REFERENCE GROUP AND AGING: A CROSS-NATIONAL STUDY

By

ROSANNA HWEI-CHEN KUNG CHANG

Bachelor of Arts in Sociology
National Taiwan University
Taipei, Taiwan
1965

Master of Science
Brigham Young University
Provo, Utah
1970

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
July, 1977

REFERENCE GROUP AND AGING: A

CROSS-NATIONAL STUDY

Thesis Approved:

Richard A. Dodder
Thesis Adviser

Larry M. Gerdes

Gene Acuff

William H. Rambo

Jean Rayborn

Norman N. Durham
Dean of the Graduate College

ACKNOWLEDGMENTS

The following dissertation is dedicated to my parents, Quo-pen and Kwei-phen Kang, whose love, faith and support of many kinds sustained me through my education.

I would like to express my deep appreciation to the members on my committee, Dr. Larry Perkins, Dr. Richard Dodder, Dr. Gene Acuff, Dr. Ivan Chapman and Dr. William Rambo, for their invaluable suggestions. My special gratitude is extended to Dr. Richard Dodder, my dissertation adviser, for his unlimited quantity of patience, constant encouragement and invaluable insights.

Appreciation is extended to Dr. Donald Allen for his assistance on the computer programs for the analysis of the data. Further appreciation is extended to Mr. Edward Stapley, Dean Emeritus, and Dr. Virginia Stapley, Professor and Head Emeritus for their assistance in gaining access to retirees and pre-testing of the questionnaire. Thanks also goes to Professor Chu at National Taiwan University for giving me access to the manuscript of his research on retirees in Taipei, Taiwan.

I am deeply indebted to Dr. David S. K. Kung, President of the Lions Club of Taipei (32nd of Taipei), for his assistance in gaining access to Chinese retirees and functioning as the coordinator in data collection. Without his complete devotion, the part of the research on Taiwan would be virtually impossible. Not to go without thanks are

my interviewers, particularly Mrs. Kelly Kung, Miss Shieh, Miss Huang, Mr. Hubert Kang and Mr. Tei-hwa Kang. In addition, I would like to express my appreciation to Mrs. Su-lin Shiao Tsun for taking good care of my baby daughter during the course of this research and to Katye Nelson for the excellent job she did typing this dissertation.

The dissertation was supported in part by a grant from the Administration on Aging, Department of Health, Education, and Welfare. Researchers undertaking such projects are encouraged to express freely their professional judgment. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Health, Education, and Welfare.

Finally, gratitude is expressed to my husband, Peter. His sacrifice, patience and understanding have been the greatest especially during this period of time. He is also writing his own dissertation.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

NATURE OF THE STUDY

Introduction

In social gerontological literature, successful aging has constantly been a major concern. The two dominant polar theories of successful aging are disengagement theory and activity theory. It has been documented that neither of these theories is sufficient to explain successful aging in view of empirical evidence. However, many aging programs are geared toward the activity model. The question concerning the relation between activity and the meaningful existence of old people is thus a crucial one considering the policy implications which impose value judgments. Existing theories are also culture-bounded and have validity problems even for American society (Cowgill, 1972). A cross-national comparative study, which is based on a rationale of both similarity and uniqueness of different cultures, should be able to separate out universals which may be inherent aspects of the aging process itself from propositions that are relative to economic, social, or cultural differences among cultures (Shanas and Madge, 1968). A more general theory which can account for systematic variation among cultures might then be derived. In addition, cross-national studies enable investigators to observe strategic variables in a greater range of variation and hence may serve to reinforce or

call into question hypotheses derived from the study of old people in a single culture (Neugarten and Bengtson, 1968). Nevertheless in the field of social gerontology, comparative studies are relatively few and tend to focus on western societies and additionally involve inconsistent findings. For example, contrary to the Shanas-Townsend study of the U.S.A., England and Denmark, Havighurst, et al. (1969) in their pilot study of eight countries (Austria, Germany, Holland, Italy, Poland, U.S.A., England and France) suggested considerably greater differences among national groups in patterns of interpersonal contact than had been anticipated. Although these authors demonstrated that the most frequent patterns were high engagement with high life satisfaction and low engagement with low life satisfaction, they asked the following interesting question: "Would this relationship hold in societies that are more different one from another than those studied here (Havighurst, et al., 1969: 144)?" With this question in mind, the writer proposes a cross-national study of America and Taiwan,[1] which might reflect rather different kinds of societies.

Statement of the Problem

The present study is an attempt to integrate both disengagement

---

[1]Since Taiwan is populated by Chinese except for the 2% of Indonesian speaking element termed "Aborigines," it could be considered as a Chinese society with a Chinese culture. Although Taiwan was under Japanese rule for 50 years, there was no substantial change in the configuration of society and culture despite the changes in material construction and administrative system (Chen, 1966-67: 3). The social change that took place in Taiwan during the Japanese rule is not a Japanization, but is a modernization of a Chinese society (Chen, 1966-67: 3).

and activity theories through a reference group perspective. Primarily, this research will present a theoretical model pertaining to aging and will test the hypotheses derived from this specifically formulated theoretical model in a cross-national setting.[2] For this purpose, two samples (i.e. a sample of retirees from the school system in Payne County, Oklahoma and retired teachers in Taipei, Taiwan) were drawn. Data were obtained by mailed questionnaire for the American sample and personal interview for the Taiwan sample. In addition to testing of specific hypotheses, other objectives of the study include: (1) describing the similarities and differences between the U.S. group and the Taiwan group of retirees, (2) exploring some correlates of the meaningful existence of old people, and (3) studying measurement scales in a cross-national setting.

Expected Contribution

It is hoped that this research might contribute to both theoretical and substantive areas. In addition to providing a partial test of activity and disengagement theories in a cross-national setting, it is expected that this study might: (1) suggest a way to integrate these two major theories into a more general theory concerning the meaningful existence of old people; (2) generate new hypotheses which can be tested later in a broader and more representative sample; (3) provide one validation of measurement scales in a cross-national setting; and (4) help to understand the cultural variations and

---

[2]The theoretical model is discussed in Chapter III. The independent variables in this model are age reference set and activity level; the dependent variable is the meaningful existence.

similarities of old people.

This study may be expected to have implications on the activity oriented programs sponsored for old people. If the model is found to be useful, intervention strategy directed to old people with a low meaningful existence can be approached from several levels. On the individual level, the effort can be directed toward the change of either the individuals' subjective orientation (age reference set) or their activity level so as to bridge the disjunction between these two. On the group level, a more permissive social environment may be called for to aid in fostering greater diversity in life styles. It may not even be desirable to force old people into one single mode of adaptation. Also, on the general cultural level, a liberation from the middle-age norms for old people may be needed. Unless old people are liberated from the functionalistic ethic, the potential gain in freedom in old age may well become a burden rather than a blessing.

Organization of the Study

Following this introductory chapter, Chapter II will review the literature pertinent to successful aging or development of a sense of meaningful existence among the aged. Chapter III will present a specifically formulated theoretical model. Included in this chapter are definitions, assumptions, rationale and hypotheses for the model. Research methodology including the sample, data collection and analysis procedures, questionnaire construction and assessment of measurement scales will be stated in Chapter IV. Chapter V will describe the samples in terms of demographic characteristics, model

variables and the aging patterns. Three types of hypotheses, namely hypotheses related to the assumptions of the model, hypotheses derived from the model and model implications will be evaluated in Chapter VI. Data not specifically treated in the hypotheses of the theoretical model will be explored in Chapter VII. Finally, Chapter VIII will provide a summary of the study. Also the results will be discussed in terms of the theoretical model, model implications and existing theories.

CHAPTER II

REVIEW OF LITERATURE

Introduction

In this chapter the writer will discuss only major theories related to some type of psychological well-being, which has been variously identified as happiness, successful aging, satisfaction with life, morale, adjustment and similar terms. The reader should also be reminded that the following so-called theories are merely perspectives or orientations in the strict sense.

Major Theoretical Perspectives

Disengagement Theory

Disengagement theory is perhaps the first formally stated theory in social gerontology. This theory is based on the work that Cumming, Henry and their colleagues (1961) had done with a sample of healthy middle-class whites in Kansas City, Missouri. Grounded in structural functionalism, the disengagement theory focuses on the concept of a natural equilibrium of society and the individual, on the concept of homeostatis in a physiological perspective, and on David Riesman's model of autonomous man. Rose (1965: 360) interpreted disengagement theory to mean that, "the society and the individual prepare in advance of the ultimate 'disengagement' of incurable disease and death by

an inevitable, gradual, and mutually satisfying process of disengagement." This theory, as originally proposed by Cumming and Henry, includes the following major postulates: (1) disengagement is an inevitable process in which many of the relationships between a person and other members of society are severed, and those remaining are altered in quality due to the universal expectation of death and decrement of ability for aging process; (2) disengagement, once begun, becomes a circular or self-perpetuating process; (3) the process of disengagement will differ between men and women; (4) disengagement in America may be initiated by either the individual or by the society or by both simultaneously; and (5) successful aging is defined as a process of mutual withdrawal of the aged person from society, and of society from the aged person. Even though the basic tenants of this theory are maintained by the authors, several modifications have been made. Henry (1963) later considered the disengagement as an observed fact rather than the theoretical functional necessity. He then allowed for possible reengagement and the inclusion of the variable of life style (1963). Cumming (1964) recognized four shortcomings of the theory: (1) the theory does not take into account such non-modal cases as widowhood before the marriage of the last child or of work protracted past the modal age of retirement; (2) there are individual differences in disengagement; (3) there are lively oldsters who may increase their recreational activities; and (4) there are several other causes of disengagement besides the anticipation of death, such as rapid social change making obsolete some of the roles of older people.

Disengagement theory has been subject to a wealth of criticisms on the grounds of the substance of its claim, of its empirical

adequacy, and of its logical adequacy. Firstly, the major critiques on its substances follows. Disengagement may not be a universal process characteristic of old age exclusively and may simply be a continuation of a life long style for some people (Koller, 1968: 151-153; Rose and Peterson, 1965: 362). Disengagement as a desirable model of aging may be a value judgment (Rose, 1965: 363; Koller, 1968: 151-153), and disengagement may not be desired by old people (Zborowski, Eyde, 1962; Ehrlich, 1972; Youmans, 1968; Brown, 1974). Disengagement is a selective instead of a universal process. Glen and Grimes (1968) in a study of political behavior demonstrated that political interest and participation increased with advances in age. Youmans (1968) found that old people who had increased family roles and leisure activities did not necessarily experience disengagement. Rosow (1967), for example, held that the contraction of the social world of old people did not apply to their relationships with their children. Dressler (1973) also found an increase in the time old couples spend together as well as a slight increase in the homemaking role of the husband. In general, disengagement is more marked in the roles removed from self with advancing age (Bengtson, 1968). Disengagement is not an intrinsic and inevitable process as claimed by disengagement theory; Roman and Taietz (1967) suggested opportunity structure as an intervening variable in explaining disengagement. Tallmer and Kutner (1969) pointed out physical and social stress such as poor health, widowhood, and retirement in producing disengagement. Maddox and Eisdorfer (1962) in a longitudinal study found that high activity was significantly associated with good health, maintenance of work role without radical modification, stability and control of the

living situation, and social economic status. Brown (1974) found that social disengagement depended on whether the relationship was satisfactory or not. Hochschild (1975: 567) held that the engagement of old people varied with the general character of the society (i.e. its fit with the pre-industrial, industrial and post-industrial models) and with the individual's particular location in the society (i.e. his sex role and social class). In pre-industrial societies, there might be more over-all engagement in the sphere of work and family and less in the leisure activities, whereas; in societies closer to the post-industrial model (or future leisure society) there might be more over-all disengagement from work and more corresponding engagement in the family and leisure spheres (Hochschild, 1975: 564-565). Hochschild (1975: 565) also suggested that there would be reluctant engagers in pre-industrial societies and reluctant disengagers in post-industrial societies. Although many researchers argue that it is not age per se which produces disengagement, Maddox (1963) contends that the evidence so far simply does not permit disentangling the situational from the internal determinants of observed instances of disengagement.

Secondly, the major critiques on its empirical adequacy are as follows:

1. The disengagement theory is only partially supported by empirical evidence (Clark and Anderson, 1967; Havighurst, et al., 1969; Maddox and Eisdorfer, 1962; Martin, 1973). Koller (1968: 151-153) and Rose (1965: 363) held that the theory offered weak interpretation of the facts in the context of the social structure and social trends.

There is a debate over the relationship between life satisfaction or morale and disengagement although researchers do support the general tendency of disengagement (Havighurst, et al., 1969). Havighurst, Neugarten and Tobin (1968) found in their study that the satisfaction rating did not decrease appreciably with age while social and psychological engagement declined with increasing age. Maddox and Eisdorfer (1962) also indicated in their study that mean activity scores decrease with age without an accompanying decrease in mean morale scores. Dressler (1973) in his study of retired couples reported a trend of social disengagement even though the retired couples were satisfied with their current life pattern.

In contrast to disengagement theory, several studies support the modal patterns of aging to be high activity-high life satisfaction or morale and low activity-low satisfaction or morale (Havighurst, et al., 1969; Maddox and Eisdorfer, 1962). Havighurst, Neugarten and Tobin (1968) found that as the level of activity decreased, so did the individual's feeling of contentment. Tobin, Sheldon and Neugarten (1961) further showed that the positive relationship between life satisfaction and social interaction increased rather than decreased with advancing age.

2. Major variables such as age and disengagement in the theory suffer from the omnibus variable problem (Hochschild, 1975).

Since all the psychological and sociological forms of disengagement apparently do not go together empirically and different parts of the independent variable such as age have separate links to various aspects of disengagement, there are theoretical uses in dividing up these two umbrella variables (Hochschild, 1975). Carp

(1968) also maintains that the component parts of disengagement need to be more sharply identified, that disengagement from family and friends has different meanings for different people, and that the loosening of the bonds of parenthood does not necessarily mean a loosening of other social ties.

3. Age and cohort effects are confounded in cross-sectional research (Hochschild, 1975).

4. Cumming and Henry did not collect much data on the actor's own conception of aging, and when they did, they did not accord that evidence much importance (Hochschild, 1975: 560).

Thirdly, the theory has also been criticized on the basis of its logic. Since the theory postulates that disengagement is universal, inevitable and intrinsic, and that there will be variations in the form and timing of disengagement the theory is unfalsifiable (Hochschild, 1975). Hochschild identified this as the escape clause problem.

Activity Theory

The activity theory, the polar opposite of the disengagement theory, is considered to be the first framework for research in the field of social gerontology and continues to be an approach in much of today's literature. Grounded in symbolic interaction theory, the activity theory rests on the notion of middle-age culture orientations, role, value and attitudinal continuity (Rosencranz, 1966). Assumptions in the activity theory are as follows: (1) older people have same psychological and social needs for social interaction as do the middle-aged; (2) the decreased social interaction results from

the societal rejection of the aging individual; (3) the decrease in interaction proceeds against the desire of most aging individuals; and (4) optimal aging is to stay active and to resist shrinkage of the social world and maintain social activity patterns of middle-age. Successful aging is aging with fullest activity. Lemon, Bengtson and Peterson (1972b) isolated two central propositions of activity theory; (1) there is a positive relationship between social activity and life satisfaction; (2) salient role loss is inversely related to life satisfaction. The basic assumption of the theory is that older people derive their source of adjustment from the contact with the social system (Maddox and Eisdorfer, 1962).

There is considerable research which attempts to prove or disprove the activity theory (c.f., Cavan, Burgess, Havighurst, and Goldhammer, 1949; Rosow, 1967; Maddox and Eisdorfer, 1962; and Havighurst, et al., 1969). Crumbaugh (1972: 419) related changes in roles and identity with changes in the older person's sense of meaning and purpose. Thus, he emphasized the need for new values and new roles to prevent the person's degeneration into "hopelessness and despair of an existential vacuum." Maddox and Eisdorfer (1962: 254-255) held that constriction of interests and activities produced a crisis in self-evaluation due to our highly cultural orientation of an expansion of interests and activity. Their study confirmed a positive relationship between activity and morale although the type of activity seemed to make a difference. In a study concerning social adjustment of the elderly, Pihlblad and McNamara (1965: 49-73) found that all measures of participation were significantly related to adjustment. Havighurst, et al. (1969: 145), reported that the modal patterns were

high activity-high satisfaction and low activity-low satisfaction. Tobin and Neugarten (1961: 344-346) in their data also seem to support the idea of engagement. Britton (1963: 60-65) was able to identify three dimensions underlying the measures of adjustment, namely an activity factor, sociability factor, and a composure-serenity-integrity factor.

Several studies emphasize the type of activity in relation to morale or adjustment. Lemon, Bengtson, and Peterson (1972: 519) suggest that the quality or type of interaction, not the quantity of interaction, may be the most important predictor of life satisfaction. Phillips (1957) concluded that only activities meaningful to the person involved can contribute positively to the individual's adjustment. Kutner, et al. (1956), found that the decline in morale in old age was strongly related to the exclusion from activities which provide status, achievement and recognition. Thus, Kutner, et al., argue that activities which are not basically satisfying needs do not contribute much to the individual's morale. Sherman (1974) suggested that functionally important activities other than leisure activities would result in high morale or adjustment. Both Lemon, et al. (1972a), and Pihlblad (1975) did not find a significant relationship between activity with neighbors, relatives, or formal organizations and life satisfaction. This was in agreement with Martin's (1973) finding of no statistically significant relationship between family interaction and life satisfaction. Both Cutler (1973) and Bull (1975) showed that participation in voluntary association as related to life satisfaction was an artifact of health and socio-economic status. Edwards, et al. (1973), even found that voting had negative effects on life

satisfaction. In general, activity with friends seems to have a greater benefit than that with either neighbors in a formal context or solitary activity. Contrary to all the studies given above, Maddox (1963: 203) in a longitudinal study found that noninterpersonal activity was also significantly related to morale.

Major criticisms of activity theory are: (1) the place of death is not dealt with in activity theory (Cumming and Henry, 1961: 13); (2) there is a neglect of biogenic and psychogenic influences on behavior (Rose, 1962a: X); (3) the theory does not adequately deal with the social aspects of aging (Cumming and Henry, 1961: 13); (4) there is a neglect of unconscious processes in behavior (Rose, 1962a: X); (5) there is a neglect of power relationships between persons or groups, and while these are generally assumed to exist, they are seldom given due weight (Rose, 1962a: X); and (6) the distinctively problematic area in the social gerontological literature is that the most frequently used indexes of adjustment rely on criteria essentially composed of middle-aged "norms" and middle-age "activity" assumptions (Rosencranz, 1966).

Both activity and disengagement theories have strong points as well as weaknesses. Both theories are criticized for the following reasons: (1) both polar theories involve value doctrines; (2) both theories tend to neglect the actor's view of the meaning of activity or disengagement; (3) both theories neglect the cultural context and, hence, are culture-bound; (4) both theories are over-simplified in postulating a simple linear relationship between activity and successful aging; (5) both theories are only partially supported by empirical studies.

Continuity Theories

Personality and Life Pattern Maintenance Theory. Unlike the previously discussed theories, these theories move away from the general societal explanation of successful aging and more toward the idea of aging as an individual phenomenon or personal matter. The underlying assumption is that as the individual grows older, he is predisposed toward maintaining continuity in his habits, commitments, preferences, etc. which he developed in the process of being an adult. That is, the person tends to retain the personality-life style characteristics of his or her middle years which may be either active or passive, happy or unhappy. Those who were happy and satisfied by being active and productive then will continue to be happy and satisfied if they can maintain a considerable part of their activity and productiveness. Those who were happy and satisfied by being relatively passive and dependent in their middle years will be happy and satisfied if they can become even more disengaged in their later years. Personality theory proposed by Havighurst (1954: 310) essentially deals with life satisfaction. In general, personality theory views adjustment to old age as being a personal matter depending upon the individual's unique personality makeup, his satisfaction with the present situation and particularly his past life experiences. Thus, those people who feel that they have accomplished their major goals, who have reared their children to be successful, and who have in general a feeling of accomplishment can be expected to be more adjusted to older age than the person for whom the reverse is true. Havens (1968), in her study of the relationship between the continuity of participation in

activity and the adjustment of an aged population during and following the involuntary relocation into a non-institutionalized, residential public housing facility, did tend to support the hypothesis that continuity is associated with a high level of adjustment. Bultena (1969) in his interviews with 284 retired men found that decremental life changes in general life situation, health and organizational participation were associated with a low level of morale. Further, the impact of life changes on morale was mediated by the social structure, with the psychological costs of decremental changes being disproportionately centered among those in the lower socio-economic segments of the aged population.

