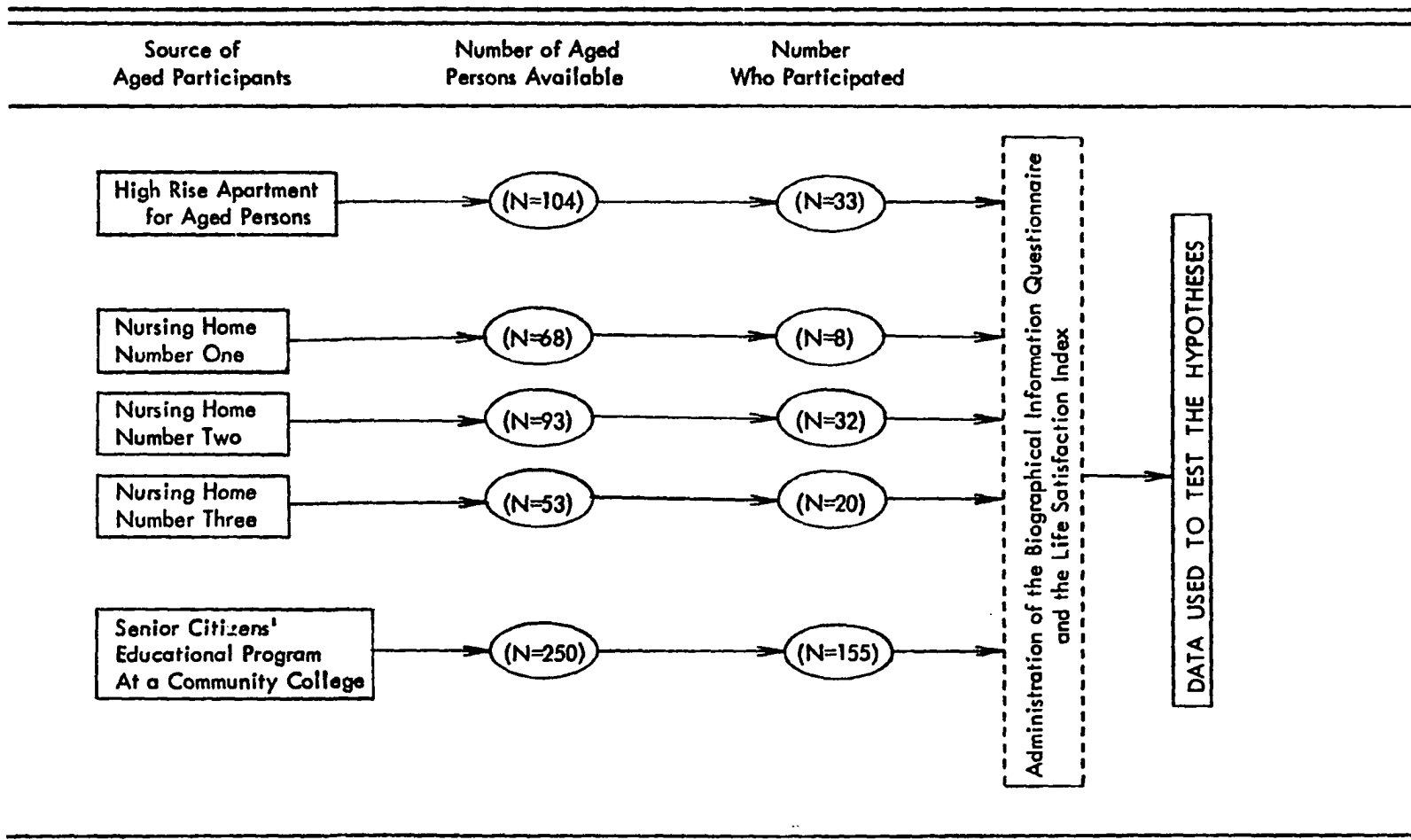
The research design chosen for the present experiment was a multiple-sample survey research design preceded by the random sampling of participants from four (4) finite populations. A paradigm of this research design is presented in Figure 1.

Choice of Sample Participants

The next step of the pre-survey procedures was the selection of study participants. In selecting participants, several factors were taken into consideration. The most important of these factors was the three sources of participants: (1) a high rise apartment for the aged (this structure is part of a model cities complex), (2) three nursing homes, and (3) aged persons enrolled in a senior citizen's educational program at a community college. Differences among the state of physical health of these three groups varied widely. For instance, residents of the high

Figure 1

EXAMPLE OF SURVEY DESIGN USED IN THE STUDY



rise apartments were able to take care of themselves, but most residents of nursing homes could not take care of themselves. (It should be noted that there is generally assumed to be a major difference between the amount of assistance needed by residents of nursing homes and residents of rest homes. Nursing home residents are considered to be less capable of caring for themselves than rest home residents.) On the other hand, many of those enrolled in the senior citizen's educational program lived in their own homes and cared for themselves. Because of these differences in the amount of outside care needed, the researcher sampled proportionate numbers of participants from each group.

Another factor which had to be considered in the selection of participants was their sex. In 1960 among those age 65 and over there were approximately 82.2 men for 100 women. In 1970, the number of males had decreased to 72.2 for 100 women (U.S. Census Bureau, 1971). In the present study, the researcher took necessary steps to insure the proper female/male ratio of participants. The numbers of females and males needed from each data source to insure the appropriate ration in the final sample are presented in Figure 2. In a projected total sample of two-hundred forty-eight (N=248) participants, seventy-six (N=76) males and one-hundred seventy-two (N=172) were females.

Figure 2

THE NUMBER OF MALES AND FEMALES CHOSEN FROM EACH PARTICIPATING GROUP
TO INSURE SAMPLES PROPORTIONATE WITH THE OVERALL POPULATION

Source of Aged Participants	Number of Aged Persons Available	Actual Number of Participants	Female/Male Ratio	Number of Males Needed	Number of Females Needed
High Rise Apartment for Aged Persons	(N=104)	(N'=33)	2.5/1.0	9	24
Nursing Home Number One	(N=68)	(N'=20)	3.2/1.0	5	15
Nursing Home Number Two	(N=93)	(n'=32)	3.0/1.0	8	24
Nursing Home Number Three	(N=53)	(N'=8)	3.0/1.0	3	5
Educational Program for Aged at a Community College	(N=250)	(N'-155)	2.1/1.0	51	104
TOTALS	(N=568)	(N'-248)		76	172

Instrumentation

Another important step in the pre-survey procedures was the selection and development of a data collection instrument. Data collection required an instrument with two distinct sections, one to collect biographical information and one to determine the amount of life satisfaction experienced by the aged participants.

The researcher collected the biographical information needed to test the null hypotheses and answer the ancillary questions posed in Chapter I. The Biographical Information Questionnaire used in collecting the data is presented in Appendix A. This Questionnaire is an adaptation of an instrument used by Neugarten, et al. (1961).

It was necessary for the researcher to develop an additional instrument for measuring the life satisfaction index of aged participants. The final Life Satisfaction Index developed for the study was actually a derivation of two instruments developed by Neugarten and her associates. They developed the Life Satisfaction Index (Part A) (LSIA) shown in Appendix B and the Life Satisfaction Index (Part B) (LSIB) shown in Appendix C. Neugarten chose items for these two instruments by item analysis and by consensus of professional judgment. Pilot studies conducted by Neugarten, et al., showed that the LSIA and LSIB were valid and reliable instruments for measuring the life satisfaction of persons over 65 years of age.

In preparing an instrument for the present study the researcher also conducted a pilot study using the two instruments. The results of the pilot study are presented in the next section of the methods and procedures. After the results of the pilot study were carefully analyzed, the decision was made to formulate a different instrument using the Biographical Information Questionnaire and parts of the LSIA and the LSIB. The pilot study indicated that the combined indices were too long and that the open-ended items on LSIB were too time consuming and confusing. Members of the researcher's doctoral committee assisted in combining the two instruments with the Biographical Information Questionnaire and the final data collection instrument developed for the present study is presented in Appendix D.

Conduct of a Pilot Study

In order to better prepare for the dissertation study the researcher conducted a pilot study. The primary purposes of this study were to determine possible problems in the following areas: (1) the sampling of aged participants, (2) the data collection instruments to be used in the dissertation study, (3) coding and analysis of the data collected with the instruments, and (4) interpretation of the results obtained from the statistical analysis.

