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THE MEASUREMENT OF LIFE SATISFACTION
AMONG OLDER PERSONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By
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* * * * *

The Ohio State University
1976

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DEDICATION

To my daughters, Susan and Meredith
Dr. Timothy J. Curry in his capacity as major adviser made the completion of this study a rewarding educational experience. His creativity, personal interest and encouragement, served as constant sources of support and motivation. Dr. Curry reflects a unique ability to combine academic leadership with a warm personal interest in students as colleagues; his ideas and his friendship are deeply appreciated by the author.

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Many persons assisted in the completion of the field research. The cooperation of James Horn and Paul Horst made the data collection process possible. Special thanks go to the subjects of this study—the persons who shared their time, their thoughts, and their feelings about living. The chance to communicate with older persons in this context proved to be an invaluable experience. Atlee Stroup, Carol Kane, Doris Wilcher, and Marie Rehm also made special contributions in the completion of this study.

My wife, Nancy, as in all other things, shared in this project as a soul-mate. Her abilities to care, to understand, and to love have been and remain constant.
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INTRODUCTION

Each day, 4000 persons in America reach the age of 65 and about 3000 persons over 65 die. This net increase of approximately 1000 "older persons" per day signals very important demographic and social changes taking place in American society. It would seem that the prospect of ever increasing numbers of older persons in society portends a gerontocracy as the future America. Whether or not the older population becomes a governing group in the United States is still a matter of debate. However, the older citizens do constitute a social force that has been demonstrated by the passage of the Older American Act of 1965, the Medicare Act in the same year, the founding of the numerous federal and state commissions on aging, and the second White House Conference on Aging held in 1971. It is certain that older persons will continue to play an important role in the future of American society even if it is not a controlling role (Mulligan, 1975:1).

While the aged have always been with us, it is only within the past two decades that the general public has become aware of the dynamics and problems associated with the aged person. It is also only recently that gerontology, the scientific study of the process of aging and the problems of aged people, has emerged as an established discipline. This discipline combines a number of distinct areas of concern: biology and medicine focus on the physical body changes that
take place as living organisms age; psychology focuses on the indices of behavior and motivational states that characterize the individual's adjustment to aging; and, sociology focuses on aging as a function of social circumstances that identify the older person's role in society. With the development of the professional gerontological disciplines and the increased public awareness of the older person, a better understanding of the processes and problems of aging is emerging. In many ways the general public perceives the aging process in terms of the specific social problems that grow out of becoming older in a mobile, youth-oriented society. This social problems-oriented approach is an important part of contemporary gerontology, but the gerontologist attempts to go beyond this to understand the process of aging in a total, societal context. One of the difficulties in doing this is that there are many misconceptions, myths, and stereotypes involved in our perceptions of older Americans. Like other minority groups, older persons are often thought to be a homogeneous group with similar and often negative characteristics. Perceptions of older persons as being senile, forgetful, infirm, and inflexible are common. A national survey conducted by Louis Harris and Associates, involving a sample of 4,254 in 1975, indicated that there are very different perceptions of older Americans when attitudes of people under 65 years of age are compared to the attitudes of persons over 65. For example, the majority of the under 65 population sampled saw older persons as being basically inactive, nonproductive members of society while over 80% of the older persons saw themselves as having "the desire and potential to be
productive, contributing members of society." The over 65 population generally perceived their general economic and social condition of life much more favorably than the general public believed it to be, and they did not "want to be put on the shelf" (National Council on the Aging, Inc., 1975:5-8). A major challenge facing the gerontologist then is to cut through the generalizations and stereotypes in developing more objective assessments of older persons and the dynamics of the aging process.

The sociology of aging has concentrated on the basic demographic changes and social problems reflected in American life. The basic questions here revolve around the changing nature of the aged population and the society's reaction to those changes. There is little doubt that significant changes are taking place. Selected statistics that reflect the changes and social problems of the aged in America may be outlined as follows:

a) The proportion of older persons in the population is increasing steadily. The increased life expectancy rate coupled with a decreased birth rate has produced a situation where in 1974, the over 65 population represented over 10% of the total population. In 1900, the over 65 age group constituted only 4% of the population.

b) There is a higher proportion of women than men in the older population. In 1970, 11.6 million persons over 65 were women (most of these were widowed), while 8.4 million were men (mostly married).

c) While most elderly are not in institutions, there is an increased demand for nursing and convalescent care facilities. About 6% of the over 65 group is institutionalized; the percentages here have increased steadily in the last 10 years.

d) Older Americans do have medical problems. About 42% have some activity limitation resulting from poor health. About
one third to one half of the health problems are believed to be nutritional.

e) Older persons pay a much higher proportion of their income for medical expenses than their younger counterparts. In 1974, the average person over 65 incurred $1,218 in medical expenses; the average yearly expense for persons under 65 was $330.

f) Older persons are decreasingly involved in the work force. In 1900, two thirds of the men over 65 were in the work force; in 1974, only 22% were working and most of these were working on a part-time basis. About two thirds of the elderly have no high school education. The retirement rate is about 1.5 million per year.

g) The elderly are getting poorer. About 40% are considered to be below the poverty line. Only 2 million of the 10 million impoverished elderly are on public assistance. The older person suffers more from inflation; the majority live on fixed incomes and limited retirement allowances.

(The statistics were selected from three basic sources: "Facts and Figures on Older Americans," Administration on Aging (Social and Rehabilitation Services, DHEW, 1970 Census; Action with Aging, NCR Publishing Company, 1974; and Woodruff and Berren, Aging, 1975, 32-67.)

The basic trends here represent only a portion of the dynamic changes taking place in American society. The sociologist uses these data to evaluate the changing role of older persons in the society and attempts to understand how the social system responds to these changes. For example, with increased life expectancy, early retirement trends, increased leisure time, a number of basic questions emerge. What is the role of the older person in American society?; when an "active, involved" person retires, are alternative social roles available?; as sex roles change, will life styles for older women change?; to what extent have "experience" and seniority been devalued by the basic social institutions, etc? Many of these questions revolve around the basic issues of what constitutes "successful adjustment" to the aging process,
and what basic problems face the older person in making this adjustment.

This study attempts to deal with the dynamics of the adjustment process. Specifically, it addresses the social psychological dimensions of adjustment to aging with an emphasis on one major concept in this process—the concept of life satisfaction. In its broadest context, the basic issues inherent in this study are: what are the basic components of life satisfaction, and how does the social scientist measure this concept? There are several basic assumptions underlying this study. First, the individual's perception of life satisfaction is seen as one (of many) important factors in the adjustment process. Second, it is assumed that the theoretical development of the concept of life satisfaction will be enhanced by the creation of reliable and valid measures of the concept. Third, the development of more efficient measurement techniques will lead to a greater understanding of the independent and intervening variables related to life satisfaction and the adjustment process. Thus, the major goal of this research is to develop "more valid" measurement instruments and techniques whereby the relationship between life satisfaction and other relevant variables may be assessed more fully.

Chapter I provides a basic overview of the major sociological perspectives and theories underlying the adjustment process. Chapter II reviews the major research literature and measurement instruments relevant to contemporary research on life satisfaction. Chapter III discusses the basic problems of establishing validity in life satisfaction measurement. Chapter IV outlines the research design utilized
in this study. This reflects the specific methodological assumptions as to how the measurement of life satisfaction is to be developed and administered in an exploratory research setting. The revised instrument is field tested in an interview format to three different samples of older persons. Chapter V summarizes the processes whereby a "revised life satisfaction" measure instrument is constructed for this research project. The major results and data analyses are presented in Chapter VI. The emphasis here is on evaluating the utility and validity of the revised instrument. It is compared to several other measurement instruments and additional data growing out of the field research is reported here. The limitations of the study, suggestions for future research, and the major conclusions are presented in the summary/conclusions.

While this endeavor focuses on life satisfaction among older persons, it is assumed that the research has relevance for other age groups as well. Ultimately, the evaluation of perceptions of life satisfaction among samples of older persons will be compared and contrasted with other age groups so that the results may be evaluated in a total life cycle frame of reference.
CHAPTER I

PERSPECTIVES ON ADJUSTMENT TO AGING:
DEFINITIONS AND THEORIES

Grow old with me;
The best is yet to be—
The last of life for which
the first was made.

Browning

It is relatively easy to paint images of man and his social groups in a limited time dimension; but, the total mural, the complete cycle of human development, becomes difficult to delineate clearly. In the past, psychologists and sociologists have focused their attention on the initial socialization processes of human development. More recently, however, the exciting and challenging study of socialization processes in later life stages has emerged. As the study of the aging process has received increased attention in recent years, the roles and contributions of the sociologist have become more important. The field of social gerontology certainly has benefited from the sociological perspective, and specific sociological contributions in the areas of theory and research have been significant. However, there is a great deal of work to be done. As Zena Smith Blau states:

Until now the study of (aging) has produced a large body of facts and figures . . . but what is largely missing in this work is an interpretation of the facts, infused with sociological imagination and human compassion.

(Blau, 1973: 2)
A basic assumption of this endeavor is that the sociologist does have a major contribution to make in the study of the aging process itself and, perhaps more important, the aging process must be seen as a normal and integral part of the human socialization process. When questions are asked such as, "What is successful aging?", "what are the problems inherent in growing old?", and "what is meant by life satisfaction?", the concern is not with one phase of social life alone; rather, there is an attempt to explain one phase of social life in the context of a total adjustment picture.

Thus, the analysis begins with a macro view of the aging process. The researcher cannot be content to view the aging process in a limited time dimension nor to study the aging process in a limited social context. At the broadest level, he should be able to deal with basic images of man (what is his basic human nature?), and then move to more specific aspects of his social life. This means that in order to deal with life satisfaction, he must first deal with basic images of man, then social adjustment in general (the life cycle), specific types of adjustment (theories of adjustment to later years or aging), specific aspects of aging (life satisfaction), and finally, methods of measuring the specific aspects of aging (how measures of life satisfaction are developed).

The major objective of the endeavor is to develop a valid and reliable measure of life satisfaction among the elderly, hoping to contribute to the understanding of this specific dimension of adjustment as well as to the understanding of the broader adjustment process. Hopefully, this advances the sociological analysis of how the aging
process fits into the overall scheme of social adjustment. Obviously, such a specific objective has limitations in terms of providing all the answers at a macro level; however, it can serve as a building block not only in terms of measurement methods, but also in terms of subsequent theory construction.

Images of Man

An extensive discussion of the philosophical views of "man's inherent nature" would be beyond the scope of this endeavor. However, it is important to clarify several basic assumptions as to how the sociologist typically views man in the context of social adjustment. Also, it is important to briefly discuss the basic images of the older person reflected in contemporary American culture.

The sociologist begins with the assumption that man is a social animal and that the individual's basic nature is determined by environmental socialization processes. We assume that man essentially enters the world *tabla rosa*, and that his basic personality is a function of social conditioning processes. This does not dismiss the genetic-biological characteristics of man as being unimportant, but rather it sees them as having secondary importance to the social factors. In the specific example of the aging process, the sociologist would be more inclined to account for differences in adjustment patterns by looking at social variables rather than physical-genetic ones. For example, he would ask: How does social class, level of education, religion, ethnicity, etc., affect the individual's perception of happiness-life satisfaction?
Second, it is assumed that man essentially strives to achieve personal and social equilibrium. That is, he attempts to meet his own basic personal needs. However, he does this in a process of interaction with others in a group context. Therefore, images of man are necessarily built on "reflections" of the culture and the characteristics of the groups in which the individual operates. Assumptions may be made about the inherent nature of man as being good-bad, self-centered-altruistic, etc., but the sociologist tends to see the nature of man as being a reflection of the social groups that socialize and shape the individual. Relating this to the image of aging, the individual's view of self in the aging process is a function of being socialized into an "old" role by the social groups and institutions in his culture. The self-image becomes a reflection of what the society expects of the individual. Thus, the sociologist must address several questions: How does the society define happiness/satisfaction in general; what cultural values are reflected in the images of older persons in the American society?

These questions cannot be answered definitively; however, the sociological perspective can offer several generalizations that help clarify the issues. The sociologist must recognize that society reflects a number of different images of man and that those images are changing. Definitions of happiness or satisfaction depend upon specific frames of reference. The individual's (and the larger society's) views of success, happiness, and satisfaction may vary significantly, depending on the time and social situations involved. For example, the view of what constitutes a satisfied man may be quite different
now than it was fifty or a hundred years ago. Similarly, the view of what constitutes happiness may be very different for a white, middle class, suburban dweller than that for a black, lower class, ghetto dweller. The sociologist must recognize different frames of reference in defining a value-laden concept such as life satisfaction. In developing life satisfaction research, he must recognize the value judgments inherent in defining the nature of man as well as the biases that color our conceptions of satisfaction. The definitions of what constitutes "high life satisfaction" in the aging process may be significantly different in the year 2000, and they may reflect very different assumptions about the basic nature of man. At the minimum, the sociologist must identify the different frames of reference that serve as guidelines for defining the successful man (and the inherent assumptions about the nature of man).

Also, in assessing the images reflected in the cultural patterns of American society, the sociologist must evaluate the dominant value orientations of the society itself. The basic generalization here is that the successful man is conceptualized as being aggressive, competitive, rich, and highly mobile. Given these values, the older person is often thought of as being less able to contribute to the society, less able to compete effectively, less able to play important roles in the society. (These values will be explored more fully in the discussion of the basic sociological theories of aging.)

The general gerontological literature stresses the problems and negative aspects of being old. In many ways older persons constitute a large but essentially ignored minority group—a group that suffers
as the result of cultural myths and stigmas that devalue the role of the older person.

There is no question that the elderly often have a difficult position in American life. Some are able to maintain a positive self-image and to adapt well to the changes of age; many are not. A great deal of human talent and energy is now being wasted, and a great deal of suffering exists.

(Bengston and Haber in Woodruff and Berrin, 1975:88)

What then is the role of the older person in American society; what is expected of a generation that is characterized, often unfairly, as being senile, immobile, useless? In attempting to deal with these questions, it is argued here that the sociologist must examine the basic images of man that are represented in the values and actions of the society.

By the way in which a society behaves towards its old people, it uncovers the naked, and often carefully hidden, truth about its real principles and aims.

(de Beauvoir, 1973:131)

Adjustment

Social adjustment in a sociological sense basically refers to the degree to which the individual has been socialized to accept and internalize the normative patterns of a society. This is an extremely complex process, one which cannot be summarized quickly. The sociological perspective assumes that the "quality" of adjustment is a function of the basic socialization process. Smelser would characterize this as the process whereby the value orientations, norms, and sanctions of the social system become internalized in the individual
Adjustment thus becomes a subjective term indicating some degree of norm internalization and ability to cope with the social environment.

The typical approach to adjustment has been to see the individual as moving through a life cycle or life stages. Adequate adjustment thus becomes defined as the ability to make normal transitions from one life stage in the cycle to another.

In applying this general concept of adjustment to the aging process, aging and death are seen as the culminating stages in the individual's adjustment cycle. One of the major obstacles in developing clear sociological theories of adjustment is that sociologists have basically neglected full cycle explanations of life stages. To some extent the psychologists have developed the theory of life cycles (in adjustment) to a greater extent. Notable examples are Erik Erikson's eight stage theory of ego development (Erikson, 1950, 1963), Maslow's development of the stages in self-actualization (Maslow, 1970), and Frenkel-Brunswik's "Adjustments and Reorientation in the Course of the Life Span" (Frenkel-Brunswik, 1963).

The basic generalization here is that in dealing with adjustment, sociologists have not developed overall views of an ongoing process where life stages are clearly delineated. Most significantly (in terms of this study), sociologists have tended to view the aging process as a type of social problem without asking whether or not the problems inherent in the aging process are similar or comparable to those of the other stages of development. For example, is life satisfaction among the elderly the same as life satisfaction among adolescents;
are the adjustment problems of aging comparable to the adjustment problems of the teenager, etc.? Certainly aging can be seen as a social problem or as an indicator of social change, but the question remains: Is the aging process an integral part of the overall adjustment process?

With this question in mind, a discussion of sociological theories of adjustment to aging is presented in the following section.

I. DEFINITIONS OF ADJUSTMENT TO AGING.

The social gerontological literature includes numerous theoretical approaches addressing the basic question: What constitutes adequate or successful adjustment to old age? Obviously, there are many different avenues that might be taken here. The psychological literature has focused on personality characteristics that make successful adjustment possible. Here, the theoretical discussions have concentrated on factors such as personality traits, psychological states, attitudes, self-images or self-concepts, etc. (Bechman, Williams, and Fisher, 1958; Havighurst, 1951; Havighurst, 1968; Kutner, Fanshel, Togo, and Langner, 1956; Lebo, 1953; Pollak, 1948; Reichard, 1959; Rosow, 1963).

The sociological literature has focused on the diverse external variables that influence the individual's change in roles over time (family ties, degree and nature of institutional and social ties, life patterns), and has related these to various correlates (Albrecht, 1951; Burgess, 1954; Curry and Ratliff, 1973; Havighurst, 1957; Havighurst, Neugarten, and Tobin, 1964; Lemon, Bengtson, and Peterson, 1969, 1972; Rosow, 1963).
The social-psychological literature has attempted to combine the sociological and psychological variables, thus focusing on patterns of relationships and activities with various attitudes and psychological resources (Havighurst and Albrecht, 1953; Havighurst, Neugarten, and Tobin, 1963, 1965; Riesman, 1954; Rose, 1964).

Within these diverse disciplines, the concept of adjustment has been defined and conceptualized in many different ways. A number of basic conceptualizations of adjustment will be examined, and the major theoretical models of successful adjustment to aging will be outlined.

Adjustment to aging is described by Tibbitts as including changes in motivation, changes in self-image, and changes in interests, goals, satisfactions, and attitudes (Tibbitts, 1961:15). In this view, adjustment is indicated by an individual's manner of dealing with his or her life situations, roles, and relationships. This definition becomes operationalized by attempting to measure the individual's feelings as well as behavior. Pollak assumes that the personal characteristics are important in measuring adjustment to determine how quickly the individual can adapt to the changing demands of his environment. But he also assumes that the societal adjustments to the needs of the aging as a group must be considered (Pollak, 1948:40). He defines adjustment as "the efforts of an individual to satisfy his personal needs as well as to live up to the expectations of others" (Pollak, 1948:8). By this definition, the well adjusted person is assumed to be able to satisfy his or her needs adequately, and the poorly adjusted person is not able to satisfy certain needs. At this stage, it is clear that many definitions of adjustment involve subjective measures of "good" and
"bad" adaptation and personal satisfaction.

Cavan, Burgess, Havighurst, and Goldhamer characterize the personal adjustment process as a cycle that includes five stages: Adjustment, stimulation or frustration, unadjustment, maladjustment, and readjustment (Cavan, et al., 1948:14-15). An important aspect of this view is that maladjustment is defined as behavior which does not completely satisfy the individual and social needs of the person, even though it may reduce his drive tension (Cavan, et al., 1948:15).

Cottrill defines adjustment essentially in terms of role responses where adjustment depends on:

1. The clarity with which the individual roles are defined;
2. The consistency of others' demands upon him to play these roles;
3. The compatibility of the various roles;
4. How well the roles coincide with other goals of his subculture;
5. How well the new roles compensate for the loss of old ones;
6. The degree of preparation for the new roles.

(Cottrill, 1942:617-620)

In a similar vein, the 1968 Curriculum Project in "Applied Gerontology" characterized adjustments as a process necessary to meet new roles and demands of aging such as reduced income, medical needs, reduced social relations, exclusion from family life, and a lack of meaningful activities to fill leisure time (Curriculum Project in Applied Gerontology, 1968:Chapter 7).

Many researchers define adjustment in terms of these specific social-psychological characteristics. For example, Burgess focuses on factors such as satisfactory health, friendships, membership in organizations, self-concept as middle aged rather than elderly, and
feelings of permanent security (Burgess, 1950:138-156). Simmons assumes that successful adjustment rests upon "the capacities and opportunities of individuals to fit well into the social framework of their own times and in ways that insure prolonged but not overlong influence and security" (Simmons, 1960:88). Again, it is clear that these conceptions focus on both the individual and societal factors in adjustment. Others operationalize adjustment in terms of characteristics of poor adjustment to aging—feelings of inadequacy, rejection, depression, anxiety, boredom, negativism, guilt, rigidity, etc. (Pollak, 1948:62-63). Williams also concentrates on these types of characteristics to define the nature of unsuccessful adjustment (Williams, 1960:267).

This brief sampling of definitions and conceptualizations of adjustment illustrates several crucial problems in the gerontological literature:

A. Adjustment is defined in many ways which cause semantic as well as theoretical confusion. Some definitions of adjustment refer to adjustment as a general ongoing process; some refer to it as a psychological condition rather than a process. Some assume that it is the same process as aging: some claim that values of adequate or inadequate adjustment are not involved in the process. Others operationalize the term based on these "good-bad" evaluations. In the literature, terms such as adjustment, morale, life satisfaction, and happiness often are used interchangeably with little conceptual clarification.
B. The correlates of adjustment are varied and difficult to operationalize in terms of measurement. (This will become more obvious in the following section dealing with the specific ways life satisfaction has been measured and evaluated.) The eclectic nature of gerontology and the interplay of individual and social correlates of adjustment make consistent, logically deduced measurement very difficult.

C. Because of these problems of definition and measurement, the overall theoretical development in the adjustment to aging area has suffered. Certainly, recent research is contributing to the theoretical development of the field, but significant gaps remain.

Several approaches undertaken recently have been designed to add greater precision to the understanding of morale and "successful" aging. Havighurst has approached the problem in terms of social competence, as measured by ratings of performance in various categories of roles . . . Neugarten and Gutmann, on the other hand, find significant changes in the images, perceptions, and expectations of age and sex roles with age. Also, both the Kansas City and the University of California studies are finding systematic differences in social personality associated with different types of adjustment to aging . . . but much research remains to be done . . . before we know the true extent of the problem and develop better guidelines for its management.

(Williams, 1960:295)

Unfortunately, the research in the area is not always based on sound theoretical bases. As Maddox observes: "Relevant gerontological literature is not distinguished by explicit statements of theoretical orientation" (Maddox, 1963:195).
With these definitional limitations in mind, the major theoretical models for dealing with adjustment to aging are outlined and analyzed in the following section.

II. THEORETICAL MODELS OF ADJUSTMENT TO AGING.

In spite of the broad diversity of social gerontology, there are two major theoretical schools of thought in terms of the optimum patterns of aging. The first, activity theory, assumes that older people have essentially the same psychological and social needs as any other adult age group and that a decrease in social interaction or activity will lead to a series of negative changes for the aging person. The second, disengagement theory, assumes that decreased social interaction is interpreted as a process characterized by mutuality—one in which both society and the aging person withdraw, with the aging individual accepting and desiring the decreased interaction or activity (Havighurst, Neugarten, and Tobin, 1964:419).

The basic theoretical development and assumptions of these models are outlined here in an attempt to identify the major assumptions and controversies inherent in the theoretical formulations.

A. Activity Theory.

Havighurst and Albrecht (1953) developed the basic formulation of this theory stressing the importance of social role participation in positive adjustment to increased age. A number of other investigators have affirmed this theoretical perspective. (Blair, 1955; Burgess, 1954; Curry and Ratliff, 1973; Kutner, 1956; Lebo, 1953; Lemon, Bengtson, and Peterson, 1972; Maddox, 1963; Reichard, Lawson, and Peterson, 1963; Tallmer and Kutner, 1970; Tobin and Neugarten,
Maddox (1963) observes that most previous research supports the importance of social role participation in adjustment to old age and implied in the theoretical orientation of most of the research is the assumption that

the social self emerges and is sustained in a most basic way through interaction with others . . .
(conversely, structural constraints which limit or deny contacts with the environment tend to be demoralizing and alienating).

(Lemon, et al., 1972:511)

Lemon, Bengtson, and Peterson have recently attempted to develop an axiomatic statement of activity theory which formally states the key assumptions and postulates which they felt were lacking in earlier theoretical statements. Their model will be used here as an advanced, yet typical, formulation of activity theory. (Their formulation is particularly relevant to this discussion since life satisfaction is a major component of this theoretical model.)

The Lemon, et al., model includes five key concepts:

1. **Activity** is defined as patterned action which is beyond routine physical or personal maintenance. this includes three types of activity:
   a. Informal activity (interaction with friends and relatives);
   b. Formal activity (participation in formal organizations);
   c. Solitary activity (watching television, hobbies, etc.)

2. **Role support** is defined as the support accorded to an individual by his audience concerning his role identity.
3. **Self-Concept** is defined as that organization of qualities that the individual attributes to himself.

4. **Role loss** is defined as an alteration in the set of behavior patterns expected of an individual by virtue of the loss of some status position.

5. **Life satisfaction** is defined as the degree to which one is presently content or pleased with his general life situation.

(Lemon, et al., 1972:513)

It is assumed here that these concepts are interrelated and in order to understand the adjustment process of aging, the dynamics of these concepts must be seen together. Lemon, et al., summarize these interrelationships in the following manner. Activity is seen as providing role-supports necessary for reaffirming one's self-concept. The more intimate and frequent the activity, the more reinforcing will be the role supports. These are necessary for maintenance of a positive self-concept, which in turn is directly associated with life satisfaction. The concept of role change is utilized for analyzing the relationship between activity and life satisfaction. Role loss fits in here in that such loss should diminish the magnitude of the relationship, but the magnitude of the relationship should remain positive (Lemon, et al., 1972:515)

Following this conceptual framework, Lemon, et al., develop four postulates relating activity to life satisfaction.

1. The greater the role loss, the less the activity one is likely to engage in.
2. The greater the activity, the more the role support one is likely to receive.
3. The more role support one receives, the most positive one's self-concept is likely to be.
4. The more positive one's self-concept, the greater one's life satisfaction is likely to be.

(Lemon, et al., 1972:515)

The authors also develop six theorems deduced from these postulates which further describe the exact relationship between the concepts. (For example, the greater the activity, the more positive one's self-concept is likely to be, etc.) Their theory, in short, suggests a positive relationship between social activity and life satisfaction in the aging process and assumes that role loss is inversely related to life satisfaction.

**Evaluation of Activity Theory.**

The major strength of this model as presented by Lemon, et al., is that it provides one of the first clear-cut, organized theories of the aging process. Certainly the sophistication of conceptualization and theory formation exceeds most other "models" in the field. Also, in terms of practical application, the general activity theory is widely accepted in the field of gerontology. As Havighurst notes:

Activity Theory is favored by most of the practical workers in gerontology. They believe that people should attempt to maintain the activities and attitudes of middle age as long as possible and then find substitutes for the activities which they must give up.

(Havighurst, 1961:4-7)

Society supports this theoretical model by assuming that the aging person who keeps active and stays involved is "going to make a better adjustment." In spite of general acceptance of the activity theory, there are a number of inherent weaknesses or questions:
1. The sophisticated theory building has not been supported by research data. Lemon, et al., in their study, failed to provide significant research data to support their major assumptions.

2. Conceptual clarification problems remain in defining and operationalizing the concepts. There are obviously problems in the definition and measurement of the concepts. The most obvious example of this is the difficulty in accepting "global" measures of life satisfaction.

3. General acceptance of the theory does not insure its overall validity. It can be argued that the idea of staying active is a middle class value which actually hinders the adjustment to the aging process. As Henry and Cumming point out:

   This may result in a failure to conceive of old age as a potential development stage in its own right, having features distinctively different from middle age.

   (Henry and Cumming, 1959, in Veddar, 1971:68)

   Thus, our attempts to stay alive, maintain roles, etc., may not be the best adjustment to aging.

B. Disengagement Theory

   The disengagement model is built on the assumption that the individual's "withdrawal" from social activity has intrinsic qualities and that disengagement is a natural and positive process rather than
an imposed, negative process. Henry and Cumming (1961) first developed
the systematic theoretical statement of disengagement, and others have
expanded on this model (Neugarten and Havighurst, 1969; Maddox, 1964).
While the theoretical model of disengagement is not as formally devel­
oped as the Lemon, et al., activity theory, it does begin with a set
of key assumptions and proceeds to set off specific postulates.

Cumming and Henry start with the basic assumption that the older
person is less involved in the life around him than he was when
younger and that the process by which he becomes so can be described
(Cumming and Henry, 1961:14).

This process may be initiated by the individual or by
others in the situation. The aging person may with­
draw more markedly from some classes of people while
remaining relatively close to others . . . certain
institutions in society may make this withdrawal easy
for him. When the aging process is complete, the
equilibrium which existed in middle life between the
individual and his society has given way to a new
equilibrium characterized by a greater distance and
an altered type of relationship.

(Cumming and Henry, 1961:14-15)

The theory assumes that this process involves changes in three
orders:

1. Changes will occur in the number of people with whom the
   individual interacts. Also, the purpose of the interaction
   may alter.

2. There will be qualitative changes in the style or patterns
   of interaction between the individual and the other members
   of the system.
3. There will be changes in the personality of the individual that both cause and result in decreased involvement with others and increased preoccupations with himself.  

(Cumming and Henry, 1961:15)

The basic theory evolved out of these assumptions, and after a series of research attempts to test the theory, Cumming and Henry developed a series of theoretical postulates and corollaries to further clarify the basic relationships involved. Not all of the postulates and corollaries are presented here; rather, the ones that are most relevant to this discussion are summarized.

Postulate 1: Although individuals differ, the expectation of death is universal, and decrement of ability is probable . . . and a severing of ties will take place between a person and others in his society.

Postulate 2: Because interactions create and reaffirm norms, a reduction in the number of variety of interactions leads to an increased freedom from the control of the norms governing everyday behavior. Consequently, once begun, disengagement becomes a circular, or self-perpetuating process.

Postulate 4: . . . Disengagement in America may be initiated by either the individual because of ego changes or by the society because of organizational imperatives, or by both simultaneously.

Postulate 7: a) If an individual . . . perceives his life-space as decreasing, and if his available energy is lessened, readiness for disengagement has begun. b) The needs of a rational-legal occupational system, . . . the nature of the nuclear family, and the differential death rate lead to society's giving echelons of people its permission to disengage.

Postulate 9: Disengagement is a culture-free concept, but the form it takes will always be culture-bound.

(Cumming and Henry, 1961:210-218)
To summarize this theory then, the older person who has a sense of psychological well-being will usually be the person who has reached a new equilibrium characterized by a greater psychological distance, altered types of relationships, and decreased social interaction (Havighurst, 1968:20).

Evaluation of Disengagement Theory.

Although Cumming and Henry cite evidence for their theory of disengagement in Growing Old, it is generally felt that the empirical data supporting disengagement have not been convincing. As Maddox states: "Disengagement theory has been found wanting empirically, and its original formulation is rarely defended by anyone" (Maddox, 1969). While Havighurst and his associates report some empirical support for the theory in the Kansas City Study of Adult Life, they conclude that the data cannot be extensively explained by either the disengagement theory or the activity theory.

The major strength of this model is that it does provide an alternative explanation of the aging process as a natural process and accounts, at least to some extent, for successful adjustment patterns that do not follow the activity model assumptions.

While other theories of adjustment have been developed (for example, Phillips' Role Theory Approach, 1957), essentially, the two major theories outlined here have dominated the literature. Historically, the research in the adjustment to aging field has been divided into these two camps, and, to some extent, the theoretical battle-grounds continue to be drawn.
There is general agreement that neither theory (activity-disengagement) adequately deals with the total adjustment process and that additional research and theory formulation is needed. There continue to be serious definitional, theoretical, and methodological weaknesses in this area. A basic assumption of this endeavor is that one way of making progress is to develop more valid and reliable measures of the components of adjustment. Thus, broad reformulation of theories is not a major goal here; rather, the development of more reliable measurement tools (in this case, measures of life satisfaction) is the major objective. Hopefully, this concentration on specific components of adjustment will ultimately provide insights into the reformulation of existing adjustment theories and the development of more adequate theories.