The life pattern maintenance model, which views the adjustment to old age as a life-long process, was proposed by Reichard and Peterson (1962). In this approach, if the person has been unsuccessful in adjustment in his earlier life, he will continue this pattern in the later years. Lowenthal (1968) did find continuity in patterns of intimacy or isolation which people carry with them into old age. According to Rosow (1973) the best life is the one that changes least and good adjustment is represented by maximum continuity and minimum discontinuity of life pattern over the life course time. Dressler (1973) in his study of adjustment of retired couples also found support for life style continuity.

Although personality and life pattern maintenance theories share the basic assumption of continuity with the activity theory, these theories do not postulate an activity pattern of middle age, and hence, do not posit one single mode of successful aging - high activity with high morale. As opposed to the group level of analysis

of the activity theory, the personality and life pattern maintenance theories hold that there are many possible individual adaptations to aging rather than just a few. In the course of correcting some weaknesses of activity and disengagement theories, the personality and life pattern maintenance theories create other weaknesses: (1) they are hard to operationalize due to the tremendous amount of variables involved; and (2) they are not able to explain cultural and group variations in aging.

Culture Continuity Theory. Clark and Anderson (1967) in their anthropological study of old Americans in San Francisco concluded that their findings supported neither disengagement theory nor activity theory. As opposed to disengagement theory, high levels of social interaction was found to promote high levels of morale. However, in the same study, some of the case analyses showed that an obsessive, hyperactive involvement with others in old age could itself be indicative of maladaptation. Clark suggested that cultural values and individual defenses as intervening variables should be taken into account in disengagement theory. According to Clark the life cycle is conditioned not only by biology but also by social and cultural "meanings" which become attributed to these stages. The transitions from one life stage to another can be very simple or extremely stressful depending upon how well the culture gives support to those members moving through the life stages. At such time the availability of cultural supports becomes crucial to the success or failure of the adaptation. Clark (1973) further points out the contradictions and discontinuities of American culture as major problem of aging in

America. According to Clark (1972) certain cultural patterns serve to define the aged in American society as dependent. Yet on the other hand, the American core cultural value is freedom which depends on the value of individualism, which, in turn, produces the definition of self-esteem predicted on independence and self-reliance (Clark, 1972). Thus, Clark further comments that dependency is negatively sanctioned and lower status is accorded to the aged in America as a result of both a strong negative value on dependency and on aging as dependency. Clark (1972) states that old age in reality is often a time of increasing dependency in order to survive. The American culture value of independence as a source of self-esteem and the increasing need of dependency for survival is the major problem in adaptation to aging in America.

Life Course Theory

Life course refers to those successive statuses and stages that each individual occupies as a consequence of growing older. Although all cultures recognize a biological life cycle and are concerned with the universal phenomena of movement through the life cycle, there is cultural variation in the conceptualization of life cycle and in coping with aging. Some cultures have more clear-cut phases in life cycle than others. The passage from one phase to another may be obscured, prolonged or clear-cut. Every phase of the life course is marked by important changes and these are related to those that occurred earlier (Youmans, 1969). In other words, there is both continuity and change in social behavior with passage of time. According to Bengtson (1973), there is change in that the developing

individual experiences a variety of developmental events with the passage of time. There is continuity in that he responds to these events from the resources of his own history of adaptation (Bengtson, 1973). While overt aspects of personality, social-adaptational patterns and the life style do not seem to be affected by age-related change, there are changes over time in those "covert" personality processes and the self-concept. In general, life course theory assumes both change and continuity in life course.

One of the most useful life course theory was developed by Van Gennep (1960). He constructed an age status frame of reference by his observation that life is clearly composed of a series of passages from one stage to another with major ones being birth, adolescence, maturity, old age, death and after life for the believers. The passage from one phase to another is often accompanied by rituals which Van Gennep called rites of passage. He, further, distinguished three types of rites of passage, namely, separation, transition and incorporation. According to him, these subcategories are not developed to the same extent by all people or in every set of ceremonies. The rites of passage are viewed as a social device to incorporate an individual into a new status in group and thus help him achieve new adjustment.

According to Rosow (1973), life cycle can be viewed as a sequence or series of commonly recognizable and identifiable age status and roles with old age representing one phase of the life cycle. Each has its own sets of norms and expectations which, taken together, comprise an age-sex role, structure a person's life and give him identity and social definition. He also contends that the transition

into old age is not characterized by typical properties in normal status and role passage as in early stages of life. To him the transition into old age lacks formal rites of passage and is marked by severe role discontinuity. In addition, old age is the only distinctive stage in the life cycle which involves pervasive systematic social losses rather than gain.

Linton (1942) described the life course as successive stages of age status which can be viewed as one dimension of social structure. Linton (1942: 592) suggested that the age-sex systems are sufficiently divorced from physiological considerations to make possible almost any amplication of formal categories and choice of transition points. Thus, he held that an adequate basis for understanding personality formation and social structure should include the analysis of age-sex dimension. He further held that all or almost all societies perform rites of passage for entry into adulthood and the transition calling forth the fewest rituals is that from adult to old age status. Linton (1942: 279-280) added that an individual is less likely to encounter difficulty in adjusting to a new age status and role if the transition has been gradual. Both Van Gennep and Linton seem to imply: (1) that society is somehow responsible for the task of preparing an individual for subsequent age statuses; (2) that rites of passage are vital to successful aging; (3) that the biological model may not be appropriate for the social aspects of human aging (Bynum, 1972).

Cain, Jr. (1964) viewed the life course as a constant threat to the stable social structure. To him, the emergence of complex industrial societies has produced at least two major innovations in

the use of age to form a social structure: (1) generational criterion have become ambiguous; and (2) separate institutions have been assigned responsibility for establishing sequences, frequently with the result that individuals experience asynchronization in moving through the life course. The age status asynchronization in complex societies is probably most pronounced, according to Cain, Jr., in the transition from youth to adulthood.

According to Neugarten (1968), since personality can occur all along the life span, any useful personality theory should take the whole life cycle into account. Again, Neugarten pointed out that the psychology of the life course should not be based on the biological model. Rather the personality changes through the life span should be understood in the context of age status system of the society.

Although contributions to the body of life course theory come from various disciplines, there seem to be some dominant themes in this perspective. This perspective contends: (1) that the biological model is inadequate in dealing with human behavior in general and aging in particular; (2) the whole life cycle should be considered in understanding aging; (3) that there is both change and continuity in life course; and (4) that rites of passage is vital to successful aging. According to Youmans (1969), in fact, the life course perspective recognizes a need to compare the cultural expectations and abilities associated with older age with those of earlier life stages for a full understanding of human aging. In contrast to disengagement theory, the life course concept acknowledges the importance of generational phenomena in understanding human aging (Youmans, 1969). Furthermore, age status and role are given emphasis in this

perspective.

Labeling Theory

Labeling theory is rooted in symbolic interaction. This theory has five dominant themes: (1) it views behavior as a dynamic interaction process between the actor and the society or social environment; (2) it emphasizes the differential reactions toward behavior; (3) it focuses on the negative consequences of labeling as a continuous no return vicious circle; (4) it locates the cause of individual problem far external to the actor; and (5) it conceives human being as passively internalizing the label imposed on him.

Baizerman and Ellison (1971) in their analysis of senility conceptualized senility as a social role based on an age norm of 65 or over and on the presence of certain patterns of thinking, feeling and behavior caused by biological aging. These authors held that the label of senility provides a social status passage from person to patient, hence, legitimizes hospitalization and controlling over his personal and real property, his income, and in short, his right to self-determine his socio-economic and political life. In addition, through the hospitalization of the person labeled as senile, the integrity of the family is maintained. These authors also added that family structure and functions such as socio-economic status, size, role conflict, and role discontinuity are important variables in the institutionalization of an aged person holding older person's incapacity constant. In the last, the authors concluded that if senility is a label often used to get the elderly out of the home, then a treatment ideology to return him could cause many

intra-familial stresses.

Zusman (1966) formulated the concept of the social breakdown syndrome which involves a vicious cycle of increasing incompetence of the individual. In this formulation, the first stage involves the "pre-condition of susceptibility" of the individual to psychological breakdown which leads to an excessive "dependence on current cues." According to Zusman, there occurs a negative social labeling of the individual as incompetent. The individual is then induced into a sick or dependent role. This role induction is followed by the learning of behaviors and skills appropriate to the negative role and by the atrophy of work and social skills which are not demanded in the new context. Finally, there occurs the psychological identification and self-labeling as useless, sick, and inadequate. This, in turn, leads to further susceptibility, dependence, low self-assessment and the atrophy of coping skills. In short, Zusman describes the system as a vicious feedback loop with negative inputs. In order to intervene this vicious cycle of social breakdown, Kuypers and Bengtson (1973) proposed a social reconstruction syndrome.

Reference Group Theory

The term "reference group" was first used by Hyman (1942). There is a general agreement that "reference group" refers to the group to which the individual psychologically relates. Out of Hyman's (1942) original paper arises some of the major concepts current in reference group theory. Distinctions are made between membership reference groups and nonmembership reference groups (Hyman, 1942; Krech, et al.,

1962) among reference individuals, reference sets, and reference groups (Sherifs, 1969), between normative and comparative reference groups (Kelley, 1952), and between positive and negative reference groups (Newcomb, 1958). An examination of the usage of the reference group concept discloses at least three distinct referents for the concept: (1) groups which serve as comparison points; (2) groups to which men aspire; and (3) groups whose perspectives are assumed by the actor. Also the concept has been used to refer to either real or imaginary groups as well as persons, or categories. A normative reference group is agreed upon as a reference group by all who use the concept, no matter whether the phenomenon which occurs in relation to these groups is termed psychological relatedness, identification, or assumption of perspective. There is disagreement, however, over whether the term can be extended further. Because of the confusions and inconsistencies in the usage of the concept, several suggestions have been made. Rose (1962b) prefers the term "reference relationship" which not only allows one to have varying degrees of "reference" or "significance" in the relationship but also permits the "other" to be a single individual or a group. Kuhn (1964: 5-25) introduces the possibility of developing formulations of the reference group based upon symbolic interactionist's "others" and develops a concept which he calls the "orientational other." Sherif prefers to use "reference idol" when the anchorage is a loved or idolized person rather than a group, and use "reference set" when the anchorage is a category of people rather than a group.

Reference group concepts have psychological and sociological bases. The psychological basis is that the human being functions

on the conceptual levels and hence can orient himself to groups other than his own (Sherifs, 1969). One sociological base is a dissatisfaction with prevailing conformities and social arrangements (e.g. many alienated persons produced by the living conditions in modern times may drift toward new groups as well as form new groups in search of stable anchors) (Sherifs, 1969). A second sociological base is the availability of multiple groups in highly complex differentiated and mobile societies (Sherifs, 1969).

According to Romeis, Albert and Acuff (1971), neither disengagement nor activity theory is capable of dealing with the following questions:

1. Why are some older people who are actively and extensively involved with others apparently well adjusted? (unexplained by the disengagement theory)

2. Why are some older people who are actively and extensively involved with others apparently poorly adjusted? (unexplained by the activity theory)

3. Why are some people who have withdrawn and have disengaged from society apparently well adjusted? (unexplained by the activity theory)

4. Why are some people who have withdrawn from society apparently poorly adjusted? (unexplained by disengagement theory) (Romeis, Albert and Acuff, 1971: 68-69).

Due to the limitations in both activity theory and disengagement theory of successful aging, these authors have suggested the concept of reference group in synthesizing these two major theories. The authors contend that the above questions can be answered by analyzing the older person's reference group behavior.

Rosow (1967) held that the dominant theme of old people is the loss of social roles due to endemic forces in modern life. As these losses takes place the elderly tend more and more to depend on their

associations with their family, relatives, friends, and neighbors for integration into society. Then, Rosow (1967) analyzed the relative salience of these groups in different contexts and on different levels. In the context of age-sex role models, the peer group was found to be more salient. In the area of objective help of older people which institutionalizes family obligations and largely excludes other groups from significant consideration, particularly the care in illness and financial assistance, the family is more salient. At the general level where family, friends and neighbors may compete freely as alternative reference groups, Rosow (1967) found that the family is the general personal reference group. In addition, residence density of old people tended to increase the proportion of neighbors among all role models chosen and neighbors were found to be effective reference groups in illess (compensation for those having no family and scarcity of money) only in dense areas where there were many old people. According to Rosow, friends are not compensatory reference groups for family because these two are two independent systems. Neither are neighbors an adequate substitute for family bonds.

Although old people are less willing to associate with other aged, especially the middle class old people, residential proximity between young and old did not maximize the social integration of the aged. It was also found in Rosow's (1967) study that the friends of old people resembled them not only in age, but in sex, marital status and social class. Since the number of their local friends and the amount of their interaction with neighbors were directly related to the residential concentration of the aged (especially for lower class old people and those who suffer greater role loss), Rosow

proposed that the most viable opportunities for the integration of older people in informal groups are among their age peers. Through the age concentration of a homogeneous group, not only a new self-image, which probably makes easier a positive acceptance of one's age, but also viable social groups can be developed (Rosow, 1973). The viable peer groups can establish specific age relevant norms and can become a positive age appropriate reference group for old people (Rosow, 1973). According to Rosow (1973), effective socialization in old age can thus be facilitated. It seems to the writer that Rosow's (1973) insulation theory of age segregation serves to integrate old people into the group level rather than the general societal level. In this way, it simply transfers the conflict and insult from an individual basis to a group basis.

David Adams (1971) suggested that not only activity level but specifically activity with "friends" or a reference group is a necessary correlate of satisfaction. Phillips (1961) found that a peer group with respect to chronological age was an important intervening variable between role change and adjustment. Lowenthal's (1968) concept of confidante as a variable in successful aging seems to be related to the reference group concept.

Summary

Although the field of social gerontology is relatively new, there has been a proliferation of theoretical orientations or so-called theories. The major theories include the disengagement theory rooted in structural functionalism and the activity theory derived from symbolic interactionalism. The disengagement theory considers the

aging process as a mutual and inevitable "disengaging" of the individual and the society. Successful aging involves a process of mutual and satisfying withdrawal of the individual and the society. As opposed to the disengagement theory, the activity model views successful aging as consist in a mintenance of middle-age pattern which is predefined as activity oriented. Recognizing the limitations in each of these polar positions, alternative approaches have been developed. These approaches include: continuity theory, subcultural theory, life course perspective, labeling perspective, role exit theory (Blau, 1973), exchange theory (Dowd, 1975), reference group theory, cognitive dissonance theory (Bell, 1974) and socio-environmental theory (Gubrium, 1972).

If the function of theory is to integrate current knowledge, to explain empirical findings particularly to account for seemingly contradictory research results, and to predict new relationships, each of these alternative theories also falls short of it. It is the writer's opinion that future effort should be directed more at integrating these partially true and loosely constructed theories into more general and formal theories rather than attempting at building new ones. It has been suggested that disengagement and activity theories deal with aging on different levels, and hence, do not necessarily contradict with each other (Martin, 1973). In his dissertation, Pepper (1973) also suggests that activity theory might be applicable to the early years of retirement when health and physical vigor facilitate a high level of leisure participation; whereas, disengagement theory is more applicable to the later years of life. Romeis, Albert and Acuff (1971) further point to the concept

of the reference group in synthesizing these two major theories. In addition to the need of integrating theories, there is also an urgent need for future research in aging to be more guided by explicit and testable theories. Furthermore, instead of generalizing the research result to a variable or theory based on the research done on part of the variable or theory, it is vitally important to indicate the level of analysis in theory testing.

CHAPTER III

THEORETICAL MODEL

Introduction

This chapter is a formulation of some concepts as a theoretical model which attempts to integrate disengagement and activity theories through a reference group perspective. Included in this chapter are definition of key concepts, basic assumptions on which the model is based, and rationale for the assumptions and hypotheses.

Nominal Definition of Concepts

Values - the criteria or conceptions used in evaluating things (including objects, ideas, acts, feelings and events) as to their relative desirability or merit (Zanden, 1970: 634).

Old People - those who have been retired from their major work role.

Old-age Cultural Pattern - societal behavioral expectations on and demands of old people as an age group within a society (Cavan, et al., 1949: 18).

Adult-age Cultural Pattern - societal behavioral expectations on and demands of adults as an age group.

Age Reference Set - a category of age group whose cultural pattern serves as comparative and normative functions for an individual.

"Old-age reference set" refers to the category of old people whose cultural pattern serves as comparative and normative functions for an individual. "Adult-age reference set" refers to the category of adult people whose cultural pattern has been adopted by the individual.

Old-age Identifier - an individual with an old-age reference set.

Adult-age Identifier - an individual with an adult-age reference set.

Membership Reference Set[1] - the reference set in which a person has a membership. In this study, it refers to the old-age category as an age reference set.

Nonmembership Reference Set - the reference set in which a person does not have a membership. In this study, it refers to the adult-age category as an age reference set.

Negative Reference Set - the reference set which the individual is motivated to oppose or in which he does not want to be treated as a member.[2]

Activity - any regularized or patterned action or pursuit which is regarded as beyond routine physical or personal maintenance (Lemon, Bengtson, et al., 1972: 512).

Activity Level - amount of time expended in the activity.

Active Activity - activity which normally requires considerable amount of physical effort.

Sedentary Activity - activity which normally requires little

---

[1]Hyman (1942) initiated the concepts of membership and nonmembership reference group.

[2]Newcomb (1958) initiated the concepts of positive and negative reference group.

physical effort.

Total Activity Level - the total of active activity level and sedentary activity level.

Total Social Activity - total activity with family, friends and acquaintances.

Instrumental Activity - activity for specific goals other than sheer personal enjoyment or social interaction.

Meaningful Existence - a life with purpose and/or satisfaction.

Assumptions

A_1: Man seeks primarily to find meaning in human existence.

A_2: Meaningful existence is defined by values.

A_3: Values which define meaningful existence are found in every known society.

A_4: Values which define meaningful existence vary from one society to another.

A_5: In every society there are primarily two levels of values: dominant cultural values and age-cultural patterns.

A_6: Age-cultural pattern in every society emphasize values and behaviors congruent with the physical condition of the age group.

A_7: These two levels of values may or may not be congruent with each other.

A_8: Old people are aware of the dominant cultural values and the old-age cultural pattern although they may or may not orient themselves toward these values and may or may not accept the cultural evaluation of the old age.

A_9: The values which describe old people's meaningful existence primarily come from their age reference sets.

A_{10}: The age reference set serves two major functions in defining meaningful existence, namely, the comparative and normative functions.

A_{11}: When individuals move from one age category to another in the life cycle, they may or may not change their age reference sets.

A_{12}: Old people may adopt either an old-age reference set or an adult-age reference set, depending upon the cultural evaluation of old age and personal factors.

A_{13}: Both membership age category and age reference set are capable of influencing individuals in varying degrees.

A_{14}: Values which are functional for one stage of life in the life cycle may be dysfunctional for another stage of life in describing meaningful existence.

A_{15}: Behavior and attitude need not be congruent. The type of age reference set adopted needs not be consistent with the activity level.

Rationale

Viktor Frankl stated that man seeks primarily to find meaning and purpose in human existence (Crumbaugh and Maholick, 1963: 47). According to Frankl (1963: 176) there are three principal ways in which man can find meaning in life: first, by what he gives to the world in terms of his creation; second, by what he takes from the world in terms of encounters and experiences; and third, by the stand he takes when faced with a fate which he cannot change. Meaningful

existence is defined by values. On the very general level, it appears that in every known society there are certain dominant values. These dominant cultural values vary from one society to another. According to Margaret Clark (1972), the American core value is freedom. Freedom depends on the value of individualism which, in turn, produces the definition of self-esteem predicated on independence and self-reliance (Clark, 1972). Clark (1972: 273) further commented that self-reliance in turn is tied to work and productivity, and the norm of reciprocity is not applicable to services rendered in the remote past.

> Our culture is strongly oriented to future and present, and past services rendered or aid given do not bind the recipient for long to a demand for reciprocity. In other cultures, with different time orientations, strong obligations may persist into the present, and even to unborn generation, for good or ill done in the remote past - even to ancestors (Clark, 1972: 270).