Methods Used to Conduct the Pilot Study

In the pilot study the researcher asked twenty-nine (N=29) aged persons from a high rise apartment complex to

complete the Life Satisfaction Indices shown in Appendix B and C and the Biographical Information Questionnaire shown in Appendix A. Data from these instruments were used to test hypotheses similar to those in Chapter I. However, in the pilot study the researcher was primarily interested in the interactions of certain variables.

Results of the Pilot Study

In the pilot study the mean rating scores were used to determine the amount of interaction occurring among the following independent variables:

- (1) Income x Marital Status (I x M)
- (2) Income x Health (I x H)
- (3) Marital Status x Health (M x H)
- (4) Income x Health x Marital Status (I x H x M)

The analysis of variance (ANOVA) results derived from the statistical computations are presented in Table 2.

Results of the pilot study shown in Table 2 indicated that none of the interactions was significant at the .05 level. Consequently, none of the null hypotheses was rejected.

The primary conclusions drawn from the results of the pilot study were that the LSI (Part A) and LSI (Part B) were too lengthy and too difficult to score. As a result, the two instruments were combined with the Biographical Information Questionnaire to form the data collection instrument shown in Appendix D. This instrument was used for collecting the data in the present study.

TABLE 2

ANALYSES OF VARIANCE RESULTS SHOWING THE AMOUNT OF INTERACTION
 AMONG THE VARIABLES OF INCOME, HEALTH, AND MARITAL STATUS

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F-Ratio	Significance Level
(INCOME x MARITAL STATUS)					
Between Groups	1	346	346	4.12	> .05
Within Groups	25	2,101	84		
(INCOME x HEALTH)					
Between Groups	1	346	346	3.93	> .05
Within Groups	25	2,201	88		
(HEALTH x MARITAL STATUS)					
Between Groups	1	119	119	1.32	> .05
Within Groups	25	2,260	90		
(INCOME x HEALTH x MARITAL STATUS)					
Between Groups	1	481	481	6.59	> .05
Within Groups	22	1,681	73		

SURVEY PROCEDURES

The second major area of methods and procedures was the survey or data collection procedures. These procedures began as soon as all preliminary procedures had been completed and were terminated when the last questionnaire had been administered. The data collection procedures are explained in detail in this section of the dissertation.

Collecting the Biographical Data

All participants were asked to complete the Biographical Information Questionnaire shown in Appendix A. As anticipated, a few aged persons were reluctant to divulge some information, and others did not know some of the information sought. However, the researcher made every attempt to collect the information needed to properly categorize the Life Satisfaction Index (LSI) responses. For example, such information as the respondent's age, sex, marital status, present income, and physical health was needed to test the hypotheses. Every attempt was made to collect this information. Obviously, it was much more convenient when the respondent could and would supply such information. However, if this were not possible, the researcher had to collect the data through (1) personal observation, (2) friends or relatives, (3) records or files, or (4) personal interviews. If the biographical information could not be obtained, the would be participant was eliminated from the study, and the Life Satisfaction Index was not administered.

The data collection instruments were distributed to the data sources shown in Figure 1. As anticipated, personnel from these institutions and organizations were much more successful at soliciting responses from the aged participants than the researcher because of their established rapport. The researcher advised those responsible for collecting the biographical information as to which responses were the most crucial.

Collecting the Life Satisfaction Data

In collecting the Life Satisfaction Index data, the researcher again explained the proper administration procedures to those persons responsible for collecting the data. Those administering the Index were further advised to assist participants as much as possible in completing the Index. It was also possible for them to administer the instrument as a closed interview schedule. In such instances the items were read to the participant and their responses recorded.

The data collection procedures were completed when the last questionnaire had been administered. The data collection procedures consumed approximately eight weeks time.

DATA ANALYSIS PROCEDURES

The third major area of methods and procedures was the data analysis procedures. These procedures began as soon as the data had been collected and terminated when the data

had been analyzed and the hypotheses tested. The data analysis procedures were further divided into two areas. These areas were as follows: (1) preliminary analysis procedures and (2) methods of statistical analysis. Each of these procedures is discussed in the following sections of the dissertation.

Preliminary Analysis Procedures

The first phase of the data analysis procedures was to assign quantitative values to the participants' responses. The quantitative values assigned to responses on the Bio-graphical Information Questionnaire were used to form the various groups needed to test the hypotheses, while the quantitative values assigned to responses on the Life Satisfaction Index (LSI) were used to determine each participants' LSI score. Each participant's data were entered on IBM cards and the statistical analysis was performed by using a digital computer. The IBM card format used in entering the coded data is shown in Figure 3.

Methods of Statistical Analysis

The second phase of the data analysis procedures was the actual statistical computations needed to test the hypotheses and research the ancillary questions stated in Chapter I. A one-way analysis of variance (ANOVA) testing statistic was used to test the hypotheses.

The analysis of variance testing statistic is appropriate

Figure 3

IBM CARD FORMAT USED TO PREPARE THE DATA FOR PROCESSING

Information Being Entered	Card Columns	Possible Range of Values
1. Participant's Group Number	1	1-3
2. Participant's Age	2-3	50-99
3. Sex	4	1-2
4. Race	5	1-4
5. Marital Status	6	1-4
6. Religion	7	1-4
7. Present Income Level (If Single)	8	1-4
8. Present Income Level (If Married)	9	1-4
9. Previous Income Level	10	1-5
10. Children Living	11	1-2
11. Number of Children	12-13	01-20
12. Amount of Schooling Completed	14	1-5
13. Living Arrangements	15	1-2
14. Type of Dwelling	16	1-6
15. How Often do You Leave?	17	1-3
16. Where Do You Go?	18	1-4
17. State of Health	19	1-4
18. Amount of Sickness	20	1-4
19. Number of Health Problems	21	1-3
20. Amount of Chronic Illness	22	1-4
21. Life Satisfaction Index Ratings	23-49	1-3

for comparing the means of two or more groups (Kerlinger, 1973). The ANOVA tests were preceded by an F-Maximum Test for Homogeneity of Variances (Bruning & Kintz, 1970).

In addition, all F values which were statistically significant at or beyond the .05 level were further investigated with a studentized range statistic. These post hoc comparisons were made in an attempt to locate specific differences between group means. The Newman-Keuls Test was used to make the post hoc comparisons.

CHAPTER IV

RESULTS OF DATA ANALYSIS

Questionnaire responses made by two-hundred forty-eight (N=248) aged persons from three nursing homes, a high rise apartment complex for the aged, and older persons enrolled in senior citizen's education classes were analyzed to determine those factors most related to their level of "Life Satisfaction." Participants completed a data collection instrument composed of a Biographical Information Questionnaire and a Life Satisfaction Index (See Appendix D). A one-way analysis of variance was used to compare the Life Satisfaction Indices (LSI) of individuals of different sex groups, different income levels, different marital status groups, and different states of physical health. In addition to these four hypotheses, several secondary comparisons were made to determine other variables' relationship to the Life Satisfaction Index of the participants. Secondary comparisons were made on the variables of (1) race, (2) religion, (3) amount of education acquired, (4) type of home the respondent lived in, (5) physical mobility, and (6) amount of illness experienced monthly.

This Chapter of the dissertation contains a summary of the biographical information gathered from the participants' on the Biographical Information Questionnaire, the

results of testing the four hypotheses, the ancillary findings, and a summary of all statistical analysis. The format used in presenting the results of each null hypothesis was as follows: (1) statement of the null hypothesis tested, (2) the descriptive statistics pertinent to the hypothesis being tested, (3) the results of preliminary tests needed in the hypothesis testing procedures, (4) the inferential statistic used to test the null proposition, (5) results of testing the null hypothesis, and (6) the decision made about the null hypothesis. This same general pattern was used with all four hypotheses. After the hypotheses are tested, several ancillary findings are presented, and the Chapter ends with a short summary of all statistical results.

Results of Testing Hypothesis Number One

The exact form of the null proposition tested in hypothesis number one was as follows:

Ho₁ There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four income categories.

The first null hypothesis was tested by comparing the Life Satisfaction Indices of participants from the four different income categories. The numbers of participants in each income category are presented in Table 3. This Table also contains the means and standard deviations of each group's LSI scores.