The following sections will examine the research literature dealing with adjustment to old age with an emphasis on the area of life satisfaction as a component of the adjustment process.
CHAPTER II

REVIEW OF THE RESEARCH LITERATURE
AND LIFE SATISFACTION MEASUREMENT INSTRUMENTS

I. REVIEW OF RESEARCH LITERATURE.

The scientific study of the aged and the aging process is a relatively new discipline. The first of what could be considered empirical studies came during the early twentieth century as offshoots of other types of studies. These early studies grew out of a basic social awareness of the growing numbers of older persons in the population and their increasing social problems. In the early 1930's gerontology was primarily concerned with the biological processes involved in aging and only later with the social aspects of the aging process (Tibbitts, 1960:4). The Stanford Later Maturing Research Project, begun in the early 1930's, was the first major scientific research-oriented endeavor. In 1939, the English formed the International Club for Research on Aging, and later the American Research Club on Aging developed from this.

E. W. Burgess, Chairman of the Social Science Research Council's Committee on Social Adjustment, began the Committee on Social Adjustment in Old Age in 1943. This was a major catalyst in the expansion of research interests in aging, especially at the university level. In 1945 the Gerontological Society, Incorporated, was formed to study biological changes of aging and in the same year Leo W. Simmons published *The Role of The Aged in Primitive Society*. In 1946 Lawrence
Frank wrote a crucial article dealing with basic problems of aging for the first issue of the Journal of Gerontology. Also in 1946, the American Psychological Association established a Division of Later Maturity and Old Age. These new research-oriented groups and studies served to increase interest in aging as an emerging aspect of sociology (Tibbitts, 1960:4-5).

The 1950's signaled an expansion in this interest. In 1950 the first National Conference on Aging dealt with the various aspects of aging. The Gerontological Society established a division of Psychology and Social Science in 1952. The Inter-University Training Institute in Social Gerontology was begun in 1956; in the same year, the Committee on Social Science Research was formed as part of the International Association of Gerontology and started holding three international research seminars annually (Tibbitts, 1960:6). Most of the research conducted during this era concentrated on institutionalized aged which represented only a small percentage of the total population over sixty. Obviously, the generalizations drawn from these studies and the research methodologies were limited and reflected the infancy of the discipline. Specific study projects and research centers began to emerge in an attempt to strengthen these scientific-research weaknesses. The Kansas City Study of Psychological and Sociological Factors in Successful Aging, the University of California Study of Social and Psychological Problems of Aging, the multi-disciplinary study at the National Institutes of Health, the Study of Geriatric Mental Illness at Langley-Porter Neuropsychiatric Institute, and the Duke Longitudinal
Study (from 1955 to 1969) represent some of the more notable research efforts (Williams, 1960:286-287; Palmore, 1970:422).

More recently, the development of major research centers such as the Ethel Percy Andrus Gerontology Center at the University of Southern California and the Philadelphia Geriatric Center have reflected the increased interest in the field of social gerontology. Indeed, the discipline has expanded to include many different substantive areas of interest and issue areas. There will not be an attempt to provide an overview of all these areas; rather, attention will be focused on one specific component of the aging process—life satisfaction. The major research trends will be outlined. It should be kept in mind that life satisfaction represents only one small segment of the total aging process. What then are the major components of life satisfaction?

Many different terms and variables are used to define and measure life satisfaction among the elderly. Generally, satisfaction is characterized by terms such as happiness, morale, and adjustment, with an underlying assumption that life satisfaction tends to diminish with age.

This decline, already apparent in early adulthood, is not peculiar to senescence; but it becomes intensified with age-related deterioration in health, loss of key roles, or reduction in activity. Thus, age appears to be associated with a general diminution of the opportunities for happiness.

(Riley and Foner, 1968:341)

Riley and Foner point out that in research focusing on specific reaction to particular ages of life (rather than overall life satisfaction), older people appear to differ from younger people "not so much in levels of satisfaction as in the kinds of gratification and
anxieties experienced and regarded as salient" (Riley and Foner, 1968:341).

In general, the research here has focused on specific reactions to particular areas of life rather than overall life satisfaction. In order to gain a clearer conception of life satisfaction dimensions, this section will summarize the major research efforts concentrating on the correlates of life satisfaction. (The outline by Riley and Foner serves as a major resource.)

Probably the two most common components of overall life satisfaction in the research literature are measures of morale and happiness. There is the general assumption here that happiness and morale tend to decrease as the aging process progresses.

Morale. In an early work by Kutner, et al. (1956), morale, as measured by a Guttman scale reflecting various elements of positive gratification, was shown to decline as age (over sixty) increases. They found the greatest decline in morale between sixty-five and sixty-nine years. For females the decline was more gradual than for males, but the overall morale was generally higher among men than women. They also found that socioeconomic status, health, marital status, activity and retirement were related to morale (Kutner, et al., 1956:48-52).

Activity and Morale. The research data reflect the unresolved conflict between the activity and disengagement theoretical models. Kutner, et al. (1956), and Reichard, et al. (1962) have presented data indicating a direct relationship between high levels of activity and
high degrees of morale. Tobin and Neugarten (1961) found activity becomes increasingly important for predicting life satisfaction as age increases. Findings by Havighurst and Albrecht (1953), Donahue, et al. (1953), and Pressy and Sincoe (1950), were early indicators of the positive relationship between activity and morale. More recently, Maddox (1963) reported his findings indicated a positive relationship between changes in activity and morale, and that factors such as health, personal adequacy, and type of activity must be accounted for in this relation. Tallmer and Kutner (1970) found no evidence that high morale correlated with disengagement processes, and thus they refuted Cumming and Henry's prediction that disengagement increases morale. Also criticizing the disengagement assumptions, Maddox (1963) in a longitudinal study indicated that the interpersonal activity and the noninterpersonal activity were significantly related to morale. Studies by Lowenthal and Haven (1968) indicated that associations with close friends were positively correlated with morale, lending further refutation of disengagement assumptions.

The disengagement model as developed by Cumming and Henry (1961) generally has not been supported by empirical data. The works of Bengston (1969), Lemon, et al. (1972), Maddox (1963), Neugarten and Havighurst (1969), Rose (1964), Tallmer and Kutner (1970), and Youmans (1969) have raised doubts as to the empirical justification for this theoretical view. In spite of this lack of empirical evidence, the disengagement model continues to serve as a theoretical model for the research in the life satisfaction area.
Other Variables Related to Morale and Life Satisfaction.

1. Health. In a number of research endeavors, a positive association has been observed between physical health and life satisfaction. Maddox and Eisedorfer (1962) and Strieb (1956) indicated that a person's perception of the condition of his health was positively correlated with life satisfaction ratings. Suchman (1958) indicated that individuals who evaluated themselves as being in poor health tended to cut down activities and were more likely to feel unhappy (and score low on morale scales). It seems obvious that health affects one's perception of life satisfaction, but the exact relationship here is complex and ambiguous. For example, Riley and Forner indicated that while older persons' comparatively low estimates of their own health may be underlying factors in their lower levels of happiness or morale, many do not display specific anxieties about their health any more than younger persons do; indeed, they may obtain gratifications from the preservation of health into old age (Riley and Forner, 1968:345).

2. Socioeconomic Status. The research here indicates that an individual is more likely to show satisfaction with life if he comes from a higher rather than a lower socioeconomic strata (Riley and Forner, 1968:348). Streib (1956), Kutner, et al. (1956), and Thompson, et al. (1960), all showed clear correlations between higher levels of status and high life satisfaction scores. In a more recent and sophisticated analysis, Edwards and Klemmack (1973) reexamined the relationships between twenty-two variables and life satisfaction by testing for partial effects and independent contributions. They found
that the best predictor of life satisfaction was socioeconomic status (with perceived health status and informal participation with non-family members as the major predictive variables). They also found that when SES was controlled, many of the effects of other variables often cited in the literature (family ties, etc.) were washed out. In a study focusing on aspects of both activity and socioeconomic status, Cutler (1973) found a positive relationship between voluntary associations and life satisfaction. He concluded that health and status were significantly related to life satisfaction in that older persons with high levels of participation tended to be in better health or of a higher socioeconomic status.

Again, it seems obvious that socioeconomic variables are predictors of life satisfaction, but the total effect is not clear. As Riley and Forner point out, an older person's low income level seems less directly connected with any lessening of life satisfaction, for considerable evidence points to decrease by age in specific financial and material worries (Riley and Forner, 1968:348).

3. Work and Retirement. The basic research generalization here is that life satisfaction is higher among those who are still working than those who have retired.

This pattern seems to arise in part (and only in part) because the kinds of people who remain in the labor force are very different from those who retire (tending to be healthier, better adjusted, etc.). Yet quite apart from such factors as health or SES, the pattern of lower satisfaction among the retired persists.

(Riley and Forner, 1968:350)
Kutner, et al. (1956) indicate that high morale tends to be more pervasive among the working older as opposed to the retired. More generally, it is assumed that life satisfaction among older persons is not directly traceable to the work role itself. Older persons tend to respond more favorably than younger people to their work activities as long as they are continued through the aging years. Back and Gergen (1966) indicated that older persons were more likely than younger persons to enjoy their jobs (or housework). Gurin, et al. (1960) also reported that older men were more likely to report satisfaction with their jobs.

While working older people tend to have higher levels of satisfaction, this is not to say that all retired people have low morale. For example, Streib (1956) indicates that the retired who are in good health and a relatively high socioeconomic status, have higher life satisfaction than the non-retired who lacks these advantages.

4. Marriage and Family Relationships. The marital relationship and marital need satisfaction seem to be closely related to life satisfaction. Riley and Forner indicate that although happiness may be associated with early years in life, older persons appear to make as satisfactory an adjustment as younger persons to their family roles. Loss of spouse may reduce overall satisfaction. There is no indication, however, that lowered morale is associated with the adult offspring's independence of his aged parents. While the level of happiness in marriage varies only slightly by age, difficulties appear to decline with age (Riley and Forner, 1968:352). (Whether or not this is due
to a more mature adjustment as opposed to simple resignation to one's fate is not clear!)

One of the basic issues involved in the area of family relationships is the question of the impact of separation of older persons from their children and other family members. The research here raises a number of interesting and surprising generalizations. For example, contrary to general notions of the depressing effects upon older parents of separation from their children, morale seems to coincide with the degree of independence in intergenerational family relationships (Riley and Forner, 1968:353). Kerckhoff (1966) indicates that the morale of the older person tends to be higher among aged couples making few demands on their children and having more independent relationships with their children. Kutner, et al. (1956) also found that morale is higher among older persons who see their children seldom rather than often. As noted earlier, the Edwards and Klemmack study (1973) indicated that life satisfaction tended to be more a function of the quality and type of participation with non-family members as opposed to kinsmen.

A number of related issues arise here. The question of the impact of removal of the older person from the home (institutionalization) and what this does to the family relationships is obviously important here. There have been few major research studies linking this with levels of life satisfaction. Obviously, this is an area that needs further research, not only from the standpoint of life satisfaction but also from the standpoint of the impact this has on other family members (guilt feelings, etc.).
5. Demographic Variables. Lemon, et al. (1972) point out that certain demographic variables and social conditions have been specified by a number of researchers as factors related to the correlation between activity and life satisfaction. One approach here is to focus on role losses or role changes. These variables include a number already discussed (retirement, physical health, etc.) and also factors such as degree of isolation and specific role losses. For example, Curry and Ratliff (1973) found little correlation between nursing home size, the degree of isolation in an institutional setting, and life satisfaction. Rosow (1967) found high morale to characterize 72 per cent of the subjects who had lost no major role; only 30 per cent of those with three of four major role losses had high morale. In general, the literature suggests that the presence of role change is inversely related to morale, and usually it serves to decrease the strength of the relationship between activity and life satisfaction (Lemon, et al., 1972:512). (Cavan, 1962, Phillips, 1957, and Zena Smith Blau, 1973, also provide interesting insights into the dynamics of role change as it affects morale and life satisfaction.)

6. Self Concept. Perhaps one of the most important variables in life satisfaction from a social psychological perspective is the role of self-image or self-concept in the person's adjustment processes. Theoretically, life satisfaction (and more generally, adjustment) is a function of the individual's perception of self and his self-definition of his social situation. Generally, the research literature indicates that an unfavorable self-image tends to coincide with low
level of life satisfaction. Kutner, et al. (1956) indicated that older persons regarding themselves as disadvantaged in comparison to their peers were likely to have lower morale than other older persons and that persons with favorable self-images were comparatively satisfied with life despite disadvantages often connected with old age. Here the question is raised as to the importance of self-concept as an insulator against the impact of the other sociological variables thought to affect life satisfaction.

II. SURVEY OF MEASUREMENT INSTRUMENTS.

In the previous section the major research dimensions of life satisfaction in general were outlined. Attention will now be focused on the specific measurement instruments which have attempted to operationalize and evaluate life satisfaction. In the broadest sense, these measures attempt to evaluate the "quality" of adjustment made by the individual. As Irving Rosow points out, there have been two major trends here—The Chicago School which has emphasized an adjustment rating scale based on measures of activity, and Morale Measures which attempt to assess general social-psychological indicators of morale and its association to actual behavior (adjustment) (Rosow in Williams, et al., 1963:202-203).

In addition to outlining the major examples of these two approaches, several other approaches will be briefly discussed and evaluated. These examples, while not completely exhaustive of the literature, represent the major trends in the development of adjustment and life satisfaction measures.
A. The Chicago School. The most prevalent approach to the measurement of adjustment, developed from the early research on gerontology done at the University of Chicago in the late 1940's and early 1950's, this scale has been operationalized and revised by Robert Havighurst and his associates at the University of Chicago. The original measurement instrument is the Cavan adjustment rating scale. Variations of the scale remain the most widely used methods of assessing adjustment to old age.

1. The Cavan Scale. The original scale first appeared in Cavan, et al's Personal Adjustment in Old Age (1949), and was more clearly formulated in Havighurst and Albrecht's Older People (1953). The Cavan Adjustment Rating Scale consists of six rating scales followed by a master rating. The adjustment rating is derived from an activity score on three subscales (contacts with primary groups, contacts with secondary groups, and activities outside the group), and from three subscales measuring certain attitudes assumed to be central to personal adjustment (feelings of emotional security, status, and happiness). These subscores taken together represent a master rating which is thought to be an indicator of general activity and attitudes. The authors of the scale see the master scale as a:

   ... flexible summary of the six more specific scales. On the basis of the six scales, the rater arrives at a decision about the general degree of personal adjustment, but he takes into account other things he knows about the individual, and he weighs the separate scales in accordance with what seems to him their importance in the individual case.

   (Havighurst and Albrecht, 1953:407)
In addition to the adjustment rating scale, Cavan developed an attitude inventory, which is combined with a schedule of activities, to give an overall measure of personal adjustment. The attitude inventory is used by interviewers to determine a total attitude score; product-moment correlation coefficients provide a total attitude score which gives an indication of personal adjustment. Making up the total attitude are eight part-scores representing attitudes towards one's health, friends, work, economic security, religion, family, and general feelings of usefulness and of happiness (Havighurst and Albrecht, 1953:381).

The master rating of personal adjustment is an overall rating which is determined by the activity and attitude scores. The major criticism of this technique is that this score is modified to bring it into agreement with general impressions about the person's overall qualitative adjustment. As Rosow points out, the advantage of this technique over a simple impressionistic adjustment rating is dubious. Since the activity and attitude scores are essentially incorporated into the adjustment rating, their high correlations with adjustment reported in the Cavan, et al., and the Havighurst and Albrecht work are simply tautological (Rosow in Williams, et al., 1963:202). The correlations developed using this instrument are thus largely a function of the scoring technique and do not clearly show a direct relationship to adjustment patterns in old age.

2. Chicago School Life Satisfaction Index. The most widely used measures of the social psychological well-being of older persons are the life satisfaction indices developed by Havighurst, Neugarten,
Tobin, and their associates at the University of Chicago. The basic life satisfaction index grew out of an attempt to devise a measure of successful aging for use in the Kansas City Adult Life Studies (Cumming, Dean and Newell, 1958). Neugarten, et al., attempted to develop a measure that would be derived relatively independently from various other psychological and social variables, a short, easily-administered instrument that could be used in other studies, and to validate that instrument against Kansas City data (Neugarten, et al., 1961:155). The researchers maintained that existing measurement instruments of adjustment were unreliable and a more sophisticated instrument became the basic goal of the research. They rejected the basic morale scales for several reasons:

a) They were based on so few items that scores might prove highly unreliable;

b) The Morale Index had been validated against only a small sample of cases; and

c) It appeared to be a unidimensional measure reflecting, for the most part, conformity to the status quo (Neugarten, et al., 1961:135). (The Kutner Morale Scale will be discussed in the following section.)

At a theoretical level, Neugarten, et al., attempted to develop an index which was not based on either activity theory nor disengagement theory and therefore would be capable of testing both perspectives. They saw previous research as falling into two general points of view. The first focused upon the overt behavior of the individual and utilized social criteria of success or competence. The second focused upon the individual's internal frame of reference with only secondary
attention being given to the level of social participation. Here the
variables to be measured would be the individual's own evaluations of
his present or past life, his satisfaction or happiness (Neugarten, et
al., 1961:134). Neugarten, et al., sought to develop an instrument of
the second general type that would use the individual's own evaluations
as the point of reference and one that would be relatively independent
of level of activity or social participation. They developed an atti­
tude scale of twenty items selected from existing scales to form items
representing five major components thought to be associated with life
satisfaction. The five components were zest for life as opposed to
apathy, resolution and fortitude as opposed to resignation, congruence
between desired and achieved goals, high physical, psychological and
social self-concept, and a happy, optimistic mood tone. The Life
Satisfaction Rating depended on scoring by judges who read recorded
interview material on elderly persons but who had not themselves inter­
viewed the respondent. In seeking to establish an outside criterion
by which these ratings could be validated, the investigators thought
it desirable to have a clinical psychologist interview the respondents
and then make his own ratings of Life Satisfaction (Neugarten, et al.,

Because of the time required for this type of rating system,
Neugarten, et al., attempted to develop a self-report instrument that
could be administered quickly. Two basic instruments were developed,
the Life Satisfaction Index A (LSIA), and the Life Satisfaction Index
B (LSIB). The LSIA consists of twenty attitude items for which an
agree or disagree response is required. The LSIB consists of twelve
open-ended positions and check-list items, to be scored on a three-point scale. (These Indices will be included in the Appendix.) Analyses of the LSIA with the Kansas City sample resulted in the conclusion that:

While considerable effort was expended in refining these instruments, the effort was only moderately successful. If used with caution, the index will perhaps be useful for certain group measurements of persons over sixty-five.

(Neugarten, et al., 1961:474)

David Adams (1969) discusses the basic reliability and validity of these life satisfaction measures. By using item reliability measures (Biserial correlation) and factor analysis, he evaluates the reliability of these life satisfaction instruments. He finds that with the exception of two factors on the LSIA, the scale "provides a fair estimate of life satisfaction for a small town elderly sample as it does for the urban and rural samples on which it has previously been tested" (Adams, 1969:473).

He concludes that some questions need to be raised concerning the five theoretical components said to provide the basis for the scale, and that further research needs to be directed at finding new items for the index which will fill out the theoretical design or will provide better indicators of life satisfaction (Adams, 1969:473).

While methodological and theoretical questions remain, it is clear that the life satisfaction indices developed in the Chicago School tradition have been the most significant measurement instruments of personal adjustment in old age.
B. Morale Measures. The second major measurement approach relating to personal adjustment to aging is found in measures of morale. The works of Kutner, Fanshel, Togo, and Langer (1956) and Lawton (1972) will be outlined as the clearest examples of adjustment indices based on measures of morale.

1. Kutner, et al., Morale Scale. The Kutner Morale Scale developed out of the Kips Bay-Yorkville Health District of New York Study in 1956. In the course of attempting to study the social and cultural factors facilitating adjustment to aging and the people who make successful adjustments to aging, Kutner and his associates developed a morale scale that became the basic measure of adjustment. The scale itself is a Guttman-type instrument based on an original scale developed in the Elmira Study of Aging conducted by the Cornell University Department of Anthrolopoplogy and Sociology (Kutner, et al., 1956:302). The revised seven-item scale measured morale by a Guttman scale of responses to the following items:

a) How often do you feel there's just no point in living?
b) Things just keep getting worse and worse for me as I get older.
c) How much do you regret the chances you missed during your life to do a better job of living?
d) All in all, how much unhappiness would you say you find in life today?
e) On the whole, how satisfied would you say you are with your way of life today?
f) How much do you plan ahead the things you will do next week--would you say you make many plans, a few plans, or almost none?
g) As you get older, would you say things seem to be better or worse than you thought they would be?

(Kutner, et al., 1956:48-49)
Respondents are classified as having high, medium, or low morale based on the number of negative responses given to these items. The basic assumption is that there is a correlation between self-reported verbal data (morale) and actual behavior (adjustment). Because of this tenuous assumption, the face validity of this measurement instrument has been questioned. Neugarten, et al., rejected this type of instrument on several grounds:

a. It has not been validated against an outside criterion;
b. It is based upon the assumption that psychological well-being is a unidimensional phenomenon; and
c. There have been scaling difficulties when the items have been used with divergent populations.

(Neugarten, et al., 1961:135)

Rosow adds that several attempts to test the validity of the Kutner items have found that, however related to morale these items might be, they did not measure morale itself (Rosow in Williams, et al., 1963:205). The Morrison and Kristjanson (1958) and the Cumming, et al., (1958) surveys indicate that the Guttman scale technique of the Kutner scale is not reproducible in different populations.

One final criticism of this instrument is that it does not include a time dimension, and thus it does not effectively deal with the adjustment process of old age. It cannot tell us a great deal about the change in morale over time.

2. The Lawton Philadelphia Geriatric Center Morale Scale.

More recently, Lawton (1972) has developed a more sophisticated measurement instrument focusing upon morale. Lawton begins with a multidimensional concept of morale, and through a series of conceptual and data
analytic procedures, was able to identify a common pool of twenty-two items. From this pool, Lawton reports the existence of six components and one overall dimension (Morris and Sherwood, 1975:77-78). The PGC scale attempts to sort out the components of morale.

In the definition used . . . the components . . . stressed are freedom from distressing symptoms, satisfaction with self, feeling syntony between self and environment, and ability to strive appropriately while still accepting the inevitable. An effort was also made to anchor within the definition some of the characteristics which have been considered less central to morale.

(Lawton, 1972:145)

Lawton developed a series of twenty-two dichotomous questions around the areas of present and retrospective life satisfaction. One of the major thrusts behind his work was to develop a scale based on items that would result in "an appropriate measure of morale among the very old." It is Lawton's conclusion that the pool of items achieves this objective. Lawton factor-analyzed the twenty-two items and reported that the first factor of the principal component solution indicated the presence of a common thread throughout all the items. He reported that when the scales were converted into their raw score summated counterparts, they were not independent from one another, and that the more reliable components tended to have a medium to medium-high level of intercorrelation and thus overlapped (Morris and Sherwood, 1975:78).

Morris and Sherwood (1975) have retested the Lawton Scale and have used several other statistical techniques (K.R. 20 Alpha Reliabilities) in evaluating Lawton's findings. Their basic conclusion is that
four of the original PGC factors were replicated and there are clear indications that it is a reliable measure of morale among several different aged populations.

The advantage of this scale over previous morale scales is that it does incorporate a broader time dimension and that the item reliabilities have been established through the use of sophisticated statistical analyses.

C. Summary and Evaluation of Adjustment Measures. The preceding outline of selected studies and research instruments focuses on the major approaches and problems inherent in the study of the personal adjustment of older persons. It is clear that there are a number of unresolved theoretical and methodological issues in this area. The basic debate between the activity theorists and the disengagement theorists continues. Specific difficulties in operationalizing the concepts also continue. (How do we define personal adjustment; what are the basic indicators of life satisfaction; are life satisfaction and morale the same, etc.) The specific weaknesses of the measurement instruments also are obvious. The Cavan Scale is basically a self-defining instrument. It is of questionable utility in identifying independent measures of adjustment. The Neugarten, et al., Life Satisfaction Indices, while more reliable instruments, can be challenged in terms of their basic validity. The basic problems outlined by Curry and Ratliff (1973) remain. Two major problems of the typical global measure of life satisfaction are:
1. Global measure of life satisfaction often employs past, present, and future tense items to measure "current" life satisfaction; and
2. Global measure of life satisfaction usually measures "general feelings" rather than specific concerns.

(Curry and Ratliff, 1973:2)

The basic problem here is that few researchers have spoken successfully to the question of validity. As Martin Bloom points out, even the more sophisticated scales (Lawton, 1975; Morris and Sherwood, 1975; and Neugarten, et al., 1961) have emphasized reliability and neglected validity (Bloom, 1975:99). Bloom stresses that the current measures of contentment and life satisfaction are "neither clearly valid nor helpful in predicting behaviors" (Bloom, 1975:99). He calls for new methods to replace the traditional gerontological research on quality of life adjustment.

All of the quality of life procedures . . . generate information of the form of observer-data, that is, data about some client, but strictly speaking, data are from the observer . . . After many steps, it is strongly the observer, rather than the client, who "owns" the data . . . it is a major error to mistake (this) for client-data . . . No matter how reliable the measurement procedure, if a client has an orientation that emphasizes, for example, the here-and-now, then items from a life-time satisfaction frame of reference will not capture this person's quality of life, although the observer may generate numbers for his analysis.

(Bloom, 1975:99)

The basic goal of this research is to develop a more reliable and valid measurement of life satisfaction. It is assumed that a more valid instrument will not only increase methodological effectiveness but will also contribute to development of sound theory.
CHAPTER III  
ESTABLISHING VALIDITY  
IN LIFE SATISFACTION MEASUREMENT

In dealing with the concept of life satisfaction, there are problems in defining and delineating the parameters of the concept. Methodologically, the researcher must cope with the question of how logically and efficiently the concept has been operationalized in terms of direct measurement techniques. Ultimately, the theoretical and methodological questions converge and several basic issues emerge. How valid is the basic conceptualization, and, how valid are the measurement techniques? Establishing the theoretical and methodological validity has proven to be a complex and difficult task for social scientists. The following discussion will outline the basic theoretical issues involved in establishing validity and will also evaluate the "state of the act" in terms of specific measures of life satisfaction.

I. VALIDITY IN THE SOCIAL SCIENCES.

Traditionally, the question of validity in the social sciences has been approached from the standpoint of whether or not a measurement instrument has been so arrived at that it can serve effectively as a means to a given end (Kaplan, 1964:198). "The usual characterization of a valid instrument is that it is one which measures what it purports to measure" (Jahoda, et al., 1954:109). As Kaplan points out, a measurement may succeed in measuring what it purports to measure
because the measurement procedure itself plays an important part in specifying the meaning of the term naming the magnitude in question (Kaplan, 1964:198). Essentially, validity at this level is a function of achieving operational definitions of the concept in question. Here, the quest for validity centers around adequate and consistent definitions. Second, a measurement may be validated by its empirical connections with other indicators of the magnitude. This is known as "prediction to a criterion" or as "test prediction." "Here the validity of a measurement is a matter of the success with which the measures obtained in particular cases allow us to predict the measures that would be arrived at by other procedures and in other contexts" (Kaplan, 1964:199). As Kaplan points out, validity then involves both definitional and predictive considerations; this is especially true when we are dealing with concepts which have been conceptualized not only in descriptive generalizations but also in some theory as well (Kaplan, 1964:199).

Social scientists have given a good deal of attention to the problems and errors involved in developing validity in these terms. For example, Kaplan discusses errors such as insufficient sensitivity, reliability over time, and systematic error as being inherent problems in developing "true measures." This calls our attention to the need for breaking down the various types of validity and recognizing that we are dealing with a complex and multi-dimensional conceptualization. In the literature, there are four major types of validity that must be considered.
A. Content Validity. Content validity refers to the representativeness or sampling adequacy of the content of the measurement instrument. Kerlinger (1964) and Holsti (in Lindzey and Aronson, eds., 1968) have described content validity as the extent to which the content of the instrument represents the content of the universe being measured. Essentially, this is achieved by self-validation or judgmentally determining whether or not the results are plausible. This involves, basically, estimating: 1) the degree to which the sample represents a random sampling of the universe in question; and 2) how well the items themselves represent the basic concept or property. As Kerlinger points out, content validation thus is based on a subjective judgment usually carried out by utilizing the evaluations of "expert judges."

. . . each item must be judged for its presumed relevance to the property being measured, which is no easy task. In many cases, other "competent" judges must judge the content of the items. The universe of content must, if possible, be clearly defined . . . the judges must be furnished with specific directions for making judgments . . . then, some method for pooling independent judgments must be used.

(Kerlinger, 1964:447)

In many cases, the researcher is content to assume that his conceptualizations and operational definitions make sense, and thus are self-validating. It will be argued here that often such assumptions are questionable and that in the area of life satisfaction, the content validity of scale items is not clearly self-evident.
B. Predictive Validity. Second, if a measure is valid, we should be able to use it to predict outcomes for which evidence is not currently available (Holsti in Lindzey and Aronson, eds., 1968:661). Here, "predict" is used in a broad sense.

In science, prediction does not necessarily mean forecast. One "predicts" from an independent to a dependent variable. One "predicts" the existence or non-existence of a relation; one even "predicts" something that happened in the past! This broad scientific meaning of prediction is the meaning intended when discussing predictive validity.

(Kerlinger, 1964:447)

Predictive validity is thus characterized by a prediction to an outside criterion and by checking a measurement instrument now, or in the future, against some outcome (Kerlinger, 1964:447). The basic problem in developing this type of validity in a measurement instrument is in determining the predictive criteria. What criteria are important in predicting levels of life satisfaction, and, how useful are these criteria in predicting variations in life satisfaction? Again, the validity of predictive criteria is not self-evident, and subjective judgments are often made by the researcher. The basic test of the predictive validity of an instrument is usually established by its utility over time and its breadth of applicability.

C. Concurrent Validity. Predictive validity and concurrent validity differ only in terms of time dimension. Concurrent validity is also established by prediction to an outside criterion but differs from predictive validity primarily with regard to the time at which the criterion measure is obtained. If the criterion measure and the
attitude measure (in this case, the life satisfaction measure) are administered at approximately the same time, the procedure is called concurrent validation; if the attitude score is obtained first and the criterion score at some future date, it is called predictive validation (Shaw and Wright, 1967:18). The most significant problem in estimating concurrent validity is the danger that one data collection will influence others, thus yielding a spuriously high estimate of validity (Shaw and Wright, 1967:18).

D. Construct Validity. The construct validity of an instrument is a more complex notion of validity, "which is concerned not only with validating the measure, but also the theory underlying the measure" (Holstí, in Lindzey and Aronson, eds., 1968:662). Here the researcher seeks to explain the individual differences in the test scores of the measurement instrument. The interest is more in the property being measured than in the test itself (Kerlinger, 1964:448).

One can see that construct validation and empirical scientific inquiry are closely allied. It is not simply a question of validating a test. One must try to validate the theory behind the test.

(Kerlinger, 1967:449)

Cronbach suggests that there are three parts to construct validation: suggesting what constructs possibly account for test performance, deriving hypotheses from the theory involving the construct, and testing the hypothesis empirically (Cronbach, 1960:121).

As Kerlinger suggests, the significant point about construct validity is its emphasis upon theory, theoretical constructs, and scientific empirical inquiry involving the testing of hypothesized
relations (Kerlinger, 1967:449). In contrast to predictive and concurrent validity, construct validity does not focus on the instrument's success in predicting a criterion.