In contrast, it seems that Chinese society has a dominant value which devaluates individualistic achievement, but emphasizes mutual dependence and which submerges the individuals into their immediate group. Chinese culture, in my opinion, emphasizes conservatism, self-acceptance, and cooperation rather than acquisition, exploitation, self-advancement and control. Furthermore, in Chinese culture the norm of reciprocity is applicable to services rendered in the remote past.

On the more specific level, there are separate age-cultural pattern for different periods of the life span within every society. These age-cultural pattern emphasize behaviors and values congruent with the physical conditions of the age category. In my opinion, the major adult-age cultural pattern in both American and Chinese

societies include independence, self-reliance, and work. The old-age cultural pattern in American society, however, is characterized by restriction and protection (Cavan, Burgess, Havighurst, et al., 1949: 22-23). The specific societal behavioral expectations for old people in both societies consist of retirement from full-time paid employment, more rest, less activity, less aggressiveness, and more dependence on others.[3] Old people are also expected to take less interest in their own careers but more interest in the careers of their children and grandchildren. Essentially, the old-age cultural pattern is disengagement oriented and the adult-age cultural pattern is activity oriented, particularly instrumental and active activity oriented. These dominant age-cultural patterns seem to be similar in both Chinese and American societies.

It is this writer's belief that old people in general are aware of the dominant cultural values and old-age cultural patterns although some may not orient themselves toward these or may not accept the cultural evaluation of old age. When old people orient and compare themselves with old-age cultural pattern, the old-age category becomes their membership reference set. When old people orient and compare themselves with the adult-age cultural pattern, the adult-age category becomes their nonmembership reference set. In other words, old people may adopt either an old-age reference set (membership reference set) or an adult-age reference set (nonmembership reference set).

---

[3]Compulsive retirement of civil service workers and teachers in Taiwan was enforced since 1967.

What leads to the adoption of a nonmembership age reference set? Norman Kaplan (1955) suggests that one of the major conditions may be the lack of satisfactory reference groups at the intimate subgroup level. A society such as America, which defines old people as dependent at one hand and devaluates dependency at the other hand due to its dominant value of individualism, tends to accord low social status and negative labels to old people as a group (Clark, 1972). When people move from the middle-age status to the old-age status in the life cycle, many respond to a devaluated status by clinging to youthful norms and middle-age years for guides of behavior (Bengtson, 1973; Rosow, 1973) although these people may have been forced into a behavioral transition from an engaged state to a disengaged state by the restrictive social environment following compulsive retirement and/or by a lack of personal resources. Old people are left largely on their own, without cultural support, to make the transition of behavioral orientation from the adult-age reference set to the old-age reference set. Although some old people can transcend the cultural contradictions and act upon the unfavorable definition, many in such a society will continue to use an adult-age reference set.

In contrast, a society such as Chinese society defines old people as dependent and at the same time views this dependency as a prerogative of old people as reciprocation for services rendered in the remote past. Thus, Chinese society tends to accord a high social status and a positive label to old people as a whole. Chinese society has been described as a "Gerontocracy" in which old age is taken as a virtue in itself. Such a society, with the cultural support for old people, facilitates the orientational transition

from the adult-age reference set to old-age reference set while old people become more disengaged in old age. Nevertheless, this does not preclude the minority cases of old people who act upon the favorable cultural definition of old age and continue on the adult-age reference set.

In this writer's opinion, the value which describes old people's meaningful existence primarily comes from their age reference set since individuals operate for the most part in small groups within the society. In other words, the dominant cultural values of a society are viewed as too general in describing a specific oldster's meaningful existence directly. Instead, the dominant cultural value is perceived as filtered through the adoption of a specific age reference set along with other personal factors. In the cases where the values from the individuals' age reference set are incongruent with that of their age membership group and/or the dominant cultural values, the former becomes more salient in defining the individuals' meaningful existence.

Specific values in evaluating self and defining meaningful existence may be functional for one stage of life but dysfunctional for other stages in the life cycle. Biological aging involves a gradual decrease in viability and increase in vulnerability and finally death. This deteriorative process of biological aging is irreversible in spite of cultural and individual variations in retarding this process. Dependency of all kinds apparently occurs in all cultures and it seems to be an almost inevitable companion of advanced age (Clark, 1972). Emphasis on the activity and achievement oriented values of the adult-age cultural pattern will ultimately lead to a disparity between societal expectations and the potential abilities

of old people to meet these expectations. This inadequate fit between the potential and the social structure may result in stress and disturb the equilibrium which is already hard to maintain in old age. Subsequently, this stress could lead to premature aging and destruction of normal aging processes.

There are other considerations besides physical decline in old age underlying the assumption that the values of the adult-age cultural pattern become increasingly dysfunctional for old people in defining meaningful existence. First, in view of the decrements and losses in old age, old people with an adult-age reference set tend to suffer deprivation relative to both their own earlier life and to that of younger people. This relative deprivation may subsequently lead to discontent, low self-image and low meaningful existence. In addition, this writer argues that this group of old people may have less favorable attitudes toward old people in general because this group tends to evaluate old people in terms of the adult-age cultural pattern. At least one empirical study has borne out this argument (Guptill, 1969). In fact, it may well be that the negative attitudes toward old people lead to the adoption of the nonmembership adult-age reference set among old people in the first place. As a result, the membership age group (old people) becomes the negative reference set for the adult-age identifiers. It has been documented in the reference group literature that both individuals' nonmembership reference group and membership group are capable of influencing them even in the case where there is a conflict between these two (Newcomb, 1958; Siegel and Siegel, 1957; and Rosen, 1955). Clark and Anderson (1967), in their study of older Americans in San Francisco, found

that the value orientation of the maladapted aged were strikingly similar to the adult-age cultural pattern. On the other hand, old-age identifiers experience congruency between their value orientations and their physical conditions; they also experience little relative deprivation; and they tend to have more favorable attitudes toward old people as a whole. Since old-age identifiers have a membership reference set, what is expected of them by others of significance is congruent with what they expect of themselves (Secord and Backman, 1961). In this situation, persons feel most satisfied with themselves and their living conditions (Secord and Backman, 1961). Thus, this writer assumes that the old-age reference set by itself is positively related to meaningful existence of old people; whereas the adult-age reference set is negatively related to it. It is also this writer's opinion that while the value orientations of old-age identifiers tend to reinforce themselves, the incompatibility in values between the membership age group and the nonmembership age reference set of adult-age identifiers may impinge on this group of old people, and hence may help them make a transition in reference set gradually through time.

The writer contends that the effect of the activity level on old people's meaningful existence depends on the type of age reference set adopted. In other words, the activity level has a differential effect on meaningful existence. To the adult-age identifiers, a high activity level contributes positively and a low activity level negatively to their meaningful existence. It is further argued that the reverse is true for the old-age identifiers.

Since both the disengagement and activity theories tend to

neglect the meaning of the activity from the actor's viewpoint, there is doubt that either of them can explain the following questions raised by Romeis, Albert and Acuff (1971: 68-69):

(1) Why are some older people who are actively and extensively involved with others apparently well adjusted? (unexplained by disengagement theory)

(2) Why are some older people who are actively and extensively involved with others apparently poorly adjusted? (unexplained by activity theory)

(3) Why are some people who have withdrawn and have disengaged from society apparently well adjusted? (unexplained by activity theory)

(4) Why are some people who have withdrawn from society apparently poorly adjusted? (unexplained by disengagement theory)

The above unanswered questions seem to suggest that the meaning of activity should be taken into account. Voluntary activity seems to have very different meaning from involuntary activity, and hence, to have different effects on meaningful existence. In the same way, voluntary disengagement has different effects from involuntary disengagement. This contention is partially supported by Lowenthal and Boler's longitudinal study (1965) which suggests that people who elect to withdraw from social activity are more satisfied with their lives than those whose withdrawal is forced upon them. In this same study, reduction in social activity with aging was found to be more consistently associated with low satisfaction than is reduced activity.

This writer further assumes that behavior and attitude need not

be congruent. In this study, it would mean that the type of age reference set adopted needs not to be consistent with the actual activity level. According to Halbgewachs (1965), overt behavior depends on the emergent opportunity and situation for its expression or inhibition; but inward attitude does not depend on these. In other words, overt behavior is a result of both the actor's attitude and the objective situation in which behavior takes place. Thus, behavior and attitude are not necessarily consistent.

The major thesis of the model is that congruence between the individuals' age reference set and their activity level leads to high meaningful existence. Stated differently, cognitive dissonance is perceived as having a negative effect on meaningful existence. This conceptualization seems to be implied in Festinger's (1957) theory of cognitive dissonance. In this theory dissonance is viewed as a negative drive state which occurs whenever an individual simultaneously holds two inconsistent cognitions. Cognitive dissonance is presumed to be unpleasant and the individual strives to reduce it by adding "consonant" cognitions or by changing one or both cognitions to make them more consistent with each other.

Based on the model four types of aging patterns are derived from various combinations of the age reference set and activity level. Table I is a diagram of these types of aging patterns. This writer argues that this model can be applied to both American and Chinese societies.

TABLE I

DIAGRAM OF PREDICTIONS

Activity Level	Age Reference Set: Adult-age Reference Set	Age Reference Set: Old-age Reference Set
High	High Meaningful Existence (Type I)	Low Meaningful Existence (Type II)
Low	Lowest Meaningful Existence (Type III)	Highest Meaningful Existence (Type IV)

Type I - voluntary engagers (not ready to disengage and remains engaged): congruence between subjective orientation (age reference set) and objective behavior (actual activity level), and age reference set inconsistent with age membership group.

Type II - involuntary engagers (ready to disengage and remains engaged): incongruence between subjective orientation and objective behavior, age reference set consistent with age membership group and with physical condition.

Type III - involuntary disengagers (not ready to disengage and disengagement occurs): incongruence between subjective orientation and objective behavior, age reference set inconsistent with age membership group and with physical condition.

Type IV - voluntary disengagers (ready to disengage and disengagement occurs): congruence between subjective orientation and objective

behavior, and age reference set consistent with age membership group and with physical condition.

Hypotheses

Hypotheses Related to Assumptions of the Model

H_1: Old-age identifiers tend to have a more favorable attitude toward old people than adult-age identifiers.

H_2: Old-age identifiers tend to have a lower activity level than adult-age identifiers.

Hypotheses Derived from the Model

H_3: Old-age identifiers tend to have higher meaningful existence than adult-age identifiers.

H_4: Old-age identifiers with a low activity level tend to have higher meaningful existence than old-age identifiers with a high activity level.

H_5: Old-age identifiers with a low activity level tend to have higher meaningful existence than adult-age identifiers with a low activity level.

H_6: Old-age identifiers with a low activity level tend to have higher meaningful existence than adult-age identifiers with a high activity level.

H_7: Old-age identifiers with a high activity level tend to have higher meaningful existence than adult-age identifiers with a low activity level.

H_8: Adult-age identifiers with a high activity level tend to

have higher meaningful existence than old-age identifiers with a high activity level.

H_9: Adult-age identifiers with a high activity level tend to have higher meaningful existence than adult-age identifiers with a low activity level.

H_{10}: The activity level has differential effects on meaningful existence depending upon the age reference set adopted. With an adult-age reference set, a high activity level is positively and a low activity level is negatively related to meaningful existence. With an old-age reference set, the opposite is hypothesized.

Model Implications

H_{11}: As compared with American retirees, Chinese retirees tend to have a more favorable attitude toward old people in general.

H_{12}: American retirees tend to assume the adult-age reference set, whereas Chinese retirees tend to assume the old-age reference set.

H_{13}: As compared with Chinese retirees, American retirees tend to have higher activity level.

H_{14}: Among those whose age reference set is incongruent with their activity level, American retirees tend to be reluctant disengagers; whereas, Chinese retirees tend to be reluctant engagers.

H_{15}: Chinese retirees tend to have higher meaningful existence than American retirees.

H_{16}: As compared with the Chinese retirees, the dominant type of aging among American retirees tends to be the adult-age reference set with a high activity level. And the dominant type of aging among

the Chinese retirees tends to be the old-age reference set with a low activity.

CHAPTER IV

METHODOLOGY

Introduction

The previous theoretical model has been an attempt to integrate activity and disengagement theories by adding the variable of age reference set. In order to ascertain the generality of the relationships among variables as postulated in the theoretical model, hypotheses were tested separately in two different cultures, namely, American and Chinese cultures. This cross-national research design could be considered a joint development-concurrent type. In this case, the design was arrived at more or less jointly between the writer and her dissertation adviser, and the study was carried out simultaneously in American and Chinese cultures.

The Sample

In order to test the model in two cultures separately, two samples were drawn. One consisted of retirees from the school system in Payne County, Oklahoma and the other was retired teachers in Taipei, Taiwan. Teachers retired from various levels of academic institutions were included to insure a greater diversity in the major independent variables of the study. For the American sample, all retirees listed in the 1975-1976 Yearbook of Payne County Retired

Teachers Association were included in the sample. In Taiwan, since there is no retired teachers association as such, my first attempt was to obtain a comprehensive name list of all retired teachers and then to select a random sample from the list. Repeated contacts were made with the Ministry of Education in Taiwan, which has the jurisdiction over the schools at the national level and over all universities and colleges, and with the Bureau of Education, Taipei Municipal Government, which has the jurisdiction over the schools at the municipal level. After eight months of communication, both formal and informal, with officials in these two organizations through various channels, the writer failed in her effort to secure a comprehensive name list of retired teachers (see Appendix A for selected letters). The next attempt made by the writer was to obtain a name list of all retired teachers directly from each individual school in the six districts randomly sampled. Although this type of cluster sampling may reduce the cost involved in data collection, it was impractical for several reasons. Primarily, many new or small schools have very few, if any, retired teachers; and some schools simply do not have such a name list compiled even if we assume that all the schools included in the cluster sample were willing to release the information. It was finally decided that a random sample was not feasible due to a lack of an adequate sampling frame and the nature of the subjects under study. However, as the major purpose of this study is to test hypotheses derived from the model within each culture rather than to make descriptive statements, it may not be essential to have a random sample. Since schools in Taipei vary enormously in size, history and the size of their retired teachers,

the final attempt was to obtain name lists from major schools on each academic level and to contact every retired teacher on these lists until the data from approximately 200 respondents were collected. Included in the final sample were seven major universities and colleges in Taipei (three on the national level, three on the provincial level and one private college) for a total of 222 retired teachers, four major senior high schools on the provincial level in Taipei for a total of 116 teachers, four major junior high schools in Taipei for a total of 28 teachers and seven major primary schools in Taipei for a total of 80 teachers. These name lists of 446 retired teachers were provided by each of the above schools with the endorsement of one Lions Club in Taipei (see Appendix B for the endorsement letters).

Data Collection

While the data on the American sample was collected by mailed questionnaires, the data on the Taiwan sample was obtained through personal interviews. The over-riding factors in selecting the questionnaire method were limitations of time and money. In addition, there are other advantages for the mailed questionnaire method. Major advantages include: (1) the respondents may have greater confidence in their anonymity; (2) the respondents may have more time to ponder on those questions requiring thoughtful calculations. Nevertheless, practical considerations precluded an adequate use of the mailed questionnaire method for data collection in Taiwan. Chinese are relatively less familiar with and less responsive to mailed questionnaires than Americans. It is usual to find a much lower response rate reported in questionnaire studies done in Taiwan.

However, it is much harder for Chinese to refuse a person, in this case the interviewer, than to ignore a mailed questionnaire. Moreover, in an interview the interviewer can help clarify or explain questions whenever they occur.

Prior to actual data collection, both the English and Chinese version of the questionnaire were pre-tested on a small number of both American and Chinese samples. Ambiguities in the questionnaire were hence minimized. In the case of data collection from Americans, a questionnaire along with the introductory letter, the cover letter and a self-addressed and stamped return envelope were mailed to 239 respondents (see Appendix B for the English version of the questionnaire and letters). Later, a follow-up letter was mailed to 85 non-respondents and 30 of these letters were returned. The response rate for the American sample was 82%.

Data collection in Taiwan included two phases. The first phase was to obtain name lists of retired teachers as described in a previous section. The second phase consisted of the selection and training of interviewers. Since the writer was not able to supervise the data collection in person, she assumed that most desirable candidates to be involved in data collection would be friends and relatives, whose dedication and cooperation essential to the success of this difficult task could hardly be doubted. A close relative of the writer and the president of one Lions Club was chosen to function as a coordinator. With the help of this coordinator, 15 interviewers, who were either friends or relatives of the writer or of the coordinator, were selected. All interviewers were either college graduates or college students with one sociology major. In

order to standardize the interview, notes on interviews were distributed to each interviewer for careful examination. Included in the notes to interviewers were some general guidelines on interviewing, suggestions in handling possible interview situations, and clarifications on specific questions in the questionnaire. The importance of rapport and proper etiquette in relating to the interviewee, in this case Chinese elders, was particularly emphasized in the notes. Prior to the actual interview, several discussion sessions were conducted through the coordinator. In the interview, each interviewer was provided with a letter of endorsement of the study by one Lions Club in Taipei, a form for interviewer and the Chinese version of the questionnaire.[1] Since the major reason for adopting the interview as a data collection method in this study was to increase response rate rather than to elicit in-depth information and because most of the interviewers were relatively inexperienced, the interview was guided by a structured schedule, which was the Chinese version of the questionnaire. Furthermore, to ensure greater anonymity, which is particularly needed considering the personal nature of many questions, and to increase the comparability of data, interviewers were instructed to let the interviewee fill out the schedule himself if possible. Interviewers were also instructed to fill out the form for the interviewer immediately after each interview. Further

---

[1]In order to ellicit cooperation from interviewee, the part of the study in Taiwan was conducted under the sponsorship of one Lions Club in Taipei in the name of understanding retired life of teachers as a response to the governmental proposal for improving teachers' living conditions. It was this writer's judgment that this type of sponsorship was preferable to either governmental sponsorship or academic sponsorship.

discussion of the interviewer's form is continued in the next section. Personal interviews, in many cases repeated contacts with every one on the name list of 446 retired teachers, resulted into a total of 213 schedules mailed to the writer. Among 213 schedules, seven schedules filled out by administrators by accident were excluded and 37 schedules were mailed back for completion. Finally, a total of 202 usable ones were obtained.

The Questionnaire

The questionnaire contained activity indices, the age reference scale, the modified Purpose in Life Test, the modified Life Satisfaction Index A, the Affect Balance Scale, and the Semantic Differential Scale. In addition to these major variable items relevant to the theoretical model as discussed in Chapter III, the questionnaire also included the following categories of items, which might be important for meaningful existence of the retiree: demographic variables, professional characteristics, familial characteristics; and characteristics of social participation. The Chinese version of the questionnaire was essentially the same as the English version with a few additional items to include the unique situation in Taiwan and to reflect the interest of improving teachers' living condition under which name the part of the study in Taiwan was conducted. In addition to the Chinese version of the questionnaire, the data collection instrument in Taiwan included a form for each interviewer to fill out after each interview. This form was designed by the writer primarily for providing a cross-check on the quality of data collected. On this form were brief reminders for interviewers,

information about interviews and comments made by the interviewer. A few examples of the items on this form are: name of interviewer, date and time of interview conducted, and presence of a third party. The interviewer was asked to assess the degree of cooperation and extent of alertness of interviewee.

Although the questionnaire was written in English and then translated into Chinese, the writer had both cultures in mind during questionnaire construction. For example, concerning frequency of interaction with children, such response categories as "very often" were avoided because they may not represent equivalent scale values cross-nationally. Since some elderly respondents might have relatively short spans of attention, question items were arranged in such a way that major items appeared in the early part of the questionnaire. The first version of the translated questionnaire done by the writer was then presented to a bilingual Chinese for a cross-check. Subsequently, a back-translation procedure was used to minimize discrepancy in meaning between the two versions of the questionnaire.[2] In translation, emphasis was on conceptual equivalence rather than on identical word. For example, worship of Buddha, etc., was added to the examples given on religious activities in question 76 in the translation. Also, the cultural style and feeling tone of the questions were reflected in the translation. For example, to reflect Chinese etiquette in addressing other people, particularly the honorable elders, each

---

[2]For a discussion of back-translation technique see: R. Bruce W. Anderson, "On the Comparability of Meaningful Stimuli in Cross-Cultural Research," Comparative Research Methods, ed. by Donald Warwick and Samuel Osherson (N.J.: Prentice-Hall, Inc., 1973), p. 159.

question was started with "May I ask . . ." and a special pronoun of "you" was used in the Chinese version. Further discussion on the questionnaire is continued in the following section.