Statistical results of a preliminary comparison of

TABLE 3

DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
THE FOUR ANNUAL-INCOME GROUPS

Groups of Aged Participants	Categories of Annual Income			
	Less Than \$1,999	\$2,000-2,999	\$3,000-\$4,999	More Than \$5,000
Nursing Homes	4	7	49	1
High-Rise Apartment	19	13	0	1
Adult-Education	18	30	33	74
TOTALS . . .	41	50	82	76
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 20.67$ $S = 3.74$	$\bar{X} = 23.80$ $S = 4.29$	$\bar{X} = 25.62$ $S = 2.99$	$\bar{X} = 24.85$ $S = 4.21$

sample variances showed them to be homogenous. The largest variance (\$2,000-\$2,999 annual income) was not significantly greater than the smallest variance (\$3,000-\$4,999 annual income). The computed F value was not significant at the .05 level ($F = 2.05$, $df=4/65$; $p > .05$), and it was concluded that the sample variances were homogenous.

A one-way analysis of variance (ANOVA) was used to compare the mean Life Satisfaction Indices of the four income level groups. The results of these calculations are presented in Table 4.

TABLE 4

A COMPARISON OF THE LIFE SATISFACTION INDICES OF PERSONS
FROM FOUR DIFFERENT INCOME CATEGORIES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	88.08	3	29.36	5.63	< .01
WITHIN (Groups)	1,272.44	244	5.22		

TOTAL	1,360.52	247			

The results presented in Table 4 indicate that there was a significant difference among the LSI scores of aged participants from the four different income levels ($F = 5.63$, $df=3/244$; $p < .01$). These results allowed the researcher to reject the first null hypothesis.

Additional (post-hoc) comparisons were made among the four groups' means to determine specific differences. A Newman-Keuls Test was used to make these comparisons. The results presented in Table 5 show that the lowest income category had Life Satisfaction Indexes which were significantly less than the LSI scores of the other three groups. These results indicate that the life satisfaction of the aged participants was related to their annual income.

TABLE 5

SUMMARY TABLE FOR THE NEWMAN-KEULS TEST AMONG THE LIFE SATISFACTION INDICES COMPUTED FOR THE FOUR INCOME GROUPS

Rank-Ordered Mean Values	\bar{X}_1	\bar{X}_2	\bar{X}_4	\bar{X}_3
Less Than \$1,999 Annually $\bar{X} = 20.67$	--	3.13*	4.18**	4.95**
\$2,000-\$2,999 Annually $\bar{X} = 23.80$		--	1.05	1.82
More Than \$5,000 Annually $\bar{X} = 24.85$			--	0.77
\$3,000-\$4,999 Annually $\bar{X} = 25.62$				--

$$MS_{\text{Error}} = 5.22$$

* $p < .05$

** $p < .01$

Results of Testing Hypothesis Number Two

The exact form of the null proposition tested in hypothesis number two was as follows:

Ho₂ There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four physical health categories.

The second null hypothesis was tested by comparing the Life Satisfaction Indices of participants from the four different categories of physical health. The numbers of participants in each category are presented in Table 6. This Table also contains the means and standard deviations of each group's LSI scores.

Statistical results of a preliminary comparison of sample variances showed them to be homogenous. The largest variance (Very Good Health) was not significantly greater than the smallest variance (Average Health). The computed F value was not significant at the .05 level ($F = 3.09$, $df=4/66$; $p > .05$), and it was concluded that the sample variances were homogenous.

A one-way analysis of variance (ANOVA) was used to compare the mean Life Satisfaction Indices of the four physical health groups. The results of these calculations are presented in Table 7.

The results presented in Table 7 indicate that there was a significant difference among the LSI scores of aged participants from the four different physical health groups

TABLE 6

DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
THE FOUR HEALTH-STATUS CATEGORIES

Groups of Aged Participants	Categories of Health Status			
	Very Good	Good	Average (Fair)	Poor
Nursing Homes	8	16	23	12
High-Rise Apartment	6	13	11	3
Adult Education	47	59	37	7
TOTALS . . .	61	88	71	32
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 31.27$ $S = 5.61$	$\bar{X} = 30.85$ $S = 4.81$	$\bar{X} = 30.71$ $S = 3.19$	$\bar{X} = 24.22$ $S = 3.37$

($F = 7.55$, $df=3/248$; $p < .01$). These results allowed the researcher to reject the second null hypothesis.

Additional comparisons were made among the four group means to determine specific differences. The results of the Newman-Keuls Test are presented in Table 8. These results show that the participants who were in Poor Health had significantly lower Life Satisfaction Indexes than those who were in the better health categories. Apparently, the aged participants' life satisfaction was somewhat dependent upon their state of physical health. The results of testing this hypothesis are further substantiated by the results presented in the sixth ancillary finding.

TABLE 7
 A COMPARISON OF THE LIFE SATISFACTION INDICES OF PERSONS
 FROM FOUR DIFFERENT HEALTH-STATUS CATEGORIES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	59.22	3	19.74	7.55	<.01
WITHIN (Groups)	648.41	248	2.62		

TOTAL	707.63	251			

TABLE 8

SUMMARY TABLE FOR THE NEWMAN-KEULS TEST AMONG THE LIFE SATISFACTION INDICES COMPUTED FOR THE FOUR HEALTH-STATUS GROUPS

Rank-Ordered Mean Values		\bar{X}_4	\bar{X}_3	\bar{X}_2	\bar{X}_1
Poor Health	$\bar{X} = 24.22$	--	6.49**	6.63**	7.05**
Average Health	$\bar{X} = 30.71$		--	0.14	0.56
Good Health	$\bar{X} = 30.85$			--	0.42
Very Good Health	$\bar{X} = 31.27$				--

$MS_{Error} = 2.62$

**p < .01

Results of Testing Hypothesis Number Three

The exact form of the null proposition tested in hypothesis number three was as follows:

H_{o3} There will be no statistically significant difference between the Life Satisfaction Indices computed for the aged male participants and the Life Satisfaction Indices computed for the aged female participants.

The third null hypothesis was tested by comparing the Life Satisfaction Indices of the male and female participants. The numbers of participants in each group are presented in Table 9. This Table also contains the means and standard deviations of each group's LSI scores.

Statistical results of a preliminary comparison of

TABLE 9
DESCRIPTIVE STATISTICS CONCERNING THE MALE AND
FEMALE PARTICIPANTS

Groups of Aged Participants	Categories of Sex	
	Males	Females
Nursing Homes	19	42
High-Rise Apartment	2	31
Adult Education	44	111
TOTALS . . .	65	184
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 24.82$ $S = 5.11$	$\bar{X} = 27.13$ $S = 8.16$

sample variances showed them to be homogenous. The largest variance (females) was not significantly greater than the smallest variance (males). The computed F value was not significant at the .05 level ($F = 2.54$, $df=2/72$; $p > .05$), and it was concluded that the variances were homogenous.

A one-way analysis of variance (ANOVA) was used to compare the mean Life Satisfaction Indices of the two different sexes. The results of these calculations are presented in Table 10.

The results presented in Table 10 indicate that there

TABLE 10
 A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED
 FOR THE MALE AND FEMALE PARTICIPANTS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	19.07	1	19.07	2.64	> .05
WITHIN (Groups)	1,784.20	247	7.22		

TOTAL	1,803.27	248			

was not a significant difference between the Life Satisfaction Indexes of the male and female participants ($F = 2.64$, $df=1/247$; $p > .05$). These results would not allow the researcher to reject the third null hypothesis.

Results of Testing Hypothesis Number Four

The exact form of the null proposition tested in hypothesis number four was as follows:

H_{04} There will be no statistically significant differences among the Life Satisfaction Indices computed for the aged participants from the four marital status categories.

The fourth null hypothesis was tested by comparing the Life Satisfaction Indices of participants from the four categories of marital status. The numbers of participants in each category are presented in Table 11. This Table also contains the means and standard deviations of each group's LSI scores.

Statistical results of a preliminary comparison of sample variances showed them to be homogenous. The largest variance (widowed) was not significantly greater than the smallest variance (single). The computed F value was not significant at the .05 level ($F = 3.06$, $df=4/65$; $p > .05$), and it was concluded that the sample variances were homogenous.

A one-way analysis of variance (ANOVA) was used to compare the mean Life Satisfaction Indices of the four marital status groups. The results of these calculations are presented in Table 12.

TABLE 11

DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
THE FOUR CATEGORIES OF MARITAL STATUS

Groups of Aged Participants	Categories of Marital Status			
	Single	Married	Widowed	Divorced
Nursing Homes	7	4	49	1
High-Rise Apartment	1	1	29	2
Adult Education	6	84	48	17
TOTALS . . .	14	89	126	20
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 23.08$ $S = 4.81$	$\bar{X} = 26.63$ $S = 6.17$	$\bar{X} = 22.84$ $S = 8.42$	$\bar{X} = 22.92$ $S = 7.21$

The results presented in Table 12 indicate that there were no significant differences among the Life Satisfaction Indexes of participants from the different marital status groups ($F = 2.28$, $df=3/245$; $p > .05$). These results would not allow the researcher to reject the fourth null hypothesis.