The specific methods of estimating construct validity have proven difficult for social scientists to develop. Shaw and Wright indicate that in evaluating construct validity techniques, it is the point of view rather than the technique that is important. Whether the "known-groups" technique, correlation matrices, or some other technique is used, the emphasis is on how well the theoretical constructs account for the differences in scores on the measurement instrument (Shaw and Wright, 1967:19). Clearly, establishing validity at this level is challenging for the social scientist, and while he may be inclined to focus on the reliability of the instrument, the construct validity represents a vital link between the theory and its operationalization.

Other types of validity are discussed in the sociological literature. For example, Campbell and Fiske discuss convergent and discriminant validity which refer to correlations with other measures of the same trait and correlations with other tests from which they were intended to differ (Campbell and Fiske, 1959). Blalock outlines three types of hypothesis validity—internal validity, external validity, and concept validity (Blalock, 1968), and Gattring discusses validity in terms of latent versus manifest functions, expression versus thoughts, and expressions versus behavior (Galting, 1967).

The dynamics of these concepts of validity will not be discussed here except to recognize the varied approaches and, in many cases, the confusing terminology. It is concluded, however, that establishing
the validity of a measurement instrument poses difficult problems for
the social scientist. As Selltiz, et al., point out, the validity of
a measurement instrument is rarely self-evident and two major questions
must be considered: 1) whether the instrument is really measuring the
kind of behavior that the investigator assumes it is, and 2) whether
it provides an adequate sample of that kind of behavior (Selltiz, et al.,
1969:165). Traditionally, researchers have attempted to achieve index
validation by two means—through item analysis and through external
validation techniques. In item analysis, "the researcher examines the
extent to which the composite index is related to (or predicts re­
 sponses to) the items included in the index itself" (Babbie, 1975:348).
While this is an important first step in establishing the validity of
the test, it is, as Babbie points out, scarcely a sufficient test.
There must also be external validity in the sense that the items must
adequately cover the external range of the variable. (Do the items
on the scale relate to and reflect the variable itself, and do they
allow predictions of other indications of the variable?) As Selltiz,
et al., emphasize, we tend to focus on the first of these considerations
(establishing face-validity), while failing to deal fully with the
second consideration (establishing external validity). With these
general outlines of validity in mind, the specific problems and aspects
of establishing validity in terms of life satisfaction measurement will
be discussed.
II. ESTABLISHING VALIDITY IN LIFE SATISFACTION RESEARCH.

In terms of life satisfaction measurement, it appears that previous research has tended to focus on the item validity and more attention needs to be paid to the external validity of the measurement instruments. The Havighurst, et al., Life Satisfaction Index (LSI), Adams' revision of the LSI (LSIZ), the Lawton Philadelphia Geriatric Center (PGC) Morale Scale, and the Morris and Sherwood revisions of the PGC scale, all have focused upon establishing the reliability of the basic instruments, but the validity of these instruments needs to be more fully established. Martin Bloom (1975) asks: Do the various measures of contentment measure what they propose to measure? He raises the general criticism that the data generated from life satisfaction measures are essentially observer-based data as opposed to client-centered data (Bloom, 1975:99). These basic questions-criticisms emphasize the need for dealing more directly with the validity of the life satisfaction measures in assessing the relevance of the concept of life satisfaction in the adjustment process. How can this be accomplished?

At an abstract level, it is argued that researchers must be concerned with three levels of validity as well as basic reliability in developing measurement instruments. First, there must be concern with the theoretical validity of the instrument. Here, the focus is on the general questions of what are the basic components of life satisfaction and do the items adequately measure those components? One of the major weaknesses of the empirical work to date is that basic instruments have been used to measure a variety of conceptual dimensions (morale, life
satisfaction, successful aging, personal and social adjustment, etc.) where the validity of the instrument items are not self-evident. (For a good discussion of the scaling problems here, see Graney and Graney, 1973:351-359). Second, the time-dimension validity of the instruments needs to be established. The major question here is, does the instrument reflect the respondent's recollection of the past, his evaluation of the present, his projections into the future, and to what degree do the respective tenses reflect different measures of life satisfaction? The argument here is that the tense of the items must be taken into account in developing an overall measure of life satisfaction and that past, present, and future perceptions of life satisfaction can be very different. Third, the external or experiential validity of the instrument must be considered. The experiential validity refers to the extent to which the measurement instrument reflects the experiences and attitudes of the older person. The major issues here are: a) Are the items generated with the actual experiences of the client in mind; and, b) Does the older person have an input into determining and evaluating the components of life satisfaction? These three types of validity and specific research suggestions for achieving them will be more clearly outlined here.

The basic assumption here is that the three types of validity outlined below represent an attempt to operationalize the three basic types of validity (content, concurrent/predictive, and construct validity) in terms of life satisfaction measurement. More valid measures in these three specific areas need to be developed. While the parallels are not perfect, theoretical validity is set forth as
a step in achieving construct validity; time-dimension validity is set forth as a step in dealing with concurrent and predictive validity; and experiential validity is set forth as a possible approach to dealing with content validity. Each type of validity is described and specific suggestions are offered in this research as to how each might be operationalized in terms of the measurement of life satisfaction.

A. Theoretical Validity: Reassess the specific components of life satisfaction scales.

One of the stated strengths of the LSI and the PGC scales is that they attempt to identify specific components of life satisfaction and morale. (The LSI focuses on zest, resolution, congruence, self-concept and mood tone; the PGC focuses on surgency, attitudes toward aging, acceptance of the status quo, degree of agitation, degree of optimism, and degree of loneliness; and Morris and Sherwood's revision of the PGC focuses on attitudes toward aging, agitation, life satisfaction, tranquility, and satisfaction with life progression.) The Adams (1969) revision and retest of the LSI and the Morris and Sherwood (1975) revision of the PGC scale, through the use of factor analysis, biserial correlation (Adams) and K.R. 20 Alpha Reliabilities (Morris and Sherwood), confirmed the basic reliability of the respective instruments. The question remains, however, do these components measure life satisfaction and/or morale, and, more generally, do they truly reflect the individual's perception of the quality of life experienced? The basic validity of these components as measures of life satisfaction needs to be more clearly established. As Adams states in summarizing his assessment of the LSIA:
Some question has been raised concerning the representation of the five theoretical components said to provide the basis for the scale, and it might be suggested that further research along this line be directed at finding new items for the index which will fill out the theoretical design or which will provide better indicators of life satisfaction than those presently in the scale.

(Adams, 1969:473)

At a more general theoretical level, consideration is given to what images of man are being tapped by these dimensions, and, what crucial variables or components are in the adjustment processes. Inherent in the basic image of man issue is the question of what makes man happy or satisfied. How do we operationalize and measure dimensions of satisfaction and happiness?

Obviously, the subjective nature of these questions makes object validity difficult to establish, but the researcher must continue to explore and analyze these basic dimensions. There must be an attempt to deal more specifically with how man strives to achieve personal and social equilibrium. Without getting into a Hobbes-Rousseau type of discussion (is man inherently evil, good, selfish, etc.?), it is assumed that man meets his basic needs through association with others in a social context, and thus any concept of personal adjustment is approached through a group context. Historically, psychology has cast a wide theoretical net here, but the social variables must also be included. The gerontologist's basic image of man must be based on the assumption that the image is a reflection of the culture and characteristics of the groups to which the individual belongs. Life satisfaction
then must be seen in a group context and not just a matter of measuring individual personality and adjustment.

Also, from a theoretical point of view, it is important to see adjustment to old age in a total adjustment context. The basic generalization here is that, in dealing with adjustment, gerontologists have not fully developed overall views of an ongoing process where life stages are clearly delineated. Most significantly, sociologists have tended to view the aging process as some type of social problem without asking whether or not the problems inherent in the aging process are similar or comparable to those of the other stages of development. For example, is life satisfaction among the elderly the same as life satisfaction among adolescents; are the adjustment problems of aging comparable to the adjustment problems of the teenager, etc.? Certainly aging can be seen as a social problem or as an indicator of social change, but the question remains—is the aging process an integral part of the overall adjustment process, and, how does life satisfaction change over time? Dealing with these issues is theoretically important but obviously difficult to operationalize. Several specific areas of research are suggested here.

1. Most importantly, the specific components of life satisfaction/morale measures need to be compared in terms of their predictive validity. One suggestion here is to make the component indices more specific. (While the present scales incorporate specific components of life satisfaction, the item pools or questions are quite general.) The specific components of life satisfaction outlined in
previous research include the quite complex concepts (zest, tranquility, self-concept, etc.), yet the item pools used to measure these are few in number and general in nature. The question of whether or not these items provide valid dimensions of the components needs to be addressed. This would involve developing more specific items as opposed to the global measures presently used. Also, closer attention needs to be given to the validity of the components as predictor of overall adjustment. While the reliability of the indices may be high, we need to question the centrality of the components as predictors of overall adjustment. A research possibility here is to utilize the subjective evaluations of the elderly in determining the centrality of the components in their own perception of life satisfaction.

2. In addition to identifying the specific components of life satisfaction more carefully, the measurement scales need to reflect a more comprehensive range of variables noted above. A comprehensive scale should include biological, psychological, economic and social indicators of adjustment.

3. The existing instruments (and the projected instruments) need to be modified to allow cross-age sampling. In other words, one way of checking the validity of the life satisfaction components is to administer the scale to different age-group populations. This type of procedure could allow the researcher to evaluate the centrality of the specific components of the instruments in establishing global measures of life satisfaction.
4. To more fully establish the reliability of existing instruments, they need to be administered in other sample settings (including institutionalized and non-institutionalized settings). Also, it would be helpful to administer several different indices to the same population to compare the reliability of the items on each scale. By using factor analysis and rotating the items, comparative reliability of the items could be established. (For example, the procedure used by Morris and Sherwood in assessing the PGC scale needs to be duplicated in other sample setting.)

B. Time-Dimension Validity: Delineate more clearly the three specific time dimensions within the measurement instrument.

One of the basic problems in the Neugarten, et al., LSIA, LSIB, and the LSIZ (Adams' revision) and the PGC scale is that they do not clearly differentiate between the individual's perception of past, present, and future dimensions of life satisfaction or morale. Theoretically, it seems important to determine whether or not the person has significantly different perceptions of life satisfaction in each of these time perspectives. Operationally, this could be done by developing specific time-item pools within the instrument and then by comparing each time dimension with the other dimensions and a general measure of life satisfaction. Here, the instrument would include specific items measuring the individual's perception of past successes and failures, present status, and assessments of future potentials. While previous measurement instruments include different time dimensions in the items, the analyses do not differentiate between them but rather combine them into a general measure of life satisfaction.
By comparing the different time dimensions, it seems a more reliable measure could be established.

In research carried out by Curry and Ratliff, the importance of this time distinction is clearly established. Using data from a sample of two hundred Ohio nursing home residents measuring the effects of isolation on life satisfaction, the results were reassessed by making distinctions between the tenses of the measurement items (Curry and Ratliff, 1973). The items of the LSIA and LSIZ were classified by tense.

<table>
<thead>
<tr>
<th>Classifying Life Satisfaction</th>
<th>LSIA</th>
<th>LSIB</th>
<th>TOTAL NUMBER OF ITEMS AND POSSIBLE RANGE OF SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Tense</td>
<td>(5)</td>
<td>(0)</td>
<td>5 Range: 0-10</td>
</tr>
<tr>
<td>Present Tense</td>
<td>(10)</td>
<td>(11)</td>
<td>21 Range: 0-42</td>
</tr>
<tr>
<td>Future Tense</td>
<td>(2)</td>
<td>(1)</td>
<td>3 Range: 0-6</td>
</tr>
<tr>
<td>Unclassified</td>
<td>(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>29 0-58</td>
</tr>
</tbody>
</table>

The original data analysis indicated a moderate level of life satisfaction among residents of both large and small nursing homes whether or not they were isolated. (Isolation is determined by scoring the number of personal contacts with close friends and relatives.) The mean level of life satisfaction for the entire sample was 24, combining the LSIA and LSIB scores. Less than one-third of the residents
indicated substantial (scores under 20) dissatisfaction with their lives. A different picture emerges, however, when the life satisfaction items are broken down into past, present, and future tenses. As Table 2 indicates, the mean score for the sample of residents is above the midpoint for those items dealing with the past, below the midpoint for those items dealing with the future.

**TABLE 2**

Mean Scores of 200 Nursing Home Residents For Life Satisfaction Indices

<table>
<thead>
<tr>
<th>A and B Combined: Items Categorized by Tense</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Past Tense Items</strong></td>
</tr>
<tr>
<td>Number of Items:</td>
</tr>
<tr>
<td>Range:</td>
</tr>
<tr>
<td>Midpoint:</td>
</tr>
<tr>
<td>Mean for Respondents:</td>
</tr>
</tbody>
</table>

Clearly, if the scores for past life satisfaction are viewed as a projected baseline, the nursing home residents are generally indicating increased dissatisfaction with their current life situation and considerable forebodings for the future. (Theoretically, this raises the question of which is the most valid measure of life satisfaction—future perceptions or present perceptions.)

Equally important, an interesting pattern emerges when the past, present and future "life satisfaction" scores are examined separately for the "isolated" versus the "non-isolated" residents. Chart 1
indicates the trend through "projected" time for the per cent of each sub-sample that falls below the midpoints for the past, present and future life satisfaction items as given in Table 1. Although the "non-isolated" residents and the "isolated" residents show the same trends of decreasing life satisfaction through the projected time, the relatively non-isolated residents are always less dissatisfied at any point in time, and indicate substantially less projected future "life dissatisfaction."
While the differences at each point in time are not all statistically significant, the trends point up the differences in the three time dimensions and, at the very least, suggest that global measures of life satisfaction can be misleading to the extent that they combine satisfactions of previous life accomplishments and projections about what lies in the future along with current life satisfactions.
The suggestion here is that future life satisfaction scales should include item pools which represent equally the three time dimensions, and the relative scores on each time tense should be correlated rather than using only one summary global measure. Also, theoretically and methodologically it is important to assess how the three time perceptions of life satisfaction are affected by other variables (for example, institutionalization, isolation, physical health, etc.).

C. Experiential Validity: Consider alternative research strategies.

The measurement of life satisfaction should not be limited to observer-based data. Too often there has been a tendency to rely on observer-based data with the exclusion of client-generated data. This is especially true in research among the aged since it is often assumed that there will be problems of communication and rapport with older persons. As Bloom emphasizes, data generated from "typical" contentment scales may not truly reflect the client's frame of reference.

No matter how reliable the measurement procedure, if a client has an orientation that emphasizes, for example, the here-and-now, then items from a life-time satisfaction frame of reference will not capture this personal quality of life although the observer may generate numbers for his analysis.

(Bloom, 1975: 99)

The importance of including specific time dimensions in the measurement scale is obvious here; but, also, the use of other varied research methods is also in order. Specific suggestions to deal with this problem revolve around developing a broader range of research strategies.
1. As mentioned earlier, the client needs to be more directly involved and represented in determining the basic criteria of life satisfaction. The elderly should evaluate the specific components of life satisfaction (zest, self-concept, etc.) rather than having the observer make final decisions based solely on his own judgments of validity. In short, the client herself (collectively) should have an input in the determination of the components of life satisfaction. This could be done by having several samples of older persons rank order their perceptions of what is important in their own life satisfaction. (Here, the evaluations would include the previously established dimensions, but the client would also develop her own priorities.)

2. Alternatives to the standard interview techniques must be explored and expanded. Bloom's suggestion that client-based data criteria be used in generating the data in contentment research needs to be operationalized. This would involve talking with older persons over time as a biographer, allowing the person to respond in her own style. The researcher then allows the older person to develop and rank herself on her own dimensions. While this type of research would be time-consuming and perhaps more subjective in nature, it could provide a different approach to establishing valid measures of life satisfaction. This type of technique could also be coupled with existing or revised instruments to provide a more comprehensive treatment of the relevant variables.

3. There is a need to compare the results of the indices among different samples of older persons. The reliability of the instruments needs to be evaluated by comparing the results of "matched" groups in institutionalized settings (nursing homes), medical settings (hospitals),
and private residences (homes). In many cases the research instru-
ments are developed in institutional settings while only about 6% of 
the population over 65 years of age lives in institutional settings.

Conclusion

It has been argued here that researchers attempting to assess 
the relevance of the concept of life satisfaction in the adjustment 
process need to become more concerned with the validity of the instru-
ments used in delineating the dependent variable. While there have 
been significant attepts to assess the reliability of the measure-
ment instruments, relatively little attention has been given to the 
validity of the techniques involved. To deal with the specific pro-
blems of establishing validity three levels of analysis are suggest-
ed here. Establishing theoretical validity involves asking the diff-
cult questions of what are the social and psychological dimensions/
components of life satisfaction. Several specific research guide-
lines are presented which potentially can lead to more valid indica-
tors of these dimensions. Developing a time-tense dimension of life 
satisfaction measurement is also seen as a necessary step in producing 
more valid indicators. It is inferred that existing life satisfact-
ion scales do not distinguish between past, present and future dimen-
sions of life satisfaction and therefor their generalized of summarized 
scores may not reflect subtle yet crucial differences in the individ-
ual's perception of personal adjustment. It is suggested that future 
scales include equal treatment of the three time dimensions; that the 
relative importance of the time-tenses be more fully assessed; and, 
that caution is used in accepting global measures of life satisfaction.
Finally, there is an attempt to deal directly with what has been defined as experiential validity. In essence, the author has questioned whether the "standard" measurement instruments and techniques are sufficient in dealing with life satisfaction. The focus here is on developing alternative research strategies which take into account the experiences and perceptions of the people in the samples.

It is often easy to delineate problems; offering practical methods of dealing with the problems is more difficult. Hopefully, the research suggestions outlined here are a step in the direction of achieving more logical and consistent measurement techniques, and ultimately, more consistent theories of personal adjustment.
CHAPTER IV
THE RESEARCH DESIGN

The major goal of this research project is to develop the foundation for the creation of a more valid instrument to measure life satisfaction among older persons. Building upon the basic discussion of validity outlined previously, there is an attempt to systematically develop a life satisfaction scale that may be used in future research focusing on adjustment to aging. The specific research methodology guiding this endeavor is outlined here. Essentially the research focuses on five major objectives: a) To develop a "revised" measurement scale of life satisfaction that can be "field tested" on a sample of older persons; b) To compare the reliability and validity of the revised instrument to that of previous life satisfaction measures (specifically the Neugarten, et al., LSIZ scale); c) To focus on the measurement of past, present, and future dimensions of life satisfaction using the revised scale; d) To evaluate the impact of selected variables on life satisfaction in this sample; and, e) To develop guidelines for utilizing the scale in future research.

Before the specific components of the research strategy are outlined, it is important to identify and briefly discuss the underlying assumptions and emphases of this endeavor. First, in developing the foundation for a "more valid" method of measuring life satisfaction, the initial emphasis is on scale construction and data gathering.
techniques designed to measure and evaluate life satisfaction among older persons. However, the need for valid measures that can be administered to various age groups in the life cycle must also be considered. While the major emphasis is on the older person's adjustment to aging, ultimately the theories and methods should be applied to other age groups as well. A basic assumption is that the dynamics of aging and the aging process must be compared to the other stages of social development. Thus, the researcher wants to know if life satisfaction among the elderly is similar to or different from life satisfaction in other stages of the socialization process. Second, rather than focusing on the numerous variables thought to be correlated with life satisfaction (morale, happiness, self-concept, physical health, isolation, etc.) as has been typical of previous research, this study attempts to develop a more reliable and valid measure of life satisfaction itself as a dependent variable. In other words, perhaps the key to unlocking the interrelationships of variables related to life satisfaction is to develop a cleared and more valid measure of the various dimensions of life satisfaction itself. While most research endeavors in sociology attempt to "prove" or "disprove" specific hypotheses, the goal of this research project is to develop a sophisticated measurement instrument of a specific dependent variable (life satisfaction) so that hypotheses can be tested more effectively in the future. The emphasis is on testing the validity of the revised scale by comparing it to other life satisfaction scales. The theoretical perspective here is based primarily on "activity theory," but the
emphasis is on clarifying the nature of the dependent variable rather than developing statistical estimates of the relative causality of a long list of independent variables. Certainly better conceptions and measures of the independent variables are needed, but, "progress in explaining a dependent variable can only be attained when there is a clear conception and measure of what actually needs to be explained" (Curry and Ratliff, 1973:11). Third, the scope of the project is limited to a micro level of analysis in that the sample population is drawn from one geographic location. While this limits the range of generalizations growing out of the research, the assumption is that the instrument provides an initial analysis that will lead to projections and evaluations relevant to future research.

The specific strategies to be followed in this research are outlined here; the specific dynamics of the scale construction process and the interview techniques employed will be discussed in Chapter V.

I. SCALE CONSTRUCTION

The first important step in the scale construction is to identify and delineate the specific components of life satisfaction. It has been argued that one of the most obvious difficulties in previous life satisfaction research has been the arbitrary nature of selecting the core components and the item pools of life satisfaction. Bloom (1975) and Adams (1973) have stressed the need to reevaluate the research techniques used in selecting these components. Two strategies are developed here that focus on producing a valid scale in terms of the content validity of the measurement instrument.
A. A sample of persons over 65 years of age is interviewed to determine what criteria older persons perceive as being central to their own life satisfaction. (This sample includes both "institutionalized" and "independent" elderly from the settings where the revised instrument is ultimately tested.) The basic assumption is that a sample of respondents is tapped to determine what specific factors or dimensions are most important to them in terms of whether or not they are "satisfied" with their lives. The basic technique of the interview is to allow the individual to explain first in her own words what things make her feel satisfied or dissatisfied; second, she is asked to rank order a list of selected factors (these are drawn from existing scales); and third, the individual is asked if there are other factors that should be included on the list. While the summaries and generalizations growing out of these responses are somewhat subjective, these "data" become an integral part of the scale components.

B. On the basis of these interviews and the guidelines established by previous research, the specific components of life satisfaction are selected and then the specific item pools that are designed to measure the components are formulated. While this is often a subjective process, there is an attempt to develop a series of items that rank the individual in terms of each component as well as a summary life satisfaction score. The test of the reliability and validity of this "revised scale" is a major concern of this endeavor, however, definitive evaluations can come only after the instrument has been administered to several different sample populations. The implicit
assumptions of the scale items and the basic techniques of the scale construction will be discussed in detail later in this chapter.

The second (and perhaps the most important) component of the scale construction is to incorporate clearly delineated items relating to past, present, and future dimensions of life satisfaction. As outlined previously, the existing measures of life satisfaction do not clearly distinguish between these time dimensions; thus, item pools which allow comparisons of the individual (and group) perceptions of life satisfaction by tense are developed here. In terms of scale construction, this means that in addition to measures of general life satisfaction, the scale incorporates separate measures of past, present, and future perceptions of life satisfaction. It is assumed that this leads to a more discriminating research instrument. Separate life satisfaction scores are derived in each time dimension and it is hypothesized that this is more valuable than a summated, general life satisfaction score. (For example, while an individual may have a high score in terms of general life satisfaction, she may have a "low score" in terms of projections for the future. This type of time comparative data has not been available in existing scales.) While the concurrent and predictive validity of an instrument can only be established through longitudinal testing, the development of the time dimension components should make the instrument more valuable as a "predictive" device.

After the basic components, the time dimension pools, and the form of the interview questions have been established, the basic instrument is pre-tested on a sample of institutionalized elderly and revisions
are made before the scale is finalized.

II. FIELD TESTING THE INSTRUMENT - THE SAMPLE.

Once the scale is finalized, it is administered by interviewing three different target groups of older persons. The first sample is drawn from the "able" residents of a private, church-related nursing home in Wayne County, Ohio; the second sample includes an equal number of residents of a convalescent (Medicare) facility in the same county; and the third is drawn from elderly persons living independently in their own residences in this community. A basic description of these facilities may be found in Appendix A. Obviously, the combined sample is not completely representative of all "older persons" for several reasons.

A. The basic definition of older person for the purpose of this study is "someone over 65 years of age." A definition of "older person" using chronological age is at best an arbitrary convenience and reflects the basic myth that aging is measured only by number of years. Chronological aging does not take into account differences in rates of psychological, emotional, social, or physiological aging in individuals. "In fact, physiological indicators show a greater range from the mean in old age than any other age group, and this is true of personality as well. Older people actually become more diverse rather than more similar with advancing years" (Butler, 1975:7). In this sample older persons are defined in chronological terms; however, it should be emphasized that the only real justification for doing this is that it is consistent with the basic assumptions of most previous research.
B. The two "institutional settings" included here do not fully represent the total range of variations in different nursing home facilities in America. Extreme variations in types of care (from custodial to skilled-nursing), physical plants, economic resources, "typical residents," types of supervisory personnel, etc., make it difficult to generalize about the nature and functions of nursing homes as institutions. Again, the social scientist must deal with and overcome a number of basic myths about nursing homes. The layman's conception of the "typical nursing home" is bound to be colored by numerous misconceptions and generalizations. These perceptions may range from images of deteriorating, foul-smelling, custodial graveyards for the old and infirm to images of modern, antiseptic, utopian retirement centers. In reality, there are many different types of institutions designed to meet a variety of needs and functions. Therefore, the institutional settings included in this sample represent an isolated segment of the total spectrum. (It should also be remembered that only about 6 percent of the over 65 population live in nursing homes.) The purpose of including three different types of residential settings, however, is to control for type of residence as a variable in life satisfaction and to draw from a somewhat diversified sample.

C. The samples themselves are not random samples. Although there are obvious advantages (especially in terms of statistical analyses) in using random samples, for this project it was felt that certain "sample controls" would be necessary. For example, in dealing with nursing home populations, a simple random sample would include a
disproportionate male/female ratio since the typical nursing home has a relatively small percentage of male residents. Also, in the general over 65 population there is a high proportion of widows (as compared to married women living with their spouses). Because of these and other demographic characteristics, it was determined that the samples for this study would be "selective" rather than random. The guidelines for the selection process are outlined in the following section.

D. The samples are drawn from one basically "small-town, agriculturally oriented" community and thus the persons and living structures cannot be seen as representative of the total "aged population." It is assumed that the attitudes, concepts of satisfaction, life styles, etc., characteristic of other communities (large urban centers, for example) could be significantly different from those reflected in this sample. Therefore, this research does not generalize to a macro level, but rather uses a fairly select sample group to develop the initial measurement instrument. Hopefully, the instrument is adaptable to other sample situations so that direct comparisons are possible in future research.

E. **Target Groups.** With these qualifications in mind, there are a number of specific controls exercised in selecting the persons included in the sample. These controls may be summarized as follows.

1. An "obvious" control is that the persons in the sample must be relatively alert and able to communicate openly. It is extremely difficult (and unreliable) to administer an interview scale to a person who, for medical or psychological reasons, is unable to
understand and interact at a "meaningful" level. While problems of this nature are not restricted to older persons, it is assumed that communication and rapport problems would be evident in a strictly random sample of, for example, institutionalized elderly. Therefore, initial screening processes restrict the sample to basically "alert and cooperative" individuals. The initial screening comes from two sources: in the case of the two "institutional samples" the screening is done by the nursing and administrative staffs of the facility; the "at home" sample is screened by professionals (County Commission on Aging personnel).

2. As mentioned previously, the three target groups are drawn from three different types of residential settings. It is assumed that these settings reflect different characteristics and a range of variables thought to be relevant to life satisfaction.

The nursing home sample includes persons (over 65) who are essentially living out their lives in the institution—that is, they plan to remain in the facility until they die. While there is still a good deal of variation here, it is assumed that this sample is older, less healthy, less active, has fewer contacts with relatives, etc..

The convalescent center sample is drawn from a facility that offers skilled-nursing care designed to rehabilitate the individual leading to readjustment outside the institutional setting. The "typical resident" here is the person who is recovering from a serious illness or surgery, but plans to go home upon recovery. It is assumed that the length of stay, projections for the future, contact with family members, etc., are quite different from those of the nursing home sample.
The at home group consists of persons living in their own private dwellings. The basic assumption here is that these persons are more likely to be active, independent, in good health, etc. Although social class is not directly controlled, there is an attempt to incorporate a balanced sample in terms of geographic location of the residents. (Using census data generated in a housing survey completed by the City in 1975, equal numbers of persons from basic housing tracts are used.) As mentioned previously, these persons are screened and identified by County Commission on Aging and "senior center" staff personnel.

3. The sample includes only female respondents. There are several reasons for this: One is that it would be very difficult to achieve an equal male/female ratio (mentioned previously); but, more importantly, from a theoretical point of view it can be argued that the components of life satisfaction may be quite different for males and females. Therefore, in the initial instrument analysis, this variable is held constant to deal only with life satisfaction among women. Ultimately, the revised scale will be administered to samples of men for comparative purposes.

There are obviously advantages and disadvantages to restricting the samples as outlined above. It is argued that these target groups allow the researcher to focus more clearly on determining the basic reliability and validity of the measurement instrument. For example, it is assumed that a valid measure of life satisfaction reflects differences in scores when different types of residence are measured
with controls for other variables (sex, marital status, etc.). While differences in scores do not prove a causal relationship, they are a basic source for evaluating the validity of the instrument. These specific relationships are outlined more fully in the discussion of hypotheses section. It should be emphasized, however, that the target group controls do restrict the representiveness of the sample and caution must be used in generalizing from the data in terms of the interrelationships between the variables. Also, the lack of random sampling techniques restricts the data analysis to essentially non-parametric statistics. The basic data analysis techniques utilized in this study are summarized in the following section.

III. DATA ANALYSIS GUIDELINES.

Once the revised life satisfaction measure is finalized, the sample populations selected, and interviewed (using the revised scale as well as the "established" LSIZ scale), the data are coded and converted to IBM cards for computer analysis. (The specific coding procedures are discussed in the Scale Construction section.) The major thrust of the data analysis centers not so much on evaluating the absolute utility of the measurement instrument, but rather on evaluating the initial reliability and validity of the basic life satisfaction scales. While the relationships between variables measured by the instrument are important, hypothesis testing and determining the relative importance of the independent variables are not the major focus of the data analysis.
A. Sample Description. The first and most elementary level of data analysis is a basic description of the sample. The means and frequency distributions of all the variables measured by the interview instrument are summarized and briefly evaluated. As is the case with the other levels of analysis, the Statistical Package for the Social Sciences (SPSS) system is utilized. This system and its inherent computer programs allow the social scientist to perform a wide variety of statistical analyses with a minimum of programming and setup time.

B. Comparison of Life Satisfaction Scores and Other Variables. The second level of analysis focuses on three types of comparisons. First, the variations in individual and group scores when three different measures of life satisfaction are used are evaluated. Second, the life satisfaction ratings using the separate time dimension components are compared. Third, the relationships between life satisfaction scores and the other variables measured by the research instrument are considered. The major research questions center around three questions: Are there significant differences between life satisfaction scores when the "revised," LSIZ, and an "independent" evaluation are used?; Are there significant differences in the "within" components of the life satisfaction measures? (Most important here is the question of whether or not there are significant differences between past, present, and future components of life satisfaction in the different types of residence); Are there significant relationships between the dependent variable (life satisfaction) and the independent variables (physical health, age, etc.)?
Measures of association are computed by executing SPSS cross tabulations on the relevant variables. These cross tabulations yield eight measures of association including chi square and gamma coefficients. (The confidence level for significance is set at the .05 level.) While chi square analysis and other nonparametric statistics are helpful in determining basic associations between two variables, they are limited in that they do not allow the researcher to infer causality and they are less powerful with small samples. Therefore, in addition to these measures, Pearson's r and Kendall taus are computed on every variable (by every other variable). Kendall taus are used here rather than Spearman coefficients because it is felt that Kendall's are more conservative and they are more appropriate in situations where there may be numerous "ties" in the scoring, as often happens in life satisfaction measurement. There is no attempt to control for intervening variables at this level of analysis since sample size would be a problem here. However, the relative impact of the intervening variables are considered in the fourth level of analysis by using partial correlation techniques.