Operational Definitions of Major Variables

Independent Variables - Age Reference Set and Activities

Age Reference Set. Age reference set refers to an age category whose cultural patterns serve as comparative and normative functions for an individual. The adult-age cultural pattern is thought to be activity oriented and the old-age cultural pattern is thought to be disengagement oriented in both American and Chinese cultures. (For a detailed discussion on this concept, see Chapter III.)

Based on the above definition an eight-item Age Reference Set Scale was developed by the writer to measure the type of age reference set adopted by each respondent (see questions 23 through 30 in the questionnaire in Appendix B). To avoid undue sensitivity the behavioral orientation of each respondent was approached by indirect statement. An example of this is: "People like myself at my age should retire more from employment." Implied in this type of item is the assumption that what the individual thinks other people like himself at his age should behave would also be binding for the individual himself. In designing the scale effort was also directed at balancing out the activity and disengagement bias involved in the statements. A score of "3" was given to each response indicating an adult-age reference set, "2" to each response left blank and "1" to each response indicating an old-age reference set. The scale score was

simply the sum of the score on each item. The scale yielded a score range of 8-24. A score above the empirical median was classified as adult-age reference set.[3] Otherwise, it was classified as old-age reference set.

As an indication of the face validity of this measure, some of the findings from this study were compared to that of other studies of age identification. The assumption was that if results similar to theirs were found, both instruments could be considered as measuring a similar concept called age identification or age reference set. The data are given in Table II. With the exception of marital status among the American sample, all characteristics related to a greater identification as old were similar between present study and previous studies (Table II). The reader should be cautioned that samples in these studies were not strictly comparable. While samples in these previous studies included women as well as men, the work and retirement study presented in the publications by Simpson, Back and McKinney included only males (c.f. Guptill, 1969: 98). Furthermore, in the work and retirement study, age ranged from 55 to 87 with the median age being 67 which was younger than the American sample in the present study. It also seems logical to expect that the old-age reference set correlates with older age and with less or no employment at the time the study was conducted. In the present study, the Pearson correlation coefficients between the old-age reference set and older

---

[3]The empirical medians of 17 and 16 for American and Taiwan samples respectively were quite congruent with the theoretical midpoint of 16 on the continuum of the variable. Only two respondents among the American sample scored 17.

TABLE II

PERCENTAGE IDENTIFYING AS OLD IN SEVERAL STUDIES COMPARED WITH PERCENTAGE IDENTIFYING AS OLD IN THE PRESENT STUDY[1]

Variables	Phillips (Elmira)	Jyrkila (Elmira)	Blau (Elmira)	Phillips (Kips Bay)	Work and Retirement Study	Present Study	
						American Sample	Taiwan Sample
Retirement Status[2]							
Employed	12	8	24	23	16	33	44
Retired	42	44	57	50	45	43	60
Marital Status							
Married	18	12	33	35	34	42	49
Not Married	35	28	46	45	44	38	61
Chronological Age							
Under 70	11	7	13	27	30	28	39
70 or over	47	45	55	55	47	49	65
Self-Health Rating							
Good	16	10	--	34	24	34	37
Poor	35	30	--	46	44	54	63

1 Figures for previous studies were taken from Carlton S. Guptill, "A Measure of Age Identification," The Gerontologist, Vol. 9 (February, 1969), pp. 96-102.

2 Since the present study includes retirees only, figures under this variable are not comparable. For the present study, "employed" refers to those retirees working either part-time or full-time, and "retired" refers to those fully retired.

age (r=-.15, P=.05 for the American sample; r=-.41, P=.0001 for the Taiwan sample) and between the old-age reference set and less employment at the time the study was conducted (r=.16, P=.04 for the American sample; r=.19, P=.007 for the Taiwan sample) were statistically significant at the .05 level. The old-age reference set did correlate with older age and less employment at the time the study was conducted. Thus, the age reference set scale was accepted in this study on a logical basis.

Activity. Activity refers to any regularized or patterned action or pursuit which is regarded as beyond routine physical or personal maintenance (Lemon, Bengtson, et al., 1972: 512). Theoretically, all activities are classified in the following dimensions: active or sedentary activity, social or solitary activity, instrumental or non-instrumental activity and formal or informal activity. Active activity refers to activity which normally requires considerable physical effort while sedentary activity refers to activity which entails little physical effort. Total social activity is operationally defined as the activity with family, friends and acquaintances. Instrumental activity refers to the activity for specific goals other than sheer personal enjoyment or social interaction. Activity level refers to the amount of time expended in the activity.

For the present study, six questions were used to serve as indicators of the activity level in various dimensions of activity (see questions 11, 22, 31, 42, 53 and 56 in the questionnaire in Appendix B). Correlation coefficients among different indicators of activity and factor analysis are presented in Tables LXV and LXVI, Appendix

E. In order for respondents to review and then classify all the activities each time a question on activity appears, these six questions on activity were arranged to appear separately from one another in the questionnaire. In these questions, the respondents were asked to estimate average hours spent on some type of activities. A response category such as "quite often," etc. may, in the writer's opinion, denote a quite different level cross-nationally of activity in an objective sense and hence pose a problem for cross-national comparison. Also, to avoid the problem of differential cross-national saliency and classification of specific activity, questions were about each broad type of activities with a few examples provided instead of questions about each specific activity of a certain type. Only examples of activities salient to both American and Chinese cultures were given for each type of activities.

Dependent Variable - Meaningful Existence

Meaningful existence was measured by the modified Life Satisfaction Index A (LSIA), the modified Purpose in Life Test (PIL) and the Affect Balance Scale (ABS). The Affect Balance Scale was adopted in its original form primarily because of its relatively short items, which could be easily validated cross-nationally, and because of its author's claim that it can be used on both older and younger age groups. Since this writer suspected that PIL and LSIA may reflect different dimensions of meaningful existence, both scales were adopted in the present study with modifications made.[4]

---

[4]Two previous studies (Acuff, 1967: 112; Lewis, 1972: 62)

The Modified LSIA and the Modified PIL. The LSIA, developed out of an extensive study of relatively healthy, middle-class older people in Kansas City (Neugarten, Havighurst and Tobin, 1961), was designed to measure successful aging in the context of the activity theory of aging. It was constructed to get four or five items representing each of five theoretical components, namely, zest, resolution and fortitude, congruence, self-concept and mood tone. A restudy of the instrument on a rural Kansas sample suggested that the index could be shortened by seven items and that the scoring system could be changed from one point for each affirmative response to two points and that one point could be given for "uncertain" response (Wood, et al., 1969). This revised 13-item scale was called the Life Satisfaction Index Z (LSIZ). In a later study, Adams (1969) suggested that two items should be omitted from further use of the LSIA. Along with Neugarten, et al. (1961) and Wood, et al. (1969), Adams also concluded that the LSIA was a fairly accurate estimate.

The PIL developed by Crumbaugh and Maholick (1969) was designed to measure Viktor Frankl's concept of meaning and purpose in life. It included 20 items rated from 1 (low purpose) to 7 (high purpose). The scale score was the summation of responses to all the items on the scale. An example of the PIL items is:

I am usually:

1	2	3	4	5	6	7
(completely bored)			(neutral)		(exuberant enthusiastic)	

Although both the PIL and the LSIA have been subject to various

---

suggested that the PIL and LSIA might measure different phenomena.

reliability and validity tests, so far its extensive usage has been largely limited to American culture. An intuitive examination of both scales leads the writer to question the cross-national validity of some items. One previous study (Bourdette and Dodder, 1975) demonstrated that the PIL was highly related to middle-class value or dominant American society's values. Furthermore, the LSIA was designed in the context of the activity theory of aging, and hence, it may involve activity bias. Thus, the writer selected only those items in the scale which intuitively appeared to be neutral and general to both American and Chinese culture. Other criteria for selection of items from the original scales were: (1) ease in understanding, (2) face validity, and (3) better results in terms of scale analysis in previous studies. In addition, sensitive items were kept at minimum. Indirect questions which require interpretation in the context of a given culture were avoided. In item selection from the original scales, effort was also directed toward balancing out the distribution of favorable and unfavorable items.

In the modified LSIA scale, the original response categories of LSIA were retained with an alternative method of scoring. This writer contends that a response of "?" is not comparable to an answer indicating dissatisfaction with life. Thus, it seems logical to assign a score of "1" for an answer indicating dissatisfaction with life, a score of "2" for a question mark or no response and "3" for the answer indicating satisfaction with life. The scale score for each subject was achieved by summing his responses to all items on the scale. The ten-item modified LSIA was subjected to item analysis. As a result, one item was excluded in the final form of the modified

LSIA (see questions 32 through 41 except question 39 in the questionnaire in Appendix B).

In the modified PIL, the original form and response categories of the PIL were also modified. For easy understanding, either the right hand or left hand side of the item statement in PIL was included and seven ratings on each item were replaced by five response categories in the modified PIL. On the modified PIL test, subjects indicated for each statement whether they "strongly agree," "agree," "neutral," "disagree" or "strongly disagree" with the statement. As with the original PIL, the scale score was achieved by summing the response to all items on the scale. Higher scores indicated more purpose in life. The ten-item modified PIL was then subjected to item analyses within both American and Chinese cultures. As a result of these item analyses, three items were excluded from the final form of the modified PIL (see questions 43, 44, 45, 46, 48 and 49 in the questionnaire in Appendix B).

Further discussion on scale analyses is provided in the following section.

The Affect Balance Scale (ABS). The ABS was designed to measure the over-all psychological well-being comprised of two independent conceptual dimensions, namely, positive affect (PAS) reflecting positive mental health through social participation and achievement and negative affect (NAS) reflecting the mental illness perspective of avoiding stressful situations (see questions 12 through 21 in the questionnaire in Appendix B). One point was given for each "yes" response. The total score of psychological well-being was the net

index derived from the sum of negative affect items (0-5) subtracted from the sum of positive items (0-5), yielding a range of -5 to +5. For convenience in computations, a constant of 5 was added to this score, resulting in a range from 0 to 10, with higher scores reflecting more positive psychological well-being. Although developed on a younger population, the scale has been administered on older subjects (c.f. Moriwaki, 1974: 73). The scale has been subjected to reliability and validity tests. The reported test-retest reliability yielded values ranging from .80 to .97 in Bradburn's study of five different samples with age ranges from 21 to 59 years (c.f. Moriwaki, 1974). The scale has been further validated for use with an elderly population via known groups analysis and independent criteria (Moriwaki, 1974). Results indicated that the ABS and its two subscales were able to discriminate between the normal and a psychiatric out-patient groups. The ABS was found to be significantly correlated with the degree of role loss, with the Rosow Morale Scale (RMS), and with the Nine-Item Mental Health Scale (NIMHS) in Moriwaki's study (1974). Different criteria were found, in this same study, to be correlated with each subscale. The study (Moriwaki, 1974) also offered empirical support for the two-dimensional base of the ABS. Further discussion of the ABS scale can be found in the section on the assessment of measurement scale.

Attitude Toward Old People

Attitude toward old people was measured by the seven-item Semantic Differential Scale as developed by Guptill (1969) (see questions 79 through 85 in the questionnaire in Appendix B). The scale is in the

form of bipolar rating scales with 7 possible differentiations that would show the direction and intensity of meaning. The scale was designed for measuring the meanings of three concepts, namely, "Middle-Aged Man," "Myself," and "Old Man" and inferring the age identification for each subject. In the present study, respondents were asked to circle the number for each statement that would most nearly represent their attitudes toward old people in general. The scale score was the sum of responses to all items. Higher scores indicated more favorable attitudes toward old people. Results of item analyses in the present study showed the scale to be acceptable. Item analyses of the Semantic Differential Scale are presented in the following section on the assessment of measurement scales.

Assessment of Measurement Scales

Evaluation of the Modified LSIA Scale

Item analysis techniques including factor analyses and the item with total correlation method were applied to the initial ten-item modified LSIA scale and then to the nine-item modified LSIA scale using the American sample and the Taiwan sample separately. Table III gives the results of principal axis analysis in the form of factor I. Table IV gives the items with total score correlation coefficients. As shown in Table III, factor loadings on factor one indicated that item 8 failed to load .30 or better only on the analysis including the American sample. This same item also had an extremely low item with total correlation coefficient again for the American sample only (Table IV). In other words, item 8 "Compared to other

TABLE III

FACTOR ANALYSES OF THE MODIFIED LSIA PRINCIPAL AXIS ANALYSIS FACTOR I

Item	American Sample N=177		Taiwan Sample N=199	
	Initial Ten-Item Modified Scale	Nine-Item Modified Scale	Initial Ten-Item Modified Scale	Nine-Item Modified Scale
1. More breaks than others	.39	.38	.69	.40
2. Dreariest time of life	.35	.36	.69	.40
3. Best years of life	.61	.61	.35	.22
4. Things done boring	.60	.61	.46	.26
5. Expect interesting future	.49	.50	.37	.22
6. Things done are as interesting	.64	.64	.57	.33
7. Retrospectively satisfied	.36	.34	.62	.36
8. Get down in dumps	.08	--	.55	--
9. Gotten expectations	.46	.44	.54	.34
10. As grow older things better	.52	.52	.67	.41
Percent of Variance Extracted by Factor I	23	25	32	33

Underscoring of an item indicates that the item fails to meet the criteria of .30 loading or better.

TABLE IV

ITEM WITH TOTAL SCORE CORRELATION COEFFICIENTS OF THE MODIFIED LSIA SCALE

Item	American Sample N=177		Taiwan Sample N=199	
	Initial Ten-Item Modified Scale	Nine-Item Modified Scale	Initial Ten-Item Modified Scale	Nine-Item Modified Scale
1. More breaks than others	.25	.23	.54	.54
2. Dreariest time of life	.13	.15	.54	.52
3. Best years of life	.36	.39	.26	.26
4. Things done boring	.36	.38	.32	.28
5. Expect interesting future	.27	.30	.26	.26
6. Things done are as interesting	.40	.39	.44	.42
7. Retrospectively satisfied	.26	.23	.46	.45
8. Get down in dumps	.05	--	.40	--
9. Gotten expectations	.29	.28	.39	.41
10. As grow older things better	.32	.33	.53	.54

people, I get down in dumps too often" is not an item general to both American and Taiwan samples but an item salient only to the Taiwan sample. Since the purpose in scale modification was to select items with general validity in both American and Chinese cultures, item 8 was deleted from the final form of the modified LSIA scale. The communality of items for the nine-item scale is given in Table V. The amount of variance extracted by factor I, a measure in assessing the quality of a factor in terms of its use as a predictor, was improved for both samples in the nine-item modified LSIA scale. As compared with the results of Lewis' study (1972) using the original 20-item LSIA scale, this nine-item modified LSIA scale yielded a higher percentage of variance extracted by factor I in principal axis analysis. The variance extracted by factor I of LSIA for active professors, in Lewis' study (1972: 57) was 16%. It was 25% for the American sample in the present study when the nine-item modified LSIA was used.[5] Furthermore, Lewis's study (1972: 55) indicated that many items on the LSIA failed to load significantly on factor I via principal axis analysis. In view of the better result of scale analysis on the nine-item modified LSIA scale, this scale was accepted as the final form in data analysis.

Upon rotation three factors appeared within both American and Taiwan samples. The items included in each rotated factor from the American sample were quite similar to that from the Taiwan sample. The results of factor analyses seemed to suggest that the

---

[5]The reader should be cautioned that the samples in Lewis' study and the present study are not strictly comparable.

TABLE V

FACTOR ANALYSES OF THE NINE-ITEM MODIFIED LSIA PERCENT COMMUNALITY OF ITEMS

Item	American Sample %	Taiwan Sample %
1. More breaks than others	42	53
2. Dreariest time of life	50	69
3. Best years of life	40	50
4. Things done boring	61	70
5. Expect interesting things	67	59
6. Things done are as interesting	75	58
7. Retrospectively satisfied	52	49
9. Gotten expectations	50	66
10. As grow older things better	54	59

concept which the modified LSIA scale purported to measure had a general identifiable dimension, at least in both American and Chinese cultures. Results on varimax rotation are given in Tables LIV and LV, Appendix E.

Evaluation of the Modified PIL Test

The results of principal axis analysis on the initial ten-item and the seven-item modified PIL test within each culture are given in Table VI. For both American and Taiwan samples item 8 and item 9 failed to load .30 or better on factor I via the principal axis analysis. The factor loading of item 5 was far below the criteria of .30 for the Taiwan sample. The results on items with total score correlation analyses as given in Table VII also yielded relatively low coefficients for the American sample and extremely low coefficients for the Taiwan sample on these three items. Thus, these three items were deleted from the modified PIL test. As shown in Table VI, the amount of variance extracted by factor I was improved considerably after these three items were excluded. In general, factor loadings on factor I via principal axis analysis and the items with total score correlation coefficients also increased after these items were taken out. As compared with the results of Lewis' study using the original twenty-item PIL test, this seven-item modified PIL test also showed a higher percentage of variance extracted by factor I. While the variance extracted by factor I of the seven-item modified PIL test for the American sample in the present study was 37%, it was 30% for active professors in Lewis' study (1972: 48) in which the twenty-item PIL Test was adopted. In view of the better results of scale analysis

TABLE VI

FACTOR ANALYSES OF THE MODIFIED PIL PRINCIPAL AXIS ANALYSIS FACTOR I

Item	American Sample N=177		Taiwan Sample N=201	
	Initial Ten-Item Modified Scale	Seven-Item Modified Scale	Initial Ten-Item Modified Scale	Seven-Item Modified Scale
1. Completely bored	.55	.58	.41	.74
2. No goals in life	.41	.42	.36	.66
3. Purposeful existence	.50	.48	.36	.62
4. Prefer not born	.62	.69	.30	.52
5. Progress to complete fulfillment	.34	--	.09	--
6. Life is empty	.76	.80	.42	.75
7. Wonder why exist	.80	.81	.38	.67
8. Responsible	.25	--	.05	--
9. Unafraid of death	.29	--	.14	--
10. Daily tasks satisfying	.39	.26	.36	.62
Percent of Variance Extracted by Factor I	27	37	31	43

Underscoring of an item indicates that the item fails to meet the criteria of .30 loading or better.

TABLE VII

ITEM WITH TOTAL SCORE CORRELATION COEFFICIENTS OF THE MODIFIED PIL TEST

Item	American Sample N=177		Taiwan Sample N=201	
	Initial Ten-Item Modified Test	Seven-Item Modified Test	Initial Ten-Item Modified Test	Seven-Item Modified Test
1. Completely bored	.34	.42	.51	.58
2. No goals in life	.25	.30	.45	.51
3. Purposeful existence	.33	.33	.49	.46
4. Prefer not born	.32	.38	.38	.39
5. Progress to complete fulfillment	.22	--	.13	--
6. Life is empty	.48	.56	.53	.59
7. Wonder why exist	.54	.56	.49	.52
8. Responsible	.23	--	.06	--
9. Unafraid of death	.24	--	.16	--
10. Daily tasks satisfying	.39	.23	.50	.46

on the seven-item modified PIL test, this seven-item test was accepted as the final form in data analysis. Results on varimax rotation are given in Table LVI, Appendix E.

Evaluation of the Affect Balance Scale (ABS)

Since the ABS was accepted in its original form, its cross-national validity can be discussed here. The results of factor analysis on the ABS within each culture are presented in Tables LVII, LVIII and LIX in Appendix E. Item 3 and item 10 failed to meet the criteria of .30 loading or better on factor I consistently for both American and Taiwan samples. Item 2 for the American sample only and item 5 for the Taiwan sample only failed to load at .30 or higher (see Table LVII, Appendix E). Thus, while item 2 was a specific item salient to Taiwan sample only, item 5 was a specific item salient to the American sample only. By the criteria of a .30 loading or better, the assumption that the scale measures one general factor called psychological well-being might be challenged in both cultures. Furthermore, upon varimax rotation, four underlying factors for the American sample and three underlying factors for the Taiwan sample appeared instead of two dimensions as intended by the scale designer (see Tables LVIII and LIX, Appendix E). However, the non-significant correlation coefficient (r=-.02) between two subscales, namely, Positive Affect (PAS) and Negative Affect (NAS) for the American sample, did lend some support for the assumption of conceptual independence between them. Nevertheless, this was not the case for the Taiwan sample (=-.32, P=.0001). Yet the significant correlations among the ABS, the modified LSIA and the modified PIL found in both

samples did tend to support the contention that they measure the same phenomena (see Table X). In general, although the results of principal axis analysis on the ABS were quite comparable for American and Taiwan samples, the items on the scale should be reassessed in future study.