Secondary Findings

Several ancillary findings were made after the hypothesis were tested. The aged participants' Life Satisfaction Indexes (LSI scores) were compared on the following variables: (1) race, (2) religion, (3) amount of education,

TABLE 12

A COMPARISON OF THE LIFE SATISFACTION INDICES OF PERSONS
FROM FOUR DIFFERENT MARITAL-STATUS CATEGORIES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	79.83	3	26.61	2.28	> .05
WITHIN (Groups)	2,859.40	245	11.67		

TOTAL	2,939.23	248			

(4) type of dwelling, (5) physical mobility, and (6) amount of illness experienced monthly. Results of these comparisons are presented in the following sections. A summary of all results is presented at the end of the Chapter.

The LSI Scores of Different Races

The first ancillary comparison was made between the Life Satisfaction Indexes (LSI scores) computed for the different races. Participants were classified into one of five race categories, Indian, Black, Caucasian, Spanish American, and "Other." However, the small numbers in the Black, Spanish American, and "Other" categories made a meaningful comparison of all five groups impossible. As a result, these three categories were combined with the Black category to form a "Non-White" Group. This helped to equalize the number of participants being compared. The numbers in each race category are shown in Table 13. This Table also contains the means and standard deviations of the White and Non-White Groups' LSI scores. The two groups' means were compared with a one-way analysis of variance the results of the ANOVA calculations are presented in Table 14.

The results presented in Table 14 indicate that there was not a significant difference between the Life Satisfaction Indexes of the White and Non-White participants ($F = 0.97$, $df=1/234$; $p > .05$). These results led to the conclusion that there was not a significant relationship between the participants' LSI scores and their race.

TABLE 13
 DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
 THE FIVE CATEGORIES OF RACE

Groups of Aged Participants	Categories of Race				
	Indian*	Black*	Caucasian	Spanish American*	"Other"*
Nursing Homes	1	0	27	1	4
High-Rise Apartment	1	0	60	0	0
Adult Education	19	3	111	3	6
TOTALS . . .	21	3	198	4	10

	Whites (N=198)	Non-Whites (N=38)
Means and Standard Deviations of the Groups' Life Satisfaction Indexes	$\bar{X} = 28.63$ $S = 9.61$	$\bar{X} = 24.34$ $S = 9.07$

*Combined with other groups to form a "Non-White" Category

The LSI Scores of Different Religious Groups

A second comparison was made between the LSI scores computed for the different religious groups. The aged participants were classified into one of four religion categories; Protestant, Catholic, Jewish, and "Other." However, the small numbers in the Jewish and "Other" categories made a meaningful comparison among all four groups impossible. As a result, the Jewish and "Other" categories were combined with the Catholic Group to form a Non-Protestant Group. This helped to equalize the number of aged

TABLE 14

A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED
FOR THE TWO DIFFERENT RACES OF PARTICIPANTS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	9.23	1	9.23	0.97	> .05
WITHIN (Groups)	2,226.62	234	9.52		

TOTAL	2,235.85	235			

participants being compared in the two groups. The numbers in each category are shown in Table 15. This Table also contains the means and standard deviations of the Protestant and Non-Protestant Groups' LSI scores. The statistical comparison was made with a one-way analysis of variance; the results are presented in Table 16.

The results presented in Table 16 indicate that there was not a significant difference between the Life Satisfaction Indexes of the Protestant and Non-Protestant persons

TABLE 15
DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
THE FOUR CATEGORIES OF RELIGION

Groups of Aged Participants	Categories of Religion			
	Protestant	Catholic*	Jewish*	"Other"**
Nursing Homes	47	1	0	0
High-Rise Apartment	11	0	0	1
Adult Education	109	24	1	9
TOTALS . . .	167	25	1	11
Means and Standard Deviations of the two Groups' Life Satisfaction Indexes	Protestant (N=167) $\bar{X} = 24.51$ $S = 6.90$	Non-Protestant (N=37) $\bar{X} = 23.88$ $S = 7.25$		

*Combined with other groups to form a "Non-Protestant" category

TABLE 16
 A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED
 FOR THE TWO DIFFERENT RELIGION GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	6.34	1	6.34	1.08	> .05
WITHIN (Groups)	1,185.81	202	5.87		

TOTAL	1,192.15	203			

($F = 1.08$, $df=1/202$; $p > .05$). It was concluded that religious beliefs were not an important part of the participants' level of life satisfaction.

LSI Scores and Educational Attainments

A third ancillary comparison was made between the LSI scores computed for participants with different amounts of education. Participants checked one of five amount-of-education categories on the questionnaire; 0-8 years, 9-11 years, 12 years, 1-3 years of college, and 4 or more years of college. However, one category was eliminated because of the small number of respondents. Table 17 contains the numbers in each of the categories and the means and standard deviations of the four groups being compared. The groups' LSI scores were compared with a one-way analysis of variance testing statistic, the results of the calculations are presented in Table 18.

The results of the third ancillary comparison indicate that there was not a significant difference between the Life Satisfaction Indexes of the aged participants who had different amounts of education ($F = 1.21$, $df=3/244$; $p > .05$). Apparently, the participants' educational attainments were not an important part of their life satisfaction.

LSI Scores and Type of Dwelling

A fourth ancillary comparison was made among the LSI scores computed for participants who had different types of housing (dwelling) arrangements. The type of dwelling

TABLE 17
 DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM THE
 FIVE AMOUNT-OF-EDUCATION CATEGORIES

Groups of Aged Participants	The Amount-of-Education Categories				
	0-8 Years	9-11 Years	12 Years	1-3 Yrs. Col.	4 or More Yrs. of Col.*
Nursing Homes	34	8	13	6	0
High-Rise Apartment	20	4	8	1	0
Adult Education	8	52	61	29	4
TOTALS . . .	62	64	82	36	4
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 21.64$ $S = 9.30$	$\bar{X} = 23.44$ $S = 9.16$	$\bar{X} = 22.68$ $S = 7.70$	$\bar{X} = 26.93$ $S = 8.41$	-- --

*Eliminated from the data analysis because of the small number responding in the category

categories were as follows: (1) house, (2) apartment, (3) mobile home, (4) room in a resident hotel or rooming house, (5) room in the home of a relative or friend, and (6) a home where at least partial physical care is provided. The number of participants who were categorized in each of the type-of-dwelling groups are shown in Table 19. The data presented in this table show that very few of the participants lived in rooms with a relative or friend (N=4) or lived in a hotel or rooming house (N=8). In spite of these

TABLE 18
 A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED FOR
 PARTICIPANTS WITH DIFFERENT AMOUNTS OF EDUCATION

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	27.33	3	9.11	1.21	> .05
WITHIN (Groups)	1,837.05	244	7.53		

TOTAL	1,864.38	247			

small numbers, however, means and standard deviations were computed for the two groups and the comparison was made for all six of the type-of-dwelling groups. The means and standard deviations of the groups are also presented in Table 19. The groups' LSI scores were compared with a one way analysis of variance testing statistic; the results of the calculations are presented in Table 20.

The results of the fourth ancillary comparison indicate that there was not a significant difference among the Life Satisfaction Indexes of the aged participants who had

TABLE 19
DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
THE SIX TYPE-OF-DWELLING CATEGORIES

Groups of Aged Participants	The Type-of-Dwelling Categories					
	House	Apartment	Mobile Home	Hotel Room	Room with Friends	Nursing Home
Nursing Homes	0	0	0	0	0	61
High-Rise Apartment	0	33	0	0	0	0
Adult Education	93	21	28	8	4	0
TOTALS . . .	93	54	28	8	4	61
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 24.39$ $S = 9.34$	$\bar{X} = 22.45$ $S = 7.42$	$\bar{X} = 23.82$ $S = 6.28$	$\bar{X} = 21.33$ $S = 9.83$	$\bar{X} = 20.45$ $S = 9.62$	$\bar{X} = 21.81$ $S = 7.44$

TABLE 20
A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED FOR
PARTICIPANTS WITH DIFFERENT TYPES OF LIVING ARRANGEMENTS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	40.75	5	8.15	0.87	> .05
WITHIN (Groups)	2,267.01	242	9.37		

TOTAL	2,307.76	247			

different types of dwelling arrangements ($F = .87$, $df=5/242$; $p > .05$). These results led to the conclusion that living arrangements are not an important part of life satisfaction.