C. Scale Analysis. The third, and most important, level of analysis focuses on the reliability and validity of the scale items and the scales as a whole. The major statistical technique employed at this level is factor analysis. Using the SPSS Varimax Principle Factoring with Iteration (PA 2) system, the life satisfaction measures are factor analyzed. First, the separate scales (the revised scale and the LSIZ scale) are factored individually; then, the two scales
are combined and factored. The basic factor analysis follows pro-
cedures outlined by David Adams in his reevaluation of the Neugarten,
et al., LSIA and LSIB scales. Adams uses factor analysis in three
ways: a) average item variance explained is used to determine whether
or not the scales are measuring a single factor; b) communality of the
items is used to determine how well the individual items (and time
dimensions here) correlate with the life satisfaction factor; and,
c) rotated factors are employed to locate clusters of highly interre-
lated items and these item clusters are examined to determine whether
or not they appear to represent the theoretical components thought to
be the basis of the index (Adams, 1969:472). This research employs
similar techniques with an emphasis on using factor analysis to locate
clusters of interrelated items. Specifically, the data analysis at
this level focuses on: a) evaluating the content (or face) validity
of the scale items; b) determining whether or not the scale components
(especially the time dimension components) are clustering into clear-
cut factors; c) using factor analysis as a form of "data reduction" to
develop guidelines for more valid scales; and, d) using factor analysis
as a method of hypothesis testing. (Data reduction refers to the
process whereby factor analysis is used to determine the efficiency of
specific items in a scale. The least discriminating items are omitted
leading to a reformulation of the items. Adams uses this technique in
developing the LSIZ. The original LSIA contains 20 items; through
factor analysis, Adams eliminates 7 items from the scale to form the
LSIZ. The same type of data reduction is carried out here and,
ultimately, guidelines for the selection of items to be included in a "final revised scale" are outlined.)

Since social scientists tend to give factor analysis "mixed reviews" in terms of its theoretical and methodological relevance, a brief discussion of the rationale for using it in this research is outlined here. Kerlinger sees factor analysis as having two basic purposes: a) To explore variable areas in order to identify the factors underlying the variables; and, b) To test hypotheses about the relationships among variables (Kerlinger, 1964:680). Implicit in the first purpose is the assumption that factor analysis can be conceived as a construct validity tool. Kerlinger argues that factor analysis is a valuable tool in establishing construct validity since the main statistical preoccupation of factor analysis is common factor variance and by definition it is firmly tied to measurement theory. Construct validity seeks the "meaning" of a construct through the relations between the construct and other constructs. Essentially factor analysis enables the researcher to study the constitutive meanings of constructs and thus their construct validity (Kerlinger, 1964:680). The first purpose of factor analysis is basically accepted by social scientists but the second purpose, to test hypotheses, is not so well known nor well accepted. Again, Kerlinger's discussion is helpful.

... one can put tests or measures into factor analytic batteries deliberately to test the nature and identification of the batteries. The typical design of such studies has been well outlined by Thurstone, Catell, Guilford, and others. First factors are "discovered." Their nature is inferred from the tests that are loaded on them
... this nature is set up as a hypothesis ... the data are factor-analyzed. If the factors emerge as predicted, the hypothesis is to this extent confirmed, the factors would seem to have "reality" ... One would then have to test, among other things, the factors relation to other factors.

(Kerlinger, 1964:682)

Kerlinger argues that factor analysis is thus helpful in basic hypothesis testing and also may be used as a method of testing experimental hypotheses.

While this research utilizes factor analysis as both a way of evaluating the construct validity of the scales and as a way of testing hypotheses, it is important to recognize several inherent questions and limitations. The major valid criticism of factor analysis centers around the statistical inadequacy of the method and the subjectivity that enters the rotations. The researcher must be cautioned against attributing "reality" and uniqueness to factors that may not exist.

It is easy to name a factor and then to believe there is a reality behind the name. Factors are always tentative, subject to later confirmation. Then, too, as Wolfe and others have pointed out, factors can be produced by many things. Anything that introduces correlation between variables "created" a factor (Wolfe in Kerlinger, 1964:683). Other criticisms of factor analysis center around the problems of its statistical complexity and, strangely enough, its objectivity (Kerlinger, 1964:683). In spite of these basic questions, factor analysis may be seen as a way of evaluating the inter-item correlations of scale components, a useful tool in data reduction and scale formulation, and, an alternative method of hypothesis testing.
D. Partial Correlation Coefficients. The fourth step in the data analysis is to estimate the "relative effects" of intervening variables on life satisfaction scores. As indicated previously, this is not a central focus of the research, but it is important to assess the partialling effects of the major independent variables. For example, the researcher wants to see whether or not life satisfaction scores vary significantly by type of residence when the effects of health, level of activity, age, etc. are controlled. This statistically determines whether or not the relationship between two variables is "washed out" when intervening variables are introduced. Partial correlation coefficients (Pearsonian r and Kendall taus) are computed for the relevant variables. The partial correlation coefficients allow the researcher to evaluate the strength of association between two variables when the effects of a series of other variables are controlled.

Finally, the data analysis also deals with a portion of the "other data" generated by the interview instrument. The nature of this analysis is discussed at the conclusion of the scale construction section.
CHAPTER V
THE MEASUREMENT INSTRUMENT

The previous discussion outlines the basic objectives of the re­
search design and provides a general overview of the rationale for the
development of the research instrument; this discussion focuses on the
specific steps that were taken in the creation and administration of
that instrument. The basic guidelines inherent in this part of the
research design grow out of the three suggestions for developing more
valid life satisfaction measures discussed in Chapter III. Specifically,
the measurement instrument should reflect: a) a reassessment of the
specific components of life satisfaction; b) more clearly delineated
time dimension measures of life satisfaction; and, c) alternative re­
search strategies in terms of the measurement process. These three
suggestions represent attempts to speak to the inherent problems of
establishing what we have termed theoretical, time-dimension and
experiential validity of the instrument.

The steps in operationalizing these elements can be summarized as
follows. First, in addition to evaluating the components of "estab­
lished" measurement scales (the LSIA, the LSIB, the Lawton PGC Morale
Scale, and others), the "older persons'" evaluations of crucial compo­
nents of life satisfaction are assessed. There is an attempt to
include the "best of existing scales," the input of the subject sample
and original questions developed specifically for this study. Second,
as mentioned previously, the revised scale is structured to include an approximately equal number of past, present, and future tense items so that the time dimension components can be more fully analyzed. Third, the format of the measurement instrument includes several attempts to introduce "experiential" qualities into the data analysis. Essentially this means the instrument is administered in a flexible, open-ended interview style that allows the respondent to be "more directly involved" in the analysis of life satisfaction. The fact that a sample of older persons' perceptions of the important components of life satisfaction is incorporated into the basic instrument also reflects this "experiential" emphasis.

I. INSTRUMENT CONSTRUCTION

A. Background. In reviewing previous research attempts to develop valid measures of life satisfaction, Neugarten, et al., note that there have been two general points of view. The first view focuses upon the overt behavior of the individual and utilizes social criteria of success or competence. The implicit assumption of this approach is that the greater the extent of social participation, and the less the individual varies from the pattern of activity that characterized her life in previous periods, the greater is her well-being (this reflects an activity theory orientation). The second view focuses upon the individual's internal frame of reference. Here the measurement of variables has focused on the individual's own evaluations of her present or past life, her satisfaction or her happiness. The implicit assumption here is that the individual herself is the
only proper judge of her well-being; that the value judgments of the investigator can thus be minimized; and, perhaps most important, that it is not appropriate to measure well-being in old age by the same standards that apply to earlier periods in the life cycle, namely, standards based upon activity or social involvement (the disengagement theory orientation). (Neugarten, et al., 1961:134)

As Neugarten, et al., point out, most of the measurement instruments used in previous studies do, in fact, combine elements from both general approaches. For example, the Chicago Attitude Inventory (Cavan, et al., 1949; Havighurst and Albrecht, 1953; Haarghurst, 1957) focuses on feelings of happiness and usefulness, yet a "high score" depends indirectly upon a high level of activity. The Cavan Adjustment Rating Scale (Cavan, et al., 1949, Havighurst, 1957) also is based on interview data which takes into account not only the person's association with family, friends, formal and informal groups, but also her feelings of importance and satisfaction and her emotional stability (Neugarten, et al., 1961:134). The scales developed by Havighurst (1957) to evaluate life satisfaction incorporate interview data designed to rate the extent of role activity and also the individual's investment in and satisfaction with the performance in each role. Obviously, the problem with these scales has been that they are extremely vulnerable to conscious and unconscious psychological defenses and that such self reports usually have not been checked for validity against more objective criteria. While the Kutner Morale Scale, the Cumming, et al., Morale Index, the Neugarten, et al.,
Life Satisfaction Scales (LSR, LSIA, and LSIB), and Adams' revision of the LSIA have represented attempts to improve the measurement process, scale validation has remained a difficult problem. It must be recognized that attitude measurement and scale construction of this type are difficult to validate and that there are few objective, clearly defined guidelines for creating a "more valid scale." In spite of the inherent difficulties—the prevalence of value judgments, the arbitrary selection of components, the variety of measurement techniques used, etc.—the present research attempts to build on and improve the existing scales so that a short, easily administered, open-ended instrument can be developed and field-tested.

... the various attempts to define and to measure "successful" aging have been criticized largely because the attempts at definition and measurement are inextricably involved with value judgments. However, it becomes necessary to establish some measure of success or well-being in relation to which other social and psychological variables can be studied. In such research undertakings, therefore, rather than forego a measure of psychological well-being, it becomes the goal instead to construct as refined and as valid a measure as possible. Once the investigator makes his value judgments explicit by the choice of his terms and his criteria, the actual construction and validation of such a measure can go forward in (a) relatively straightforward and value-free manner.

(Neugarten, et al., 1961:134)

B. Selecting the Components of Life Satisfaction. As indicated previously, there are two basic sources for selecting the components of life satisfaction to be included in the measurement instrument: a) the guidelines established by previous measurement instruments current in the gerontological literature; and, b) the input of a
sample of older persons as to their perceptions of the important components. In addition to reviewing the basic literature on life satisfaction measurement, this researcher wrote to 25 "experts" in the fields of gerontology, sociology, psychology, and educational research who were previously or currently involved in research relevant to life satisfaction. The purpose of the letter was to receive input in three specific areas: a) Was the researcher aware of any contemporary research or scale development that did not appear in the popular literature; b) What suggestions would the expert offer in terms of developing "more valid" measurement techniques; and, c) What specific components did the "expert" feel were central to the concept of life satisfaction? While the responses to this "sampling of authorities" were varied, the replies may be summarized as follows:

1. There are few other attempts to revise or improve the existing scales underway at the present time. (Of the 19 persons who responded to the letter, none indicated awareness of specific projects related to these issues that had not already been reported in the literature. This may be interpreted in several ways. Perhaps the relevance of life satisfaction measurement has "waned" and there is little current interest in this area—or perhaps this reinforces the assumption that such revisions are solely needed but they are difficult to carry out. (The biased perspective of this researcher would accept the latter interpretation!)}
2. The most common response related to "more valid measurement" was that alternative method of tapping the dimension" needed to be explored. As Bloom has emphasized, there seems to be an awareness that the "client" must be more involved in the selection of component criteria as well as the measurement techniques.

3. The responses of the "experts" in terms of "key components" are difficult to summarize. However, based on the analysis of the literature itself as well as the responses to the direct question in the letter, the most common conceptions of life satisfaction seem to focus on the measurement of five basic dimensions:

a) A sense of enthusiasm for living (Neugarten, et al., would call this zest; Lawton would call this surgency--or a feeling of readiness to remain active or engaged).

b) A sense of resolution or acceptance of one's way of life. (Neugarten, et al., would refer to this as resolution or fortitude; Lawton would refer to this as the degree to which the individual accepts the status quo).

c) A sense of accomplishment or achieving life goals. (Neugarten, et al, see this as the degree of congruence between desired and achieved goals.)

d) A sense of the basic mood of the individual. (Neugarten, et al, see this as the degree to which a person is optimistic, positively toned
and define this as mood tone; Lawton would refer to this as degree of optimism.)

e) A sense of self worth or self esteem. Most researchers would define this as positive/negative self concept. (Neugarten, et al., see self concept as being made up of a series of feelings relating to the individual's current perception of self worth; Lawton incorporates the individual's own attitudes toward the aging process.)

While a variety of other social psychological dimensions of adjustment might be added to this list, these five components are seen as the key "academic" dimensions of life satisfaction. (The author is especially indebted to Powell Lawton and Richard Kalish for their thoughtful and comprehensive suggestions here.)

The second approach to the components represents a significantly different set of dimensions. In order to evaluate the "self-perceived" dimensions of life satisfaction the author interviewed a sample of 10 older persons drawn from one of the institutional target samples used in the study and a sample of 10 persons (over 65 years of age) living in their own homes. The basic technique of the interview process is to allow the individual to first explain in her own words what things make that individual feel satisfied or dissatisfied; then the respondent is asked to rank order a list of selected factors taken from existing scales (these factors were the five dimensions outlined above); and, finally, the individual is asked if she felt other factors
should be added to the list. In the interview situation, the researcher openly explained the purpose of the research and encouraged the respondent to react freely in terms of the factors she perceived as crucial to her own overall satisfaction (or happiness). As might be expected, the results of this "survey" were somewhat different than those generalized from the professional literature and the professional experts. The generalizations may be summarized as follows:

1. The responses of the older persons tended to reflect "more overt, practical" aspects of adjustment. Rather than thinking in terms of abstract social psychological dimensions (such as resolution or self concept), the older persons tended to think of life satisfaction in terms of more tangible factors (such as health status, contact with friends and relatives, and the degree of involvement in "outside" activities).

2. When asked to rank the relative importance of the five "selected components," the sample group saw resolution (79) as most important to life satisfaction; enthusiasm (76) was ranked second; mood (62) third; self-concept (52) fourth; and achieving goals (31) was seen as the least important. (These rankings were derived by assigning 5 points to the respondent's first choice, 4 to the second choice, and so on; then the scores of the total sample in each category were added. The numbers in parentheses indicate the summated
score of the sample in the respective component categories.)

The results of this ranking system were seen as rough indicators of how important the selected components were to this sample group. However, caution must be used in assuming that these rankings were reliable indicators. It is extremely difficult to present and explain the components in a clear, consistent way to the older persons in the interview situation. The "typical respondent" has difficulty in relating to the language and concepts inherent in the components; therefore, it is assumed that the conceptual, semantic problems--coupled with the small sample size--clouded the reliability of this approach. It is clear, however, that the sample tends to think of and define life satisfaction in different terms than the "typical researchers!"

3. With respect to the question as to what other factors should be added to the list, the three most common responses are: "happiness is a matter of individual personality" (some people are always happy); "my satisfaction depends on being able to see the people I like"; and, "satisfaction depends on the person's strength of religious faith or her relationship with God." There is a wide variety of other responses--
from "one's satisfaction depends on the ability to face and accept the inevitability of death," to "My happiness depends on whether or not I get three good square meals a day!" In general, however, these responses can be summarized as clustering around the innate characteristics of the individual, the quality of contacts with other persons (and a sense of roles), and a sense of spiritual/religious well-being.

The selection of core components for the abstract, multifaceted concept—life satisfaction—is a difficult task to operationalize objectively. The guidelines outlined above represent the basic rationale for selecting the dimensions to be measured. There are biases and value judgments represented in the selection (and omission) of basic components. Essentially, life satisfaction is conceived as being made up of a combination of factors that can be scaled along high/low, positive/negative dimensions. These components are the individual's perception of her enthusiasm, resolution, achievement of goals, mood, self-concept, physical status, frequency and quality of contact with friends and relatives, level of activity and independence, roles, and spiritual well-being. There are theoretical and philosophical assumptions (and biases) inherent in this combination of factors. For example, it does assume a cultural bias that stresses goal orientation; it assumes that "staying active" is a positive quality of aging, etc. In spite of the built-in values as to "the nature of man" and
the nature of the aging process, these components are considered to be the indicators of levels of life satisfaction. The combination of the "best of the existing scales," the input of professional gerontologists and the "client-centered input" serve as guidelines for a more valid life satisfaction measure in this research.

II. THE FORM OF THE INSTRUMENT

After the basic components of life satisfaction are established, the next step in the research is to develop a measurement instrument that: a) assesses the "background characteristics" of the respondent; b) includes a distinct revised measurement scale of life satisfaction including the major components; c) includes separate measures of past, present, and future perceptions of life satisfaction; d) includes a "standard", previously developed measure of life satisfaction; and e) provides additional data on the respondent's assessment of factors crucial to achieving satisfaction in her life and an evaluation of changes that have taken place in her lifetime. The general criteria for item selection centers on the need for simple, clear language, amenability to an open-ended interview situation, and relevance to the attitudes and concepts being measured. While this process does involve a good deal of arbitrary decision-making, the ultimate validity of the instrument is dependent upon the soundness of the item selection. The major steps in the item selection process in the development of the measurement instrument are outlined in the following sections. (The final measurement instrument appears in Appendix B.)
A. **Background Characteristics.** The first portion of the interview instrument focuses on a number of straightforward questions regarding the basic characteristics of the respondent. This portion of the interview serves as a "warm-up" component in that the respondent is asked to tell the interviewer "about herself," and is accomplished by asking the respondent to provide information in these areas:

- **Age**
- **Highest level of education attained**
- **Length of stay in present place of residence**
- **Future living expectations** (does the respondent plan to stay where she is?)
- **Geographic background** (How long has the respondent lived in the community?)
- **Marital status** (since most respondents were widows, this involved asking how long ago her husband died)
- **The individual's perception of her current health status**
- **The number of persons in her immediate family** (number of children, etc.)
- **Frequency of contact with family members**

The inclusion of these items is designed to do two things: provide basic demographic and background characteristics so that the "nature" of the sample can be identified; and provide data so that these factors may be evaluated as intervening variables in life satisfaction. There are several important background variables that are not included here. For example, socioeconomic status is not directly measured. While theoretically this has been seen as a crucial sociological variable in life satisfaction, this was not evaluated directly for "practical reasons." Specifically, the administrators of the institutional settings as well as a significant portion of the target populations were not willing to divulge this type of information. Thus, this variable was excluded for the sake of "gaining entrance"
into the sample population. Level of education and type of occupation (of the respondent and her spouse) were included in the original interview schedule and could be used as measures of SES; however, it was felt that, in the target samples, these factors are not reliable indicators of SES. For example, using level of education as an indicator of SES can be very misleading given the low levels of attainment typical of this age group.

B. The Revised Life Satisfaction Scale. The basic purpose of the revised scale is to provide a summary measure of the level of life satisfaction of each respondent. Many of the preceding research steps are designed to create a "more valid" indicator of the life satisfaction dimension. While the components of this measure have been discussed, the scale itself is not designed to evaluate the specific components, but rather the components are combined to create a global measure of life satisfaction. Therefore, the emphasis of the data analysis does not center on the respective components, rather it centers on the combination of factors into a scale that can be used to indicate high, moderate, and low levels of life satisfaction. The specific items, as they appear in the 20 item revised scale, will be outlined in order to indicate the basic purpose and source of the interview questions. It should be noted that the items, as presented here, represent only a portion of the "total effect" of the questions since they are administered in an open-ended, interview situation. The subtle mechanisms and the manner in which the items are interpreted are discussed in the Scoring and Coding Section.
The revised life satisfaction scale (RLSS) begins with item 12 of the interview schedule. (Refer to Appendix B.)

1. Questions 12 and 13, "What are the best things about being the age you are right now?" and "What are the worst things?" are combined to tap the respondent's basic enthusiasm with her present life situation. (These questions are also scored to evaluate the specific "best" and "worst" aspects, but the RLSS begins with the interviewer's evaluation of the enthusiasm for life expressed here; this evaluation is variable 15 on the interview schedule.) The form of this question is similar to the LSIB item #1 (see Appendix E).

2. Question 14, "What would you say is the most important thing in life?" has two purposes: a) to evaluate the specific factors that are seen as most important (this is not part of the RLSS scale); and b) to evaluate the frame of reference and the enthusiasm of the respondent. Again, the scale item becomes the interviewer's evaluation of the enthusiasm for life expressed in response to this question (variable 16). The form and scoring of this question is patterned after the LSIB item #3.

3. Question 17, "As you look back, how do you feel about the life you have had so far?" is designed to tap the respondent's sense of achieving life goals. This is similar to the LSIZ item #8 where Neugarten, et al., use the item to evaluate the congruence between desired and achieved goals.

4. Question 18, "How happy would you say you are right now, compared to other periods in your life?" is a time dimension item that is designed to compare past and present perceptions of life satisfaction. This item is similar to the LSIB item #4.

5. Question 19, "If you could be young again, say about twenty, would you do anything differently?" is designed to do two things: a) to give a general indication of mood; and b) to provide a second item tapping the respondent's sense of goal achievement. This item is similar to item #2 of the Havighurst Retired Steelworkers interview schedule, Section R. (See Appendix F.)

6-10. Questions 20-24, "In terms of future, what do you think your life will be like in the next few months?"; "What worries you most about the future?"; "What would you like most in the future?"; "What things do you look forward to?"; "What things do you dread?"; and "Are you satisfied with your plans for the future?" are all seen as indicators of the degree of resolution (acceptance of the status quo): the general mood of the individual; and, most importantly, these items represent the future time dimension pool. The form of these questions (but not the scoring procedure) was patterned after item #10 of the Retired Steelworkers Interview.
11. Question 25, "Do you ever get to feeling lonely or depressed?" is a general indicator of life satisfaction. Although loneliness is not included as a basic component, it is felt that the degree of loneliness/depression of the person is an important indicator of mood and basic outlook on life. (The LSIB item #7 and the PGG scale item #1 in the loneliness-dissatisfaction section are similar in form to this question.)

12. Question 26, "Do you wish you could see more of your close friends?" is designed to tap the perceived "quality level of contact with friends" of the respondent. This represents an attempt to include the contact with friends component that is perceived to be an important factor in life satisfaction by the pre-test sample. A similar question is included in the LSIB--item #9.

13. Question 27, "Who are the people who depend on you most now?" is designed to determine the degree to which the respondent perceives herself as playing important roles in the lives of others. It is felt that this item indicates two important aspects: a) the basic level of self esteem and self worth (does the individual see herself as being important in the eyes of other persons); and b) the degree to which the respondent sees herself as having significant roles in her present life situation. This item does not appear in the other life satisfaction scales being used as resources here, and thus was included for the specific purposes of this study.

14-16. Questions 28, 29, and 30, "How much happiness would you say you find in your life right now?," "As you get older, would you say things seem to get better or worse than you thought they would be?," and "How satisfied would you say you are with your way of life?" are general measures of present life satisfaction. They are designed to tap several dimensions: a) basic perceptions of happiness; b) general feelings of adjustment to the aging process; and c) they are the central components of the present life satisfaction time dimension. These items are taken directly from the LSIB--items #10, 11, and 12. While these items may appear to tap "adjustment to the aging process," it is assumed that they would be amenable for use with other age group populations.

17. Question 31, "If you could divide your life in parts--childhood, teenager, young adult, middle-aged, etc., which part would be the best?" is designed to tap the respondent's present level of satisfaction with her life compared to other periods in her life cycle. The specific responses are recorded (and used as "other information--items 35 and 36) but for the RLSS the interviewer evaluates the current satisfaction level of the respondent using this comparative technique. The evaluation is based on the general mood and level of positive/negative response here. This
18. Question 32, "What events or other things do you think have been most crucial to your overall happiness?" also is designed to provide two types of analysis: a) the specific "important factors" are recorded as "other information"—item 37; and b) the evaluation of the responses is another attempt to assess the degree of past life satisfaction. It is assumed that the dominant mood of these reflections indicates not only the general level of satisfaction of the individual, but also another evaluation of the respondent's perception of past levels of happiness: it was developed specifically for this scale.

19. Question 33, "What is your view of the 'condition' of our country and world; have things changed significantly during your lifetime?" is a global analysis of the respondent's satisfaction with life in general. It is assumed that the general responses to this question reflect the degree to which the individual has been able to accept and adjust to changes in the world around her and that "degree of adaptability" is related to the individual's level of satisfaction. This item is similar to item #13 of the LSIZ, however, the wording and coding procedures represent different emphases.

20. Finally, item 34 is a subjective evaluation of the respondent's basic level of self-concept. This evaluation is made by the interviewer on the basis of the overall tone and mood of the respondent in answering the above questions. While this may be questioned from a methodological standpoint, there is precedent for including this type of "data" in a life satisfaction scale. In effect, the self-concept component of the LSIZ is a summary score of the total scale items and Neugarten, et al., see this as a crucial element in their scale. The difference here is that rather than rising the summated scores as an evaluation of self-concept, the interviewer on the basis of the tone of the responses makes a judgment as to the positive/negative dimensions of the respondent's self-concept. (The use of a separate, standard measure of self-concept was considered; however, the basic applicability as scale items was questioned based on preliminary use in a pre-test situation.)

C. The Time-Dimension Components. The use of distinct past, present, and future items has been assumed in the above item selection and the actual wording of the component items was structured to provide items that represent the three time dimensions. Within the basic revised scale, the time dimensions sub-scales are conceptualized as follows:
Components of Perceptions of Past Life Satisfaction

(17) As you look back, how do you feel about the life you have had so far?
(18) How happy would you say you are compared to other periods of your life? (past-present comparative)
(19) If you could be young again, say about twenty, would you do anything differently?
(31) If you could divide your life in parts . . . which would be the best . . . worst?
(32) What events or things do you think have been most crucial to your overall happiness?

Components of Perceptions of Present Life Satisfaction

(15) What are the best things of being the age you are right now?
(25) Do you ever get to feeling lonely or depressed?
(26) Do you wish you could see more of your close friends?
(27) Who are the people who depend on you most now?
(28) How much happiness would you say you find in your life right now?
(29) As you get older, would you say things seem to be better or worse than you thought they would be?
(30) How satisfied are you with your way of life?

Components of Perceptions of Future Life Satisfaction

(20) In terms of your future, what do you think your life will be like in the next two months?
(21) What worries you most about the future?
(22) What would you like most in the future; what things do you look forward to?
(23) What things do you dread?
(24) Are you satisfied with your plans for the future?

While an attempt is made to develop clear-cut time dimension items, conceptually there are inherent problems in the interpretation of these components. For example: can an individual think of "present" satisfaction without interjecting criteria based on "past" experiences; it could be argued that perceptions of "future" satisfaction are based on "present" levels of satisfaction, etc. It is clear that a number of items (for example, item 18) might be regarded as
time comparative dimensions of life satisfaction. Therefore, a major
goal of the data analysis is to evaluate the validity of the selected
items as separate indicators of past, present, and future life
satisfaction.

D. The "Standard" Measure of Life Satisfaction. One of the basic
ways of assessing the reliability and validity of an instrument is to
compare its results to those of a "standard, accepted" measurement
device. Therefore, to serve as a validity check and a point of com­
parison, the interview schedule includes the basic LSIZ scale developed
by Neugarten, et al. This scale was selected for several reasons:
(1) It is one of the most widely used instruments in contemporary life
satisfaction research; (2) The basic item reliability of the scale has
been established. (The LSIZ represents a revision of the basic LSIZ:
David Adams, through inter-item correlations and factor analysis, re­
duced the original LSIZ (20 items) to a 13-item scale. He argues that
the 13 items included in the revised scale are "relatively reliable"
(Adams, 1969:473); and (3) The LSIZ is a simple, easily administered
scale. Thus, the last portion of the interview is devoted to admini­
stering the LSIZ. It should be noted that basic techniques of admini­
stration of the RLSS and the LSIZ are not the same. The LSIZ is
designed as a pencil and paper checklist type of scale whereas the
RLSS is administered in an oral, open-ended format. (The similarities
and differences in the scoring procedures will be discussed more fully
in the Scoring and Coding Section.)
E. "Additional Data." In addition to the background data and the two life satisfaction scales, the research instrument also incorporates several types of "additional data." These data included the respondent's evaluation of:

(12) The best things of being her present age
(13) The worst things about being her present age
(14) The most important things in life
(35) The best period of her life
(36) The worst period of her life
(37) The crucial events in her life
(66) The factors important to her life satisfaction

Most of these items are generated in relationship to specific scale items; however, the data analysis summarizes the specific responses and trends reflected in the sample.

III. PRETESTING THE INSTRUMENT

Before the interview schedule and the scoring/coding systems were finalized, the basic measurement instrument was pre-tested on a sample of 5 persons who lived in the "target" nursing home. The purpose of the pre-test was to evaluate the basic structure and content of the instrument, and to develop the basic guidelines for the interview process. First, the interview schedule was administered, then, the researcher asked each respondent to: react to the schedule itself; indicate how they interpreted specific questions in the scales; offer suggestions in terms of the interview technique. Again, there was an attempt to incorporate this "client-data" in the final research instrument. The major changes/results of the pre-test may be summarized as follows:
(a) The organization and design of the schedule was modified. example, the original instrument clustered the respective time dimension components together and in a time order (past items first, present items second, etc.). While logically this order seemed to be favorable to a mixture of time items, the pre-test feedback indicated that the overall structure of the items did not "flow easily." Therefore, the order was changed—the future time dimensions remain clustered, but the past and present items were reordered to facilitate smoother transitions between the questions.

(b) The initial scoring and coding systems were developed and evaluated in terms of their amenability to the responses elicited in the pre-test. The methods of recording the interview data and transferring them to data analysis systems were established. (These will be outlined in the Scoring and Coding Section.)

(c) The pre-test interview sessions served as a "training period" for the researcher. The initial guidelines for lead-ins, probes, etc., were developed and the basic "rapport problems" were evaluated. (For example, it was discovered that the interviewer needed to talk louder!) Since this researcher had limited interviewing experience, the pre-test proved to be a valuable learning process.

The specific interview guidelines and techniques that are utilized in this research are outlined below.

IV. INTERVIEW GUIDELINES

As indicated previously, the development of the specific measurement items represents only a portion of the total measurement
instrument; the items must be seen in the context of the interview technique itself. The general assumptions and guidelines for the interview schedule are outlined in Appendix G and the operationalization of the item scales are summarized in the Scoring and Coding Section.

The inherent problems and biases of the interview process must be identified and addressed by the researcher. The key here is to recognize the problems and to attempt to minimize them. Using the guidelines outlined in Appendix G, this research attempts to minimize the sources of interview bias by: using a structured interview schedule; developing a consistent format for presenting the questions (within the limitations of an open-ended format); developing a standardized scoring and coding system; limiting the number of interviewers; and attempting to develop an empathetic, non-threatening, yet consistent style in administering the interviews.

V. CODING AND SCORING THE INSTRUMENT

The ultimate reliability and validity of a measurement instrument is also dependent upon the methodological consistency and the conceptual relevance of the scoring and coding system. The basic goal is to develop a legitimate system of converting the verbal responses of the subjects to a consistent numerical scoring system. This is a challenging problem; caution must be used to avoid arbitrary and irrelevant quantification of the data. At the minimum, a consistent, structured method of data conversion must be established. The Code Sheet which
appears in Appendix C represents the basic coding system that is used in this research. While much of this coding system is self-explanatory, the basic techniques in developing the system and the specific categories that need further explanation are outlined and clarified below.