Evaluation of the Semantic Differential Scale

The results of principal axis analysis and item with total score correlation analyses are presented in Table VIII and Table IX, respectively. All seven items produced factor loadings higher than .30 in both samples. This result suggested the presence of a general factor underlying all scale items for both samples. Although the item with total score correlation coefficient of item 3 was relatively low for the Taiwan sample only, this item was retained because of satisfactory result on the factor analysis. As shown in Table VIII, the amount of variance extracted by factor I was quite high for both samples (52% for the American sample and 56% for the Taiwan sample). Thus, the Semantic Differential Scale was accepted in its original form.

Varimax rotation of the Semantic Differential Scale produced two dimensions underlying the general factor for both samples (see Tables LXVII and LXVIII, Appendix E). The relative salience of rotated factors and the items included in each of the rotated factors were exactly the same for the American sample as that for the Taiwan sample. Thus, the scale was cross-nationally identifiable with very similar meanings for the American and the Taiwan sample as well. Moreover, since the factors were quite stable cross-nationally, we can be more certain that these factors that appeared upon rotation

TABLE VIII

FACTOR ANALYSES OF THE SEMANTIC DIFFERENTIAL SCALE
PRINCIPAL AXIS ANALYSIS FACTOR I

Item	American Sample N=170	Taiwan Sample N=174
1. Free to do things	.75	.89
2. Useless	.53	.41
3. Look to future	.78	.82
4. Ineffective	.44	.49
5. Satisfied with life	.80	.82
6. Respected	.77	.76
7. Busy	.86	.88
Percent of Variance Extracted by Factor I	52	56

TABLE IX

ITEM WITH TOTAL SCORE CORRELATION COEFFICIENTS
OF THE SEMANTIC DIFFERENTIAL SCALE

Item	American Sample N=170	Taiwan Sample N=174
1. Free to do things	.56	.27
2. Useless	.41	.29
3. Look to future	.36	.05
4. Ineffective	.35	.24
5. Satisfied with life	.60	.42
6. Respected	.60	.44
7. Busy	.60	.22

were not simply mathematical artifacts. However, the analysis by Guptill (1969: 97) yielded three factors rather than the two produced in this study. One final thing to be mentioned about this scale is the problem of a relatively higher rate of either incompletion or non-response, particularly among the Taiwan sample, who are relatively unfamiliar with this type of scale.[6]

Comparison Among Three Measures of Meaningful Existence

Correlation coefficients among three scales, namely, the modified LSIA scale, the modified PIL test and the ABS, can be seen in Table X. Since these three scales were significantly inter-correlated with one another, they could be assumed to measure the same concept. Yet, since these coefficients were not very high, each of these measures also represented relatively independent dimensions of the general concept. Results consistent with this correlation analysis can be seen from the factor analysis presented in Tables LX and LXI, Appendix E. As shown in these two tables, the factor loadings on factor I for all three measures including the subscales of ABS were far above the .30 criteria for both samples.

From the results of correlation analysis, the strongest relationship was found between the ABS and the modified LSIA scale and the weakest betwen the ABS and the modified PIL (see Table X). This finding was consistent in both samples. When subscales of the ABS

---

[6]One reason for adopting this scale was to test the feasibility of this type of scale particularly among the Taiwan sample. Since this scale was arranged to appear at the very end of the questionnaire, this relatively higher rate of non-response could also be partially attributed to fatigue factor.

TABLE X

CORRELATION MATRIX FOR DIFFERENT MEASURES OF MEANINGFUL EXISTENCE

		1	2	3	4	5
Modified LSIA Scale	1	---	.33 (.45)	.41 (.45)	-.17 (-.41)	.44 (.53)
Modified PIL Scale	2	---	--- ---	.20 (.25)	-.27 (-.40)	.30 (.39)
Positive Affect (PAS)	3	---	--- ---	--- ---	-.02 (-.32)	.89 (.85)
Negative Affect (NAS)	4	---	--- ---	--- ---	--- ---	-.47 (-.78)
Affect Balance Scale (ABS)	5	---	--- ---	--- ---	--- ---	--- ---

The correlation coefficients in parentheses are Taiwan Sample.

were considered separately, the modified LSIA scale showed a stronger relationship with PAS rather than with NAS; whereas, the modified PIL test showed a stronger relationship with NAS rather than with PAS. Again, this pattern appeared in both samples. The varimax rotation of all factors produced differential results between the samples. For the American sample the result of rotation was similar to that of correlation analysis although only two dimensions appeared. For the American sample, while the modified PIL and the modified LSIA seemed to be relatively independent from each other, the ABS overlapped the other two measures. For the Taiwan sample, no rotation of factors was made since the principal axis analysis produced only one factor. This meant that the modified LSIA scale, the modified PIL test and the ABS did not constitute separate dimensions of the concept of meaningful existence for the Taiwan sample. This may suggest that one measure of meaningful existence was adequate in the Taiwan sample.

Summary

The assessment of measurement scales was done on the samples separately. The ten-item modified LSIA scale, the ten-item modified PIL test and the Semantic Differential Scale were evaluated by item analysis techniques including the item with total score correlation method and factor analysis. Based on these initial analyses, one item was deleted from the modified LSIA scale and three items were deleted from the modified PIL test. Subsequent factor analyses and item with total score correlation analyses on the nine-item modified LSIA scale and the seven-item modified PIL test yielded satisfactory results. Hence, the nine-item modified LSIA scale and the seven-item

modified PIL test were used. Since the results from item analyses on the Semantic Differential Scale were satisfactory, this scale was accepted in its original form. The ABS Scale and the Age Reference Scale were also subjected to factor analysis. Results indicated that further study is needed on the ABS before adoption in American culture or cross-nationally. However, factor analysis on the Age Reference Set Scale produced differential results by sample. While the Age Reference Set Scale was a satisfactory measure for the Taiwan sample, it seemed to be less satisfactory for the American sample.

Comparisons among different measures of meaningful existence were also made. Results revealed that the modified LSIA, the modified PIL and the ABS seemed to measure a common concept. The general impression obtained from the cross-cultural validation of measurement scales could be summarized as follows: (1) Surprisingly, the scales in the present study seemed to be more scalable among the Taiwan sample than among the American sample in general; (2) As compared with the American sample, the Taiwan sample seemed to make less differentiation about concepts as evidenced by the fact that either equal or fewer factors appeared upon rotation for Taiwan sample.

Data Analysis Procedures and Techniques

Data analysis was approached in three separate phases: (1) descriptive analysis which included a description of samples with respect to demographic characteristics, model variables and aging patterns; (2) evaluation of hypotheses related to assumptions of the theoretical model, hypotheses derived from the model and model implications; and (3) further explorations.

In each of three phases, the samples were studied separately. Cross-national comparisons were made primarily in terms of the relationships of variables. Hypotheses were evaluated on both the general and the specific level. Unless specified, the conventional .05 level was used as the significance level in hypothesis testing. Further explorations included the analysis on (1) the relationships between meaningful existence and each of the demographic variables, familial characteristics, activity and related items and (2) the correlates of meaningful existence.

In data analysis, the Statistical Analysis System (SAS) and the FORTRAN Program were adopted. Several statistical analysis techniques were applied in the study. These were frequency, percentage, sample mean, proportion, range and standard deviation (SD) for descriptive analysis; t-test, binomial population distribution (B.P.D.), two-way analysis of variance and Chi-square for hypothesis evaluation; and Pearson product-moment correlation method, t-test, test of the difference of proportions, B.P.D. and partial correlation method for further explorations. In addition, gross analysis and salient item analysis were also adopted in comparing the correlates of meaningful existence cross-nationally.

A Note on Cross-National Comparability

Comparative analysis in social sciences is based on the assumption of similarities as well as differences found in human behavior. Cross-national study, as one type of comparative analysis, has the following advantages: (1) it forces the researcher to clarify major concepts, which are essential to a valid theory; (2) it maximizes the range of

major variables in theory testing; (3) it helps the researcher arrive at a more general theory; and (4) it serves as a source of new hypotheses and theories (Warwick and Osherson, 1973: 8-9). However, methodological problems are compounded by the increased complexity in cross-national research. Among different types of methodological problems that hamper cross-national research, the problem of comparability or equivalence of data is a major one. This problem of comparability is intensified in the case involving cross-national comparison in concrete characteristics or specific content. The major purpose of this study, however, was to test hypotheses derived from the theoretical model within each culture. Cross-national comparison was made primarily in terms of relationships among variables or patterns of variables. Hence, the problem of equivalence became less critical or less relevant in the present study. Nevertheless, efforts were still made to maximize the comparability of data in this study whenever feasible. For example in the measurement scales, the general concept was identified, neutral items were used, and items sensitive to either culture were minimized for increasing equivalence in measurement. A back-translation procedure was adopted for increasing linguistic equivalence. The most efficient aids to equivalence are the writer's relative familiarity with both cultures studied, the selection of a research problem relatively salient to both cultures, and a qualitative pretest within each culture. Although an effort was made to maximize the comparability, the data were not strictly comparable.[7] To what extent the observed differences between two

---

[7]In terms of relative socio-economic rank, college teachers in

samples concerning certain characteristics are accounted for by the artifact of incomparability is virtually unknown in the present study. Hence, the interpretation of the differences between two samples concerning a specific content variable should be carefully guarded.

America and Taiwan are quite comparable; whereas, public school teachers are much less comparable. According to North and Hatt Prestige score, college teachers occuped the 8th and 7th rank in America and Taiwan, respectively. For the North and Hatt Prestige Score of American teachers, see Reinhard Bendix and S. M. Lipset, Class, Status, and Power: Social Stratification in Comparative Perspective (New York: The Free Press, 1966), p. 324. For Taiwan teachers, see Wolfgang L. Grichting, The Value System in Taiwan 1970 (Ann Arbor, 1972), p. M-2. Other possible sources of incomparability include differential sampling frame, sampling procedures, sponsorship, data collection methods, inequivalent sample and differential response rate. While the Taiwan sample consisted of retired teachers only, the American sample included a small number of workers and administrators retired from the school system in addition to retired teachers. However, quite the same patterns of differences and similarities found between two general samples also existed between two subsamples of retired college teachers.

CHAPTER V

CHARACTERISTICS OF THE SAMPLES

Introduction

In this chapter, American and Taiwan samples will be described in terms of demographic or general characteristics, model variables and aging patterns. Then comparisons will be made between these two samples with regard to the distribution of variables.

Characteristics of the American Sample

General Characteristics

The data on general characteristics are given in Table XI and Section A of Table XII. Among the total sample of 177 retirees from the Payne County school system, 59% were females. Their ages ranged from 57 to 91 years with the mean age being 73 years old. Included in this sample were a total of 145 or 82% retired teachers, five administrators who have done some teaching, 21 school administrators and six others retired from the school system. Fifty-nine percent were retired from college level of schools and only 4% were retired from junior high schools. The mean retirement age was 64 (Section A, Table XII). A majority (73%) reported that they were ready to retire at the time of retirement. Approximately one-fifth were presently employed, primarily in part-time work. The predominant reason for

TABLE XI

CHARACTERISTICS OF SAMPLES ON GENERAL DEMOGRAPHIC VARIABLES WITH CHI-SQUARE TESTS FOR AMERICAN-TAIWAN COMPARISON[1]

Characteristic[3]	Categories	American Sample Frequency	American Sample Percentage	Taiwan Sample Frequency	Taiwan Sample Percentage	Chi-Square	df	P
1. Sex*[2]	(1) Male	72	40.68	153	76.12	49.06	1	.000
	(2) Female	105	59.32	48	23.88			
2. Age	(1) 55 and under	0	0.00	44	21.78			
	(2) 56-60	2	1.14	16	7.92			
	(3) 61-65	7	4.00	22	10.89			
	(4) 66-70	68	38.86	28	13.86			
	(5) 71-75	36	20.57	43	21.29			
	(6) 76-80	36	20.57	37	18.32			
	(7) 81-85	19	10.86	10	4.95	---	-	---
	(8) 86-90	5	2.86	2	0.99			
	(9) 91 and over	2	1.14	0	0.00			
(3) Place of Birth	(1) Mainlander	---	---	155	79.49			
	(2) Taiwanese	---	---	40	20.51	---	-	---
3. Type of Profession	(1) Teacher and/or researcher	145	82.00	202	100.00			
	(2) Administrator with teaching experience	5	2.82	0	0.00			
	(3) Administrator	21	11.86	0	0.00	---	-	---
	(4) Others retired from school system	6	3.39	0	0.00			
5. Academic Institution Retired from*	(1) Primary school	47	27.01	29	14.43			
	(2) Junior high school	4	2.30	16	7.96			
	(3) Senior high school	19	10.92	61	30.35	31.70	3	.000
	(4) College	102	58.62	95	48.26			
6. Feeling About Retirement at the Time Retired* ((6) excluded)	(1) Prefer to continue same profession	41	23.70	25	12.76			
	(2) Prefer to continue working outside the profession	6	3.39	21	10.71			
	(3) Ready to retire because of age	37	21.39	66	33.67	28.51	4	.000
	(4) Ready to retire because of health	28	16.18	43	21.94			
	(5) Ready to retire because of other personal reasons	61	35.26	37	18.88			
	(6) Others	0	0.00	4	2.04			
7a. Present Employment* ((2) and (3))	(1) No	141	79.66	92	46.46			
	(2) Part-time	34	19.21	73	36.87	50.96	2	.000
	(3) Full-time	2	1.13	33	16.67			
7b. Major Reason for Employment*	(1) Income	4	21.05	25	41.67			
	(2) Interest	5	26.32	18	30.00	14.37	3	.003
	(3) Keeping busy	10	52.63	8	13.33			
	(4) Service to others	0	0.00	9	15.00			
8. Most Important Source of Income* ((3) and (4))	(1) Social security	95	38.00	3	1.17			
	(2) Teachers' retirement program	115	46.00	104	40.62			
	(3) Family support	0	0.00	52	20.31	214.11	4	.000
	(4) Other's cash contribution	0	0.00	1	0.39			
	(5) Financial investment	37	14.80	19	7.42			
	(6) Employment	3	1.20	77	30.08			

TABLE XI (Continued)

Characteristic	Categories	American Sample Frequency	American Sample Percentage	Taiwan Sample Frequency	Taiwan Sample Percentage	Chi-Square	df	P
9. Self Report of Present Health.*[1]	(1) Good	118	66.67	89	44.06	22.09	2	.000
	(2) Fair	55	31.07	95	47.03			
	(3) Poor	4	2.26	18	8.91			
10. Self Report of Health Comparison*	(1) Better	97	54.80	82	41.00			
	(2) About the same	73	41.24	94	47.00	11.86	2	.003
	(3) Worse	7	3.95	24	12.00			
59. Marital Status*	(1) Never married	32	18.29	6	2.98			
	(2) Married and spouse living	85	48.57	149	74.13			
	(3) Widowed	41	23.43	21	10.45	41.69	4	.000
	(4) Divorced or separated	3	1.71	4	1.99			
	(5) Remarried	14	8.00	21	10.45			
61. Living Arrangement*	(1) Live alone	62	35.03	16	7.92			
	(2) Live with spouse only	97	54.80	62	30.69			
	(3) Live with spouse, children and/or grandchildren	5	2.82	117	57.92	139.50	4	.000
	(4) Live in a retirement home	2	1.13	0	0.00			
	(5) Live with others than the above	11	6.22	7	3.46			
62. Living with Married Children*	(1) Yes	7	5.69	49	29.34	25.59	1	.000
	(2) No	116	94.31	118	70.66			
64. Personal Contact with Children not Living Together*	(1) Daily or more	4	3.39	9	6.98			
	(2) Several times/week	10	8.47	32	24.81			
	(3) Several times/month	19	16.10	23	17.83	58.70	5	.000
	(4) Several times/year	67	56.78	17	13.18			
	(5) Yearly or less	16	13.56	34	26.36			
	(6) Never	2	1.69	14	10.85			
65. Personal Contact with Grandchildren Not Living Together*	(1) Daily or more	2	1.72	7	7.14			
	(2) Several times/week	8	6.90	21	21.43			
	(3) Several times/month	17	14.66	22	22.45	50.04	5	.000
	(4) Several times/year	66	56.90	13	13.26			
	(5) Yearly or less	19	16.38	20	20.41			
	(6) Never	4	3.45	15	15.31			
66. Contact by Telephone or Letter with Children* ((5) and (6))	(1) Daily or more	5	4.35	8	5.84			
	(2) Several times/week	12	10.43	30	21.90			
	(3) Several times/month	67	58.26	69	50.36	12.91	4	.012
	(4) Several times/year	28	24.35	19	13.87			
	(5) Yearly or less	1	0.87	1	0.73			
	(6) Never	2	1.74	10	7.30			
67. Contact by Telephone or Letter with Grandchildren* ((1) and (2))	(1) Daily or more	1	0.91	3	4.22			
	(2) Several times/week	5	4.54	12	16.90			
	(3) Several times/month	37	33.64	19	26.76	20.13	4	.001
	(4) Several times/year	53	48.18	25	35.21			
	(5) Yearly or less	10	9.09	2	2.82			
	(6) Never	4	3.64	10	14.08			

TABLE XI (Continued)

Characteristic	Categories	American Sample Frequency	American Sample Percentage	Taiwan Sample Frequency	Taiwan Sample Percentage	Chi-Square	df	P
70. Helped Out by Children When Sick*	(1) Never	10	11.76	7	4.76			
	(2) Sometimes	23	27.06	42	28.57	20.38	3	.000
	(3) Usually	21	24.70	73	49.66			
	(4) Always	31	36.47	25	17.01			
71. Given Advice by Children ((3) and (4))	(1) Never	33	33.00	66	47.14			
	(2) Sometimes	57	57.00	66	47.14	5.36	2	.067
	(3) Usually	6	6.00	8	5.71			
	(4) Always	4	4.00	0	0.00			
72. Offered Financial Assistance by Children* ((3) and (4))	(1) Never	38	55.07	29	23.20			
	(2) Sometimes	20	28.98	73	58.40	21.25	2	.000
	(3) Usually	3	4.35	19	15.20			
	(4) Always	8	11.59	4	3.20			
68. Feeling of Being Neglected by Children* ((3) and (4))	(1) Not at all	101	87.83	133	72.12			
	(2) A little	10	8.70	44	23.53	11.86	2	.003
	(3) Moderately	4	3.48	8	4.28			
	(4) Completely	0	0.00	2	1.07			
69. Perceived Willingness of Making Sacrifices by Children* ((1) and (2))	(1) Not willing	0	0.00	5	2.78	29.10	1	.000
	(2) Moderately willing	26	23.01	94	52.22			
	(3) Completely willing	87	76.99	81	45.00			
73. Attitude Toward Residential Distance from Parents*	(1) Should live together	2	1.47	48	24.36			
	(2) Should live close	79	58.09	111	56.34	42.14	3	.000
	(3) Should live far away	43	31.62	26	13.20			
	(4) Up to children in making decision	12	8.82	12	6.09			
74. Attitude Toward Financial Assistance Given to Parents*	(1) Should support parents in any way	2	1.26	16	8.25			
	(2) Should support when possible	1	0.63	69	35.57	85.21	3	.000
	(3) Should support when needed	148	93.67	98	50.52			
	(4) Not support in any way	7	1.85	11	5.67			
75. Source of Greatest Concern* ((7) excluded)	(1) Health	82	47.13	125	62.19			
	(2) Finances	6	1.58	5	2.49			
	(3) Children	10	5.75	35	17.41			
	(4) Age and/or death	2	0.53	2	1.00	39.79	5	.000
	(5) Being useful	57	32.76	19	9.45			
	(6) Others	11	2.90	14	6.96			
	(7) No Concern	6	1.58	1	0.50			
77. Belief in Life After Death*	(1) Yes	157	89.20	85	44.04			
	(2) No	13	7.39	91	47.15	84.58	2	.000
	(3) Do not know	6	3.41	17	8.81			
78. Comparative Importance of Religion to Times Past*	(1) More important now	74	41.81	45	23.08			
	(2) About the same	100	56.50	142	72.82	15.80	2	.001
	(3) Less important now	3	1.69	8	4.10			

TABLE XI (Continued)

Characteristic	Categories	American Sample Frequency	American Sample Percentage	Taiwan Sample Frequency	Taiwan Sample Percentage	Chi-Square	df	P
76. Frequency of Religious Activities*	(1) About once a day or more	117	66.48	12	6.00			
	(2) Once a week	51	28.98	33	16.50			
	(3) Once a month	3	1.70	26	13.00	223.85	4	.000
	(4) Once a year	3	1.70	10	5.00			
	(5) Almost never or never	2	1.14	119	59.50			
54. Attitude Toward Degree of Activeness*	(1) Should be more active	37	21.02	42	21.00			
	(2) Should be as active as I am	134	76.14	103	51.50	44.69	2	.000
	(3) Should be less active	5	2.84	55	27.50			
55. Comparative Degree of Activeness to Times Past	(1) More active now	6	3.39	5	2.49			
	(2) About the same	50	28.25	69	34.33	1.75	2	.581
	(3) Less active now	121	68.36	127	63.18			
57. Age Group Most Frequently Associated With* ((4) (5) and (6))	(1) Older	6	3.39	2	1.02			
	(2) About same age	115	64.97	99	50.51			
	(3) Younger	49	27.68	81	41.33			
	(4) Equally Divided Among Age Groups	5	2.82	7	3.57	12.47	3	.006
	(5) Both the same age and younger	2	1.13	6	3.06			
	(6) Both older and younger	0	0.00	1	0.51			
58. Interaction Preference*	(1) Older people	0	0.00	5	2.55			
	(2) Same age group	115	65.71	99	50.51			
	(3) Younger people	47	26.86	79	40.31			
	(4) No preference	6	3.43	8	4.08	14.56	5	.013
	(5) Both same age and younger group	6	3.43	5	2.55			
	(6) Both older and same age group	1	0.57	0	0.00			

[1] In Chi-square calculation some response categories are combined or excluded as indicated in the parentheses under "Characteristic."