LSI Scores and Physical Mobility

The fifth ancillary comparison was made among the LSI scores computed for participants who had different amounts of physical mobility (the ability to "come" and "go" as they pleased). The response categories were as follows: (1) At least once a week, (2) At least once a month, and (3) Only on rare occasions. The number of aged participants who were placed in each of the physical-mobility categories is shown in Table 21. The data presented in this Table seem to indicate that most of the participants were fairly mobile, leaving their place of residence at least once each week. However, it should be remembered that most of the participants who chose this category were members of the adult education group and were not as restricted in their movements as those who lived in the nursing homes and the high-rise apartment. The means and standard deviations of the three groups' Life Satisfaction Indexes are presented in Table 21. The results of a one-way analysis of variance comparing the means of the three groups are presented in Table 22.

The results of the fifth ancillary comparison indicate that there was not a significant difference among the Life

TABLE 21
 DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
 THE THREE CATEGORIES OF PHYSICAL MOBILITY

Groups of Aged Participants	How Often the Dwelling is Left		
	At Least Once Per Week	At Least Once Per Month	Only On Rare Occasions
Nursing Homes	17	33	10
High-Rise Apartment	14	16	3
Adult Education	142	7	3
TOTALS . . .	173	53	16
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 22.43$ $S = 8.73$	$\bar{X} = 23.37$ $S = 7.76$	$\bar{X} = 24.64$ $S = 8.22$

Satisfaction Indexes (LSI scores) of the age participants who had different amounts of physical mobility ($F = 1.06$, $df=2/239$; $p > .05$). These results led to the conclusion that there was very little relationship between the aged participants' level of life satisfaction and the frequency with which they were able to leave their place of residence.

LSI Scores and Amount of Monthly Illness

The final ancillary comparison was made among the LSI scores computed for aged participants who experienced different amounts of illness each month. Participants were

TABLE 22

A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED FOR PARTICIPANTS FROM THREE DIFFERENT MOBILITY CATEGORIES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	11.68	2	5.84	1.06	> .05
WITHIN (Groups)	1,316.43	239	5.51		

TOTAL	1,328.43	241			

asked how many days they were sick each month. The response categories were as follows: (1) no days, (2) 1-7 days, (3) 8-14 days, and (4) 15 or more days. The number of aged participants who were placed in each of the amount-of-monthly-sickness categories is presented in Table 23. The amount of sickness indicated by the participants, shows that they were quite healthy. Again it should be noted, however, that the majority of the respondents were members of the adult education group and were not living in a nursing home or rest home for the elderly. A far greater number of those who did live in the nursing homes and the high rise apartment complex indicated that they were sick more days per month than the adult education group.

The means and standard deviations of the four groups' LSI scores are presented in Table 23. The results of a one-way analysis of variance comparing the means of the groups are presented in Table 24.

Results of the sixth ancillary comparison indicate that there was a significant difference among the Life Satisfaction Indexes (LSI scores) of the aged participants who experienced different amounts of illness each month ($F = 6.21$, $df=3/238$; $p < .01$).

Post-hoc comparisons were made among the four group means to determine individual specific differences. The Newman-Keuls Test, a studentized range statistic, was used in making these comparisons. The results are presented in

TABLE 23
 DESCRIPTIVE STATISTICS CONCERNING PARTICIPANTS FROM
 THE FOUR HEALTH-STATUS CATEGORIES

Groups of Aged Participants	Categories of Health Status			
	No Days Per Month	1-7 Days Per Month	8-14 Days Per Month	15 or More Days Per Month
Nursing Homes	27	22	2	9
High-Rise Apartment	19	11	2	1
Adult Education	36	103	4	6
TOTALS . . .	82	136	8	16
Means and Standard Deviations of each Groups' Life Satisfaction Indexes	$\bar{X} = 30.64$ $S = 2.83$	$\bar{X} = 31.72$ $S = 6.31$	$\bar{X} = 29.17$ $S = 6.19$	$\bar{X} = 28.24$ $S = 7.22$

Table 25.

The individual comparisons among the means indicate that the highest mean value (1-7 days illness per month) was significantly higher than the mean values computed for participants who were sick 8-14 days each month and those who were sick more than 15 days each month. Those who were ill 1-7 days per month had significantly higher LSI scores than those who were ill 8-14 days per month. These results indicate that the amount of illness experienced by the participants was highly related to their level of life satisfaction.

TABLE 24

A COMPARISON OF THE LIFE SATISFACTION INDICES COMPUTED FOR PARTICIPANTS WITH DIFFERING AMOUNTS OF ILLNESS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level
BETWEEN (Groups)	36.72	3	12.24	6.21	< .01
WITHIN (Groups)	469.10	238	1.97		

TOTAL	505.82	241			

TABLE 25
SUMMARY TABLE FOR THE NEWMAN-KEULS TEST AMONG THE LIFE SATISFACTION
INDICES COMPUTED FOR THE FOUR MONTHLY-ILLNESS GROUPS

Rank-Ordered Mean Values	\bar{X}_4	\bar{X}_3	\bar{X}_1	\bar{X}_2
III 15 or More Days Per Month $\bar{X} = 28.24$	--	0.93	2.40*	3.03**
III 8-14 Days Per Month $\bar{X} = 29.17$		--	1.47	2.55**
III No Days Per Month $\bar{X} = 30.64$			--	1.08
III 1-7 Days Per Month $\bar{X} = 31.72$				--

$$MS_{\text{Error}} = 1.97$$

*p < .05

**p < .01

Summary of Results

The results of testing the four hypotheses showed that there was significant differences among the aged participants' Life Satisfaction Indexes in the areas of annual income and state of physical health. However, there was no significant difference between the groups' scores in the areas of sex and marital status.

Several secondary comparisons were made among the LSI scores of the aged participants. Results of these comparisons showed that significant differences were found among

the various groups' scores in the area of amount of monthly illness. Five other comparisons failed to show any significant differences, however. These areas were as follows:

(1) race, (2) religion, (3) amount of education, (4) type of dwelling arrangement, and (5) degree of physical mobility.

The conclusions drawn from testing the hypotheses and the secondary findings are presented in Chapter V. The final Chapter also contains a summary of the study and implications for further research.

CHAPTER V
SUMMARY, CONCLUSIONS, AND IMPLICATIONS
FOR FURTHER RESEARCH

The purpose of this study was to determine the effects of income, physical health, sex, and marital status on the life satisfaction of aged individuals. In conducting the study, the researcher compared the Life Satisfaction Index scores of aged persons from four income levels, four health categories, two sex groups, and four marital status groups. Survey procedures were used to determine the level of life satisfaction being experienced by two-hundred forty-eight (N=248) aged persons from three nursing homes, a high rise apartment complex for the aged (part of a model cities program), and older persons enrolled in a senior citizen's educational program at a community college.

Aged participants completed a data collection instrument which consisted of a Biographical Information Questionnaire and a Life Satisfaction Index (See Appendix D). A one-way analysis of variance was used to compare the Life Satisfaction Indices (LSI) of individuals of different sex groups, different income levels, different marital status groups, and different states of physical health. In addition to the four hypotheses, several secondary comparisons were made to determine other variables' relationship to the Life

Satisfaction Index of the participants. Secondary comparisons were made on the variables of (1) race, (2) religion, (3) amount of education acquired, (4) type of dwelling the respondent lived in, (5) physical mobility, and (6) amount of illness experienced monthly.

The result of testing the four hypotheses showed that there was significant differences among the aged participants' Life Satisfaction Indexes in the areas of annual income and state of physical health. However, there was no significant difference between the groups' scores in the areas of sex and marital status.

Results of the secondary comparisons showed that significant differences were found among the various groups' scores in the area of amount of monthly illness. Five other comparisons failed to show any significant differences, however. These areas were as follows: (1) race, (2) religion, (3) amount of education, (4) type of dwelling arrangement, and (5) degree of physical mobility. The conclusions drawn from testing the hypotheses and the secondary findings are presented in the following sections.

Conclusions

Conclusions presented in this section exemplify the results obtained from testing the hypotheses and secondary comparisons of the Life Satisfaction Index scores of the aged participants of this population. These remarks are not intended to infer such findings to be typical of the aged

population in general, but only to those who participated in this study.