The interview schedule is designed so that responses to each question can be scored and coded into distinct categories. The original "variable" numbers, column numbers, variable names, and the range of categories were developed before the interviewing took place. (The variable numbers refer to the distinct factors included in the data analysis and the column number indicates the factors' location on the IBM data cards.) The categories were restructured after the pre-test and again after all the interviews were completed. (For example, categories were added to represent the range of responses to questions such as "what are the most important things in life?") There is an attempt to maintain a representative range of categories and at the same time collapse them into manageable ranges for the computer analysis. For example, the raw score age of the respondent is entered (variable 2) and it is also recorded into three categories (65-74, 75-84, 85 and over—variable 3). The categories were collapsed (largely into tricotomies) for ease of analysis and also because of the relatively small projected sample size.

As indicated in the scale development discussion, some questions are scored in multiple ways. For example, item 14, "What would you say is the most important thing in life?" is scored and coded in terms of
the specific response (i.e., good health) in column (14); it is also scored and coded by the interviewer as one of the measures of life satisfaction in the revised life satisfaction scale in column (15). The basic assumptions of scoring the revised life satisfaction scale are as follows:

a) The 20 item scale is seen as a summated index of the level of life satisfaction of the respondent.

b) The specific responses to each item on the scale are recorded by the interviewer on the interview schedule; immediately after the interview is completed, the interviewer evaluates each item response and ranks it in terms of high (2), moderate (1), or low (0) level of life satisfaction. (The specific guidelines established for this evaluation process are outlined in Appendix D.)

c) The numerical item scores are added to indicate a raw summary life satisfaction score (variable 38).

d) The raw score is converted to a life satisfaction rating score of high, moderate, or low life satisfaction. The categories are based on equal intervals that were determined prior to the interviewing (High = a total score between 29 and 40; Moderate = 15-28; Low = 0-14).

e) The separate past, present, and future time dimension scores are determined by summing the designated item pools. For example, the summary future life satisfaction score is computed by adding the item rankings for items 20, 21, 22, 23, and 24. Again, separate ranking scores are developed in each time dimension based on three equal intervals.

The LSIZ scale scoring is similar to that of the RLSS in that 2 points are given to an "Agree" response, 0 is scored for "Disagree," and 1 is scored for a "?." (This is reversed when the item is negative—see the Code Sheet.) This scoring system is modified in that Neugarten, et al., originally scored a 1 only for the "positive" responses indicating high life satisfaction (Neugarten et al., 1961:141).
It is felt that the use of modified scoring system makes summary scores of the RLSS and the LSIZ more comparable. After each item in the LSIZ scale is scored, a summary score is calculated and the total score (variable 50) to high, moderate, low ratings (variable 60). The component scores (zest, resolution, mood-tone, and congruence) are also computed by summing the appropriate items in the scale.

It should be noted that while the scoring systems of the two life satisfaction scales are similar, there are inherent differences. Most important, the RLSS items are scored and coded on the basis of the interviewer's evaluations of open-ended responses; the LSIZ is scored using a check-list sheet completed by the respondent.

VI. A FINAL VALIDITY CHECK

One additional attempt to assess the validity of the life satisfaction scales is incorporated into the data analysis. It is felt that it would be interesting (if not methodologically sound!) to compare the life satisfaction ratings derived using the scales to independent evaluations of the respondent's level of life satisfaction. Specifically, persons who know the respondents well are asked to rate the individuals in terms of basic levels of life satisfaction and happiness. This is accomplished by asking the charge nurse in the nursing homes and the coordinator of the County Commission on Aging to rank each individual in the respective target samples. In both cases, the raters have direct contact with the persons in the sample, and it is assumed that they are in a position to see and evaluate the individuals over a "relatively long period of time." (This is less likely
in the convalescent center sample since the length of stay is relatively short.) The researcher discusses the very general criteria to be used in evaluating life satisfaction with the rater, then asks the rater to evaluate the respondent's level of life satisfaction.

While the "scientific soundness" of this validity check may be questioned, the separate evaluations of life satisfaction (RLSS, LSIZ, and the independent evaluation) will be compared to determine the degree of consistency between the measures. (The independent evaluation is entered as item #65 in the data analysis.)
Summary of the Research Methodology and Measurement Instrument Objectives

The two preceding chapters have outlined the major assumptions and objectives inherent in the research methodology and instrument construction components of this research. The objectives revolve around: the attempt to develop an original approach to creating a revised, valid, measure of life satisfaction; the development of specific research strategies to field test the measurement instrument; the creation of techniques whereby the initial validity and utility of the measurement scales can be assessed; and, the evaluation of the specific variables incorporated into the measurement instrument. The methodology has been developed using: the guidelines of previous, relevant life satisfaction research, the unique input of the clients who are being evaluated; and, the theoretical and research assumptions unique to this research.

While the research design and data analysis do not emphasize hypothesis testing, the major research objectives (and the implied hypotheses) are summarized here. The measurement instrument (including the life satisfaction scales) is administered in an interview format to three target samples of older persons. It is designed to assess:

a) The demographic and background characteristics of the three target samples and the total sample. It is expected that there will be variation between the three samples in terms of the "background variables." Specifically, significant differences between average age, future living expectations, health status, and frequency and
quality of contact with friends and family of the three different groups are expected. For example, it is hypothesized that the three target samples will represent three "distinct" groups in terms of the dimensions measured by the research instrument. At the background level this means that when the three groups are compared the nursing home sample would be expected to be "older"; the convalescent center sample to be "less healthy" yet more likely to change living situations in the future; the "at home" to be "most healthy" and "more active," etc.

b) The "levels of life satisfaction" in the three target samples and the total sample. The levels of life satisfaction (as measured by the RLSS, the LSIZ, and the independent evaluations) of the three target groups are compared and analyzed. Particular emphasis is placed on assessing the past, present, and future dimensions of life satisfaction in the three groups and the total sample. For example, it is hypothesized that: the average life satisfaction score of the "at home" sample is significantly higher than the average score of the nursing home sample; that the "convalescent center" sample represents a middle range sample—"more satisfied" than the nursing home sample—"less satisfied" than the "at home" sample. Also, significant differences between the time dimension ratings of life satisfaction are expected (the "at home" sample should have higher scores on the future life satisfaction dimension than the nursing home sample; the future life satisfaction scores of the entire sample should be lower than the past satisfaction scores, etc.).

It should be noted that at this level of analysis the "type of residence" is conceptualized as the independent variable, level of life satisfaction is seen as the dependent variable.

c) The basic reliability and validity of the revised life satisfaction scale (RLSS). The statistical operations are designed to give initial assessments of "how well the revised instrument works," how it compares to other life satisfaction measures, and how valid the scale is. The difficulties in objectively establishing the validity of a measurement instrument are noted and there is an attempt to incorporate original research strategies (client-input, etc.) that improve the content, construct, concurrent, and predictive validity of the instrument. The initial assessment of the "successes" here centers on the use of Kendall correlation coefficients of the respective scale items and factor analysis of the RLSS (and comparisons between the RLSS and LSIZ using factoring techniques).

d) The impact of intervening variables on life satisfaction. Making the assumption that relatively valid measures of life satisfaction are used, the impact of the major intervening variables tapped by the measurement instrument are assessed. Again, type of residence is conceptualized as the independent variable, the level of life satisfaction as the dependent variable. The "background variables"
(age, health status, etc.) are "controlled" by using partialling statistical techniques to determine whether or not the relationship between type of residence and life satisfaction "wash-out" when a series of intervening variables are introduced.

It is recognized that the theoretical and methodological justifications for making these assumptions is not fully established. (For example, the "causal relationships" between types of residence and life satisfaction have not been discussed.) However, it is felt that this research design provides a framework for initially assessing the value of the life satisfaction scales, and, that ultimately, it will lead to more valid approaches to measuring life satisfaction and a greater understanding of the adjustment to aging processes.
CHAPTER VI
RESULTS AND DATA ANALYSIS

Introduction

The measurement instrument was administered following the guidelines outlined in the research design to a total sample of 90 persons (30 in each target group). The interviews were conducted over a five month period beginning in December, 1975. Accessibility to the respondents was not a major problem in completing the research. In the institutional settings the administrators of the facilities and the nursing staffs assisted in screening and contacting the respondents. The "at home" sample was initially contacted through a "senior citizens' program" and the majority of these persons were screened by a senior citizens' center staff person. Although there were some problems in establishing cooperation and rapport (one potential respondent, after being asked if she was willing to participate in the interview, said to a friend, "I must be really sick--a sociologist wants to examine me!", the majority of the respondents were quite willing to cooperate. After the initial apprehensions about being interviewed were dispelled (by saying that sociologists rarely perform surgery!), most of the respondents were quite willing to talk "about themselves." There was an attempt to facilitate this by: carefully introducing the nature and purpose of the interview; assuring the respondent that her
replies would be treated with strict confidentiality; stressing that the respondent need not answer any questions she felt were embarrassing; and, attempting to relate at an informal, personal level before the specific schedule items were presented. The major problem encountered during the interview process was the difficulty in keeping the conversation focused on the specific topics and items included in the measurement instrument. (Differences in the "frames of reference" were apparent here; however, since the interview was designed to allow the respondent a certain amount of freedom, this simply meant that length of the interview times varied a good deal.) The average length of the interviews for the total sample was 55 minutes.

The data analysis is divided into six major sections: (a) A summary of the basic "background characteristics of the sample; (b) An analysis of the differences in life satisfaction scores by type of residence using the three measures of life satisfaction; (c) An analysis of the time dimension components of the RLSS scale; (d) Factor analyses of the RLSS, the LSIZ, and the combined scales; (e) An overview of the effects of "intervening variables" on the life satisfaction scores; and (f) A summary of the "other data" measured by the research data. (In most cases, the major data trends are presented in the text and "additional data" will be included in the Appendices.)

I. CHARACTERISTICS OF THE SAMPLE: BACKGROUND VARIABLES

The frequency distributions of the total sample and the sub-samples (by place of residence) are presented in Appendix H and the contingency tables representing cross tabulations of place of residence by the nine
background variables are presented in Appendix I. The basic characteristics of the samples are summarized and interpreted as follows:

a) This is a "relatively old" group of people, with an average age of 80.5. As expected, the average age of the nursing home sample is the highest (85.5); the convalescent center represents an "intermediate group" (80.4); and the at home sample is the lowest (75.7). (The chi square value—residence by age—is significant beyond the .001 level.)

b) Considering the high average age, the educational levels are higher than might be expected. While 23.3% have less than an 8th grade education, the majority (64.5%) have a high school or college education. (It must be remembered that for this age cohort, a high school education is roughly equivalent to a college education today.) One explanation for this "relatively high level of education" is that two-thirds of the sample was drawn from institutions that are quite expensive to live in (i.e., $25/day plus medical expenses); therefore, it is assumed that the persons who "can afford" this living situation would have higher levels of education than the "average population." There is not a great deal of variation in educational levels by place of residence as indicated by a .8869 chi square significance.

c) There is a fairly even distribution of the sample in terms of the three categories indicating length of stay in the individual's place of residence. However, this is somewhat misleading due to the fact that the convalescent center used for one target group has only been in operation for one year. As was expected, the at home residents tended to live in their present dwellings for longer periods of time (80% have lived in their present location for more than five years). (chi square is significant beyond the .001 level.)

d) In terms of future living expectations, most (76.7%) of the respondents plan to stay in their present locations. As expected, the nursing home residents (93.3%) and the at home residents (96.7%) have no plans to change locations in the future, while the convalescent center sample is more likely to change locations in the near future—56.7% hope to move. (chi square is significant beyond the .001 level)

e) The sample is largely made up of persons who were born or have lived most of their lives in the target community. Only 16.7% of the sample are recent residents of the area,
with the convalescent center group being more likely to be residents than the other groups. (chi square is significant beyond the .001 level)

f) The marital status of the groups was controlled (although not as carefully as originally assumed) to include mostly widowed women: Three quarters of the sample were widows with the majority (53.3%) having been widowed for more than five years.

g) The overall health status (using self-report measures) is "somewhat better" than expected. While 71.2% of the sample have either temporary or major physical ailments, it was expected that the major, or serious health problems would be higher. 25.6% of the sample has major health problems, 28.9% indicate they have no physical problems at the present time. The screening procedures (selecting persons who were willing and able to talk) and the "halo effect" (not wanting to complain about physical ailments) probably affected the trends here. As expected, the convalescent sample has the highest number of serious health problems although 43.3% of this sample see their ailments as minor or temporary.

h) Most (62.2%) of the respondents have children and other family members living in the immediate geographical area. Only 11.1% have children that live outside the target community. (Family sizes, locations of children, and occupations of the children were recorded; however, this information is not analyzed here.) There is very little difference between the residence samples in terms of family and family proximity (chi square is not significant). It appears that the children of the respondents tend to settle in the same area; perhaps this reflects the small-town, agriculturally-based community situation.

i) The majority (66.6%) of the respondents have only occasional or infrequent contact with their children—only 33.3% see their children on a weekly basis. Given the fact that most of the children live in the same geographic area (noted above), this seems to indicate that, as much of the gerontological literature stresses, older persons tend to have limited direct contact with their immediate family. Although the issues of alienation and isolation are not addressed in this research, these data would seem to generally support the idea that the older persons have decreased direct contact with their families. (One must be careful not to overgeneralize here: for older persons may prefer to remain "somewhat independent" and frequent direct contact with children is not essential to overall satisfaction.)
It should be noted that the frequencies and contingency coefficients outlined above are to some extent a function of the sampling procedures employed in the research methodology. While there are inconsistencies, it does appear that there is justification for assuming the target samples do represent distinct groups that may be used in comparing life satisfaction measures.

II. LIFE SATISFACTION SCORES: COMPARING THE MEASUREMENT SCALES

In order to initially assess "how the measurement scales are working," the basic trends in levels of life satisfaction measured by these scales are summarized. This is accomplished by assessing the summary (raw) and rating (low, moderate, and high categories) scores of the samples. This gives a general picture of: "how satisfied" the total sample is; what differences in life satisfaction levels exist between the three residential settings; and, an initial comparison of the similarities and differences in scores derived using the RLSS, the LSIZ, and the Independent Evaluation measures. Three basic statistical operations are utilized: frequency distribution, non-parametric correlation coefficients in contingency table form; and, Kendall rank order correlation coefficients.

The frequency distributions for the sub-samples and the total sample using the summary scores of the RLSS and the LSIZ as measures of life satisfaction are presented in Appendix I and summarized in Table 3.
TABLE 3
MEAN LIFE SATISFACTION SCORES
AND VARIANCES AS MEASURED BY
THE RLSS AND LSIZ SUMMARY SCORES

<table>
<thead>
<tr>
<th></th>
<th>RLSS MEAN</th>
<th>RLSS VARIANCE</th>
<th>LSIZ MEAN</th>
<th>LSIZ VARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Home</td>
<td>15.5</td>
<td>117.9</td>
<td>12.5</td>
<td>38.9</td>
</tr>
<tr>
<td>Convalescent Center</td>
<td>19.1</td>
<td>86.5</td>
<td>15.1</td>
<td>41.7</td>
</tr>
<tr>
<td>At Home</td>
<td>25.3</td>
<td>69.6</td>
<td>17.8</td>
<td>20.1</td>
</tr>
<tr>
<td>Total</td>
<td>19.9</td>
<td>105.9</td>
<td>15.1</td>
<td>37.5</td>
</tr>
</tbody>
</table>

(Note: The independent evaluations of life satisfaction are not included here since they are not based on summary scores. In evaluating the frequencies here it should be remembered that there are a different number of items in the two life satisfaction measures).

The frequency distributions of life satisfaction summary scores for the total sample indicate that there is a wide range of scores using both of the major measurement scales. The sample included both "very unsatisfied individuals" and "very satisfied" individuals. The mean scores for the total sample were close to the arithmetic mean of the two scales respectively; 19.9 for the RLSS (arithmetic mean=20), and 15.1 for the LSIZ (arithmetic mean=13). This indicates that while the ranges were high on both scales, the average summary scores fell near the middle of the moderately satisfied level (as we would expect using averaged summary scores).

The mean scores by type of residence indicate that the average life satisfaction scores were consistently lower in the nursing home sample, middle-range for the convalescent center sample, and higher
for the at home sample. Since the mean scores by residence using both the RLSS and the LSIZ increase in the expected direction and at "fairly consistent" intervals, this indicates initial confirmation of the hypothesis that the type of residence may be used as an ordinal scale, and perhaps it represents a rough interval scale. Given the assumptions behind the sampling procedure, this may also be interpreted as an initial validity check for the scales themselves—that is, if the measurement instruments are "working as designed" we would expect them to yield lower scores for the nursing home sample, intermediate ones for the convalescent center, and higher ones for the at home sample. On the other hand, it could be argued that the scores are a function of the sampling procedure, and do not necessarily indicate validity of instruments; therefore, other assessments of validity must be considered.

The high variance in the scores using the RLSS indicates that there is a high level of dispersion of scores from the mean. (Mathematically, variance is the average squared deviation from the mean.) The life satisfaction scores in general do not cluster around the mean; and, there is considerably less clustering around the mean when the RLSS is used. When the LSIZ is used the scores tend to cluster closer to the mean of the distribution. From a statistical standpoint, these assumptions could be challenged since the variance statistic assumes a normal distribution and interval level data; however, it is argued here that the differences in variance figures between the RLSS and the LSIZ give a general indicator that the two scales yield different life
satisfaction measures. It is interesting to note that the variance is highest in the nursing home sample (117.9) using the RLSS; highest in the convalescent center sample using the LSIZ; and lowest in the at home sample for both scales.

Table 4 summarizes the distribution of the levels of life satisfaction (based on the rating scores) for the total sample using the three different rating measures.

<table>
<thead>
<tr>
<th>LEVELS OF LIFE SATISFACTION (Total Sample)</th>
<th>AS MEASURED BY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>RLSS</td>
</tr>
<tr>
<td></td>
<td>34 (37.8)</td>
</tr>
<tr>
<td></td>
<td>LSIZ</td>
</tr>
<tr>
<td></td>
<td>17 (18.9)</td>
</tr>
<tr>
<td></td>
<td>INDEP. EVAL.</td>
</tr>
<tr>
<td></td>
<td>25 (27.8)</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 (33.3)</td>
</tr>
<tr>
<td></td>
<td>38 (42.2)</td>
</tr>
<tr>
<td></td>
<td>34 (37.8)</td>
</tr>
<tr>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26 (28.9)</td>
</tr>
<tr>
<td></td>
<td>35 (38.9)</td>
</tr>
<tr>
<td></td>
<td>31 (34.4)</td>
</tr>
</tbody>
</table>

(Numbers in parentheses indicate percentages falling in the low, moderate, and high categories)

The basic generalizations here are that: a) using the RLSS, there is a fairly even distribution of low, moderate, and high levels of life satisfaction in the total sample; the largest category (37.8%) is low life satisfaction; b) using the LSIZ, the scores are more unevenly distributed and tend to fall in the moderate to high levels (with only 18.9% in the low category); and c) using the Independent Evaluation, the levels are also evenly distributed with the largest category (37.8%) being the moderate level.

In order to assess the trends more fully, cross tabulations compare the three types of residence to the levels of life satisfaction.
using the RLSS, LSIZ, and Independent Evaluation rating scores.

These cross tabulations are summarized in Table 5.

**TABLE 5**

CROSS TABULATIONS OF TYPE OF RESIDENCE BY LIFE SATISFACTION LEVELS (USING THE RLSS, LSIZ, AND INDEPENDENT EVALUATION RATING SCORES)

<table>
<thead>
<tr>
<th>Type of Residence:</th>
<th>RLSS LIFE SAT. RATING</th>
<th>LSIZ LIFE SAT. RATING</th>
<th>INDEP. LIFE SAT. RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOW MOD. HIGH</td>
<td>LOW MOD. HIGH</td>
<td>LOW MOD. HIGH</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>19 4 7</td>
<td>13 9 8</td>
<td>14 8 8</td>
</tr>
<tr>
<td>Conval. Center</td>
<td>12 12 6</td>
<td>4 14 12</td>
<td>7 12 11</td>
</tr>
<tr>
<td>At Home</td>
<td>3 14 13</td>
<td>0 15 15</td>
<td>4 14 12</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 20.26, \ \text{sign.}<.001, \ \gamma = .488 \]

\[ \chi^2 = 19.39, \ \text{sign.}<.001, \ \gamma = .461 \]

\[ \chi^2 = 8.81, \ \text{not significant}, \ \gamma = .309 \]

In the following summary of the comparative trends, the raw scores are converted to percentages.

**The RLSS.** When the RLSS rating scores are used as measures of life satisfaction, the nursing home sample is characterized as low in satisfaction with 63.3% falling in the low range, 13.3% in the moderate range, and 23.3% in the high range. The convalescent center sample is characterized as low to moderate in satisfaction with 40.0% in the low range, 40% in the moderate range, and 20% in the high range. The at home sample is moderate to high with only 10.0% in the low range, 46.7% in the moderate range, and 43.0% in the high range. Again, this reflects the basic trend apparent in the frequency distributions of summary scores; that is; moving from nursing home to convalescent...
center to at home, the life satisfaction ratings are consistently higher.

**The LSIZ.** The LSIZ rating scores reflect slightly different low, moderate, and high break downs, but the basic trend noted above continues. Here, the nursing home sample is relatively low in satisfaction with 43.3% in the low range, 30.0% in the moderate range, and 26.7% in the high range. The convalescent center sample does not score as low (compared to the RLSS Score) with only 13.3% in the low range, 46.7% in the moderate range, and 40.0% in the high range. The at home sample is moderate to high (similar to the RLSS) with 0% in the low range, 50% in the moderate range, and 50% in the high range.

**Independent Evaluations.** The life satisfaction levels when measured by the independent ratings tend to be more evenly distributed than the RLSS and LSIZ ratings. The nursing home sample again is lower in satisfaction levels than the other places of residence with 46.7% falling in the low range, 26.7% in the high range. The convalescent center is characterized as moderate to high with 23.3% in the low range, 40.0% in the moderate range, and 36.7% in the high range. The at home sample is characterized as moderate to high (similar to both the RLSS and LSIZ), with 13.3% in the low range, 46.7% in the moderate range, and 40.0% in the high range.

The chi square values for the RLSS and LSIZ indicate that there is a significant relationship between type of residence and level of life satisfaction (when these scales are used). The gamma coefficients indicate that these relationships are relatively strong. When the
Independent rating is used as the measure of life satisfaction, the chi square value is not significant and the gamma coefficient is comparatively low.

The basic generalizations of these trends may be summarized: a) All three measures reflect low scores in the nursing home sample, moderate scores in the convalescent center sample, and moderate to high scores in the at home sample; b) The RLSS tends to reflect lower life satisfaction scores than the LSIZ for the individual places of residence and the total sample; c) The Independent rating scores reflect a more equal distribution of low, moderate, and high scores in the total sample; and d) While all three scores rate the nursing home sample as basically low in satisfaction, they consistently rank about one quarter of the nursing home residents as high in satisfaction.

To further assess these relationships, Table 6 indicates the Kendall tau rank order correlation coefficients and significance levels using type of residence and the life satisfaction measures as the variable pairs.

TABLE 6
KENDALL RANK ORDER CORRELATION COEFFICIENTS:
TYPE OF RESIDENCE WITH LIFE SATISFACTION MEASURES

<table>
<thead>
<tr>
<th>TYPE OF RESIDENCE WITH:</th>
<th>tau</th>
<th>sign. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLSS SUMMARY SCORE</td>
<td>.329</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>LSIZ SUMMARY SCORE</td>
<td>.282</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>RLSS RATING SCORE</td>
<td>.344</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>LSIZ RATING SCORE</td>
<td>.312</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>INDEPENDENT RATING SCORE</td>
<td>.210</td>
<td>&lt; .002</td>
</tr>
</tbody>
</table>
The Kendall tau is used as a product moment correlation coefficient to test the "goodness of fit" between two variables. (It is seen as the nonparametric equivalent of the Pearsonian r that measures the linear relationship between two variables.) Thus, we are asking: to what extent do type of residence and life satisfaction scores vary together; and, what is the level of association between two different measures of life satisfaction?

The basic interpretations of the correlations in Table 6 are:
a) That there are significant, positive relationships between type of residence and level of life satisfaction (as measured by all 5 types of scores); b) That this again indicates that moving from nursing home to convalescent center to at home situations, the level of life satisfaction becomes higher; and c) That there appears to be a stronger association between residence and life satisfaction scores when the RLSS is used.

<table>
<thead>
<tr>
<th>TABLE 7</th>
<th>KENDALL RANK ORDER COEFFICIENTS CORRELATING THE LIFE SATISFACTION MEASURES IN PAIRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLSS Summary Score with LSIZ Summary Score</td>
<td>tau</td>
</tr>
<tr>
<td></td>
<td>.695</td>
</tr>
<tr>
<td>RLSS Rating Score with LSIZ Rating Score</td>
<td>.712</td>
</tr>
<tr>
<td>RLSS Rating Score with Independent Rating Score</td>
<td>.695</td>
</tr>
<tr>
<td>LSIZ Rating Score with Independent Rating Score</td>
<td>.583</td>
</tr>
</tbody>
</table>
These correlations represent one final way of comparing the life satisfaction scores derived from the different measurement scales. Summary scores using the RLSS and LSIZ, and the rating scores of the RLSS, LSIZ, and Independent ratings are compared in pairs using the total sample scores. The assumption here is that these correlations will give an indication of the level of association between two scales and if the measures are "working in the same way" the tau coefficients would be high.

Table 7 indicates that the three scales compared in pairs do in fact correlate quite highly. As we would expect, the RLSS and LSIZ rating scales (which were scored and categorized in similar ways) have the highest correlation coefficient (.7115). Also, the correlations between the RLSS and the other two scales are consistently high using both the summary and rating scores. The LSIZ and Independent ratings also correlate significantly; however, the association is not as strong (.5830).

Taken together the statistical analyses presented in this section do not establish the basic validity of the measurement instrument; however, several conclusions are drawn from them. a) While the mean scores of life satisfaction (using the RLSS and LSIZ) fall near the arithmatic mean, there is a good deal of dispersion of the individual scores around the mean. Especially when the RLSS is used, the variance is high indicating that there are a good number of scores at the low and high life satisfaction extremes. b) There are significant variations in life satisfaction levels when types of residence are compared.
As expected, the nursing home sample summary and rating scores are lower (with more variance), the convalescent center scores are moderate, and the home scores are consistently higher. Thus, there is initial confirmation of the assumption that type of residence forms an ordinal scale. The significant (and positive) Kendall correlations between the measurement scales and type of residence reinforce this assumption. c) There are variations in life satisfaction scores when the three measurement techniques are compared. The RLSS tends to produce lower life satisfaction levels—particularly in the nursing home and convalescent center samples; the LSIZ tends to rank fewer respondents in the low life satisfaction level; and the Independent Evaluations reflect a fairly even distribution of low, moderate, and high levels. While these variations exist, the scales, taken together, do reflect similar trends in overall life satisfaction levels. d) Finally, the high positive correlation coefficients between the respective scales give an initial indication that they are measuring the data in similar ways. This does not justify an assertion that they are valid measures of life satisfaction; however, it does support the assertion that they are reliable measures.

III. PAST, PRESENT, AND FUTURE DIMENSIONS OF LIFE SATISFACTION.

A basic assumption underlying this research is that previous global measures of life satisfaction have not measured or assessed the differences in an individual's perception of satisfaction from a time dimension frame of reference. As noted in the discussion of establishing validity in life satisfaction measures, one of the major
objectives of this research is to develop an analysis of the differences in life satisfaction levels from a past, present, and future time perspective. To this end, the time dimension components that are built into the RLSS will be presented and analyzed in this discussion. Again the data analysis focuses on an initial analysis of the "basic utility" of these measures. The major steps in the analysis will be:

a) To summarize the basic frequency distributions in the total sample;
b) To compare the differences in time dimension rating scores for the different residential settings; and, c) To correlate the past, present, and future life satisfaction scores with summary life satisfaction scores. Also, in Section F of this chapter, the cross tabulations and correlations between the time dimension measures and other variables (the "background variables") will be summarized.

First, frequency distributions indicating the levels of life satisfaction in the three time dimensions using both the summary scores and the rating scores of the total sample are presented. Since the time dimensions were based on a limited and unequal number of items the summary score frequencies are not reported; however, the rating categories (low, moderate, and high) levels of life satisfaction for the entire sample are presented in Table 8.
TABLE 8
FREQUENCY DISTRIBUTIONS
LIFE SATISFACTION LEVELS FOR EACH TIME DIMENSION

<table>
<thead>
<tr>
<th>LIFE SATISFACTION RATING LEVEL</th>
<th>TIME DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PAST</td>
</tr>
<tr>
<td>Low</td>
<td>17 (18.9)</td>
</tr>
<tr>
<td>Moderate</td>
<td>37 (41.1)</td>
</tr>
<tr>
<td>High</td>
<td>36 (40.0)</td>
</tr>
<tr>
<td></td>
<td>90 (100.0)</td>
</tr>
</tbody>
</table>

The general trends here support the hypothesis that the total sample would have higher perceptions of life satisfaction in the past dimension, lower levels in the present, and lowest levels in terms of satisfaction with future plans. Only 18.9% of the total sample are "dissatisfied" with their past, 41.1% are moderately satisfied, and 40.0% are highly satisfied. (This table should be read down in columns rather than across in rows.) The sample has lower perceptions of their present satisfaction with 43.3% at the dissatisfied level, 34.4% at the moderately satisfied level, and 22.2% at the high satisfaction level. In terms of perceived satisfaction with the future, 60% are ranked as dissatisfied, 15.6% as moderately satisfied, and 24.4% as highly satisfied.

Again, of major concern here is whether or not there is a significant relationship between type of residence and the life satisfaction scores in this case, the time dimension components. The cross tabulations of type of residence by the time dimension rating scores are summarized in Table 9.
TABLE 9
CROSS TABULATIONS
TYPE OF RESIDENCE BY PAST, PRESENT, AND FUTURE
TIME DIMENSION RATINGS

<table>
<thead>
<tr>
<th>TYPE OF RESIDENCE:</th>
<th>PAST</th>
<th>PRESENT</th>
<th>FUTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LIFE SAT. LEVEL</td>
<td>LIFE SAT. LEVEL</td>
<td>LIFE SAT. LEVEL</td>
</tr>
<tr>
<td></td>
<td>LOW</td>
<td>MOD.</td>
<td>HIGH</td>
</tr>
<tr>
<td>Nursing Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Conval. Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>At Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

\[
\chi^2 = \begin{array}{ccc}
17.88 & 16.21 & 16.69 \\
< .001 & < .002 & < .002 \\
.425 & .514 & .542
\end{array}
\]

The basic trends for the three types of residence samples by time dimension components are outlined here. The nursing home sample as a group is: a) fairly evenly distributed in terms of perceptions of past satisfaction with the highest percentage (40.0) in the low or dissatisfied level; b) basically dissatisfied with their present life situation with 63.3% in the low level and only 13.3% in the satisfied level; c) as expected, quite dissatisfied with their plans and prospects for the future with 80% being in the low level and only 6.7% at the high or "very satisfied" level.

The convalescent center sample may be characterized as: a) "moderate" in its view of past life situations with only 13.3% in the low range and 56.7% in the moderate satisfaction level; b) more dissatisfied with their present situation with 50% in the low range and only 13.3% in the high range; and c) most dissatisfied with their
future with 66.7% in the dissatisfied level. Note that this is higher than the nursing home sample. There is also, however, a larger percentage (26.7%) that are "very satisfied" with their future.