[2] Items marked with an "*" are significant at the .05 level or better.

[3] Item number under "Characteristic" corresponds with that in the English version of the questionnaire except item (3) which is the number in the Chinese version of the questionnaire.

The total number of responses in some items exceeds the number of respondents because some respondents selected more than one response.

TABLE XII

CHARACTERISTICS OF SAMPLES ON MODEL VARIABLES

Characteristic	Item Number	American Sample Mean	American Sample SD	American Sample N	Taiwan Sample Mean	Taiwan Sample SD	Taiwan Sample N	df	t (One-tailed
Section A									
Age to Nearest Birthday	2	72.87	6.45	175	66.71	10.69	202	375	0.07
Age at Retirement	4	63.71	5.94	172	62.84	9.63	201	371	0.01
*Number of Living Children	60a	1.60	1.29	157	3.70	2.23	197	352	-11.06
Number of Living Grandchildren	60b	3.79	4.33	156	3.88	4.62	164	318	- 0.18
*Hours per day Sharing Activities with Children Living Together	63a	2.75	3.69	8	3.88	3.55	108	114	- 2.16
Hours a day Sharing Activities with Grandchildren Living Together	63b	2.00	4.80	5	3.88	4.08	57	60	- 0.76
Section B									
*Semantic Differential (7-Item Average)	79-85	5.40	0.75	170	4.93	0.58	175	343	6.48
*Age Reference Set (8-Item Average)	23-30	2.22	0.32	177	2.04	0.44	202	377	4.58
*Total Activity (2-Item Average)	11 and 22	25.30	15.05	174	18.79	9.91	199	371	4.85
*Active Activity	11	15.75	17.28	172	12.48	11.86	196	366	2.08
*Sedentary Activity	22	34.78	22.62	171	25.26	13.63	194	363	4.78
Total Instrumental Activity (2-Item Average)	42 and 53	7.07	8.22	173	7.42	10.19	198	369	- 0.36
*Activity Providing Income	42	4.60	9.25	173	12.32	18.46	190	361	- 5.09
*Activity Serving Public Benefit With No Income	53	9.80	13.94	167	2.72	5.34	193	358	6.16
Total Social Activity	31a	30.90	21.56	164	29.93	19.84	190	352	0.44
*Activity with Family	31b	16.33	17.63	161	19.47	15.53	188	347	- 1.75
*Activity with Friends	31c	10.62	11.07	162	6.48	7.42	189	349	4.03
*Activity with Acquaintances	31d	5.21	4.87	159	4.12	4.04	188	345	2.24
Activity in Formal Settings	56a	8.11	8.71	169	6.79	13.14	174	341	1.10
*Activity in Informal Settings	56b	8.36	10.49	157	3.88	5.00	175	330	4.86
*Modified LSIA (9-Item Average)	32-41	2.69	0.28	177	2.29	0.48	202	377	10.03
*Modified PIL (7-Item Average)	43-52	4.47	0.40	177	3.89	0.53	202	377	12.08
*Affect Balance	12-21	8.74	1.25	177	7.29	2.04	202	377	8.43

Items marked with an "*" are significant at the .05 level or better.

employment after retirement was to keep busy. The most important source of income after retirement was the teacher's retirement program and the next most important one was social security. As expected, none of them reported family support as their most important source of income. Two-thirds perceived their health condition as good; and only 2% reported poor health. When compared with other people their age, the vast majority perceived their health as either about the same or better than other people.

Nearly half of the retirees in the American sample were married, 23% were widowed and 18% were never married. About 55% of the retirees lived with spouse only and 35% reported living alone although the average number of children was two. For the small number of retirees who had children living with them, nearly three hours a day were spent on activities with children. For those who had children not living with them, the typical retirees had personal contact with them several times a year and had contact by phone or letter several times a month. Among those 85 retirees who needed help during sickness, 36% of them were always helped out by children and only 12% were never helped. However, slightly over one-third of those who needed advice from children on business or money matters were never given the advice while 57% of them were given the advice sometimes. As far as the financial assistance is concerned, over half of those who needed help never got it from children. Even so, the majority (88%) of those having children did not feel neglected by children at all and 77% felt their children were completely willing to make sacrifices. Typical retirees thought that children should live close to parents and should provide financial support when needed.

Although only 2% reported poor health, 47% said that health was their major source of concern. Thirty-three percent reported that they were mainly concerned about being useful. Age and/or death was considered to be the major concern by only 1% of the sample. Retirees of the American sample can be characterized as religious people believing in life after death and engaging in religious activities at least once a week although over half (57%) of them reported that religion was about the same in importance at the time they were studied.

Although about two-thirds reported that they were less active than they were at ages 40-50, 76% expressed that they should be as active as they are now. Nearly two-thirds reported that they associated most frequently with people about their age while 28% associated most frequently with younger people. Two-thirds also said that they preferred to associate with people their age and 27% preferred to associate with younger people.

Characteristics in Terms of Model Variables

Data on model variables are presented in Section B, Table XII. The American sample ranged from 28 to 49 with an average score being 38, which is above the theoretical median of 28, on the Semantic Differential Scale. In other words, their attitude toward old people in general as measured by the scale could be considered as favorable. Their age reference set score ranged from 12 to 24 with an average being 17.8 (or an average item score of 2.22). Among a total sample of 177, 72 (41%) were classified as old-age identifiers and 105 (59%) as adult-age identifiers.

The American sample spent an average of 51 hours in a typical

week of approximately 100 waking hours on various types of activities with a range from 1 to 88 hours. That is, they engaged in activities of some sort during half of their waking time. Of these 51 hours, more than two-thirds (69%) were spent on sedentary activities as opposed to slightly less than one-third (31%) on physically active activities. Of all the hours spent on activities, which could be either instrumental or non-instrumental activities, an average of 14 hours in a week was on instrumental activities with a range from 1 to 41 hours. Only one-third of these 14 hours were spent on the type of instrumental activities providing personal income. Of all the hours spent on activities, which could be either social or solitary activities, an average of 31 hours a week was spent on social activities with a range from 3 to 91 hours. Among the total hours on social activities, half of them were spent on activities with the family, one-third on activities with friends and 16% on activities with acquaintances.

The sample ranged from 15 to 27 on the modified LSIA score with a mean score being 24 as compared with the theoretical median of 18. The score range on the modified PIL was from 18 to 35 with a mean score being 31 as compared with the theoretical median of 21. The score range on the Affect Balance was from 3 to 10 with a mean score of 9 as compared with the theoretical median of 5. The mean scores on these three scales were all skewed toward the more favorable side of the continuum of meaningful existence.

The Aging Patterns

Data on the aging patterns among the American sample are given

in Table XIII. Across four aging patterns, namely, the adult-age reference set with high activity level (Type I), the old-age reference set with high activity level (Type II), the adult-age reference set with low activity level (Type III), and the old-age reference set with low activity level (Type IV), Type III had the highest frequency for various types of activities except two: activity serving public benefit with no income and activity with family. In these two types of activities, Type I had the highest frequency among the four types. In general, the dominant aging pattern of the American sample seemed to be Type III - adult-age reference set with low activity.

Characteristics of the Taiwan Sample

General Characteristics

Data on the general characteristics of the Taiwan sample are given in Table XI and Section A, Table XII. Among a total sample of 202 retired teachers, 80% were mainlanders and the rest were Taiwanese with 76% being males. Their ages ranged from 42 to 90 years with the average age being 67 years old. Included in this sample were all teachers and/or researchers with a mean retirement age of 63, which is slightly lower than the official retirement age of 65 in Taiwan. Forty-eight percent were retired from colleges and universities and 8% from junior high schools. Seventy-six percent reported that they were ready to retire at the time they retired. Slightly over half (54%) of the retirees were presently employed for the typical reason of income. The most important source of income for this sample of Chinese retired teachers was the teacher's retirement pension and

TABLE XIII

FREQUENCY DISTRIBUTION OF AGING PATTERNS - AMERICAN SAMPLE

Activity	Adult-age Reference Set with High Activity Level Type I	Old-age Reference Set with High Activity Level Type II	Adult-age Reference Set with Low Activity Level Type III	Old-age Reference Set with Low Activity Level Type IV
Total Activity	49	39	55	31
Active Activity	45	32	57	38
Sedentary Activity	46	43	55	27
Total Instrumental Activity	52	34	52	35
Activity Providing Income	34	16	70	53
Activity Serving Public Benefit with no Income	52	31	48	36
Total Social Activity	42	33	57	32
Activity with Family	50	28	48	35
Activity with Friends	48	33	50	31
Activity with Acquaintances	48	36	49	26
Activity in Formal Settings	45	30	56	38
Activity in Informal Settings	45	26	46	40

Frequency underlined represents the highest one among four patterns.

the next one was employment. Support from family was also an important source of income. Forty-four percent perceived their health condition as good, 47% as fair and 9% as poor. A majority (74%) of them were married, 10% were widowed and only 3% were never married. The Taiwan sample had an average of four children. Nearly 60% lived with spouse and children, nearly one-third lived with spouse only and 8% lived alone. For those who had married children, 30% lived with their married children. Those who had children living with them, four hours a day on the average were spent on activities with children. For those who had children not living with them, half of them had personal contact with children several times a month or more. Yet 26% had personal contact yearly or less. Typical retirees had contact with children by phone or letter several times a month. Among those 147 retirees who needed help during sickness, only 5% never received the help from children. This group of retired teachers usually got help from their children during sickness and only sometimes or never got advice from children. As far as the financial assistance is concerned, 23% were never given the financial assistance when needed. Typical retirees who needed financial assistance were sometimes helped by their children. Seventy-one percent did not feel neglected by children at all. Fifty-two percent felt their children were moderately willing to make sacrifices and 3% felt that their children were not willing to make sacrifices for them. Typical retirees thought that children should live close to their parents (56%) and should support parents financially when needed (51%). Also a significant proportion thought that children should live with parents (24%) and should support parents when possible (36%). Health was reported as the

major concern by 62% of the sample and children was listed as the major concern by 17%, the next largest category. Age and/or death was listed as the major source of concern by only 1%. Forty-four percent believed in life after death and about an equal amount of retirees did not believe in life after death. Seventy-three percent reported that religion had not changed in its importance. Sixty percent reported that they almost never or never engaged in religious activities.

Although 63% reported that they were less active now, 52% were satisfied with the way they were now. Twenty-eight percent thought they should be less active. Half of them associated most frequently with people their own age and 41% associated most frequently with younger people. The frequency distribution of interaction preference in terms of age group was similar to that of the age group with which they most frequently associated.

Characteristics in Terms of Model Variables

The Taiwan sample ranged from 26 to 49 with an average score being 34 on the Semantic Differential Scale (see Section B, Table XII). Their age reference set score ranged from 8 to 24 with the average being 16. Among a total sample of 202 retirees, 105 (52%) were classified as old-age identifiers and 97 (48%) as adult-age identifiers.

The Taiwan sample spent an average of 38 hours in a week on various kinds of activities with a range from 1 to 71 hours. Of these 38 hours of total activity, two-thirds were spent on sedentary activities. An average of 15 hours a week were spent on instrumental

activities with a range from 1 to 56 hours. A major part (82%) of these 15 hours were on activities providing income. Of the 30 hours on social activities (a range of 1-99) nearly two-thirds were spent with family, one-fifth were with friends and the remaining 14% were spent with acquaintances.

The Taiwan sample ranged from 9 to 27 on the modified LSIA with a mean score being 21, which is slightly above the theoretical median of 18. The score range on the modified PIL was 12-35 with a mean score being 27, which again was skewed toward more favorable end of the continuum. The range on the Affect Balance Scale was 1-10 with a mean score being 7, a score also above the theoretical median of 5.

The Aging Patterns

The aging patterns of the Taiwan sample are given in Table XIV. The dominant aging pattern in various types of activities among the Taiwan sample was Type IV - the old-age reference set with low activity level as shown by the highest frequency concentrated in this type.

Comparisons Between the American and Taiwan Samples

General Characteristics

While there was no difference in average age, there were more females in the American sample than in the Taiwan sample. In the American sample, females constituted nearly 60% of the sample while it was only 24% in the Taiwan sample. Although retirees from the college level in both samples were predominantly males, there was a

TABLE XIV

FREQUENCY DISTRIBUTION OF AGING PATTERNS - TAIWAN SAMPLE

Activity	Adult-age Reference Set with High Activity Level Type I	Old-age Reference Set with High Activity Level Type II	Adult-age Reference Set with Low Activity Level Type III	Old-age Reference Set with Low Activity Level Type IV
Total Activity	46	51	49	53
Active Activity	55	50	38	53
Sedentary Activity	42	56	51	45
Total Instrumental Activity	62	40	34	62
Activity Providing Income	59	36	32	63
Activity Serving Public Benefit with no Income	45	40	49	59
Total Social Activity	49	46	44	51
Activity with Family	46	48	46	48
Activity with Friends	52	54	40	43
Activity with Acquaintances	44	47	48	49
Activity in Formal Settings	50	44	30	50
Activity in Informal Settings	40	43	42	50

Frequency underlined represents the highest one among four patterns.

higher percentage of females in the American sample. The average age and the average retirement age were similar between the two samples. However, when the American and Taiwan subsamples were compared, different patterns emerged. In other words, high school and elementary school retired teachers in the Taiwan sample seemed to retire at a younger age than they did in the American sample; whereas, college teachers in the Taiwan sample seemed to retire at an older age than in the American sample. Although a majority of retirees in both samples were ready to retire, a higher percent of the Taiwan sample was ready to retire at the time of retirement than the American sample. More retirees in the Taiwan sample were presently employed. The percentage employed in the Taiwan sample was more than two and one half times higher than that in the American sample. The major reason for employment after retirement was income for the Taiwan sample as opposed to the major reason of keeping busy for the American sample. Although both samples listed the teacher's retirement program as the most important source of income, there was a difference as to the next most important source of income. For the American sample, it was social security and for the Taiwan sample it was employment. In addition, no one in the American sample, in contrast to 20% in the Taiwan sample, reported family support as the most important source of income. Relatively speaking, the American sample reported better health than the Taiwan sample although in both samples a few people reported poor health.

For both samples, the predominant type of marital status was married. Relatively speaking, the Taiwan sample had higher percentage of retirees in the category of "married" than the American sample

(74% as opposed to 49%) and a lower percentage in the categories of "never married" (3% as opposed to 18%) and "widowed" (10% as opposed to 23%) than the American sample. The Taiwan sample also had more children than the American sample. As far as the living arrangement was concerned, the predominant type for the American sample was "living with spouse only;" whereas, it was "living with spouse and children" for the Taiwan sample. Far fewer retirees among the Taiwan sample (8%) lived alone than among the American sample (35%). Also significantly more retirees among the Taiwan sample lived with married children (29% as opposed to 6% among the American sample). Relatively speaking, the Taiwan sample spent more time on activities with children who were living with them. The Taiwan sample also seemed to have more contacts, particularly personal contacts, with their children and grandchildren not living with them. For example, typical retirees in the American sample had personal contact with children not living with them several times a year; whereas typical retirees in the Taiwan sample had personal contact several times a week. In terms of family functional support, both samples seemed to get the strongest support in the sphere of sickness as indicated by far lower percentages reported "never" being helped out when sick and far higher percentages reported "always" being helped out by children than in the other two spheres: (1) advice on business or money matters and (2) financial assistance. Relatively speaking, the family support seemed to be stronger in the Taiwan sample than in the American sample except for advice on business or money matters.[1]

---

[1]Advice on business or money matters is not an institutionalized

Both samples seemed to perceive a favorable relationship with children as indicated by the findings that a majority in both samples perceived willingness of making sacrifices and did not perceive being neglected at all by children. Relatively speaking, the American sample, however, perceived more favorable relationships with children than the Taiwan sample even though family functional support was weaker than that of the Taiwan sample. This might be partially explained by a lower demand on children in the American sample. Over half of both samples thought that children should live close to parents and support parents financially when needed. Relatively, however, more among the Taiwan sample also took the attitude that children should live together with parents (24% of the Taiwan sample as compared with 1% of the American sample) and should support parents when possible (36% as compared with less than 1%). In other words, the Taiwan sample seemed to put a higher demand on their children in this regard than the American sample.

With regard to the source of greatest concern, the highest frequency in both samples goes to health. Furthermore, age and/or death was listed as the source of greatest concern by the least number of retirees in both samples. Relatively, more retirees in the American sample reported "being useful" as the source of greatest concern than the Taiwan sample (33% as compared with 9%). On the contrary, more retirees in the Taiwan sample listed children as the source of greatest concern than the American sample (17% as compared with 6%).

---

role of the adult children in Chinese culture. As an exercise of the parental authority, the advice is usually given to the adult children instead of being given by the adult children.

In the sphere of religion, the only similarity between the two samples was that more than half reported no change in the importance of religion even though more retirees in the American sample reported increasing importance of religion. The American sample engaged in frequent religious activities and believed in life after death. In contrast, the Taiwan sample seldom engaged in religious activities and did not believe in life after death.

The majority of both samples perceived a decrease in activity, yet were satisfied with their activity level. As compared with the American sample, more retirees in the Taiwan sample thought they should reduce their activity (28% as compared with 3%). In terms of interaction, the group associated with most frequently consisted of people about the same age in both samples. This is the same group that they preferred to associate with. However, more retirees in the Taiwan sample reported that the group of younger people was the group most frequently associated with (41% as compared with 28%). This finding seemed to suggest that the American sample was more age-graded than the Taiwan sample.

Model Variables

Both samples skewed toward the more favorable side of the theoretical continuum on the Semantic Differential Scale, the modified LSIA, the modified PIL and the Affect Balance Scale. As far as the activity level is concerned, both samples also shared some similarities. Both samples spent more hours on sedentary activities than on active activities and on activities with family than on activities with friends or acquaintances. The American sample was more heterogeneous

than the Taiwan sample on activity levels, having larger standard deviations and ranges. However, the Taiwan sample was more heterogeneous than the American sample on the age reference set and meaningful existence as measured by the modified LSIA, the modified PIL and the ABS. Further contrasts between these two samples can be found in Chapter VI under the section on hypothesis evaluation of model implications.

CHAPTER VI

EVALUATION OF HYPOTHESES

Introduction

Three kinds of hypotheses were evaluated for this chapter. These are the hypotheses related to the assumptions of the model, hypotheses derived from the model, and model implications. Each hypothesis of the first two kinds was tested in each sample separately, and then a general conclusion was drawn. Model implications are hypotheses pertaining to cross-national comparisons. Statistical tools used in the hypothesis testing were the "t" statistic for the hypotheses one through nine, the hypotheses eleven through thirteen, and hypothesis fifteen. The Chi-Square statistic was used for hypotheses fourteen and sixteen. Since all the hypotheses presented in this chapter were directional, a one-tailed test was used in the "t" statistic. The Binomial Probability Distribution was also adopted in the hypothesis evaluation.