Results obtained from testing the four hypotheses revealed interesting information. When LSI scores of the four income categories were equated those from the lowest income level were appreciably lower than those of the other three groups. It was therefore concluded that Life Satisfaction of the participants in this study was related to annual income.

Test also showed a difference among LSI scores of these participants from the four different health categories. The individuals who reported their state of health as poor showed substantially lower LSI scores than did those in other categories. For clarification it should be noted that when state of health, is self reported, it denotes only the individual's mental perception of his state of health, no professional diagnoses can be implied. Results ascertained from the status of physical health received further support from the secondary comparison of the number of days of illness experienced each month. Individual comparisons were made of those who were incapacitated from 1 to 7 days per month and those who experienced 8 or more days of illness. Findings showed the amount of illness highly related to their level of life satisfaction.

Comparisons of the other hypotheses and secondary findings failed to show any significant differences. When the

LSI for the two different sexes were analyzed the differences between the male and female subjects were very slight. An inspection of the four categories of marital status (married, single, widowed, and divorced) failed to reveal a noteworthy difference, so it was assumed the LSI scores of the participants in this group were not influenced by marital status.

Only one of the secondary comparisons, number of days of illness, affected the LSI scores of the group. It has been discussed earlier. The five other comparisons, race, religion, amount of education, type of dwelling, arrangement, and degree of social mobility, failed to show meaningful differences.

Discussion

Research with aged individuals presented problems which are not prevalent with other age groups. (Havighurst, 1950) The aged must be sought out individually. Many are in poor health, suffer from varying degrees of senility, and have adult defenses against research procedures. These factors must be considered when reviewing.

Selection processes which were used probably resulted in a group which was above average in life satisfaction ratings. The participants from nursing homes and the high rise complex were selected or invited to participate by persons who worked regularly with them. It seems only natural that those invited to participate would be the more

cooperative, enthusiastic, and cheerful individuals. It then seems possible that this selection process could have resulted in a group who experience higher levels of life satisfaction than the average. In addition it seems reasonable that individuals who were motivated to participate in a senior citizen's adult education program would also be experiencing high levels of satisfaction with life.

Even though statistical findings showed annual income to be related to life satisfaction, conditions beyond the researcher's control could be reflected here. Many participants were very hesitant to reveal their income level, so one cannot be certain accurate income ranges were obtained. Even in instances in which this information was obtained from other sources, some individuals could have concealed their assets. Many of the aged nursing home patients who participated were being maintained by the Oklahoma State Department of Social and Rehabilitative Services. The Department sets a rate of maintenance for all who qualify. When pre-retirement occupations and level of education were considered it appeared many of these individuals were being subsidized at an income markedly higher than their pre-retirement income. In these cases true income was not typified.

With conditions of health being self reported only the individual's personal assessment was available. This actually provided no professional measure of state of health--

only a personal opinion.

Limitations imposed by the instrument was another factor which could have affected the study. Each participant was asked to equate present life satisfaction without regard of past life. For many, pleasant memories of happier days with spouse and children, coupled with their ability to recall only pleasant times left little choice except to agree that life was more satisfactory in the past.

Implications for Further Research

Many research possibilities became apparent while this study was being conducted. Some are enumerated in the following section.

The present study could be repeated using different population groups. One group could include only individuals from nursing homes. With this group special effort could be exerted to obtain ratings from less cooperative or more senile patients. Interesting results might also be obtained if only married participants who lived in their own residence were used. Another possibility might include those persons residing in retirement villages.

Fewer individuals from the Black and Indian races in this study indicates another area for future study. Where are the aged Blacks and Indians living? Are they residing in homes specifically for their own race, or are they living in the home with relatives? Are the elderly more revered in these cultures? A study using only Black

participants or only Indian participants would be interesting. A study using matched subjects of the three races might also provide some interesting cultural information.

If research involving the aged who are less cooperative or those who tend toward senility is to be successful, a change in research design would be necessary. Collection of data by interview rather than survey might prove more beneficial. This would, of course, demand great time involvement, which would in turn be very costly.

If the survey method of collecting information were used again certain changes in the instrument might result in more accurate data. Biographical information could be condensed by eliminating those questions which participants ignored. Others which appeared to give irrelevant information could also be discarded.

The Life Satisfaction Index also needs to be restructured. There needs to be ways in which life satisfaction could be reflected in spite of status changes in the individual. If questions 1 through 20 could be reconstructed into multiple choice items, varying degrees of satisfaction could be reflected.

This study was not undertaken in an attempt to answer specific questions but to add to the body of knowledge regarding aged individuals in our society. If interest in this large segment of the population is created and further research is stimulated, this study will have accomplished

its purpose. It will have accomplished its ultimate fruition when the results of this and comparable studies are applied toward the betterment of the aged individuals within our society.

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APPENDIX A

BIOGRAPHICAL INFORMATION QUESTIONNAIRE
USED IN THE PRESENT STUDY

Appendix A

BIOGRAPHICAL INFORMATION QUESTIONNAIRE

DIRECTIONS: Here are some statements regarding you personally. Will you please check them according to your best information. Please do not sign the paper.

Age _____ Sex: Male _____ Female _____ Race: American Indian _____
Black _____
Caucasian _____
Spanish American _____
Other _____
Present Marital Status: Religion: _____
Single _____ Widowed _____
Married _____ Divorced _____

1. Which category best describes your present income?

If you are single-- ___ Less than \$1999 ___ Between \$2000 and \$2999 ___ Between \$3000 and \$4999 ___ More than \$5000	If you are married-- ___ Less than \$2499 ___ Between \$2500 and \$5399 ___ Between \$5400 and \$6499 ___ More than \$6500
---	--
2. What was your average family income the last five years prior to retirement?
___ Less than \$2999
___ Between \$3000 and \$4999
___ Between \$5000 and \$7999
___ Between \$8000 and \$11,999
___ More than \$12,000
3. What was your occupation before retirement? _____
4. If you are or were married what was your husband's or wife's occupation?

5. Do you have living children? _____ How many? _____
6. How many years of schooling did you complete?
___ 0 to 8 (Elementary school)
___ 9 to 11 (Some high school or vocational school)
___ 12 (High School Graduate)
___ 1 to 3 years of college
___ 4 or more years of college
7. Do you live alone? Yes _____ No _____
8. If you do not live alone, with whom do you live? _____
9. In what type of dwelling do you live?
___ House
___ Apartment
___ Mobile home
___ Room in a residential hotel or rooming house
___ Room in the home of a relative or friend
___ A home where at least partial physical care is provided
10. On the average how often do you leave the place where you live?
___ At least once a week
___ At least once a month
___ Only on rare occasions

Appendix A (Cont'd)

11. When you leave where do you usually go?

- Church
- Shopping
- Visit relative or friends
- Other (Specify) _____

12. In general how would you say your health has been recently?

- Very good
- Good
- Average
- Poor

13. During the last month about how many days were you sick to the point of having to give up your regular activities, such as going visiting, shopping, or cooking for yourself?

- No days
- 1 - 7 days
- 8 - 14 days
- 15 days or more

14. How often would you say that bad health prevents you from doing the things you would like to do?

- Most of the time
- About half of the time
- Once in awhile

15. Are you now troubled by any continuing or chronic health problem physical problem or handicap?

- Yes, most of the time
- Yes, about half of the time
- Yes, once in awhile
- Never

APPENDIX B

LIFE SATISFACTION INDEX (PART A) DEVELOPED BY
NEUGARTEN AND HER ASSOCIATES

Appendix B

LIFE SATISFACTION INDEX (PART A)

	Agree	Disagree	Not Sure or No Opinion
1. As I grow older, things seem better than I thought they would be.	_____	_____	_____
2. I have gotten more of the breaks in life than most of the people I know	_____	_____	_____
3. This is the dreariest time of my life	_____	_____	_____
4. I am just as happy as when I was younger	_____	_____	_____
5. My life could be happier than it is now	_____	_____	_____
6. These are the best years of my life	_____	_____	_____
7. Most of the things I do are boring or monotonous	_____	_____	_____
8. I expect some interesting and pleasant things to happen to me in the future	_____	_____	_____
9. The things I do are as interesting to me as they ever were	_____	_____	_____
10. I feel old and somewhat tired	_____	_____	_____
11. I feel my age, but it does not bother me	_____	_____	_____
12. As I look back on my life, I am fairly well satisfied	_____	_____	_____
13. I would not change my past life even if I could	_____	_____	_____
14. Compared to other people my age, I've made a lot of foolish decisions in my life	_____	_____	_____
15. Compared to other people my age, I make a good appearance	_____	_____	_____
16. I have made plans for things I'll be doing a month or a year from now	_____	_____	_____
17. When I think back over my life, I didn't get most of the important things I wanted	_____	_____	_____
18. Compared to other people, I get down in the dumps too often	_____	_____	_____
19. I've gotten pretty much what I expected out of life	_____	_____	_____
20. In spite of what people say, the lot of the average man is getting worse, not better	_____	_____	_____