The at home sample may be characterized as: a) moderate to high in past life satisfaction with only 3.3% falling in the dissatisfied level; b) not quite as satisfied with their present situation (compared to perceptions of the past) with 16.7% falling in the dissatisfied level and lower percentages in the moderate and high satisfaction levels; and, c) less satisfied with the future (compared to present perceptions) with 33.3% "dissatisfied" with future plans, but still fairly optimistic overall with 26.7% in the moderate level and 40.0% in the high level.

To clarify and summarize the trends here, Chart 2 is a graphic representation of life satisfaction perceptions "through time" for the three target groups. (The percent dissatisfied refers to the percentage of persons in each group scoring in the low satisfaction category.)
CHART 2
LIFE SATISFACTION (PERCENT DISSATISFIED) THROUGH "PROJECTED" TIME
FOR NURSING HOME, CONVALESCENT CENTER, AND AT HOME RESIDENTS

PERCENT "DISSATISFIED"

PAST PRESENT FUTURE

______ = NURSING HOME SAMPLE
--- --- = CONVALESCENT CENTER SAMPLE
--- --- = AT HOME SAMPLE
Since there are three levels of satisfaction used here, it is meaningful to also look at the percentage of persons in each sample that are "highly satisfied" through projected time. Chart 3 summarizes these trends.

**CHART 3**

**LIFE SATISFACTION (PERCENT SATISFIED) THROUGH "PROJECTED" TIME FOR NURSING HOME, CONVALESCENT CENTER, AND AT HOME RESIDENTS**

- = NURSING HOME SAMPLE
- - - - = CONVALESCENT CENTER SAMPLE
-.--.-- = AT HOME SAMPLE
The statistical relationships between type of residence and the time dimension components (using the RLSS rating scores) are summarized in Table 10.

<table>
<thead>
<tr>
<th>TYPE OF RESIDENCE WITH:</th>
<th>tau</th>
<th>sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAST RATING SCORES</td>
<td>.288</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>PRESENT RATING SCORES</td>
<td>.353</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>FUTURE RATING SCORES</td>
<td>.349</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

**Interpretation.** The basic trends here support the hypothesis that older persons will have higher perceptions of satisfaction "looking back" on their lives than their present and future perceptions of life satisfaction. The graphs indicate that there is a steady progression of increased dissatisfaction for all three types of residence when the dissatisfaction levels are projected through time. In comparing the "progressions" in the different residences, it is noted that there is a fairly consistent tendency for all three groups to have increased dissatisfaction levels as they move to present and future evaluations. However, it should be noted that the levels of past satisfaction vary considerably by type of residence. It might be expected that the perceptions of past satisfaction would have been "more similar" for the three groups. One interpretation of this trend is that the perceptions of past satisfaction are in fact colored by the individual's present circumstance and her evaluation of her future
satisfaction. It would be interesting to compare these trends with those of different age groups to more fully assess the relationship between past, present, and future perceptions of satisfaction. For example, would these basic trends emerge if young adults are sampled in different residential settings? The dynamics of the effects of present and perceived future satisfaction on evaluations of the past should be studied more specifically in future research.

Also, it is noted that the sharpest increase in dissatisfaction between the past and present dimensions takes place in the convalescent center sample. This is expected since it is assumed that a greater percentage of these people are facing "significant" problems in their present situation (they are more likely to have undergone a recent change in residence and health status). It is interesting to note that the convalescent center sample is the only group that has an increase in satisfaction between the present and future dimensions (the at home sample remains the same; the nursing home sample decreases). Again, this is expected since it is assumed that a greater percentage of these people plan to leave the "institution" in the near future and thus are more likely (especially in comparison to the nursing home sample) to see "better days ahead."

The correlation coefficients (Table 10) are used here to evaluate the degree to which changes in time dimension ratings correlate with the different places of residence. (Again, it is assumed that the types of residence form a scale and that life satisfaction scores are higher moving from the nursing home to the convalescent center to the
at home samples). Although the tau values are not extremely high, they are significant and they go in the expected positive direction. Since the tau value is highest for the present dimension, this is interpreted as meaning that there is a slightly higher tendency for the present ratings to be correlated with the type of residence.

The basic assertion, based on the trends outlined, is that the time dimension components are measuring levels of life satisfaction in the expected ways (both for the total sample and for the different types of residence). If the target samples do represent the "known groups" as assumed, the consistency of the trends of the measurement components in the expected directions helps to establish the basic reliability and validity of these sub-scales.

Additional Analysis. There are several other related questions that warrant further analysis. Specifically, how do the time dimension scores compare to the summary life satisfaction scores? (Do persons scoring high on the total life satisfaction scores also score high on the individual time dimensions; are they more likely to score high on past life satisfaction and low on future life satisfaction; etc.?) One way of initially addressing these questions is to compare the time dimension scores to the "overall" life satisfaction scales included in the measurement instrument. Table 11 represents such a comparison. The past, present, and future summary and rating scores are correlated with the RLSS and LSIZ summary and rating scores and the RLSS rating scales are correlated with the independent evaluation rating scales.
TABLE 11

KENDALL RANK ORDER COEFFICIENTS
CORRELATING OVERALL LIFE SATISFACTION SCORES
(USING THE RLSS, LISZ, AND INDEPENDENT EVALUATIONS) WITH
THE TIME DIMENSION COMPONENTS

<table>
<thead>
<tr>
<th>TIME DIMENSION</th>
<th>RLSS SUM</th>
<th>RLSS RATING</th>
<th>LSIZ SUM</th>
<th>LSIZ RATING</th>
<th>INDEP. RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAST</td>
<td>.674</td>
<td>.713</td>
<td>.572</td>
<td>.670</td>
<td>.640</td>
</tr>
<tr>
<td>PRESENT</td>
<td>.786</td>
<td>.735</td>
<td>.640</td>
<td>.635</td>
<td>.520</td>
</tr>
<tr>
<td>FUTURE</td>
<td>.768</td>
<td>.689</td>
<td>.597</td>
<td>.530</td>
<td>.506</td>
</tr>
</tbody>
</table>

(All tau values are significant beyond the .001 level)

The first generalization is that, as expected, the correlation coefficients between the RLSS "total life satisfaction" measures and the sub-scales (time dimensions) are quite high. The implication is that there is a strong correlation between the levels of scores as measured by the total scale and the time dimension components (high life satisfaction total scores would correlate with high past, present, and future scores). This is expected since the time dimension components are components of the total life satisfaction scale. However, in comparing the strength of correlations of the time dimensions with the total scores, the expected trends are not substantiated. Particularly, the correlations between the RLSS total scores and the future subscale are expected to be lower than the RLSS and the past subscale correlations. Instead, (using the RLSS) the correlations for both the summary and the rating scales are highest (.7861 and .7346 respectively) in the present dimension. There are several ways this might be
interpreted: a) That (in the total sample) persons who rank high on life satisfaction in general are more likely to rank high on present life satisfaction; and b) That the higher correlations in the present time dimension may be a function of the sub-scale items (for example, the items used as the "present pool" may actually be more general predictors of life satisfaction and the future "pool" may be more "time specific" items). The first interpretation is somewhat inconsistent with the trends noted earlier; the second will be analyzed more fully through factor analysis techniques.

Second, when the LSIZ is used as a measure of overall life satisfaction, the correlations with the time dimensions are again significant and positive. These correlations are lower than those using the RLSS; this is expected since they represent two distinct measurement scales. There is no clear-cut trend here, although when the rating scores are compared, the correlations are highest in the past, slightly lower in the present, and lowest in the future dimension.

Third, this trend also exists when we use the Independent Evaluation ratings (the correlations are positive, fairly high, and they decrease in strength as we move from past to present to future). Based on these correlations it cannot be concluded that a particular time dimension clearly is the best predictor of overall life satisfaction. However, using the three rating scales it does appear that generally the past dimension is more strongly correlated with overall satisfaction, the present slightly lower, and the future dimension has the lowest correlation coefficients. These trends will be addressed
more fully in the following discussion.

IV. ASSESSING THE RELIABILITY AND VALIDITY OF THE RLSS FACTOR ANALYSIS

In analyzing the background characteristics, the comparison of the life satisfaction scales, and the time dimension components, it has been implied that the data trends give initial support to the assertion that the RLSS is a reliable and valid measure of life satisfaction. The basically consistent trends (in the expected directions) have been seen as initial indicators of the reliability and validity of the RLSS instrument. Now, the reliability and validity of the scale will be assessed more fully. The major method of doing this is to compare the RLSS to the LSIZ using several statistical techniques that give indicators of the consistency and variations in the scales. The assumption here is that the LSIZ has been seen as a reliable measure of life satisfaction. It reflects previous methodological refinements—the items having been selected by Adams (from the original LSIA) on the basis of bi serial correlations and factor analysis techniques (Adams, 1969:471-474); and, the scale has been widely applied and accepted as a basically reliable instrument in life satisfaction research. Thus, the LSIZ is seen as a "reliable point of comparison." If the scores and measurement trends of the RLSS are consistent with the LSIZ it may be inferred that they are measuring the same constructs (validity) and that they tend to produce the same types of scores in the target populations (reliability). The basic statistical approaches are to: first, correlate (using Pearsons and
and Kendalls) the results of the summary scores of the two instruments; and, second, to factor analyze the component items of the two scales—first individually and then as a combined scale.

In correlating the summary RLSS scores with the summary LSIZ scores the Pearson correlation coefficient is .8513 (sign. = .001) and the Kendall correlation coefficient is .6950 (sign. = .001). These relatively high significant correlations are interpreted to mean that there is a good deal of overlap or consistency between the two scales. Thus, the two scales seem to be "measuring the constructs in a fairly consistent way." While this is a further indication that the RLSS is a reliable instrument and that the scales are measuring the same dimensions, other techniques of assessing the reliability and validity of the components of the scales need to be explored. It is in this sense that factor analysis is utilized as an additional source of "scale evaluation."

The basic assumptions of the factor analysis technique used in this study are outlined in Appendix K. The factor analysis is employed to assess the construct validity of the RLSS and also serves as a method of data reduction to produce a more valid revised scale. As indicated previously, the major focus of this analysis is centered on an evaluation of the time dimension components. The basic assumption in interpreting the factor analysis is that the related items (similar constructs) should cluster together with high leadings on a single factor. For example, it is expected that the future dimension items would cluster in the same factor and have relatively high
loadings. (The cut-off point between high and low loadings is somewhat arbitrary in factor analyses. Loadings above .40 will be considered "relatively high" in this analysis.) The factor loadings for the RLSS are presented in Appendix L.

The factor analysis of the RLSS produces fairly clear clustering of the time dimension items in separate factors. Particularly, the future dimension items all have relatively high loadings on Factor 1 and no other scale item is above the .50 level. Also, none of the future items load high in the other factors. Thus, there is some indication that the items that are designed to measure future life satisfaction are quite distinct items.

The other time dimension items do not cluster as clearly but there are basic indications of interrelationships. The three highest loadings in Factor 2 are all present dimension items; however, the other three present items do not load as high. These three are all higher than the other items in Factor 2 but several of these (Var 015 and Var 016), load higher in other factors. Thus, a question is raised in terms of how clearly these items reflect present satisfaction and this becomes a basic guideline for data reduction. (Perhaps these items are not the best indicators of present life satisfaction.) In Factor 3, three of the high loadings are past dimension items and this is seen as the "past dimension factor." There are several ambiguous items, however. Var 017 and Var 019, that are defined as present items, load very low and Var 025 that is defined as a present item, loads quite high here. Var 017 ("As you look back on your life, how
satisfied would you say you are?") is particularly difficult to explain since it is assumed that this item would reflect high face validity. Instead of loading high on the past dimension, it loads extremely high on Factor 4. Therefore, the legitimacy of this item as a measure of past satisfaction must be questioned. Var 025 ("Do you ever feel lonely or depressed?") perhaps is being interpreted in a past framework, but it is concluded that this is not a good measure of present life satisfaction and should be seen as a "general life satisfaction" item. The items that do not "factor well," thus will be excluded from the revised scale.

The next step in the data reduction process is to factor the combined RLSS and LSIZ items. Hopefully, this provides further guidelines for assessing the items and for selecting more discriminating scale items. The factor loadings for the combined scale items are presented in Appendix M. Again, the factor analysis is used to focus on the reliability and validity of the time dimension items. For the "combined scale" factor analysis the items in the LSIZ are classified as past, present, future, and general (no clear time reference) items. The interpretation of this combined factor analysis is summarized in Appendix N.

On the basis of the factor analyses it is suggested that the data reduction process should include the "best of the two scales" to form more valid and reliable time dimension items. Specifically, the "revised combined" scale includes the following time dimension pools:
PAST: Var 017 (.81981); Var 019 (.70017); Var 047 (.41161); Var 053 (.46111): and Var 055 (.45125)

PRESENT: Var 048 (.65244); Var 049 (.68615); and Var 050 (.60233)

FUTURE: Var 020 (.81334); Var 021 (.47794); Var 022 (.45022); Var 023 (.72437); and Var 024 (.68514)

This constitutes a revised 13-item scale utilizing the "best items" when the combined factor analysis is interpreted. There are several implications here in terms of assessing the validity of the RLSS. It is clear that there were several basic problems when the items are assessed by this test of face validity. Particularly, the past and present dimension items were not "as strong" as the future items. (Note that none of the RLSS present items are used in the revised scale above), and that perhaps these items were "too general" or were actually tapping other dimensions. This perhaps reflects several basic weaknesses in the items themselves. It is possible that these items were "too general, too global, and that they tended to reflect unclear or 'mixed' time dimensions." The revised scale items outlined above were computed as a "new scale" and this scale is incorporated into the intervening variable analysis.

The assessment of the other "components" inherent in the scales is not presented here. This type of analysis (particularly additional factor analysis and inter-item correlations) should be done in follow-up research. One other initial evaluation of the individual components is included here. Kendall rank order coefficients are computed to correlate the individual RLSS scale items with the RLSS and LSIZ summary life satisfaction scores. It is assumed that the "lower"
correlation coefficients indicate items that are "poorer predictors of overall life satisfaction." These correlations are presented in Appendix 0 and summarized below.

The three items with the lowest correlations are:

Var 017  "As you look back, how do you feel about your life so far?"

Var 019  "If you could be young again, say about twenty, would you do anything differently?," and,

Var 033  "What is your view of the 'condition' of our country and world? Have things changed significantly in your lifetime?"

Although the first two items (above) are included in the combined life satisfaction scale, the predictive validity of these items must be questioned. The other item correlations do not vary a great deal, although further statistical analysis is needed in future research.

Hopefully, the factor analysis and subsequent data reduction has produced a more efficient general measure of life satisfaction as well as clearer time dimension components. (The combined scale is presently being field tested and additional assessments of its reliability and validity will grow out of this research).

V. PARTIALLING THE EFFECTS OF INTERVENING VARIABLES

In assessing the association between two variables it is important to take into account the possible effects of other (or intervening) variables. In this study, the basic question becomes: Do the relationships between type of residence and life satisfaction "hold up" or change when other variables are introduced? In effect, partialling gives the researcher a way of identifying spurious
relationships and a way of locating intervening variables. As noted previously, partial correlation coefficients are preferable to using cross tabulations with controls in that the cross tabulation process "exerts a tremendous drain on the average cell frequencies and it takes a very large sample to execute even relatively simple controls." Unlike cross tabulations, in partial correlations the controls are statistical rather than literal and smaller samples may be used effectively (Nie, et al., 1970:302).

Using the partialling technique, the relationships between type of residence and life satisfaction controlling for five key "background" variables are assessed. The four major measures of life satisfaction—the RLSS, the LSIZ, the Independent Evaluations, and the "revised combined scale"—are separately correlated with type of residence with controls for age, education, length of stay, health status, and frequency of contact with children. Zero-order, first-order, second-order, and third-order partials are computed using these variables. Thus, at the third-order level, for example, the strength of the association between residence and life satisfaction can be assessed when age, education, and health status are controlled.

The complete list of partials is not presented here; rather, selected effects are briefly outlined. (Note: In preparing the matrices necessary for the computation of the partial correlations Pearson coefficients were used rather than Kendall's and thus, the correlations tend to be slightly higher than they would be if the more conservative Kendalls were used.)
The major conclusion drawn from the partialling analysis is that the "significant relationship" between residence and life satisfaction remains when the control variables are added. For example, using the RLSS, the zero-order partial correlation coefficient is .391; when first-order partials are introduced, the coefficients do drop but the relationships all remain significant beyond the .01 level. (Controlling for age the value = .386; education = .384; length of stay = .389; health = .351; frequency of contact = .338. All values are significant beyond the .001 level.) The lowest value (using the RLSS is .251 (sign. = .009) when age, health status, and frequency of contact are controlled at the third-order level.

While similar trends develop when the LSIZ is used as the measure of life satisfaction, the values tend to be lower. The zero-order value of residence and life satisfaction = .355. This drops to: .301 (.001) when frequency of contact is controlled; .92 (.036) when age and health are controlled; and a low of .166 (.063) when age, health, and frequency of contact are controlled. In this case, the relationship between residence and life satisfaction is not significant at the .05 level when these three variables are controlled.

The Independent Evaluation produces values that are consistently lower than the other two measures with the exception of the control for age, health, and frequency of contact where it has a value of .273 (sign. = .005). The Revised Combined Scale values are almost completely consistent with the RLSS values and significance levels. While this type of "scale comparison" can be expanded through comparing the
partitlling effects, the most important generalizations focus on the relative effects (or importance) of the intervening variables. The major conclusions summarizing the partialling analysis are: a) That at the first-order level, the variable that affects the relationship between residence and life satisfaction the most is frequency of contact, with health status being next in importance; b) At the second-order level, the combination of age and health status is most important, with health status and frequency of contact being next in importance and c) At the third-order level, the combination of age, health status, and frequency of contact seem to have the most impact, with length of stay, health, and frequency of contact next in importance. Of the five variables, level of education appears to have the least impact on the relationship between residence and life satisfaction levels.

VI. A SUMMARY OF "OTHER DATA" MEASURED BY THE INSTRUMENT.

The previous data analysis discussions have focused on the differences in life satisfaction levels of the sample (and sub-samples), and the assessment of the basic life satisfaction measures. In addition to providing data for this type of analysis, the measurement instrument yields a good deal of information relevant to "other issues, attitudes, and perceptions" of life satisfaction. While these data are not considered in the previous statistical analyses, it seems important to summarize and reflect upon the basic trends here. This secondary analysis represents a general way of assessing the "most common"
attitudes and responses of this sample population of older people. A summary of the major responses and selected interpretations follows.

When asked, "What are the best things of being your present age?," the most common response is: "There aren't any!" Thirty-two percent of the total sample respond in this manner, reflecting a sizable degree of dissatisfaction with their present life situation. Beyond this, the two most common responses that reflected "good or best things" are "a sense of independence" and "the freedom to enjoy my leisure time." It is not uncommon for the respondents to express feelings that "for the first time in my life I don't have to worry about what other people want me to do." (One woman went so far as to say, "Now that my husband's dead and I am alone, for the first time in my life I can do what I want to!"

The most frequent response to "What are the worst things about being your present age?" is, as might be expected, "My health or physical condition doesn't permit me to do what I want to do." Over 35% of the sample cite "poor health" as the worst part of "being old." The next highest response (13%) indicate that the worst thing is forced inactivity or not being able to "get around like I used to." This response probably is related to poor health but also reflects the feeling that staying active is important to the individual's basic satisfaction level.

Again, when asked, "What is the most important thing in life?" the most common response is "good health." Of the sample, 27.8% indicate this as most important; 23.3% feel that their families are most
important; and 11.1% see a religious or spiritual faith as the most important thing in life. It would be interesting to compare these trends with those drawn from samples of different age cohorts.

Interestingly, the most common response to: "What is the best period in life?", is "that there really isn't much difference; there are good things and bad things in all periods." One third of the respondents answer the question in this vein. Thirty percent of the sample see the "early adult years," 14.4% of the respondents see "childhood," and 4.4% see "their present age" as being the best period in life. Again, in order to assess perceptions of the life cycle more fully, responses of different age group samples need to be compared in follow-up research endeavors.

Old age (or "my present life") is seen as the worst period in life in this sample, however, again the highest percentage of responses (47.3%) indicate that there is no "one worst period." Of the sample, 25.6% see their present age as the worst period in life; only 6.7% and 2.2% respectively, see the childhood and teenage years as the worst periods. (As outlined in the suggestions for future research, one of the immediate "follow-up procedures" to this research will be compare the trends of this older sample to the perceptions of "the prime of life period" for teenagers and young adults.)

There is a wide range of responses to the question: "What were the most crucial events or factors in your life?" The most common single response (18.9%) is "the death of my spouse." (This is not surprising since the majority of the respondents were widows.) Other
crucial event responses are: "raising my children" (16.7%); "the death of a close friend or relative" (other than spouse) (8.9%); "parents' training" (5.6%); and "the impact of an illness or accident" (5.6%). Many of the respondents have difficulty in expressing a "single crucial event," 15.7% simply state they could not think of particular events that stand out as being crucial to their development or level of happiness.

When asked directly, "What factors are most important to your overall satisfaction?," the most common response (24.4%) is "my own personality!" It is interesting to note that a sizable segment saw their basic satisfaction with life as being a function of "the type of person I am." Many individuals express the sentiment that "regardless of what happened in my life, I was always able to look at the bright side of things." Another sizable segment (22.2%) see their health as essential to their happiness; 20% see staying active as most important; and 4.4% see their religious faith as most important. Several generalizations/conclusions are drawn on the basis of these responses. First, to the older person in this sample, the innate characteristics of the individual are perceived as important in the life satisfaction level. (Implied here is the idea that "people do not really change that much during the life cycle." A common response in the course of the interviews was: "people who are unhappy when they are old were unhappy when they were young!") Second, physical health and the ability to stay active are perceived as being very important to the individual's life satisfaction. (Again, many respondents related that the ability
to stay active, to "do things" was a very important part of their adjustment to aging. Finally, given the ages of the respondents and the fact that one third lived in a "church-related" nursing home, it is surprising that more did not rate "faith in God," or spiritual faith as being important in their overall satisfaction. Perhaps this is the type of response that one does not offer openly in an interview situation, and thus, the "statistics" are misleading.

One final generalization that relates to an item included in the interview (but not directly analyzed) centers around the questions: "What changes have you noticed in your life, and are things better or worse than they used to be?" The generalization is that the vast majority of the respondents see major changes in their lives and are very negative about those changes. Over two thirds of the sample respond that "things are much worse now than they were when I was younger." The sentiments expressed here were just as important as the statistics. Without being asked, many respondents indicated that they had lost faith in the government, and they felt "the country just isn't what it used to be." While there are variations here, the responses taken as a whole are quite pessimistic. It is interesting to note that the persons who were "very satisfied" (as measured by the life satisfaction scales) also reflect this basic trend. It might be argued that this type of response is typical of any "older generation;" however, the strength of this feeling is stronger than was anticipated by the researcher.
It is difficult for the interviewer to accurately assess the reliability and degree of veracity reflected in the interview situation. However, the general level of interest and motivation on the part of the respondents in this sample appeared to be quite high. In most areas the respondents were willing and able to talk freely about themselves. While in some cases (the nursing home sample in particular) this is a function of "just having someone to talk to;" overall, there was very little hesitancy on the part of the respondents to share personal and intimate reflections.
Chapter VII

Summary

Limitations of the Study: Suggestions for Future Research

This research endeavor represents a preliminary approach to "more fully assessing" life satisfaction in the aging process. The focus is on the creation of a research instrument that may be used to measure the basic construct of life satisfaction. Before the final conclusions and summaries of this endeavor are presented, it is important to outline the inherent research limitations of the study and to suggest guidelines for future research.

a) The samples used in the data collection process are intentionally controlled. This serves as a way of utilizing "known groups" to test the validity of the instrument. The limitations of the sampling procedures utilized in this research revolve around sample size and the "representativeness" of the sample as a whole and the selection of the target groups. The total N of 90 is relatively small and limits the reliability of the statistical analysis. The "findings" should not be generalized to "all older persons" since the N is small and random selection procedures are not used. Future studies will incorporate randomly drawn samples so that the findings may be interpreted in a broader sense, and also, parametric statistical evaluations will be more applicable. (For example, analyses of variance that evaluate
within-group and between-group variations more fully may be used with greater confidence.)

The selection of the target groups does not fully represent the range of residential or situational settings in American life. The "nursing home" and "convalescent center" samples should not be seen as representative of institutional settings. Also, the "at home" sample represents only a small segment of persons living independently. It is assumed that samples drawn from different geographic and demographic settings would reflect very different perceptions of life satisfaction. In the future, target samples should be drawn from other residential settings—county nursing homes, retirement communities, multiple-purpose centers, and other facilities—that represent differences in structure and "types of clients." It would also be interesting to evaluate life satisfaction perceptions of older persons living in the homes of relatives. Obviously, these samples should include male and female respondents so comparisons by sex are possible.

One of the major purposes of developing the measurement instrument is to make inter-age and inter-generational comparisons possible. Therefore, future research will attempt to compare the basic attitudes and perceptions of life satisfaction of respondents in different stages of the life cycle. (With slight modifications the basic RLSS can be administered to different age groups to deal with questions such as: Are the perceptions of the "best" period in life (or the prime of life) significantly different for the adolescent than they are for the person over 65%; Do general levels of life satisfaction vary by
b) The background or *intervening variables* are controlled and limited in this study. Again this is seen as a way of evaluating the effectiveness of the measurement instrument. To more fully evaluate the relationship between life satisfaction and independent variables, subsequent research should focus upon the variable utilized in this study as well as upon other important variables. For example, the specific relationships and correlations between age, socioeconomic status, education, religion, race, etc., and levels of life satisfaction should be explored more fully. (The review of current literature in the area of life satisfaction reflects a general lack of analysis of the impact of education on perceptions of life satisfaction.) While this research gives only secondary attention to these correlations, hopefully, the RLSS and other measures of life satisfaction will be used to evaluate the trends when these variables are controlled. More sophisticated methods of evaluating SES, degree of religiosity, self-concept, etc., should be used in conjunction with the basic measures of life satisfaction. (A research design incorporating these elements is presently being carried out under the direction of the author.)

c) There are a number of inherent biases and weaknesses reflected in the *scale construction* component of this study. The attempt to introduce unique experiential and construct validity checks into the scale development includes a number of subjective factors. First, it must be recognized that the selection of core components of life
satisfaction represents certain biases and value assumptions. There is an attempt to incorporate the "best of previous scales" and the input of the older persons themselves in the development of the scale items. The reliability and validity of these factors in the measurement of life satisfaction is not fully established and the final selection of scale items reflects a certain amount of arbitrary decision-making. The data analysis focuses upon the time dimension components and the initial indications are that the past, present, and future dimensions are "relatively distinct" components of general life satisfaction. However, the specific components (enthusiasm, resolution, self-concept, etc.) are not carefully assessed and subsequent research should evaluate these components more fully. (The computer analyses of the data generated in this study incorporates comparisons of the RLSS and LSIZ components; these comparisons will be more fully evaluated in follow-up research reports.)

Second, whether or not the RLSS and the LSIZ represent basic scales of life satisfaction is not fully established. This research assumes that the scale items may be translated into low, moderate, and high levels of life satisfaction. The subjective nature of the initial scoring procedure is seen as a more valid way of measuring life satisfaction; whether or not it actually produces valid interval-level data must be questioned and analyzed more fully in subsequent research. Also, this research assumes that the target samples (nursing home, convalescent center, and at home samples) represent an interval level scale for data analysis purposes. As mentioned
previously, additional types of residence should be introduced to examine the validity of this scaling assumption.

Third, while the research design criticizes the extensive use of "global" items in the measurement of life satisfaction, the RLSS is essentially built on this type of general measure. The time dimension components represent an attempt to incorporate "more specific items" but essentially the final revised scale reflects an emphasis on global measures. Continued data reduction techniques should explore the validity of more specific scale items.

Fourth, in the development of the RLSS scale itself, several basic methodological weaknesses are evident. For example, the RLSS would have been more reliable if an initial factor analysis would have been carried out on a larger pre-test sample. Thus, the initial data reduction information could have been utilized when the revised instrument was administered to the total sample. Also, the inter-item reliability of the scale items of the measurement scales needs to be assessed more fully. This study used factor analysis as the basic evaluative tool; however, inter-item correlation techniques such as Cronbach's alpha should also be considered in follow-up assessments of the reliability of the instrument. Further analysis should also focus on the reliability of the time dimension components. The factor analyses indicate that certain items (particularly in the past and present dimensions) are not completely consistent measures of the general components. Therefore, the need for restructured and equal (in terms of number of items) time dimensions need to be more fully explored.
The statistical techniques incorporated in this research represent only preliminary levels of analysis. To more fully assess the reliability and validity of the scales, and the nature of the relationships between the intervening variables, additional statistical approaches should be considered. As indicated previously subsequent research building on random sampling techniques will allow the use of "more powerful" statistical tools. Future research should concentrate on a variety of evaluation techniques. For example, in assessing the relative importance of intervening variables and in estimating the degree of variation in life satisfaction scores explained by a set of variables, multiple correlation analysis, regression analysis, and path analysis techniques should be considered.

The basic validity and utility of the life satisfaction scales will be developed only when the instruments are administered to larger, more diverse samples. Future research should focus on a number of different geographical and cultural settings so that levels of life satisfaction can be compared when factors such as age, SES, sex, education, race, and levels of activity can be taken into account.
SUMMARY AND CONCLUSIONS

The theoretical and methodological approaches underlying this study emphasize the need for more efficient conceptual models and measurement tools in assessing the process of adjustment to aging. At a specific level, this study attempts to address one aspect of adjustment to aging—the measurement of perceptions of life satisfaction. In a broader context, the study assumes that the general adjustment process must be evaluated in a total life cycle context. The underlying assumption is that in order to develop clearer insights into the process of social adjustment, there must be an attempt to evaluate and compare the perceptions of life satisfaction at a number of different stages in the individual's socialization process. Traditionally, the sociologist and psychologist have concentrated their efforts on the initial socialization processes, and discussions have focused on the dynamics and problems of adjusting to social expectations in the early years of life. The emergence of the gerontological discipline has refocused the emphasis to take into account ongoing socialization processes and the unique qualities of physical and social adjustment to growing old in an essentially youth-oriented culture. Thus, the gerontologist is attempting to answer the question: What are the unique aspects of adjustment to later years of life? Are the adjustment patterns similar to, different than adjustment patterns at other stages in the life cycle? Are perceptions of happiness,
morale, satisfaction the same for different age groups?

This study does not provide definitive answers to these questions. However, it is argued that before these questions can be answered, more efficient ways of measuring and evaluating crucial concepts must be developed. To this end, there is an attempt to develop a "more valid" method of measuring life satisfaction. It is recognized that life satisfaction represents only one (highly subjective) component in the total adjustment process and that conceptualizations of the basic components and qualities of this attitudinal dimension are difficult to scientifically assess. This study concentrates on the assessment of life satisfaction levels among a selected sample of older persons. This serves only as a starting point in the process of comparing life satisfaction in the total adjustment process. It is argued here that if we are able to more accurately assess life satisfaction at this level, the doors to the "comparative assessments" will open more readily.