Evaluation of the Hypotheses Related to Assumptions of the Model

Evaluation of Hypothesis One

H_1: Old-age identifiers tend to have a more favorable attitude toward old people than adult-age identifiers.

The American Sample. In the American sample, old-age identifiers had a mean score (5.31) slightly lower than adult-age identifiers (5.46) on the Semantic Differential Scale.[1] This result was in the opposite direction from prediction. The resultant t value of 1.32, however, was not statistically significant (Table XV).

The Taiwan Sample. In the Taiwan sample, old-age identifiers had a mean score (4.90) again slightly lower than adult-age identifiers (4.97). This result was again in the opposite direction from prediction. The resultant t value of .79 was not significant (Table XVI).

Tests of hypothesis one with both samples separately indicated that hypothesis one was not substantiated cross-nationally. There was not a significant difference between the adult-age identifiers and old-age identifiers with respect to their attitudes toward old people.

Evaluation of Hypothesis Two

H_2: Old-age identifiers tend to have a lower activity level than adult-age identifiers.

The American Sample. If we compare between adult-age identifiers and old-age identifiers with respect to the average hours spent on the total activity, total instrumental activity, total social activity, activity in formal settings, and activity in informal

---

[1]All the mean scores reported in this chapter are the mean scores of item averages.

TABLE XV

DIFFERENCE IN SEMANTIC DIFFERENTIAL BETWEEN
ADULT-AGE AND OLD-AGE IDENTIFIERS
AMERICAN SAMPLE

Group	Mean[1]	SD	N	df	t (one-tailed)	P
Adult-age Identifiers	5.46	.78	102	168	1.32	.093
Old-age Identifiers	5.31	.68	68			

1
Item average

TABLE XVI

DIFFERENCE IN SEMANTIC DIFFERENTIAL BETWEEN
ADULT-AGE AND OLD-AGE IDENTIFIERS
TAIWAN SAMPLE

Group	Mean[1]	SD	N	df	t (one-tailed)	P
Adult-age Identifiers	4.97	.60	90	173	.79	.283
Old-age Identifiers	4.90	.56	85			

1
Item average

settings, we can see that old-age identifiers had a mean lower than adult-age identifiers in each of these general spheres of activity with the exception of the total activity (see Table XVII). However, none of the t test results for these general spheres of activity were statistically significant. This was due to the mutual averaging effects of the sub-parts within each general type of activity. For example, the old-age identifiers had a mean (16.7) slightly lower than the adult-age identifiers (16.74) in the active activity, as predicted, and a mean (40.21) significantly higher than the adult-age identifiers (32.71) in the sedentary activity, opposite to the prediction. With regard to the total instrumental activity, again, the old-age identifiers showed a mean (4.04) significantly lower than the adult-age identifiers (6.63) in the activity providing income and a mean (11.07) slightly higher than the adult-age identifiers (10.62) in the activity serving public benefit with no income. In general, the result of tests with the American sample did not substantiate hypothesis two. There is no significant difference between the adult-age and old-age identifiers with regard to overall activity level. However, since eight out of 12 mean differences across all activity types were in the direction hypothesized, the general pattern was in favor of the hypothesis. On the specific level, there were significant differences in specific type of activities between the two types of identifiers. As hypothesized, old-age identifiers had a significantly lower level of activity providing income. Opposite to the hypothesis, however, old-age identifiers had a significantly higher level of sedentary activity.

TABLE XVII

DIFFERENCE IN ACTIVITY LEVEL BETWEEN ADULT-AGE AND OLD-AGE IDENTIFIERS AMERICAN SAMPLE

Activity Level	Adult-age Identifiers	Old-age Identifiers	df	t(one-tailed)	P
*Total Activity (Item Average)					
Mean	24.83	28.48			
SD	15.65	13.94	172	-1.60	.054
N	104	70			
Active Activity					
Mean	16.75	16.74			
SD	18.12	16.10	170	.00	.496
N	102	70			
*Sedentary Activity					
Mean	32.71	40.21			
SD	21.06	24.18	169	-2.09	.018
N	101	70			
Total Instrumental Activity (Item Average)					
Mean	8.50	7.41			
SD	8.54	7.74	171	.86	.304
N	104	69			
*Activity Providing Income					
Mean	6.63	4.04			
SD	10.61	6.47	171	1.98	.023
N	104	69			
Activity Serving Public Benefit with No Income					
Mean	10.62	11.07			
SD	14.19	13.66	165	- .20	.416
N	100	67			
Total Social Activity					
Mean	31.90	31.89			
SD	22.35	20.45	162	.00	.496
N	99	65			
Activity with Family					
Mean	17.64	16.84			
SD	17.54	17.90	159	.28	.389
N	98	63			
Activity with Friends					
Mean	11.88	11.22			
SD	12.91	7.51	160	.41	.343
N	98	64			
Activity with Acquaintances					
Mean	5.78	6.89			
SD	4.56	5.28	157	-1.35	.088
N	97	62			
Activity in Formal Settings					
Mean	9.55	8.44			
SD	9.35	7.69	167	.84	.296
N	101	68			
Activity in Informal Settings					
Mean	9.47	9.20			
SD	10.70	10.28	155	.16	.434
N	91	66			

Items marked with an "*" are significant at the .05 level or better.

The Taiwan Sample. The test results of hypothesis two with the Taiwan sample are given in Table XVIII. The old-age identifiers had mean activity hours consistently lower than the adult-age identifiers across all activity types except the sedentary activity. Again, similar to the results with the American sample, the t value of the mean difference with regard to the total activity level was not significant due to the averaging effects between the active and sedentary activities. Old-age identifiers had a mean activity level significantly lower than the adult-age identifiers with regard to the active activity and a mean slightly higher than the adult-age identifiers with regard to the sedentary activity. The tests for hypothesis two with the Taiwan sample yielded five significant values across 12 activity types. In general, the result of tests with the Taiwan sample confirmed hypothesis two that the old-age identifiers tend to have lower activity level than the adult-age identifiers. More specifically, the old-age identifiers had a significantly lower activity level than the adult-age identifiers with regard to active activity, total instrumental activity, activity providing income, activity serving public benefit with no income, and activity in formal settings.

In summary, hypothesis two is partially supported cross-nationally. While the data from the American sample did not substantiate the hypothesis, the data from the Taiwan sample did confirm it in general. While the findings did not confirm that the old-age identifiers had significantly lower total activity level, both samples did show that the old-age identifiers had significantly lower activity level in the activity providing income. However, although the

TABLE XVIII

DIFFERENCE IN ACTIVITY LEVEL BETWEEN ADULT-AGE AND OLD-AGE IDENTIFIERS TAIWAN SAMPLE

Activity Level	Adult-age Identifiers	Old-age Identifiers	df	t(one-tailed)	P
Total Activity (Item Average)					
Mean	20.66	19.00			
SD	11.31	8.41	197	1.16	.123
N	95	104			
*Active Activity					
Mean	15.62	11.55			
SD	13.78	9.49	194	2.37	.009
N	93	103			
Sedentary Activity					
Mean	25.47	26.99			
SD	13.63	13.67	192	- .77	.276
N	93	101			
*Total Instrumental Activity (Item Average)					
Mean	11.64	5.38			
SD	12.18	6.62	196	4.43	.000
N	96	102			
*Activity Providing Income					
Mean	19.23	7.88			
SD	21.90	12.42	188	4.32	.000
N	91	99			
*Activity Serving Public Benefit with No Income					
Mean	4.56	2.93			
SD	6.70	3.46	191	2.10	.018
N	94	99			
Total Social Activity					
Mean	31.84	30.05			
SD	20.54	19.20	188	.62	.272
N	93	97			
Activity with Family					
Mean	21.26	19.71			
SD	16.60	14.48	186	.68	.253
N	92	96			
Activity with Friends					
Mean	7.52	7.43			
SD	7.33	7.55	187	.08	.466
N	92	97			
Activity with Acquaintances					
Mean	5.38	4.86			
SD	4.28	3.80	186	.87	.306
N	92	96			
*Activity in Formal Settings					
Mean	10.45	5.52			
SD	16.05	9.54	172	2.39	.008
N	80	94			
Activity in Informal Settings					
Mean	5.30	4.52			
SD	5.08	4.91	173	1.02	.154
N	82	93			

Items marked with an "*" are significant at the .05 level or better.

difference was not statistically significant among the Taiwan sample, old-age identifiers spent more time on the sedentary activity in both samples. This was in the direction opposite to the prediction.

Evaluation of the Hypotheses Derived from the Model

Evaluation of Hypothesis Three

H_3: Old-age identifiers tend to have higher meaningful existence than adult-age identifiers.

The American Sample. The test results of hypothesis three with the American sample are given in Table XIX. As shown in the table, the old-age identifiers had mean scores slightly higher than that of the adult-age identifiers on both the modified LSIA and the ABS and had a mean score slightly lower on the modified PIL. The resultant t tests produced one significant and two nonsignificant values across three measures of meaningful existence. As hypothesized, the old-age identifiers had a significantly higher meaningful existence as measured by the modified LSIA ($t=-1.68$, $P=.046$). However, there were no significant differences between the old-age identifiers and the adult-age identifiers with regard to the meaningful existence as measured by the modified PIL and the ABS.

The Taiwan Sample. The test results of hypothesis three with the Taiwan sample are given in Table XX. As shown in the table, old-age identifiers had mean scores lower than adult-age identifiers across all three measures of meaningful existence. This was in the direction

TABLE XIX

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN
ADULT-AGE AND OLD-AGE IDENTIFIERS
AMERICAN SAMPLE

Meaningful Existence	Adult-age Identifiers	Old-age Identifiers	df	t(one-tailed)	P
*Modified LSIA (Item Average)					
Mean	2.66	2.73			
SD	.30	.25	175	-1.68	.046
N	105	72			
Modified PIL (Item Average)					
Mean	4.49	4.43			
SD	.37	.43	175	.96	.329
N	105	72			
Affect Balance (Item Average)					
Mean	8.73	8.75			
SD	1.24	1.26	175	- .10	.457
N	105	72			

Items marked with an "*" are significant at the .05 level or better.

TABLE XX

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN
ADULT-AGE AND OLD-AGE INDENTIFIERS
TAIWAN SAMPLE

Meaningful Existence	Adult-age Identifiers	Old-age Identifiers	df	t(one-tailed)	P
Modified LSIA (Item Average)					
Mean	2.34	2.24			
SD	.43	.52	200	1.49	.068
N	97	105			
*Modified PIL (Item Average)					
Mean	4.01	3.77			
SD	.50	.53	200	3.30	.001
N	97	105			
Affect Balance (Item Average)					
Mean	7.49	7.10			
SD	1.92	2.14	200	1.36	.086
N	97	105			

Items marked with an "*" are significant at the .05 level or better.

opposite to the prediction. The resultant t tests produced one significant and two nonsignificant values across three measures of meaningful existence. Opposite from the hypothesis, the old-age identifiers had significantly lower meaningful existence as measured by the modified PIL (t=3.30, P=.001). Although the t values of 1.49 and 1.36 for the modified LSIA and the ABS, respectively, were not significant at the .05 level, they were significant at the .10 level in the direction opposite to the prediction. Hypothesis three was not substantiated with the results from the Taiwan sample. Instead, the old-age identifiers tended to have a lower meaningful existence than the adult-age identifiers as suggested by the data from the Taiwan sample.

In view of the contradictory test results from both samples, no general conclusion will be drawn with regard to hypothesis three. For the American sample, old-age identifiers appeared to have slightly higher meaningful existence than adult-age identifiers. This result with the American sample was in the direction predicted. For the Taiwan sample, adult-age identifiers tended to have higher meaningful existence than old-age identifiers. This result with the Taiwan sample was in the direction opposite to prediction.

Evaluation of Hypothesis Four

H_4: Old-age identifiers with a low activity level tend to have higher meaningful existence than old-age identifiers with a high activity level.

The American Sample. The test results of hypothesis four with the American sample are given in Table XXI. On the modified LSIA,

TABLE XXI

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.70	.27	31	--	4.48	.35	31	--	8.61	1.65	31	--
Old-age Iden. with high act.	2.74	.24	39		4.38	.49	39		8.82	.88	39	
Active Activity												
Old-age Iden. with low act.	2.74	.26	38	--	4.52	.35	38	1.97*	8.71	1.50	38	--
Old-age Iden. with high act.	2.69	.24	32		4.31	.50	32		8.75	.95	32	
Sedentary Activity												
Old-age Iden. with low act.	2.68	.26	27	--	4.46	.32	27	--	8.52	1.55	27	--
Old-age Iden. with high act.	2.74	.24	43		4.40	.50	43		8.86	1.06	43	
Total Instrumental Activity												
Old-age Iden. with low act.	2.70	.29	35	--	4.28	.47	35	-2.84*	8.54	1.50	35	-1.30
Old-age Iden. with high act.	2.74	.21	34		4.57	.36	34		8.94	.98	34	
Activity Providing Income												
Old-age Iden. with low act.	2.71	.28	53	--	4.39	.45	53	--	8.66	1.33	53	--
Old-age Iden. with high act.	2.75	.16	16		4.53	.40	16		9.00	1.10	16	
Activity Serving Public Benefit with No Income												
Old-age Iden. with low act.	2.70	.27	36	--	4.29	.36	36	-4.03*	8.42	1.52	36	-2.37*
Old-age Iden. with high act.	2.76	.23	31		4.63	.32	31		9.13	.85	31	

TABLE XXI (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.74	.21	32	--	4.35	.50	32	-1.54	8.88	1.26	32	--
Old-age Iden. with high act.	2.70	.30	33		4.52	.36	33		8.64	1.36	33	
Activity with Family												
Old-age Iden. with low act.	2.73	.24	35	--	4.40	.52	35	--	8.88	1.23	35	--
Old-age Iden. with high act.	2.70	.29	28		4.46	.34	28		8.57	1.42	28	
Activity with Friends												
Old-age Iden. with low act.	2.71	.27	31	--	4.36	.43	31	--	8.58	1.65	31	--
Old-age Iden. with high act.	2.73	.25	33		4.49	.45	33		8.94	.90	33	
Activity with Acquaintances												
Old-age Iden. with low act.	2.66	.29	26	--	4.27	.51	26	-2.19*	8.35	1.74	26	-1.73*
Old-age Iden. with high act.	2.75	.23	36		4.53	.36	36		9.00	.83	36	
Activity in Formal Settings												
Old-age Iden. with low act.	2.71	.27	38	--	4.39	.49	38	--	8.71	1.56	38	--
Old-age Iden. with high act.	2.74	.24	30		4.48	.37	30		8.80	.85	30	
Activity in Informal Settings												
Old-age Iden. with low act.	2.73	.26	40	--	4.36	.49	40	-1.70*	8.68	1.51	40	--
Old-age Iden. with high act.	2.70	.26	26		4.53	.31	26		8.85	.92	26	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

four out of a total of 12 mean differences across all activity types were in the direction hypothesized. The remaining eight mean differences went directly against the hypothesis. Although none of the 12 mean differences was significant at the .05 level, among the American sample the old-age identifiers with a low activity level had higher mean scores on the modified LSIA than the old-age identifiers with a high activity level in each of the following spheres: active activity, total social activity, activity with family, and activity in informal settings.

On the modified PIL, three out of a total of 12 mean differences across all activity types were in the direction hypothesized. The remaining nine went directly against the hypothesis. Among the American sample, the old-age identifiers with a low activity level did have higher mean scores on the modified PIL than the old-age identifiers with a high activity level in each of the following spheres: total activity, active activity, and sedentary activity. However, among these three mean differences in the direction predicted, only the t value of 1.97 in the active activity was statistically significant. American old-age identifiers with a low active activity level had significantly higher meaningful existence as measured by the modified PIL. Among the nine mean differences in the direction opposite to the prediction, four were significant. Opposite from the hypothesis, American old-age identifiers with a low activity level had significantly lower meaningful existence as measured by the modified PIL than American old-age identifiers with high activity level in each of the following spheres: total instrumental activity ($t=-2.84$), activity serving public benefit with no income ($t=-4.03$), activity

with acquaintances (t=-2.19) and activity in informal settings (t=-1.70).

On the ABS, two out of a total of 12 mean differences across all activity types were in the direction hypothesized. The remaining 10 went against the hypothesis. Although neither of these two mean differences was significant at the .05 level, among the American sample the old-age identifiers with a low activity level had higher mean scores on the ABS than the old age identifiers with a high activity level in total social activity and activity with family. Among the ten mean differences in the direction opposite to the prediction, two were significant. Opposite from the hypothesis, American old-age identifiers with a low activity level had significantly lower meaningful existence as measured by the ABS than American old-age identifiers with a high activity level in the activity serving public benefit (t=-2.37) and the activity with acquaintances (t=-1.73).

The pattern of mean differences in the direction opposite to hypothesis four was quite consistent across all three measures of meaningful existence for the American sample. In summary, nine out of a total of 36 mean differences across all three measures of meaningful existence and all activity types for the American sample were in the direction hypothesized. Among these, only one was significant at the .05 level. Twenty-seven out of 36 mean differences were in the direction contrary to the hypothesis; and among them, six were significant at the .05 level. Since any of the 36 mean differences had a 50/50 chance of being in the direction hypothesized, the binomial probability distribution can be applied. The B.P.D. of nine out of 36 or 27 out of 36 was .002. The data from the American

sample did not support hypothesis four but favored an alternative hypothesis that American old-age identifiers with a low activity level tend to have lower meaningful existence than American old-age identifiers with a high activity level. On the specific level, activity serving public benefit and activity with acquaintances were the salient items opposed to the hypothesis across the measures of meaningful existence among the American sample. There was no salient item for the hypothesis. (To be a salient item across the measures of meaningful existence, the item must be significant at the .05 level or better among at least two measures of meaningful existence.)

The Taiwan Sample. The test results of hypothesis four with the Taiwan sample are given in Table XXII. On the modified LSIA, four out of a total of 12 mean differences across all activity types were in the direction hypothesized, and the remaining eight went directly against the hypothesis. Although none of these four mean differences were significant in the Taiwan sample, the old-age identifiers with a low activity level had higher mean scores on the modified LSIA than the old-age identifiers with a high activity level in each of the following spheres: sedentary activity, total social activity, activity with family, and activity with acquaintances. For the remaining eight mean differences against the hypothesis, two were significant at the .05 level. Contrary to hypothesis four, Chinese old-age identifiers with a low activity level had significantly lower meaningful existence as measured by the modified LSIA than Chinese old-age identifiers with a high activity level in total activity ($t=-1.96$) and total instrumentsl activity ($t=-2.33$).