APPENDIX C

LIFE SATISFACTION INDEX (PART B) DEVELOPED BY
NEUGARTEN AND HER ASSOCIATES

Appendix C

LIFE SATISFACTION INDEX (PART B)

1. What are the best things about being the age you are now?
2. What do you think you will be doing five years from now? How do you expect things will be different from the way they are now, in your life?
3. What is the most important thing in your life right now?
4. How happy would you say you are right now, compared with the earlier periods in your life?
5. Do you ever worry about your ability to do what people expect of you--to meet demands that people make on you?
6. If you could do anything you pleased, where would you most like to live?
7. How often do you find yourself feeling lonely?
 never; hardly ever
 sometimes
 fairly often, very often
8. How often do you feel there is no point in living?
 never; hardly ever
 sometimes
 fairly often; very often
9. Do you wish you could see more of your close friends than you do, or would you like more time to yourself?
 O.K. as is
 wish could see more of friends
 wish more time to self
10. How much unhappiness would you say you find in your life today?
 almost none
 some
 a great deal
11. As you get older, would you say things seem to be better or worse than you thought they would be?
 better
 about as expected
 worse
12. How satisfied would you say you are with your way of life?
 very satisfied
 fairly satisfied
 not very satisfied

APPENDIX D

BIOGRAPHICAL INFORMATION QUESTIONNAIRE AND LIFE SATISFACTION
INDEX: DATA COLLECTION INSTRUMENT USED IN THE STUDY

APPENDIX D

BIOGRAPHICAL INFORMATION QUESTIONNAIRE

Directions: Here are some statements regarding you personally. Will you please check them according to your best information. Please do not sign the paper.

Age: _____ Sex: Male _____ Female _____ American Indian _____
Present Marital Status: Single _____ Married _____ (RACE) Black _____
Widowed _____ Divorced _____ Caucasian _____
Religion: _____ Spanish Amer. _____
Other _____

1. Which category best describes your present annual income?

<p>If you are single. . .</p> <p>_____ Less than \$1,999</p> <p>_____ Between \$2,000 and \$2,999</p> <p>_____ Between \$3,000 and \$4,999</p> <p>_____ More than \$5,000</p>	<p>If you are married. . .</p> <p>_____ Less than \$2,499</p> <p>_____ Between \$2,500 and \$5,399</p> <p>_____ Between \$5,400 and \$6,499</p> <p>_____ More than \$6,500</p>
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2. What was your average family income the last five years prior to retirement?

_____ Less than \$2,999

_____ Between \$3,000 and \$4,999

_____ Between \$5,000 and \$7,999

_____ Between \$8,000 and \$11,999

_____ More than \$12,000
3. What was your occupation before retirement? _____
4. If you are or were married, what was your husband's or wife's occupation? _____
5. Do you have living children? _____ If so, how many? _____
6. How many years of schooling did you complete?

_____ 0 to 8 (Elementary School)

_____ 9 to 11 (Some high school or vocational school)

_____ 12 (High School Graduate)

_____ 1 to 3 years of college

_____ 4 or more years of college
7. Do you live alone? Yes _____ No _____
8. If you do not live alone, with whom do you live? _____
9. In what type of dwelling do you live?

_____ House

_____ Apartment

_____ Mobile home

_____ Room in a residential hotel or rooming house

_____ Room in the home of a relative or friend

_____ A home where at least partial physical care is provided
10. On the average how often do you leave the place where you live?

_____ At least once per week

_____ At least once per month

_____ Only on rare occasions
11. When you leave where do you usually go?

_____ Church

_____ Shopping

_____ Visit relatives or friends

_____ Other (Specify) _____

APPENDIX D (Cont'd)

12. In general, how would you say your health has been recently?
 - Very good
 - Good
 - Average
 - Poor
13. During the last month about how many days were you sick to the point of having to give up your regular activities such as going visiting, shopping or cooking for yourself?
 - No days
 - 1-7 days
 - 8-14 days
 - 15 days or more
14. How often would you say that bad health prevents you from doing the things you would like to do?
 - Most of the time
 - About half of the time
 - Once in awhile
15. Are you now troubled by any continuing or chronic health problem, physical problem or handicap?
 - Yes, most of the time
 - Yes, about half of the time
 - Yes, once in awhile
 - Never

L I F E S A T I S F A C T I O N I N D E X

Directions: Here are some statements about life in general that people feel differently about. Would you read each statement on the list, and if you agree with it, put a check mark in the space under "Agree." If you do not agree with a statement, put a check mark in the space under "Disagree." If you are not sure one way or the other, put a check mark in the space "Not sure or No opinion." PLEASE BE SURE TO ANSWER EVERY QUESTION ON THE LIST.

	Agree	Disagree	No Opinion
1. As I grow older, things seem better than I thought they would be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have gotten more of the breaks in life than most of the people I know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. This is the dreariest time of my life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am just as happy as when I was younger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. My life could be happier than it is now	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. These are the best years of my life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Most of the things I do are boring or monotonous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I expect some interesting and pleasant things to happen to me in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The things I do are as interesting to me as they ever were	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I feel old and somewhat tired	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I feel my age, but it does not bother me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. As I look back on my life, I am fairly well satisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D (Cont'd)

- | | Agree | Disagree | No Opinion |
|---|-------|----------|------------|
| 13. I would not change my past life even if I could | _____ | _____ | _____ |
| 14. Compared to other people my age, I've made a lot of foolish decisions in my life | _____ | _____ | _____ |
| 15. Compared to other people my age, I make a good appearance | _____ | _____ | _____ |
| 16. I have made plans for things I'll be doing a month or a year from now | _____ | _____ | _____ |
| 17. When I think back over my life, I didn't get most of the important things I wanted | _____ | _____ | _____ |
| 18. Compared to other people, I get down in the dumps too often | _____ | _____ | _____ |
| 19. I've gotten pretty much what I expected out of life | _____ | _____ | _____ |
| 20. In spite of what people say, the lot of the average man is getting worse, not better | _____ | _____ | _____ |
| 21. How often do you find yourself feeling lonely?
_____ Never; Hardly ever
_____ Sometimes
_____ Fairly often; Very often | | | |
| 22. How often do you feel there is no point in living?
_____ Never; Hardly ever
_____ Sometimes
_____ Fairly often; Very often | | | |
| 23. Do you wish you could see more of your close friends than you do, or would you like more time to yourself?
_____ O. K. as is
_____ Wish I could see more of friends
_____ Wish more time to self | | | |
| 24. How much unhappiness would you say you find in your life today?
_____ Almost none
_____ Some
_____ A great deal | | | |
| 25. As you get older, would you say things seem better or worse than you thought they would be?
_____ Better
_____ About as expected
_____ Worse | | | |
| 26. How satisfied would you say you are with your way of life?
_____ Very satisfied
_____ Fairly satisfied
_____ Not very satisfied | | | |
| 27. How long do you expect to live?
_____ One year
_____ Five years
_____ This is not one of my real concerns | | | |

APPENDIX E
IBM CARD FORMAT AND 80-80
LISTING OF PARTICIPANTS'
DATA CARDS

IBM CARD FORMAT USED TO PREPARE THE DATA FOR PROCESSING

Information Being Entered	Card Columns	Possible Range of Values
1. Participant's Group Number	1	1-3
2. Participant's Age	2-3	50-99
3. Sex	4	1-2
4. Race	5	1-4
5. Marital Status	6	1-4
6. Religion	7	1-4
7. Present Income Level (If Single)	8	1-4
8. Present Income Level (If Married)	9	1-4
9. Previous Income Level	10	1-5
10. Children Living	11	1-2
11. Number of Children	12-13	01-20
12. Amount of Schooling Completed	14	1-5
13. Living Arrangements	15	1-2
14. Type of Dwelling	16	1-6
15. How Often do You Leave?	17	1-2
16. Where Do You Go?	18	1-4
17. State of Health	19	1-4
18. Amount of Sickness	20	1-4
19. Number of Health Problems	21	1-3
20. Amount of Chronic Illness	22	1-4
21. Life Satisfaction Index Ratings	23-49	1-3