The research design incorporated in this study is built on the assumption that previous efforts to assess life satisfaction have not fully addressed basic problems of validity. Thus, this project represents an initial attempt to approach the problems of valid measurement of the basic construct--life satisfaction--in a unique manner. At the theoretical level, it is argued that the basic components and dimensions of life satisfaction must be reassessed in a contemporary context. Implied here is the assumption that our perceptions and frames of reference of life satisfaction may not be the same now as
they were in the past, and that perceptions of satisfaction reflect changes with time. Three specific attempts to build in validity checks in this vein are incorporated into the research design. First, to increase what has been termed "experiential validity" the perceptions of core components of life satisfaction by older persons themselves guide the selection of items in the measurement scale. Following the assumptions outlined by Bloom (1975), the input of the clients is seen as an important part of developing the core components of life satisfaction. Second, there is an emphasis on developing item pools measuring past, present, and future dimensions of life satisfaction. The argument here is that previous measures of life satisfaction have not taken into account the different levels of perception of life satisfaction in a specific time orientation. Thus, this study attempts to develop item pools in the measurement instrument that may be used in assessing levels of life satisfaction through projected time. As noted in the suggestions for future research, one of the basic purposes of this procedure is to allow the researcher to compare the differences in perceptions within and between different groups. The data analysis indicates that there are very clear patterns of decreased satisfaction levels when past, present, and future levels of satisfaction are compared. Subsequent research will focus on the question: Do similar trends emerge when different age groups are sampled? Third, there is an attempt to improve the "construct validity" of the measurement scale. In addition to incorporating client-input, and utilizing the "more reliable" items from previous scales,
factor analysis is used as a method of identifying items that do not appear to have strong face validity. The factor analysis represents an attempt to produce more valid indicators of life satisfaction through a process of data reduction. A "revised combined" measurement scale is developed that hopefully reflects the selection of more reliable and valid scale items. As noted previously, the data reduction focuses on the time-dimension components; additional assessment of the construct validity of the other core components of the scale is needed. The data analysis concentrates on the initial assessment of whether or not the RLSS should be considered a reliable and valid measurement instrument. Although definitive conclusions cannot be drawn from the results, the basic data trends indicate that the scale is producing the "expected results." There are three basic validity checks implied in the data analysis. First, the general life satisfaction scores of the RLSS were compared to those of the LSIZ. Here, the LSIZ is seen as an "established scale" with the basic reliability standards having been established in previous research (Adams, 1969). While there were some variations in scores, the basic statistical comparisons indicate that the two scales are evaluating the sample in basically similar ways. The Kendall rank order correlation coefficients generally reflect consistent scoring tendencies. Second, the sample controls assume that the target samples were known groups, and it was hypothesized that these groups would reflect different levels of overall life satisfaction. Since the RLSS produces scores that clearly fall in the expected directions (the nursing home average
life satisfaction score is lower than the convalescent center average score, etc.), this is interpreted as an initial confirmation of the basic reliability of the measurement scale. These two basic trends provide initial support for the assertion that the RLSS appears to incorporate concurrent and predictive validity in that the scores correlate with a previously developed measure of life satisfaction, and that the scale measures overall life satisfaction in predicted ways when administered to known groups. Third, the RLSS correlates highly with the life satisfaction evaluations derived using the Independent Evaluations. While the validity of the Independent Evaluations should be questioned, the fact that the RLSS correlated closely with this "outsider evaluation" gives another initial indicator that the RLSS is a valid scale.

While the data analysis implies that the RLSS is a basically valid instrument, it is clear that additional reliability and validity assessments are needed. This research does not clearly establish that the RLSS is more reliable than the LSIZ or other life satisfaction measures. The methods of developing and scoring the instrument are seen as "original" attempts to produce a more valid scale; yet, the subjective and exploratory nature of these methods must be recognized. As indicated in the suggestions for future research, the full assessment of the reliability and validity of the measurement instruments can only be achieved when additional analyses are completed in a variety of research settings.
In spite of these qualifications, the data trends do support the basic assumptions and hypotheses underlying the research design. First, the assessment of the background characteristics of the total sample and the sub-samples generally indicates that the sample selection procedures produced the desired "distinct groups." As expected, the nursing home, convalescent center, and at home samples reflected different characteristics in terms of age, health status, and other background factors. Since these factors are consistent with the expected patterns, the legitimacy of the sampling techniques is reinforced. Second, using the basic measures of life satisfaction, the projected trends in terms of differences between types of residence are clearly evident. The significant differences between the average life satisfaction scores of the three groups and the fact that the differences are consistently in the expected patterns (the nursing home sample lowest in overall life satisfaction, the convalescent center moderate in life satisfaction, etc.), are interpreted as further evidence that the places of residence represent distinct categories. The results of the data analysis are also interpreted as being a validity check on the life satisfaction measurement instrument. The assumption here is that if the target samples do represent the "known groups" as we have defined them, the measurement scales should reflect the expected differences in life satisfaction levels. The RLSS, as well as the other life satisfaction measures, reflects the differences in the expected directions in a consistent way. While it may be argued that the differences in life satisfaction levels were a function of
the sampling procedures, nonetheless, the consistency of the life satisfaction trends is seen as an indicator that the measurement scales are "working as expected." Caution must be used to avoid stereotypes and overgeneralizations here. For example, it should not be concluded that all persons living in nursing homes have low levels of life satisfaction. The data indicate that there is a great deal of variance in the levels of satisfaction—that a number of persons in the nursing home setting are extremely satisfied with their present life—and thus, summary trends based on "averaged scores" should be interpreted with a certain degree of caution. Third, the basic expectations regarding the time dimension components are substantiated. Again, the expected differences between the three types of residences are significant and in the expected directions. As hypothesized, the total sample has significantly lower levels of satisfaction in the future dimension and relatively high levels of present and past perceptions of life satisfaction. In comparing the differences through projected time, the expected differences between the types of residence clearly emerge. All three groups have a steady progression of dissatisfaction moving from the past to the present, to the future dimensions; and the groups reflect the different trends that were hypothesized. (For example, the convalescent center does reflect a higher percentage of "satisfied with future plans" than the nursing home sample, etc.) While these trends are somewhat a function of the "older sample," it is assumed the measurement of the time dimension components of life satisfaction are important points of comparison for
subsequent research. Not only do they represent different types of life satisfaction perceptions, but they also become major ways of comparing adjustment patterns in different types of samples.

The data analysis also assesses the relative impact of intervening variables on levels of life satisfaction. Again, this study does not emphasize this type of analysis; rather, it focuses on the initial measurement of life satisfaction; however, several basic trends are indicated here. As expected, physical health, age, and frequency of contact with friends seem to have the most impact on levels of life satisfaction. In this study, a limited number of variables are controlled to assess the relationship between type of residence and life satisfaction levels. Obviously, future research should explore the impact of other variables (particularly SES, sex, and race), and other variables (besides type of residence) should be correlated with life satisfaction with controls for the intervening variables.

In summary, this study focuses on several attempts to assess the reliability and validity of the basic factors included in the measurement of life satisfaction. The data analysis implies that, using a "known groups" approach, the RLSS reflects basic construct validity. It should be emphasized, however, that the full test of the construct validity is only established with additional theory building. This study does not attempt to incorporate specific theories of aging or adjustment into the measurement techniques; rather, it has hypothesized that once the basic measurement scales of life satisfaction are improved, they may be used to assess specific theoretical approaches.
Thus, while there are aspects of activity theory and disengagement theory built into the research design, it is assumed that a more valid scale can be used as a tool in assessing and building the theories. Just as the theoretical development of the concept of authoritarianism was significantly advanced when more sophisticated scaling techniques (the F-scale, etc.) were developed, it is assumed that theories of life satisfaction and adjustment to aging will be developed when the measures of the dependent variables are refined. Certainly scale construction, measurement techniques, and theory building must be developed jointly. This study emphasizes the importance of alternative approaches to measurement, and it assumes that additional hypothesis testing and theory building will grow out of this approach. Specifically, the assessment of general life satisfaction levels and the time dimension components of life satisfaction are seen as important steps in providing data for subsequent theory building. By focusing first on the life satisfaction components in the aging process, then comparing the trends of "older persons" to other age groups, the general theories of adjustment can be more fully developed. Also, it is assumed that the measurement scales will provide more efficient ways of assessing life satisfaction so that the nature of the independent variables can be explored to a greater extent. In this sense, the development of more valid scales is essential to subsequent hypothesis testing.
Hopefully, hypothesis testing (growing out of this type of research) will lead to a synthesis of the activity and disengagement theories. It has been noted in the theoretical background discussion that both theories have basic limitations. Activity theory does not take into account the limitations of physical aging, the psychological dynamics of preparation for death, or the differences in personality types that might affect the adjustment process (Barclay, 1975:30-31). Disengagement theory's major flaw is that it is too general and does not take into account a number of important intervening variables (type of initial engagement, personality differences, differences in life styles, sex roles, etc.). This research assumes that life satisfaction is an important component in the adjustment process, and that it is only after better measures of this variable are developed that a synthesis of the two theories will be possible. If one is able to measure life satisfaction with a greater degree of confidence, the relative impact of variables such as physical health, marital status, frequency of contact with friends, etc., can be assessed more fully.

In the final analysis, the measurement of life satisfaction is seen as an important element in developing a more complete understanding of the dynamics and problems inherent in the process of adjustment. The specific dynamics and problems of adjustment to aging serve as the focal point in this endeavor; however, it is assumed that a better understanding of what constitutes "satisfaction with" and "successful adjustment to" growing old will have relevance to the process of adjustment in the total life cycle. The basic challenges
facing the sociologist/gerontologist are to: evaluate the specific variables and processes of the adjustment process; recognize the unique problems and situations facing older persons in American society; and, compare the similarities and differences in what is perceived as successful adjustment across age and generational lines. The development of a more valid method of measuring life satisfaction levels is seen as a small but important aspect of facing these challenges. As indicated at the outset, the data growing out of this type of research need to be interpreted with sociological imagination and human compassion.
Appendix A

Description of the Institutional Settings

A. The Nursing Home

The nursing home used in this sample is a private, multiple-purpose facility located on 25 acres of land overlooking a town of 20,000 in Ohio. It provides both skilled nursing care for basically non-ambulatory patients and it serves as a retirement center for healthy persons over 65 years of age. The facility is administered and subsidized by an established church.

Physical Structure: A single-story building houses three "nursing" wings where skilled-nursing care is provided in semi-private rooms (88 beds). Two "resident" wings offer private rooms with limited nursing care (52 rooms). The physical plant is 14 years old; it is well-equipped, and very well-kept. Resident lounges, therapy rooms, a craft center and a gift-shop are provided. Most residents eat their meals in a large common dining room; "patients" are served meals in their rooms. The residents are able to furnish the single rooms with some personal items.

Professional Services: Skilled nursing care (a Registered Nurse is on duty); one part-time social worker; an activities coordinator; and a part-time chaplain are provided. An active women's auxiliary provides many additional services and programs (coordinating the gift shop, organizing programmed activities, etc.).

"Typical Clients:" All residents are white; most come from the immediate (rural) community; about 20% are members of the sponsoring church; about 15% are subsidized by Aid for the Aged; there are no Medicare patients; the average length of stay is 3 to 4 years.

Costs: The costs for "patients" ranges from $25 to $32 per day (not including medical costs); the charge for "residents" in the retirement wings is $16 per day.
Appendix A (Cont'd.)

Description of the Institutional Settings

B. The Convalescent Center

The convalescent center is a privately owned and operated skilled-nursing care facility designed essentially to provide short-term, therapeutic care for the aged. It is located on 22 acres of land in a rural setting between two small towns in Ohio. It is the only Medicare-licensed facility in the county.

Physical Structure: This single-story building has been in operation for only one year. It contains two nursing wings with a total of 50 patients. There are 24 semi-private and two private rooms. The wings extend from a central nursing station, lounge area and small common eating area. A large physical therapy room and several small craft rooms are provided. Two additional nursing wings are scheduled to be added in the near future.

Professional Services: Skilled nursing care for all patients; one full-time physical therapist; one half-time social worker; one full-time activities coordinator, and voluntary assistance personnel are provided.

"Typical Clients:" All residents are white; about 85% come from the immediate agriculturally oriented county; about 20% of the patients receive Medicare subsidies; about 12% receive Aid for the Aged subsidies, the remaining 68% are private-paying residents; the average length of stay is 2 to 3 months (this is somewhat misleading since the building has only been in operation for one year). There are a small number of "permanent" residents but the turn-over rate is quite high.

Costs: The cost for patient care is $26 per day for a semi-private room, $32 per day for a private room (not including medication and other medical expenses).
Appendix B
The Interview Schedule
Including the Revised Life Satisfaction Index (RLSS)

Name_________________________ Length of Stay (5)________________
Residence (1)__________________ Future Living Expectations (6)
Age (2) (3)______________________
Education (4)___________________ Geographic Background (7)
Marital Status (8)________________

(9) (Health Status) How is Your Health Now?

(10) Do you have a family? Could you tell me about them?

(11) How often do you see them?

(12) What are the best things about being the age you are right now?

(13) What are the worst things?

(14) What would you say is the most important thing in life?

(15) As you look back, how do you feel about the life you have had so far?

(16) How happy would you say you are right now compared to other periods in your life?

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(19) If you could be young again, say about twenty, would you do anything differently?  

(20) In terms of your future, what do you think your life will be like in the next few months?  

(21) What worries you the most about the future?  

(22) What would you like most in the future?  

What things do you look forward to?  

(23) What things do you dread?  

(24) Are you satisfied with your plans for the future?  

(25) Do you ever get to feeling lonely or depressed?  

(26) Do you wish you could see more of your close friends?  

(27) Who are the people who depend on you most now?  

(Perception of roles?)  

(28) How much happiness would you say you find in your life right now?  

(29) As you get older, would you say things seem to be better or worse than you thought they would be?  

(30) How satisfied would you say you are with your way of life?
(31) If you could divide your life in parts—childhood, teenager, young adult, middle age, etc.—which would be the best? The worst?

(32) What events or things do you think have been most critical to your overall happiness?

(33) What is your view of the "condition of our country and world?" Have things changed significantly during your lifetime? What specific things have changed?

(34) (Interviewer's evaluation of self concept)

Comments:

Summary LSR Score LSR Score Rating
(38) (39)

Past Score - Rating Present Score - Rating Future Score - Rating
(40) (41) (42) (43) (44) (45)

Date of Interview

Time of Interview
(Here are some statements about life in general that people feel different ways 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 the 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 under "?." Please be sure to answer every question on the list.

<table>
<thead>
<tr>
<th></th>
<th>AGREE</th>
<th>DISAGREE</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(46)</td>
<td>As I grow older, things seem better than I thought they would be.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(47)</td>
<td>I have gotten more of the breaks in life than most of the people I know.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(48)</td>
<td>This is the dreariest time of my life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(49)</td>
<td>I am just as happy now as when I was younger.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(50)</td>
<td>These are the best years of my life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(51)</td>
<td>Most of the things I do are boring and monotonous.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(52)</td>
<td>The things I do are as interesting to me as they ever were.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(53)</td>
<td>As I look back on my life, I am fairly well satisfied.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(54) 9. I have made plans for the things I'll be doing a month or a year from now.

(55) 10. When I think back over my life, I didn't get most of the important things I wanted.

(56) 11. Compared to other people, I get down in the dumps too often.

(57) 12. I've gotten pretty much what I expected out of life.

(58) 13. In spite of what some people say, the lot of the average man is getting worse, not better.

LSIZ Summary Score Rating Z RES. M-T C

(59) (60) (61) (62) (63) (64)
## Appendix C

### The Code Sheet

<table>
<thead>
<tr>
<th>VAR NO.</th>
<th>CLM. NO.</th>
<th>VARIABLE NAME</th>
<th>CATEGORIES</th>
</tr>
</thead>
</table>
| 001     | 1        | Type of Residence              | 1 = Nursing Home  
                                                   | 2 = Convalescent Center  
                                                   | 3 = Own Home
| 002     | 2-3      | Age (Age 1)                    | Enter Raw number
| 003     | 1        | Age (Age 2)                    | 1 = 65-74  
                                                   | 2 = 75-84  
                                                   | 3 = 85 and over
| 004     | 5        | Level of Education             | 1 = 8th grade or less  
                                                   | 2 = Some high school  
                                                   | 3 = High school grad  
                                                   | 4 = Some college or grad  
                                                   | 5 = Other (Technical)
| 005     | 6        | Length of Stay in Residence    | 1 = Less than 1 year  
                                                   | 2 = 1-5 years  
                                                   | 3 = More than 5 years
| 006     | 7        | Future Living Expectations     | 1 = Plans to stay here  
                                                   | 2 = Hopes to change  
                                                   | 3 = Not sure
| 007     | 8        | Geographic Background          | 1 = Area native  
                                                   | 2 = Lived here most of life  
                                                   | 3 = Recent resident
| 008     | 9        | Marital Status                 | 1 = Widow-recent (5 yrs.)  
                                                   | 2 = Widow (more than 5 yrs.)  
                                                   | 3 = Single  
                                                   | 4 = Divorced
| 009     | 10       | Health Status                  | 1 = Good-no problems  
                                                   | 2 = Minor or temporary ailments  
                                                   | 3 = Poor-multiple/serious

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<table>
<thead>
<tr>
<th>VAR. NO.</th>
<th>CLM. NO.</th>
<th>VARIABLE NAME</th>
<th>CATEGORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>11</td>
<td>Family</td>
<td>1 = No children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Children living in area</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Children-not in area</td>
</tr>
<tr>
<td>011</td>
<td>12</td>
<td>Frequency of Contact-Family</td>
<td>1 = Very often (weekly)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Occasionally (monthly)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Seldom</td>
</tr>
<tr>
<td>012</td>
<td>13</td>
<td>Best Things of Present Age</td>
<td>1 = Independence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Financial security</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Fewer worries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 = More leisure time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = There aren't any</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 = Other</td>
</tr>
<tr>
<td>013</td>
<td>14</td>
<td>Worst Things of Present Age</td>
<td>1 = Poor health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Not being able to be active</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Being alone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 = Dependent on others</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = Financial worries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 = No excitement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 = Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 = None</td>
</tr>
<tr>
<td>014</td>
<td>15</td>
<td>Most Important Thing in Life</td>
<td>1 = Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Family</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Friends</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 = Staying active</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = Religious faith-church</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 = Social activities/hobbies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 = Own home</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 = Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 = Nothing</td>
</tr>
<tr>
<td>015</td>
<td>16</td>
<td>Satisfaction With Age Now</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low</td>
</tr>
<tr>
<td>016</td>
<td>17</td>
<td>Important Things in Life Rating</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low</td>
</tr>
<tr>
<td>VAR. NO.</td>
<td>CLM. NO.</td>
<td>VARIABLE NAME</td>
<td>CATEGORIES</td>
</tr>
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<td>----------</td>
<td>---------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>017</td>
<td>18</td>
<td>Satisfaction with life so far</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low</td>
</tr>
<tr>
<td>018</td>
<td>19</td>
<td>Satisfaction compared to other periods</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low</td>
</tr>
<tr>
<td>019</td>
<td>20</td>
<td>Would you do things differently?</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low</td>
</tr>
<tr>
<td>020</td>
<td>21</td>
<td>Life in the Future</td>
<td>2 = High-Making Plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate-Not sure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 = Low (Day at a time)</td>
</tr>
<tr>
<td>021</td>
<td>22</td>
<td>Major Worries</td>
<td>2 = High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Moderate</td>
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<td>3 = Death of spouse</td>
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<td>4 = Death of relative/friend</td>
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                                      |           | 1 = Moderate (15-28)  
                                      |           | 0 = Low (0-14)  |
| 040     | 41-42    | Past Satisfaction Score                | (Enter total raw score: Sum variables 017, 018, 019, 031 and 032) |
| 041     | 44       | Past Satisfaction Rating               | 2 = High (7-10)  
                                      |           | 1 = Moderate (4-6)  
                                      |           | 0 = Low (0-3)  |
| 042     | 45-46    | Present Satisfaction Score             | (Enter total raw score: Sum variables 015, 025, 026, 027, 028, 029, 030) |
| 043     | 47       | Present Satisfaction Rating            | 2 = High (11-14)  
                                      |           | 1 = Moderate (6-10)  
                                      |           | 0 = Low (1-5)  |
| 044     | 48-49    | Future Satisfaction Score              | (Enter total raw score: Sum variables 020, 021, 022, 023, 024) |
| 045     | 50       | Future Satisfaction Rating             | 2 = High (7-10)  
                                      |           | 1 = Moderate (4-6)  
<pre><code>                                  |           | 0 = Low (0-3)  |
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| 047     | 52       | LSIZ Item 2 (+)                        | Agree=2 Disagree=0 ?=1 |
| 048     | 53       | LSIZ Item 3 (-)                        | Agree=0 Disagree=2 ?=1 |
| 049     | 54       | LSIZ Item 4 (+)                        | Agree=2 Disagree=0 ?=1 |
| 050     | 55       | LSIZ Item 5 (+)                        | Agree=2 Disagree=0 ?=1 |
| 051     | 56       | LSIZ Item 6 (-)                        | Agree=0 Disagree=2 ?=1 |
| 052     | 57       | LSIZ Item 7 (+)                        | Agree=2 Disagree=0 ?=1 |
| 052     | 58       | LSIZ Item 8 (+)                        | Agree=2 Disagree=0 ?=1 |
| 053     | 59       | LSIZ Item 9 (+)                        | Agree=2 Disagree=0 ?=1 |
| 054     | 59       | LSIZ Item 9 (+)                        | Agree=2 Disagree=0 ?=1 |
| 055     | 60       | LSIZ Item 10 (-)                       | Agree=0 Disagree=2 ?=1 |
| 056     | 61       | LSIZ Item 11 (+)                       | Agree=2 Disagree=0 ?=1 |
| 057     | 62       | LSIZ Item 12 (+)                       | Agree=2 Disagree=0 ?=1 |
| 058     | 63       | LSIZ Item 13 (-)                       | Agree=0 Disagree=0 ?=1 |</p>
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Appendix D

Code Sheet Supplement
Scoring Procedure for the RLSS

(The following categories are used by the interviewer as guidelines for coding the responses to the RLSS items)

015 Satisfaction with present age—What are the best things about your present age?
2 Very satisfied; many good things about being this age.
1 Moderate satisfaction; some good things.
0 There are few or no good things about this age.

016 What are the most important things in life? (Rating)
2 Stresses things outside self; perceives a number of important things.
1 Hanging on; meeting basic needs only.
0 Nothing is important now; numerous references to the past.

017 As you look back, how do you feel about your life so far?
2 Very positive; sees many satisfying things.
1 Basically satisfied; mentions some negative aspects.
0 Feels life has been a disappointment.

018 How happy are you now compared to other periods?
2 Just as happy or happier.
1 Not as happy now but basically contented.
0 Earlier periods were much better.

019 If you could be young again, would you do anything differently?
2 Wouldn't change anything.
1 Would make some changes but basically satisfied.
0 Would like to make many changes.

020 In terms of your future, what do you think your life will be like in the next few months?
2 Looking forward to special events.
1 Sees no change or improvement in the future.
0 Things will get much worse; lives a day at a time.

021 What worries you most about the future?
2 No major worries; optimistic.
1 Sees some problems but feels she can cope.
0 Many things; fears the worst.
Appendix D (Cont'd)

022 What would you like most in the future?
   2 Mentions specific goals; other-oriented.
   1 No real plans or goals.
   0 Doesn't want to think about it.

023 What things do you dread?
   2 Nothing really.
   1 Dreads some things but they represent realistic concerns.
   0 Mentions several specific concerns or does not wish to discuss this.

024 Are you satisfied with your future plans?
   2 Very satisfied; looks forward to the future.
   1 Yes, but some reservations.
   0 Not at all.

025 Do you ever get to feeling lonely or depressed?
   2 No, or only rarely.
   1 Yes, sometimes, but I get over it.

026 Do you wish you could see more of your close friends?
   2 Feels the amount of contact is just right.
   1 Feels she sees too little or too much.
   0 Very unhappy with degree of contact.
   (Note: The level of satisfaction is difficult to assess here since the close friends of many of the older persons are not living.)

027 Who are the people who depend on you the most right now?
   2 Indicates that she plays several important roles.
   1 Feels very few persons depend on her now.
   0 "No one depends on me now."

028 How much happiness would you say you find in your life right now?
   2 A great deal.
   1 Some, but not as much as before.
   0 Very little.

029 As you get older, would you say things are better or worse than you thought they would be?
   2 Things are better than expected.
   1 About as expected; some negative feelings.
   0 Things are much worse.

030 How satisfied would you say you are with your way of life?
   2 Very satisfied; no complaints.
   1 Basically satisfied, but some reservations are expressed.
   0 Not satisfied; major reservations.
Appendix D (Cont'd)

031 Evaluation of the best and worst periods of life.
   2 Sees all periods of life as good; or present life is best.
   1 Present life is not the best; dissatisfaction with several periods.
   0 Present life is worst; no good periods.

032 What events of things do you think have been most crucial to your overall happiness?
   2 Views crucial events in very positive ways.
   1 Tends to dwell on unfortunate or tragic events.
   0 Focuses on all crucial events in a very negative way.

033 Evaluation of the "condition of our country and the world?"
   2 Sees many improvements, advantages.
   1 Stresses problems or negative changes.
   0 Sees the situation as being "much worse."
Appendix E

The Neugarten, Havighurst and Tobin
Life Satisfaction Index B (LSIB)

Would you please comment freely in answer to the following questions?

1. What are the best things about being the age you are now?
   1....a positive
   0....nothing good about it

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?
   2....better, or no change
   1....contingent—"It depends"
   0....worse

3. What is the most important thing in your life right now?
   2....anything outside of self, or pleasant interpretation of future
   1...."Hanging on"; keeping health, or job
   0....getting out of present difficulty, or "nothing now", or reference to the past

4. How happy would you say you are right now, compared with the earlier periods in your life?
   2....this is the happiest time; all have been happy; or, hard to make a choice
   1....some decrease in recent years
   0....earlier periods were better, this is a bad time

5. Do you ever worry about your ability to do what people expect of you—to meet demands that people make on you?
   2....no
   1....qualified yes or no
   0....yes

6. If you could do anything you pleased, in what part of ______ would you most like to live?
   2....present location
   0....any other location

7. How often do you find yourself feeling lonely?
   2....never; hardly ever
   1....sometimes
   0....fairly often; very often

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Appendix E (Cont'd)

8. How often do you feel there is no point in living?
   2....never; hardly ever
   1....sometimes
   0....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?
   2....O.K. as is
   0....wish could see more of friends
   0....wish more time to self

10. How much unhappiness would you say you find in your life today?
    2....almost none
    1....some
    0....a great deal

11. As you get older, would you say things seem to be better or worse than you thought they would be?
    2....better
    1....about as expected
    0....worse

12. How satisfied would you say you are with your way of life?
    2....very satisfied
    1....fairly satisfied
    0....not very satisfied
Appendix F

The Neugarten Retired Steelworkers Interview
Global Measures of Life Satisfaction

1. As you look back, how do you feel about the life you've had so far?
   Has life been pretty good to you, would you say?
   Have you got some good breaks in life? (When was that?)
   Or would you say you've got what you wanted in spite of some bad breaks?

2. If you could be a young man again – say about twenty. What would you do differently?
   Do you think you would have taken the same job, the same kind of work?
   Would you have come to the same place to live?
   Would you have married the same woman?
   Would you have had the same number of children?
   Do you think you would have been more religious when you were younger?
   Would you have lived the same kind of life?

3. What kind of goals did you have as a young man? (Or, did you have many plans for your life when you were younger?)
   Did you get what you wanted?
   How did this make you feel?

4. (Note: If R did not understand the 'goals' question, you might ask: How about your grandson, ......... If you could plan things for him, what would you want most?
   What would you want him to get out of life that you didn't get?
   What would you want him to have that you ......... (R's age, e.g., '72')?

5. Now, how do you feel about your life right now? Are things going pretty well for you now?
   Are you generally pretty happy these days?

6. What do you think are some of the good things, (the nice or pleasant things) about being ......... (R's age, e.g., '77')?
   What are some of the bad things about being your age?

7. Do you ever get to feeling lonely? ('Blue' or 'depressed'?)
   What do you do then?

8. How is your health these days?

9. Let me ask you another question. What would you say is the most important thing in life?
   How about for you, yourself - what is the most important thing in your life?
   (Note: if it needs help, you may say: 'Well, some men say that their family is the most important thing to them, others say their friends, others say their church. I'm wondering what areas of life are the most important for you. ')

10. Now, how about the future - what do you think your life will be like in the next few months or years?
    What worries you most?
    What would you like most in the future?
    Do you think much about death?
    Does the thought bother you?

11. Now I'd like to know who the people are that depend on you most right now - who would really miss you if something happened to you?

12. Do you usually like being with other people - I mean, just talking or being in a group? Or are you sort of a 'lone wolf'?

13. When you're with other people, do you think of yourself more as a leader or as a follower?
    At work, how was it?
    How about in social situations? Do you seek people out, or does it make you feel more comfortable to let them come to you?

14. Now, one final question. If you could divide your life into parts - like childhood, teenager, young adult, middle-aged - which has been the best?
    Which has been the worst part for you?
    How about right now? Is this part of your life, at ......... (years), best or worst or how?

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Appendix G

Interview Guidelines

Cannell and Kahn have outlined five discrete steps in the process of measurement by means of interviewing that guide this research:

1. the creation or selection of a schedule of questions and a set of rules for its use;
2. the actual use of these questions and rules as the interview is conducted;
3. the recording of responses in some form;
4. the creation of a numerical code or number system of some kind into which the verbal responses can be translated;
5. the actual coding of responses into this number system.

The actual process of interviewing, the speaking of questions and answers, can be thought of as the act of evoking the verbal representations of events--or, more exactly, evoking the verbal events which are really the stuff of measurement. The interviewer attempts to so manage the conversation that all material relevant to the content objectives of the interview is evoked and most irrelevant material is withheld.

(Cannell and Kahn in Lindzey and Aronson, 1968:571)

Cannell and Kahn also emphasize that the validity and success of the interview process is dependent on three basic conditions--cognition, accessibility, and motivation. The cognitive condition is fulfilled when the respondent understands the content of the specific questions being asked; the accessibility condition is met when the respondent is able to recall or construct the required information; the condition of motivation is met when the respondent is willing to invest the time and energy necessary to verbalize the information--in short, to fulfill her role as respondent (Cannell and Kahn in Lindzey and Aronson, 1968:573-574). These criteria, then, serve as
the basis for administering the measurement instrument. If these criteria are not met, the reliability and validity of the measurement items are lost in the data collection process.

There are a number of inherent obstacles to the realization of the above conditions. The biases and problems of the interviewing process as well as the manner in which these problems will be addressed (in this research) will be outlined.

(1) Problems of establishing rapport. Establishing and maintaining rapport is essential to an effective interview technique. There are several specific factors that will affect the quality of the communication in this research.

a) Age differences between the respondent and the interviewer—or, the generation gap problem. One of the potential difficulties inherent in this research is the possibility that the interviewer is perceived as being "of another generation" and therefore not as empathetic to the values and feelings of the older generation. It is felt that the best way to overcome this problem is for the interviewer to project a friendly, accepting, non-aggressive manner in the communication process. In the final analysis, the personality of the interviewer (and to some extent, the respondent) is the most important factor in establishing a wholesome rapport.

b) Perceptions of "invasion of privacy." Life satisfaction research involves tapping very personal and sometimes very emotional dimensions. Probing in these areas may be resented by the respondent to the extent that she feels the interviewer is invading her privacy. One attempt to establish a sound rapport in this area will be to include in the introductory comments a statement to the effect that "the purpose of this interview is not to pry or embarrass—if there are any questions that you would rather not answer—please feel free to say so."
c) **Reluctance to be interviewed.** It is expected that in this particular sample there will be a general reluctance to become involved in an unfamiliar, personal research situation. The interview (by an unknown person—and a sociologist yet!) can be perceived as an uncomfortable, threatening situation. Therefore, the interviewer must take special care to explain the nature and purpose of the project and instill a sense of mutual trust before the interview begins.

d) **The nature of the questions.** Related to the invasion of privacy and reluctance problems, is the fact that the specific items in the interview schedule may produce emotional/psychological stress for the respondent. Discussing the recent death of a spouse, the loss of a child, the feelings of loneliness or depression, may produce a variety of feelings that inhibit open communication. Again, the key to overcoming the potential problems here is for the interviewer to reflect an accepting, caring, empathetic manner in relating to the respondent.