Appendix E (Cont'd)

80-80 LISTING OF DATA CARDS FOR THE AGED PARTICIPANTS
FROM THE HIGH RISE APARTMENT COMPLEX

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280233 2 2 112121133011121121120112221221001100
25623311 12 11212213322121010212222111210100010
277133 1 110411212411122121100202212001211001100
257132 2310232222134212212102122212111210000100
280233 1 11031122231330000 0122022002020011011010
27123311 110221212313320121212222000121121001000
27923311 110121212113320020002222222000221010000
279244 1 110211211223322222122122212111220000100
28225312 2101112223124220000000002220220201000100
26623311 12 212123133221212122122112221210000000
27823311 1102112221134221210022022202010220000100
28223311 210211222311312111122202222212111010210
274233 2 2103312222233221100100122212011221001110
276233 2 2102312222233221121100000102101021000110
267233 1 1102112222233221111110022012011121011110
279233 4 32 112222134221111102222212110221000110
275233 2 2103112222233212121211211211211111110
272233 1 110211222213322121112212222211221011110
279233 1 1101112221133200021102022212010221000000
274213 1 11033121222222110010102222200021001100
276233 2 2101312124321112121121211222121121111210
274233 2 110231212113422120112222212211201000110
270253 1 2102212323233221222122122210220200010100
27823312 1104112323133221211122122212211211022000
28023311 1011122231330011001000000001000000000100
28223412 2101412222234220202002022222000000000100
275253 1 22 112121134200202002022112001201000000
26625341 110111213213320222222022202020202001110
279233 2 1101112223233221221101122212111221111120
269233 1 1102112222134111121102122122121221011110
277233 2 1102112331222112120211211112122112212220
279233 2 110131211441100000002000100000020001110
28023111 1101112123233220020002022202000220011110
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Appendix E (Cont'd)

80-80 LISTING OF DATA CARDS FOR THE AGED PARTICIPANTS
FROM THE ADULT EDUCATION CLASSES

3661322 25104421223122221102122222012221210002100
3661521 45104421223122221102122222012221210002100
3741321 44102221223122221102122222012221210002100
358132 44102221223122221102122222012221210002100
3591321 4410332112211342212211222222221220010000
356134 4 44 411142134221221122222222122000110
3641321 45102421122113322122122112122221210000110
3761321 2510421222213320021 010022221110020012100
368132 45102221223411221121101212212022220101010
3521321 242 371223133221212122112122221210000000
372233 3 110321114113322 2 2 22 2112221100000000
36013 442 121213322020200012222222010121110110
3762321 45102521243131221201120122212121210010110
370232 4 4102211141134222202122112212111210 00000
3302 3 2 1 11111323322022 12222222222121010100
373233 2 110331224333201200122122212221210000000
37025211 2103221343233 2 2 22 22 22 0000200
365232 441033211211 4221212122211211 22 220011010
3692321 2210342114213322122212212222211210010000
361132 452 371143133221200122122112211210010000
36623313 3102311143133221112122122010211211000000
375252 35101221241134201220122122012021001000000
358122 45102322221134221200122122212211211011000
361132 4410232112113422111212212222221210001000
3611321 45102521223134121112122122212211211002100
3671321 44101121222131221211122212122211220010000
3731321 23103221123121121121122222122212220001100
368112 25101521222133221202122120112221110010000
3691321 211045211211332110202211222122012221111112
364132 44101221212133221211122122212211210000100
3 25311 4102411221134220001120112112221010001100
368233 24101421121134222010102112212111200000002
376232 111024213221332222212212221221020001000
38423311 2101421211134221111122122222211211000100
361222 21103421241134222212120112212211220000000
3671321 45102521222133121222122222122211200010100
36423313 31013112221 4222222112122210021200001100
38123311 1103125121 3322 2 2 22 21 22 0010000
38123341 2101211122123201121212212
3712 3 2 1105213223331201 22122022 00201201011010
375233 1 2101211221134201100122102112211210000000
370233 1 1103 262211342 2222 22 2222222 0001000
37423312 410232513412102112112022221211001111110
3621321 45105521123322221220122122022220201012110
3591321 4510332122113420020202002220220210001110
37323313 310131122113322212122211221221121012020
365233 4 510331122131221211121122102221021011010
3642321 45102321243334221221102122122211211011110
37023311 1104211142133221212122122212211220000000
360232 24102321123133211220122122200011010000100
360232 44105521143231221210122122210211210000100
371233 1 210211123313311102010112222021212111110
352332 3410132114113420121212222212211211000000
36423314 310141114113422 2 21 2210 000001
3592421 452 521142233211212122122112211211011110
3572321 3410232123113322122122212221111111220
368232 4310132112113322 101102110210201120000000
36023 3 1101311142134201210122112202201201002100
3612321 107321123134221200120122202200210000000
3682321 111023211432312112211122121122212111211
36723312 410431324313322122112211202221121101100
3651321 44102521121134221221122122212211210000000
370233 3 51015211413 4221121122121112111110010000
3572321 44102321121134221201221022102011200000010
366233 2 3102211244233221221122112122221111011110
3732322 211044212411 422020212210002222121101110

Appendix E (Cont'd)

80-80 LISTING OF DATA CARDS FOR THE AGED PARTICIPANTS FROM THE ADULT EDUCATION CLASSES (Cont'd)

351232 35102521124211220210122 22210211210000100
367153 3 210431112242122211111 7022112201121001210
37525312 22 211123 33200000122220010010101111
344232 342 22112223320122211 212220222120111100
360232 4510432112343222121012122202210210000000
3712321 44103521223 3222222210212220000121001010
364233 2 110211122413122 222122122212221211011110
3592321 441021215211320220212222212211221001100
3562322 45104421121134221212122112112211210001000
365223 1 110151112113322171212212221 211221001000
36512213 410142112133210712122112211220010000
3632321 351034211234332012 22 2 2 1001110
369233 3 41 412221131221220122112212201211100010
3602321 4510242132313321121212222212221221010010
37223312 104311222234222 22 2222222 2 0 0
3602321 43101321121134221222122122100211011011010
3652331 2210232111213322221012212222221220022000
3582321 2410222122313422121112211201201111000000
367233 4 5101311122133221211222122212210002010
3682521 232 22112113302221212222222211220010010
365233 432 51114143221 22112211211221121000 10
36223313 101211122134221211122112210111211011010
3542321 45105321143133201222122122120211210001000
3702 311 109111 43 221220022002212 102021 0012
374233 3 31031112211342211211222221221121112000
3632321 22104221123233221112122122122111010102000
359213 4 5102511123 22 2 221 21221
37223422 11021222411342212 2122112222211210001000
367232 4410122122213321 2220 202 122 20 0010010
376253 3 2 211224122021211122122022221111000 10
365233 4 3101511132133 21121221222122211212011011
36623311 110321122341102012111112122122122112120
371233 452 511121134221212222122212221210000002
3561311 451024211432311001211221122220021011110
3522321 45102321222133221220022102110112210100110
36723313 32 311121133012121211122122112102112220
3671321 43103521123133201020122202002201211010110
363232 45104321121133121212122112112221110002110
372233 1 10411112213322020 22 222222212 1 00010
356232 4510532112213320120212212222211211000110
359232 45101421222133221212122122022211210021000
3632321 242 521222134221212122112212221121010110
3672 2 451 521122133201202122102122221010000012
37223213 10232122323300120 121222011011220001000
36225312 52 5111231312222202202202211210000000
370233 3 3102512122133221200102022212211211011010
3632321 231025211221 4221200122122200211210000100
36223311 1103311133133221222122121212211210011010
3652322 442 471223133221212122122212211210010000
3632321 3 102321221333011121101110 0020200000111
3742321 4410342112213322201002022212220220000100
3681321 4510242112343302012012220102121001112110
3651321 4410212112133221212121122212121210012100
3671321 241023212233322121002222202211020101110
3711321 44103521223132111211122222111711211001110
363233 3 2102211212134221211122122212211210000000
368132 45105321123131211121222122212211210011010
3651321 452 521222134111212122122212211210012110
365132 451024212411332212211222222211221011010
348134 3 4101111233233202022122112112211201010010