(2) **Problems involving differences in frame of reference.** The interviewer must be aware of the potential differences in the frames of reference operating between the interviewer and the respondent. A major source of this problem is the ambiguity of language.

> The basic reason for the ambiguity of language is that each individual necessarily interprets spoken or written communication from his own experience and personal viewpoint. As a result, in some degree the meaning which an individual attaches to a communication must be uniquely his own and not shared by others.

(Cannell and Kahn in Lindzey and Aronson, 1968:555)

In life satisfaction research it is easy for the interviewer/researcher to be thinking in terms of "mood tone," "zest," "congruence," while the respondent is thinking, "why doesn't this man
use plain English!" The interviewer must attempt to be aware of (and flexible enough to adjust to) the language and frame of reference of the respondent. Also, the key to avoiding this problem is to keep the language of the measurement instrument simple and free of "academic jargon." While it is difficult to develop completely consistent frames of reference between the interviewer and the respondent, the interview method can be more reliable (compared to questionnaire measurement) in that the interviewer can sense problems in communication and can adjust to them by rephrasing questions, defining terms, probing, etc. This, however, can create problems in terms of the reliability of the instrument.

(3) The "Halo Effect." The tendency of the respondent to respond in the manner she thinks is expected of her is a basic problem in interview research. (This is probably more pronounced in interview research in that the researcher and respondent develop a personal face-to-face relationship not typical of other measurement techniques.) The specific obstacle to validity in life satisfaction research is the tendency for the respondent to project a "happy, satisfied" facade thinking that it "would look bad" to say she is unhappy or dissatisfied. It is difficult to overcome this type of bias; however, the interviewer can, to some extent, deal with the problem by being cognizant of inconsistencies in responses and by probing beyond superficial responses.
(4) Interviewer Bias. One of the most serious threats to the reliability and validity of an interview instrument is the built-in bias of the interviewer. Just as a measurement instrument may reflect research biases (leading, double-barrelled questions, etc.), the interviewer may bring a number of biases to the interview situation. The vested interest the interviewer has in the research (especially if he designed the measurement instrument!), the value judgments, the ego-involvement, the restricted frame of reference, fatigue factors all become potential sources of error and subjectivity that undermine the validity of the data measurement. In the interview situation these biases may take various forms: asking leading questions; consciously or unconsciously influencing the responses through voice inflections, facial expressions, or other verbal/non-verbal cues; selectively perceiving and recording the information (hearing only what you want to hear); using inconsistent, improvised techniques, etc. The basic methods of minimizing the interviewer bias traditionally have been: (a) to reduce the amount of interviewer improvisation; (b) to select and assign interviewers in ways that minimize undesirable interaction with respondents; and (c) to maximize respondent motivation and minimize cues with respect to differential acceptability of relevant responses by developing and training the interviewers (Cannell and Kahn in Lindzey and Aronson, 1968:551).

In this research, it is recognized that the manner in which the questions are presented, evaluated, and recorded is just as crucial as the inherent validity of the "scale" items. Therefore, there is an
attempt to minimize the researcher bias by following the interview schedule in a consistent manner. The selection and training of "appropriate" interviewers is controlled to some extent by the fact that all interviews are done by one interviewer. This does not eliminate the interviewer bias; however, it does eliminate the problems encountered when a number of different interviewers are involved in the data collection process (different personalities, levels of experience and training, frames of reference, etc.). Thus, while interviewer bias is not eliminated in this research, it becomes a consistent, more easily identified bias as a result of the single "interview personality."

(5) Problems related to respondent accessibility and motivation. Finally, it must be recognized that the "success" of the interviews depends on the ability and desire of the interviewee to play the desired respondent role. For example, the respondent's ability to accurately remember events and attitudes relevant to life satisfaction might be questioned. In addition to the halo-effect here, the effect of time may significantly alter the respondent's evaluation of her past satisfaction (she may forget or repress important data). One of the common American myths concerning older persons is that they tend to be senile and forgetful. While contemporary gerontological research challenges the assumption that memory and IQ levels automatically decline with age, the general reliability of any measurement instrument that relies heavily on client recall must be questioned. This problem is not controlled directly in this research except to the extent that it is asserted that the purpose of the measurement instrument is to
tap the individual's perception of her life satisfaction and that those perceptions become reality for her.

Also, it might be argued that it is difficult to determine whether or not the respondent takes the interview seriously. (Does she really want to "do a good job" in terms of giving reliable information?). Again, it is difficult to accurately assess this type of factor; however, it is felt that the respondent is more likely to be motivated to do a good job (and the researcher is more likely to assess the strength of motivation) in an interview format as opposed to a formal questionnaire format.
Appendix H

SUMMARY OF FREQUENCY DISTRIBUTIONS
(BACKGROUND CHARACTERISTICS)

<table>
<thead>
<tr>
<th>Age</th>
<th>Nursing Home</th>
<th>Convales. Center</th>
<th>At Home</th>
<th>Total Sample</th>
</tr>
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<tbody>
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<td>Mean</td>
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<td>Mode</td>
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<td>96</td>
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<td>Median</td>
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<td>82</td>
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**Age (By Categories)**

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<td>85-over</td>
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**Education**

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<td>8th Grade or Less</td>
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<td>7 (23.3)</td>
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<td>High School Grad.</td>
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**Length of Stay in Res.**

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<td>1 Year or Less</td>
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<td>1-5 Years</td>
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<td>More than 5 Years</td>
<td>7 (23.3)</td>
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**Future Living Expectations**

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<th>Total Sample</th>
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<tr>
<td>Plans to Stay Here</td>
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<td>12 (40.0)</td>
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<td>Hopes to Move</td>
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**Geographic Background**

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<td>Recent Resident</td>
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### SUMMARY OF FREQUENCY DISTRIBUTIONS

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<td>Very Often (Weekly)</td>
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<td>Occasionally</td>
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<tr>
<td>(Monthly)</td>
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(Numbers in parentheses indicate percentages.)
Appendix I

Cross Tabulations:
Type of Residence By Background Variables
### A. Type of Residence By Age Categories

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<td>ROW PCT</td>
</tr>
<tr>
<td></td>
<td>COL PCT</td>
</tr>
<tr>
<td></td>
<td>TOT PCT</td>
</tr>
<tr>
<td>VAR001 Residence</td>
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</tr>
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<td>2. Convales. Center</td>
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<td>3. At Home</td>
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<td>COLUMN TOTAL</td>
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</table>

RAW CHI SQUARE = 27.50725 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = .0000

Cramer's V = .39092

Contingency Coefficient = .48383

Kendall's Tau B = -.49346

Kendall's Tau C = -.47407

Gamma = -.72645

Somers' S D (Asymmetric) = -.51364 with VAR001 Dependent. = -.47407

Somers' S D (Symmetric) = -.49307
### B. Type of Residence By Level of Education

**VAR004 Level of Education**

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<th>H.S. Grad</th>
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<td>36.7</td>
<td>16.7</td>
<td>6.7</td>
<td>33.3</td>
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<td>40.0</td>
<td>26.7</td>
<td>6.7</td>
<td>33.3</td>
</tr>
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</table>

**TOTAL**

<table>
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<tr>
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<th>21</th>
<th>11</th>
<th>36</th>
<th>17</th>
<th>5</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.3</td>
<td>12.2</td>
<td>40.0</td>
<td>18.9</td>
<td>5.6</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**CHI SQUARE = 3.65452 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = .8869**

**CONTINGENCY COEFFICIENT = .19754**

**KENDALL"S TAU B = .09862**

**KENDALL"S TAU C = .10333**

**GAMMA = .14055**

**SOMERS"S D(ASYMMETRIC) = .09413 WITH VAR001 DEPENDENT= .10333**

**SOMERS"S D(SYMMETRIC) = .09852**
### C. Type of Residence By Length of Stay

**VAR005 Length of Stay in Present Location**

<table>
<thead>
<tr>
<th>Residence</th>
<th>COUNT</th>
<th>Less Than 1 Year</th>
<th>Between 1-5 Years</th>
<th>More Than 5 Years</th>
<th>TOTAL ROW PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing</td>
<td>4</td>
<td>19</td>
<td>7</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>Home</td>
<td>11.4</td>
<td>82.6</td>
<td>21.9</td>
<td>4.4</td>
<td>21.1</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conval.</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>Home</td>
<td>96.7</td>
<td>0</td>
<td>3.3</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>82.9</td>
<td>0</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32.2</td>
<td>0</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At Home</td>
<td>2</td>
<td>4</td>
<td>24</td>
<td>30</td>
<td>33.3</td>
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<tr>
<td></td>
<td>6.7</td>
<td>13.3</td>
<td>80.0</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.7</td>
<td>17.4</td>
<td>75.0</td>
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<td>2.2</td>
<td>4.4</td>
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**COLUMNS**

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<th>32</th>
<th>90</th>
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<tbody>
<tr>
<td>TOTAL</td>
<td>38.9</td>
<td>25.6</td>
<td>35.6</td>
<td>100.0</td>
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**Chi Square Test**

- **Raw Chi Square** = 91.66141 with 4 degrees of freedom. Significance = .0000
- **Cramer's V** = .71360
- **Contingency Coefficient** = .71033
- **Kendall's Tau B** = .21004
- **Kendall's Tau C** = .20852
- **Gamma** = .25100
- **Somer's D (Asymmetric)** = .21157 with VAR001 dependent = .20852
- **Somer's D (Symmetric)** = .21004
D. Type of Residence By Future Living Expectations

<table>
<thead>
<tr>
<th>COUNT</th>
<th>Plans to Stay</th>
<th>Hopes to Move</th>
<th>Not Sure</th>
<th>TOTAL</th>
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<tr>
<td>ROW PCT</td>
<td>1.</td>
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<td>TOTAL</td>
</tr>
<tr>
<td>COL PCT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOT PCT</td>
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<td></td>
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</table>

**VAR001 Residence**

<table>
<thead>
<tr>
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<th>28</th>
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<th>1</th>
<th>30</th>
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<tr>
<td>Nursing</td>
<td>93.3</td>
<td>3.3</td>
<td>3.3</td>
<td>33.3</td>
</tr>
<tr>
<td>Home</td>
<td>40.6</td>
<td>5.3</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>31.1</td>
<td>1.1</td>
<td>1.1</td>
<td></td>
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<table>
<thead>
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<th>17</th>
<th>1</th>
<th>30</th>
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<tr>
<td>Conval.</td>
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<td>17</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Home</td>
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<td>56.7</td>
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<td>33.3</td>
</tr>
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<td></td>
<td>17.4</td>
<td>89.5</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
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<td>18.9</td>
<td>1.1</td>
<td></td>
</tr>
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<table>
<thead>
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<th>1</th>
<th>0</th>
<th>30</th>
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</thead>
<tbody>
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<td>1.</td>
<td>29</td>
<td>1</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>At Home</td>
<td>96.7</td>
<td>3.3</td>
<td>0</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
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<td>0</td>
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</table>

**COLUMN**

<table>
<thead>
<tr>
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<th>69</th>
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<th>2</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>76.7</td>
<td>21.1</td>
<td>2.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

RAW CHI SQUARE = 35.86041 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE
CRAMER'S V = .44635 .0000
CONTINGENCY COEFFICIENT = .53378
KENDALL'S TAU B = -.03893
KENDALL'S TAU C = -.02889
GAMMA = -.06678
SOMERS'S D (ASYMMETRIC) = -.05245 WITH VAR001 DEPENDENT.= -.02889
SOMERS'S D (SYMMETRIC) = -.03726
### E. Type of Residence By Geographic Background

**VAR007 Geographic Background**

<table>
<thead>
<tr>
<th>COUNT</th>
<th>Lived Here</th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>ROW PCT</td>
<td>Area Most of Recent</td>
<td>Native Live Resident</td>
<td>ROW</td>
<td></td>
</tr>
<tr>
<td>COL PCT</td>
<td>1. 2. 3. TOTAL</td>
<td>1. 2. 3. TOTAL</td>
<td>1. 2. 3. TOTAL</td>
<td></td>
</tr>
<tr>
<td>TOT PCT</td>
<td>1. 2. 3. TOTAL</td>
<td>1. 2. 3. TOTAL</td>
<td>1. 2. 3. TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

| | Residence | | | |
| | 1. | 14 | 12 | 4 | 30 | 46.7 | 40.0 | 13.3 | 33.3 |
| | Nursing | | | | | | | | |
| | Home | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 2. | 12 | 8 | 10 | 30 | 40.0 | 26.7 | 33.3 | 33.3 |
| | Conval. | | | | | | | | |
| | Home | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 3. | 16 | 13 | 1 | 30 | 53.3 | 43.3 | 3.3 | 33.3 |
| | At Home | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| COLUMN | TOTAL | | | |
| 42 | 33 | 15 | 90 | | 46.7 | 36.7 | 16.7 | 100.0 |

**Significance**

RAW CHI SQUARE = 10.24416 WITH 4 DEGREES OF FREEDOM.  SIGNIFICANCE
Cramer's V = .23856  .0365
Continuity Coefficient = .31967
Kendall's Tau B = -.07451
Kendall's Tau C = -.07185
Gamma = -.11372
Somer's D (Asymmetric) = -.07726 WITH VAR001 DEPENDENT = -.07185
Somer's D (Symmetric) = -.07446
### F. Type of Residence By Marital Status

<table>
<thead>
<tr>
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<th>VAR 008 Marital Status</th>
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<td>Marital Status</td>
</tr>
<tr>
<td></td>
<td>Widow</td>
</tr>
<tr>
<td></td>
<td>(More than Divorced)</td>
</tr>
<tr>
<td></td>
<td>Single</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
</tr>
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<table>
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<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT PCT</td>
<td>1.2.3.4.5.</td>
<td>1.2.3.4.5.</td>
<td>1.2.3.4.5.</td>
<td>1.2.3.4.5.</td>
<td>1.2.3.4.5.</td>
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<tr>
<td>VAR001</td>
<td>Residence</td>
<td>Nursing</td>
<td>Home</td>
<td>Conval.</td>
<td>Home</td>
<td>At Home</td>
</tr>
<tr>
<td></td>
<td>1.</td>
<td>11</td>
<td>2.</td>
<td>9</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3.3</td>
<td>80.0</td>
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<td>6.7</td>
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<tr>
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<td>26.7</td>
<td>2.2</td>
<td>1.1</td>
<td>2.2</td>
<td>18.0</td>
</tr>
</tbody>
</table>

**Summary Statistics**
- Raw Chi Square = 19.22197 with 8 degrees of freedom
- Significance = .0137
- Cramer's V = .32679
- Contingency Coefficient = .41951
- Kendall's Tau B = -.02105
- Kendall's Tau C = -.02074
- Gamma = -.03050
- Somers' D (Asymmetric) = -.02137 with VAR 001 Dependent.
- Somers' D (Symmetric) = -.02105
G. Type of Residence By Health Status

<table>
<thead>
<tr>
<th>VAR009 Health Status</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>TOTAL</th>
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<tr>
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<td>3.</td>
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</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>9</td>
<td>12</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
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<td>33.3</td>
</tr>
<tr>
<td>Conval. Center</td>
<td>5</td>
<td>13</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>At Home</td>
<td>12</td>
<td>16</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td><strong>COLUMN</strong></td>
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<td>41</td>
<td>23</td>
<td>90</td>
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<td><strong>TOTAL</strong></td>
<td>28.9</td>
<td>45.6</td>
<td>25.6</td>
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</table>

RAW CHI SQUARE = 10.34987 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE Cramer's V = .23979 .0349
CONTINGENCY COEFFICIENT = .32115
Kendall's Tau B = -.16547
Kendall's Tau C = -.16259
Gamma = -.24649
Somers' D (Asymmetric) = -.16839 WITH VAR001 DEPENDENT. = -.16259
Somers' D (Symmetric) = -.16544
### H. Type of Residence By Family Situation/Proximity

**VAR010 Family Situation/Proximity**

<table>
<thead>
<tr>
<th>COUNT Residence</th>
<th>No Children</th>
<th>Living in Area</th>
<th>Not in Area</th>
<th>ROW TOTAL</th>
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<tbody>
<tr>
<td>1. Nursing</td>
<td>9</td>
<td>17</td>
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<td>33.3</td>
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<td>37.5</td>
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</tr>
<tr>
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<td>10.0</td>
<td>18.9</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>2. Conval.</td>
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</tr>
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<td>21.1</td>
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</tr>
<tr>
<td>3. At Home</td>
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<td>4</td>
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</tbody>
</table>

**Column:**

| 24 | 56 | 10 | 90 |

**Total:**

| 26.7 | 62.2 | 11.1 | 100.0 |

**Raw Chi Square = 1.80000** with **4 Degrees of Freedom. Significance = .7725**

**Cramer's V = .10000**

**Contingency Coefficient = .14003**

**Kendall's Tau B = .06733**

**Kendall's Tau C = .06000**

**Gamma = .11281**

**Somers's D (Asymmetric) = .07556** with **VAR001 Dependent. = .06000**

**Somers's D (Symmetric) = .06689**
### I. Type of Residence By Frequency of Contact With Family

**VAR011 Frequency of Contact With Family**

<table>
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<tbody>
<tr>
<td></td>
<td>ROW PCT</td>
<td>Often (Weekly)</td>
<td>Occasionally (Monthly)</td>
<td>Seldom</td>
<td>TOTAL</td>
</tr>
<tr>
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<td>COL PCT</td>
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<tr>
<td>TOT PCT</td>
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<td>3.</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>At Home</td>
<td>15</td>
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<td>7</td>
<td>30</td>
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<tr>
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<td>50.0</td>
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<td>TOTAL</td>
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<td></td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

**CHI SQUARE = 10.70000 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = .0302**

**Cramer's V = .24381**

**Contingency Coefficient = .32597**

**KENDALL'S TAU B = -.21211**

**KENDALL'S TAU C = -.20815**

**Gamma = -.31362**

**Somers' d (Asymmetric) = -.21615 WITH VAR001 DEPENDENT = -.20815**

**Somers' d (Symmetric) = -.21208**
Appendix J

FREQUENCY DISTRIBUTIONS
SUMMARY LIFE SATISFACTION SCORES AS MEASURED BY RLSS AND LSIZ

<table>
<thead>
<tr>
<th></th>
<th>NURSING HOME</th>
<th>CONVALES. CENTER</th>
<th>AT HOME</th>
<th>TOTAL SAMPLE</th>
</tr>
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<tbody>
<tr>
<td><strong>SUMMARY LIFE SATISFACTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCORE: MEASURED BY RLSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
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<td>19.1</td>
<td>25.3</td>
<td>19.9</td>
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<td>11.0</td>
<td>21.0</td>
<td>12.0</td>
</tr>
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<td>-1.10</td>
<td>-1.21</td>
<td>-1.13</td>
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<tr>
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<td>5.0</td>
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<td>1.0</td>
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<tr>
<td>Maximum</td>
<td>39.0</td>
<td>36.0</td>
<td>40.0</td>
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<td>Standard Error</td>
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<td>1.70</td>
<td>1.52</td>
<td>1.09</td>
</tr>
<tr>
<td>Standard Deviation</td>
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<td>9.3</td>
<td>8.34</td>
<td>10.29</td>
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<tr>
<td>Median</td>
<td>11.9</td>
<td>17.17</td>
<td>24.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Variance</td>
<td>117.9</td>
<td>86.5</td>
<td>69.6</td>
<td>105.87</td>
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<td>38.0</td>
<td>31.0</td>
<td>28.0</td>
<td>39.0</td>
</tr>
</tbody>
</table>

|                      |              |                  |         |              |
| **SUMMARY LIFE SATISFACTION** |              |                  |         |              |
| SCORE: MEASURED BY LSIZ |              |                  |         |              |
| Mean                 | 12.5         | 15.1             | 17.8    | 15.1         |
| Mode                 | 6.0          | 22.0             | 13.0    | 10.0         |
| Kurtosis             | -0.87        | -1.12            | -1.09   | -0.95        |
| Minimum              | 2.0          | 2.0              | 10.0    | 2.0          |
| Maximum              | 25.0         | 26.0             | 26.0    | 26.0         |
| Standard Error       | 1.38         | 1.18             | .82     | .65          |
| Standard Deviation   | 6.23         | 6.50             | 4.48    | 6.13         |
| Median               | 11.5         | 14.0             | 17.5    | 14.5         |
| Variance             | 38.9         | 41.7             | 20.1    | 37.5         |
| Range                | 23.0         | 24.0             | 16.0    | 24.0         |
Appendix K

A Discussion of Factor Analysis

There are several key assumptions underlying the use of factor analysis as a method of scale analysis. First, if two tests measure the same thing, the scores obtained from them can be added together. Factor analysis tells us, in effect, what tests or measures can be studied together rather than separately. It thus limits the variables with which the researcher must cope and ideally helps the researcher locate and identify unities or fundamental properties underlying tests and measures. Second, a factor is seen as a construct, a hypothetical entity that is assumed to underlie the test and the test performance. In this sense factor analysis serves as statistical tool to identify the factors or constructs that underlie concepts such as intelligence, attitudes, personality factors, etc. (Kerlinger, 1964:650). In this study then, factor analysis is seen as a statistical tool that will help in evaluating underlying dimensions in the measurement of life satisfaction. As was noted in the research design, factor analysis may thus be used as a way of assessing the construct validity of a measurement instrument. It does this by determining whether or not a scale is measuring a single factor, and through rotation of the factors, it locates clusters of highly interrelated items. In addition to this, factor analysis is seen as a valuable tool in the process of data reduction. That is, the way the factors emerge helps to determine which items in a scale form clusters of highly interrelated
items. Given an array of correlation coefficients for a set of variables, factor analytic techniques enable the researcher to see whether or not some underlying pattern of relationships such that the data may be reduced to a smaller (and more valid) set of factors or components that may be taken as source variables accounting for the observed interrelations in the data (Nie et al., 1970:469). Thus, if certain items do not correlate well with "related constructs," this information guides the development of a more reliable scale. (The items that do not "factor well" are eliminated and a revised scale is produced.)

A complete explanation of the mathematical and statistical assumptions of factor analysis will not be presented, however, a brief overview of the key assumptions and techniques inherent in the approach will be outlined.

First, factor analysis subsumes a large variety of approaches and procedures. However, most factor analytic techniques are organized around three basic steps: (1) the creation of a correlation matrix; (2) the extraction of initial factors—the exploration of possible data reduction; and (3) the rotation of the factors to a terminal solution—the search for simple and interpretable factors (Nie et al., 1970:459). Major variations exist in each stage. For example, in the preparation of the correlation matrix, if factor analysis is applied to a correlation matrix of units, it is called Q-factor analysis, while the more common type based on correlations between variables is called R-type factor analysis (Nie, et al., 1970:470). (Essentially, the creation of the matrix represents a table of correlation coefficients
that expresses the underlying relationships between the tests and the underlying factors.) There are also a number of different ways of extracting the initial factors. In the data-reduction process a new set of variables is created based on the interrelations exhibited in the data. If principal-component analysis is used, new variables (or defined factors) represent mathematical transformations of the original data; if common (or classical) factor analysis is used, inferential assumptions are made about the structuring of the variables and their source of variation. A variety of approaches are also available in terms of how the factors are organized and manipulated. For example, the main diagonals or substitute estimates for the diagonals may be used; the axes can be rotated orthogonally (held at 90° angles) or they can be rotated obliquely (where the angles between axes are obtuse or acute).

It is helpful to think of this factoring process as a geometric representation of the patterned relationships that exist between variables. Factor analysis determines the minimum number of independent coordinate axes necessary to plot the variation in vectors (or columns of variables) in space with each coordinate axis as a dimension (Rummel, 1970:14-16). Thus, the researcher begins to think of a construct (life satisfaction) in three dimensional terms and attempts to evaluate how the different factors "fill the space" and relate to one another.

Obviously this brief description does not fully reflect the mathematical implications of the matrix algebra and vector analysis involved in the factoring process.
Appendix L

Factor Analysis (Rotated)

RLSS Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
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<tr>
<td>VAR015 Pres. G.</td>
<td>0.47365</td>
<td>0.32741</td>
<td>0.41359</td>
<td>0.27904</td>
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<td>VAR016 Gen.</td>
<td>0.39155</td>
<td>0.05723</td>
<td>0.39592</td>
<td>0.32629</td>
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<tr>
<td>VAR017 Past</td>
<td>0.12908</td>
<td>0.04775</td>
<td>0.05650</td>
<td>0.83512</td>
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<tr>
<td>VAR018 Past-Pres.</td>
<td>0.46373</td>
<td>0.33767</td>
<td>0.56332</td>
<td>-0.04748</td>
</tr>
<tr>
<td>VAR019 Past</td>
<td>0.09440</td>
<td>0.10364</td>
<td>0.05827</td>
<td>0.64220</td>
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<tr>
<td>VAR020 Future</td>
<td>0.73625</td>
<td>0.21103</td>
<td>0.25033</td>
<td>0.17029</td>
</tr>
<tr>
<td>VAR021 Future</td>
<td>0.61776</td>
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<td>VAR022 Future</td>
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<tr>
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<tr>
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(Future)  (Present)  (Past)  

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### Appendix M

**Factor Analysis (Rotated)**

RLSS and LSIZ Scale Items Combined

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
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<td>VAR018</td>
<td>Past-Pres.</td>
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<td>0.15634</td>
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<td>0.09090</td>
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<td>VAR054</td>
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<td>0.25174</td>
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<td>0.12226</td>
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</table>

(Continued on next page)
### Appendix M (Con'd.)

**Factor Analysis (Rotated)**

RLSS and LSIZ Scale Items Combined

|--------|-----------------|-------------|-------------|-----------------|-------------|--------------|--------------|--------------|--------------|--------------|...............|--------------|--------------|-----------------|--------------|-----------------|-----------------|-------------|-------------|--------------|-------------|--------------|--------------|-----------------|--------------|--------------|-----------------|-------------|--------------|--------------|-------------|--------------|--------------|-----------------|--------------|-------------|-----------------|-------------|--------------|--------------|-------------|--------------|--------------|
| Factor 5 | .26404          | .06031      | .02433      | .28817          | .05870      | .17339       | .23312       | .05564       | .16190       | .15634       | .33010       | .36427       | .29634        | .49131         | .72867        | .57438        | .04415        | .10985       | .20094       | .17708       | .49620         | .23616        | .11771       | .12040         | .24755        | .28944       | .29317         | .21852        | .14011       | -.04058       | .06041        | .21657        | .01793        | .57983        | .29548        |
| Factor 7 | .04449          | .43428      | .17085      | .11908         | -.00365     | .14452       | .22034       | .32015       | .10436       | .27734       | .32854       | .04349       | .37268        | .20861         | .07808         | .18049        | .25532        | .13935       | -.01196      | .55882        | .07365         | .04161         | .17653         | .01309         | .17078         | .37617         | .41130         | .24937         | .10369         | .00860         | .05148         | .06972         | .29548        |
Appendix N
Interpretation of Factor Analysis:
RLSS and LSIZ Combined Scale Items

When the factor loadings presented in Appendix M are examined there do not appear to be clear-cut factors for the time dimensions; however, Factor 1 is evaluated as representing the Past dimension, Factor 2 the Present dimension, and Factor 3 the Future dimension. Var 017 clusters fairly well with three of the most obvious past dimensions in the LSIZ (Variables 047, 053, and 055). Var 017 did not cluster well with the other past dimensions in the RLSS; this raises a question about the initial factor interpretation of the past dimension of the RLSS. Var 017 does in this case cluster well with Var 019 of the RLSS, another "clear-cut" past dimension item. The factor (1) is not completely "clean" in that several present items (Var 015 and Var 026) and a "general" item (Var 034) also load fairly high on this factor.

Factor 2, the "present factor," has fairly high loadings on the present items--particularly in the LSIZ scale (Var 046 = .4193, Var 048 = .65244, Var 049 = .68615). Several present items from the RLSS also load, although not as high (Var 015 = .37546, Var 018 = .37349, and Var 029 = .31724). Several general and future items also load fairly high in this factor (for example, Var 058 = .31279 and Var 054 = .32370), thus it appears that this is not a completely consistent factor.
Factor 3, the "future factor," again has high loadings on the five future items of the RLSS (.81334, .47794, .45022, .72437, and .68574, respectively). Also, the one future item in the LSIZ scale loads fairly high here (Var 054 = .43163). However, a number of other "present" items also load on this factor (for example, Var 015 = .578, Var 026 = .36392, and Var 027 = .32695). Also, two of the future items (Var 021 = .38055, and Var 022 = .37680) load fairly high on Factor 6. In spite of these inconsistencies, it appears that the five RLSS and the one LSIZ future items are basically reliable items.

There are no clear-cut clusters (by time dimension) in the other factors although two of the "general" items (Var 033 and Var 058) load high on Factor 6 and two other "general" items (Var 016 and Var 033) load high on Factor 7.
Appendix 0

Kendall Rank Order Coefficients
Correlating the RLSS Scale Items With the RLSS and LSIZ
Summary Life Satisfaction Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>With</th>
<th>RLSS SUM.</th>
<th>LSIZ SUM.</th>
</tr>
</thead>
<tbody>
<tr>
<td>015</td>
<td>(Satisfaction with Age Now)</td>
<td>.650</td>
<td>.591</td>
</tr>
<tr>
<td>016</td>
<td>(Important Things in Life Rating)</td>
<td>.506</td>
<td>.458</td>
</tr>
<tr>
<td>017</td>
<td>(Satisfaction with Life So Far)</td>
<td>.357</td>
<td>.287</td>
</tr>
<tr>
<td>018</td>
<td>(Satisfaction Compared to Other Periods)</td>
<td>.603</td>
<td>.539</td>
</tr>
<tr>
<td>019</td>
<td>(Would you do things differently?)</td>
<td>.317</td>
<td>.248</td>
</tr>
<tr>
<td>020</td>
<td>(Life in the Future)</td>
<td>.622</td>
<td>.505</td>
</tr>
<tr>
<td>021</td>
<td>(Major Worries)</td>
<td>.627</td>
<td>.528</td>
</tr>
<tr>
<td>022</td>
<td>(Hopes for the Future)</td>
<td>.552</td>
<td>.492</td>
</tr>
<tr>
<td>023</td>
<td>(What things do you dread?)</td>
<td>.562</td>
<td>.404</td>
</tr>
<tr>
<td>024</td>
<td>(Satisfaction with Future Plans)</td>
<td>.692</td>
<td>.598</td>
</tr>
<tr>
<td>025</td>
<td>(Feelings of Loneliness-Depression)</td>
<td>.579</td>
<td>.536</td>
</tr>
<tr>
<td>026</td>
<td>(Contact with Close Friends)</td>
<td>.546</td>
<td>.393</td>
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<tr>
<td>027</td>
<td>(Are others dependent on you?)</td>
<td>.502</td>
<td>.407</td>
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<td>028</td>
<td>(Happiness Right Now)</td>
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<td>029</td>
<td>(Aging: Better or Worse Than Expected)</td>
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<td>(Satisfaction with Way of Life)</td>
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<td>(Happiness in Different Life Periods)</td>
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<td>032</td>
<td>(Events Crucial to Happiness)</td>
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<tr>
<td>033</td>
<td>(Evaluation of Changes)</td>
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<tr>
<td>034</td>
<td>(Evaluation of Self Concept)</td>
<td>.690</td>
<td>.586</td>
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</table>

(All correlations are significant at the .001 level.)
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