TABLE XXII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.14	.50	53	-1.96*	3.76	.58	53	--	7.06	2.13	53	--
Old-age Iden. with high act.	2.34	.53	51		3.79	.49	51		7.16	2.18	51	
Active Activity												
Old-age Iden. with low act.	2.15	.56	53	-1.54	3.63	.60	53	-2.85*	6.92	2.22	53	--
Old-age Iden. with high act.	2.30	.41	50		3.92	.42	50		7.30	2.09	50	
Sedentary Activity												
Old-age Iden. with low act.	2.26	.57	45	--	3.77	.59	45	--	7.22	2.14	45	--
Old-age Iden. with high act.	2.24	.48	56		3.78	.50	56		7.04	2.16	56	
Total Instrumental Activity												
Old-age Iden. with low act.	2.14	.48	62	-2.33*	3.69	.61	62	-2.14*	6.98	2.35	62	--
Old-age Iden. with high act.	2.39	.55	40		3.90	.37	40		7.38	1.78	40	
Activity Providing Income												
Old-age Iden. with low act.	2.16	.48	63	-1.40	3.69	.57	63	-2.29*	6.95	2.30	63	--
Old-age Iden. with high act.	2.31	.52	36		3.93	.45	36		7.44	1.87	36	
Activity Serving Public Benefit with no Income												
Old-age Iden. with low act.	2.16	.52	59	-1.58	3.69	.60	59	-2.07*	6.88	2.19	59	--
Old-age Iden. with high act.	2.33	.52	40		3.90	.40	40		7.35	2.06	40	

TABLE XXII (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.23	.49	51	--	3.78	.63	51	--	7.14	2.30	51	--
Old-age Iden. with high act.	2.21	.51	46		3.78	.41	46		7.04	2.11	46	
Activity with Family												
Old-age Iden. with low act.	2.22	.49	48	--	3.78	.62	48	--	7.17	2.24	48	--
Old-age Iden. with high act.	2.21	.52	48		3.78	.44	48		7.04	2.19	48	
Activity with Friends												
Old-age Iden. with low act.	2.16	.54	43	--	3.78	.65	43	--	6.84	2.37	43	--
Old-age Iden. with high act.	2.27	.46	54		3.79	.44	54		7.33	2.02	54	
Activity with Acquaintances												
Old-age Iden. with low act.	2.23	.54	49	--	3.83	.63	49	--	7.06	2.44	49	--
Old-age Iden. with high act.	2.21	.46	47		3.75	.43	47		7.17	1.93	47	
Activity in Formal Settings												
Old-age Iden. with low act.	2.14	.46	50	-1.56	3.69	.58	50	-1.67*	7.10	2.30	50	--
Old-age Iden. with high act.	2.29	.46	44		3.88	.51	44		7.18	1.97	44	
Activity in Informal Settings												
Old-age Iden. with low act.	2.15	.50	50	--	3.66	.60	50	-1.92*	7.14	2.39	50	--
Old-age Iden. with high act.	2.25	.43	43		3.87	.44	43		6.93	1.94	43	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

On the modified PIL, all 12 mean differences except one across all activity types were in the direction opposite to hypothesis four. Although the differences were not significant in the Taiwan sample, old-age identifiers with a low activity level in the activity with acquaintances had a higher mean score on the modified PIL than the old-age identifiers with a high activity level in this same sphere of activity. Of the remaining 11 mean differences in the direction contrary to the hypothesis, six were significant at the .05 level. Chinese old-age identifiers with a low activity level had significantly lower meaningful existence as measured by the modified PIL than Chinese old-age identifiers with a high activity level in active activity ($t=-2.83$), total instrumental activity ($t=-2.14$), activity providing income ($t=-2.29$), activity serving public benefit with no income ($t=-2.07$), activity in formal settings ($t=-1.67$), and in informal settings ($t=-1.92$).

On the ABS, four out of a total of 12 mean differences across all activity types were in the direction hypothesized, and the remaining eight went against the hypothesis. Although none of these 12 mean differences were significant, the old-age identifiers with a low activity level had higher mean scores on the ABS than the old-age identifiers with a high activity level in each of the following spheres: sedentary activity, total social activity, activity with family, and activity in informal settings in the Taiwan sample.

The pattern of mean differences in the direction opposite to hypothesis four was again quite consistent across all three measures of meaningful existence for the Taiwan sample. In summary, nine out of 36 mean differences across all three measures of meaningful

existence and all activity types for the Taiwan sample were in the direction hypothesized, but none of the differences were significant at the .05 level. Twenty-five mean differences across all three measures of meaningful existence and all activity types were in the direction contrary to the hypothesis, and among these eight mean differences were significant at the .05 level. The B.P.D. of nine out of 34 mean differences in the direction hypothesized was .003. Again the data from the Taiwan sample did not support hypothesis four but favored an alternative hypothesis: Chinese old-age identifiers with a low activity level tend to have lower meaningful existence than Chinese old-age identifiers with a high activity level. On the specific level, the total instrumental activity was a salient item against the hypothesis across the measures of meaningful existence among the Taiwan sample.

In view of the test results with both samples, hypothesis four was rejected cross-nationally in favor of an alternative hypothesis that the old-age identifiers with a low activity level tend to have lower meaningful existence than the old-age identifiers with a high activity level.

Evaluation of Hypothesis Five

H_5: Old-age identifiers with a low activity level tend to have a higher meaningful existence than adult-age identifiers with a low activity level.

The American Sample. The test results of hypothesis five with the American sample are given in Table XXIII. On the modified LSIA,

TABLE XXIII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.70	.27	31	--	4.48	.35	31	--	8.61	1.65	31	--
Adult-age Iden. with low act.	2.67	.29	55		4.52	.39	55		8.69	1.30	55	
Active Activity												
Old-age Iden. with low act.	2.74	.26	38	1.54	4.52	.35	38	--	8.71	1.50	38	--
Adult-age Iden. with low act.	2.65	.30	57		4.51	.34	57		8.58	1.34	57	
Sedentary Activity												
Old-age Iden. with low act.	2.68	.26	27	--	4.46	.32	27	--	8.52	1.55	27	--
Adult-age Iden. with low act.	2.68	.29	55		4.52	.40	55		8.76	1.25	55	
Total Instrumental Activity												
Old-age Iden. with low act.	2.70	.29	35	1.31	4.28	.47	35	-1.62*	8.54	1.50	35	--
Adult-age Iden. with low act.	2.61	.34	52		4.44	.41	52		8.58	1.40	52	
Activity Providing Income												
Old-age Iden. with low act.	2.71	.28	53	1.67*	4.39	.45	53	--	8.66	1.33	53	--
Adult-age Iden. with low act.	2.62	.31	70		4.44	.39	70		8.78	1.28	70	
Activity Serving Public Benefit with no Income												
Old-age Iden. with low act.	2.70	.27	36	1.29	4.29	.36	36	-.141	8.42	1.52	36	--
Adult-age Iden. with low act.	2.61	.36	48		4.41	.41	48		8.46	1.47	48	

TABLE XXIII (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.74	.21	32	1.43	4.35	.50	32	--	8.88	1.26	32	--
Adult-age Iden. with low act.	2.66	.31	57		4.47	.39	57		8.81	1.34	57	
Activity with Family												
Old-age Iden. with low act.	2.73	.24	35	1.29	4.40	.52	35	--	8.88	1.23	35	--
Adult-age Iden. with low act.	2.65	.32	48		4.47	.41	48		8.79	1.25	48	
Activity with Friends												
Old-age Iden. with low act.	2.71	.27	31	--	4.36	.43	31	1.36	8.58	1.65	31	--
Adult-age Iden. with low act.	2.66	.30	50		4.49	.38	50		8.64	1.37	50	
Activity with Acquaintances												
Old-age Iden. with low act.	2.66	.29	26	--	4.27	.51	26	-1.90*	8.35	1.74	26	--
Adult-age Iden. with low act.	2.60	.32	49		4.49	.38	49		8.67	1.39	49	
Activity in Formal Settings												
Old-age Iden. with low act.	2.71	.27	38	--	4.39	.49	38	--	8.71	1.56	38	--
Adult-age Iden. with low act.	2.66	.33	56		4.44	.39	56		8.66	1.39	56	
Activity in Informal Settings												
Old-age Iden. with low act.	2.73	.26	40	--	4.36	.49	40	--	8.68	1.51	40	--
Adult-age Iden. with low act.	2.65	.32	46		4.47	.40	46		8.63	1.40	46	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

all mean differences but one across all activity types were in the direction hypothesized, although only one of these was significant at the .05 level. In the American sample, old-age identifiers with a low activity level had higher mean scores on the modified LSIA than the adult-age identifiers with a low activity level across all activity types except the sedentary activity which had a value of 0.00. American old-age identifiers with a low level of activity providing income ($t=1.67$) had a significantly higher meaningful existance as measured by the modified LSIA than American adult-age identifiers with a low activity level.

On the modified PIL, in contrast, there was only one out of 12 mean differences in the direction hypothesized, and it was not statistically significant. Among the American sample, old-age identifiers with a low activity level had lower mean scores on the modified PIL than the adult-age identifiers with a low activity level across all activity types except the active activity, which had a mean difference as predicted. Contrary to the prediction, the resultant t tests showed that American old-age identifiers with a low level of activity with acquaintances ($t=-1.90$) and total instrumental activity ($t=-1.62$) had a significantly lower meaningful existence as measured by the modified PIL than American adult-age identifiers with a low level in the corresponding type of activities.

On the Affect Balance Scale, five out of 12 mean differences were in the direction hypothesized, and the remaining seven went against it. None of the 12 mean differences were statistically significant. In the American sample, old-age identifiers with a low activity level had higher mean scores on the ABS than the adult-age

identifiers with a low activity level in each of the following spheres: active activity, total social, activity with family, activity in formal, and activity in informal settings.

In summary, 17 out of 36 mean differences across all three measures of meaningful existence and all activity types for the American sample were in the direction hypothesized. Only one of these 17 was significant at the .05 level. Eighteen mean differences were in the direction opposed to the hypothesis, and two of these 18 were significant at the .05 level. The B.P.D. of 17 out of 35 mean differences in the direction hypothesized was .133. Similarly the B.P.D. was .133 for 18 out of 35 mean differences in the direction opposed to the hypothesis. (Since the value of one mean difference was 0.00, the base of 36 was reduced to 35.) The data from the American sample supported neither hypothesis five nor its opposite alternative hypothesis. Stated differently, this data in general seemed to suggest that there was no significant difference between American old-age identifiers with a low activity level and American adult-age identifiers with a low activity level with regard to meaningful existence. However, it should be noted that there was inconsistency among the three measures of meaningful existence with regard to the pattern of directions in mean differences in the American sample. The dominant pattern of mean differences on the modified LSIA for the American sample was in the direction hypothesized; whereas, it was in the direction contrary to the hypothesis on the modified PIL. On the ABS, there was a relatively even distribution. On the specific level, there was no item salient for or against the hypothesis across measures of meaningful existence for

the American sample.

The Taiwan Sample. The test results of hypothesis five with the Taiwan sample are given in Table XXIV. On the modified LSIA, none of the 12 mean differences across all activity types were in the direction hypothesized. Instead, all 12 mean differences went directly against the hypothesis and two of them were significant at the .05 level. Contrary to the hypothesis, Chinese old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the modified LSIA than Chinese adult-age identifiers with a low level of activity in formal settings ($t=-1.17$), and in informal settings ($t=-1.87$).

On the modified PIL, again, none of the 12 mean differences across all activity types were in the direction hypothesized. Instead, all 12 mean differences went directly against the hypothesis, and seven of them were significant at the .05 level. Contrary to the hypothesis, Chinese old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the modified PIL than Chinese adult-age identifiers with a low level of activity in active activity ($t=-2.39$), sedentary activity ($t=-1.70$), activity serving public benefit ($t=-2.04$), total social activity ($t=-1.84$), activity with family ($t=-1.65$), activity in formal settings ($t=-1.96$), and in informal settings ($t=-2.73$).

On the ABS, also all 12 mean differences went directly against the hypothesis. Although none of the resultant t values were significant, in the Taiwan sample, old-age identifiers with low activity level had lower instead of higher mean scores on the ABS than the

TABLE XXIV

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.14	.50	53	-1.29	3.76	.58	53	-1.31	7.06	2.13	53	--
Adult-age Iden. with low act.	2.26	.43	49		3.90	.49	49		7.16	1.70	49	
Active Activity												
Old-age Iden. with low act.	2.15	.56	53	--	3.63	.60	53	-2.39*	6.92	2.22	53	--
Adult-age Iden. with low act.	2.22	.44	38		3.91	.50	38		7.13	1.74	38	
Sedentary Activity												
Old-age Iden. with low act.	2.26	.57	45	--	3.77	.59	45	-1.70*	7.22	2.14	45	--
Adult-age Iden. with low act.	2.32	.44	51		3.96	.48	51		7.25	2.03	51	
Total Instrumental Activity												
Old-age Iden. with low act.	2.14	.48	62	--	3.69	.61	62	-1.49	6.98	2.35	62	--
Adult-age Iden. with low act.	2.17	.46	34		3.86	.48	34		7.12	2.07	34	
Activity Providing Income												
Old-age Iden. with low act.	2.16	.48	63	--	3.69	.57	63	-1.46	6.95	2.30	63	--
Adult-age Iden. with low act.	2.22	.48	32		3.85	.46	32		7.16	1.97	32	
Activity Serving Public Benefit with no Income												
Old-age Iden. with low act.	2.16	.52	59	--	3.69	.60	59	-2.04*	6.88	2.19	59	--
Adult-age Iden. with low act.	2.21	.41	49		3.90	.46	49		7.35	1.96	49	

TABLE XXIV (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.23	.49	51	--	3.78	.63	51	-1.84*	7.14	2.30	51	--
Adult-age Iden. with low act.	2.25	.36	44		4.00	.52	44		7.18	1.94	44	
Activity with Family												
Old-age Iden. with low act.	2.22	.49	48	--	3.78	.62	48	-1.65*	7.17	2.24	48	--
Adult-age Iden. with low act.	2.25	.37	46		3.98	.54	46		7.24	1.97	46	
Activity with Friends												
Old-age Iden. with low act.	2.16	.54	43	--	3.78	.65	43	-1.49	6.84	2.37	43	--
Adult-age Iden. with low act.	2.23	.37	40		3.97	.49	40		7.05	2.05	40	
Activity with Acquaintances												
Old-age Iden. with low act.	2.23	.54	49	--	3.83	.63	49	-1.40	7.06	2.44	49	--
Adult-age Iden. with low act.	2.30	.37	48		3.99	.47	48		7.23	1.99	48	
Activity in Formal Settings												
Old-age Iden. with low act.	2.14	.46	50	-1.71*	3.69	.58	50	-1.96*	7.10	2.30	50	--
Adult-age Iden. with low act.	2.30	.36	30		3.94	.52	30		7.67	1.71	30	
Activity in Informal Settings												
Old-age Iden. with low act.	2.15	.50	50	-1.87*	3.66	.60	50	-2.73*	7.14	2.39	50	--
Adult-age Iden. with low act.	2.32	.36	42		3.96	44	42		7.64	1.71	42	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

adult-age identifiers with low activity level in each type of activities.

In summary, none of 36 mean differences across all three measures of meaningful existence and all activity types for the Taiwan sample were in the direction hypothesized. On the contrary, all of 36 mean differences went directly against the hypothesis and nine of them were significant at the .05 level. In general, the data from the Taiwan sample rejected hypothesis five in favor of its opposite alternative hypothesis that Chinese old-age identifiers with a low activity level tend to have lower meaningful existence than Chinese adult-age identifiers with a low activity level. On the specific level, the activities in both formal and informal settings were salient items against hypothesis five across the measures of meaningful existence among the Taiwan sample. There was no salient item for the hypothesis.

In view of the test results with both samples, hypothesis five was not substantiated cross-nationally. However, no overall conclusion could be drawn about the type of alternative hypothesis favored by the cross-cultural data because of the inconsistent results found between the two samples. At best, we might conclude that there was no significant difference on meaningful existence between American old-age identifiers with a low activity level and American adult-age identifiers with a low activity level. Whereas, the data from the Taiwan sample seemed to be in favor of the alternative hypothesis that Chinese old-age identifiers with a low activity level tend to have lower meaningful existence than Chinese adult-age identifiers with a low activity level.

Evaluation of Hypothesis Six

H_6: Old-age identifiers with a low activity level tend to have higher meaningful existence than adult-age identifiers with a high activity level.

The American Sample. The test results of hypothesis six with the American sample are given in Table XXV. On the modified LSIA, eight out of 12 mean differences across all activity types were in the direction hypothesized, and the remaining four went directly against the hypothesis. Although none of 12 mean differences were statistically significant in the American sample, old-age identifiers with a low activity level did have higher mean scores on the modified LSIA than the adult-age identifiers with a high activity level in each of the following spheres: total activity, active activity, sedentary activity, total social activity, activity with family, activity with friends, activity in formal and in informal settings.

In contrast, on the modified PIL, only two out of 12 mean differences across all activity types were in the direction hypothesized, and neither of these two was statistically significant. However, in the American sample, old-age identifiers with a low activity level in total activity and active activity did have higher mean scores on the modified PIL than the adult-age identifers with a high activity level. The remaining ten mean differences went directly against the hypothesis and eight of them were significant at the .05 level. Contrary to the hypothesis, American old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the modified PIL than American

TABLE XXV

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.70	.27	31	--	4.48	.35	31	--	8.61	1.65	31	--
Adult-age Iden. with high act.	2.65	.30	49		4.47	.36	49		8.80	1.19	49	
Active Activity												
Old-age Iden. with low act.	2.74	.26	38	--	4.52	.35	38	--	8.71	1.50	38	--
Adult-age Iden. with high act.	2.68	.30	45		4.49	.42	45		8.96	1.13	45	
Sedentary Activity												
Old-age Iden. with low act.	2.68	.26	27	--	4.46	.32	27	--	8.52	1.55	27	--
Adult-age Iden. with high act.	2.65	.30	46		4.48	.30	46		8.70	1.28	46	
Total Instrumental Activity												
Old-age Iden. with low act.	2.70	.29	35	--	4.28	.47	35	-2.91*	8.54	1.50	35	--
Adult-age Iden. with high act.	2.72	.24	52		4.55	.33	52		8.90	1.05	52	
Activity Providing Income												
Old-age Iden. with low act.	2.71	.28	53	--	4.39	.45	53	-2.67*	8.66	1.33	53	--
Adult-age Iden. with high act.	2.74	.26	34		4.61	.31	34		8.65	1.18	34	
Activity Serving Public Benefit with no Income												
Old-age Iden. with low act.	2.70	.27	36	--	4.29	.36	36	-3.88*	8.42	1.52	36	-2.24*
Adult-age Iden. with high act.	2.72	.23	52		4.59	.34	52		9.06	.89	52	

TABLE XXV (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.74	.21	32		4.35	.50	32		8.88	1.26	32	
				--				-2.01*				--
Adult-age Iden. with high act.	2.68	.26	42		4.56	.34	42		8.78	1.07	42	
Activity with Family												
Old-age Iden. with low act.	2.73	.24	35		4.40	.52	35		8.88	1.23	35	
				--				-1.59				--
Adult-age Iden. with high act.	2.68	.26	50		4.56	.33	50		8.80	1.21	50	
Activity with Friends												
Old-age Iden. with low act.	2.71	.27	31		4.36	.43	31		8.58	1.65	31	
				--				-1.91*				--
Adult-age Iden. with high act.	2.68	.28	48		4.54	.36	48		8.96	1.05	48	
Activity with Acquaintances												
Old-age Iden. with low act.	2.66	.29	26		4.27	.51	26		8.55	1.74	26	
				--				-2.44*				-1.50
Adult-age Iden. with high act.	2.74	.23	48		4.55	.36	48		8.92	1.05	48	
Activity in Formal Settings												
Old-age Iden. with low act.	2.71	.27	38		4.39	.49	38		8.71	1.56	38	
				--				-1.85*				--
Adult-age Iden. with high act.	2.67	.26	45		4.57	.36	45		8.80	1.08	45	
Activity in Informal Settings												
Old-age Iden. with low act.	2.73	.26	40		4.36	.49	40		8.68	1.51	40	
				--				-2.19*				--
Adult-age Iden. with high act.	2.71	.23	45		4.56	.31	45		8.82	1.09	45	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

adult-age identifiers with a high activity level in total instrumental activity (t=-2.91), activity providing income (t=-2.67), activity serving public benefit with no income (t=-3.88), total social activity (t=-2.01), activity with friends (t=-1.91), activity with acquaintances (t=-2.44), activity in formal (t=-1.85) and informal settings (t=-2.19).

On the ABS, three out of 12 mean differences across all activity types were in the direction hypothesized, and none of these three were statistically significant. These three mean differences were in the activity providing income, total social activity, and activity with family. The remaining nine mean differences went directly against the hypothesis and one was significant at the .05 level. Contrary to the hypothesis, American old-age identifiers with a low level of activity serving public benefit (t=-2.24) had a significantly lower meaningful existence as measured by the ABS than American adult-age identifiers with a high activity level.

In summary, 13 out of 36 mean differences across all three measures of meaningful existence and all activity types for the American sample were in the direction hypothesized, and none of these 13 mean differences were significant. The remaining 23 mean differences went against the hypothesis directly, and nine of these 23 mean differences were significant at the .05 level. The B.P.D. of 13 out of 36 mean differences in the direction hypothesized - or 23 out of 36 against the hypothesis - was .033. The data from the American sample did not support hypothesis six but favored an alternative hypothesis that American old-age identifiers with a low activity level tend to have a lower meaningful existence than

American adult-age identifiers with a high activity level. On the specific level, the activity serving public benefit with no income was a salient item against hypothesis six across the measures of meaningful existence among the American sample. There was no salient item for the hypothesis.

The Taiwan Sample. The test results of hypothesis six with the Taiwan sample are given in Table XXVI. On the modified LSIA, all 12 mean differences across all activity types went directly against the hypothesis and ten of them were significant at the .05 level. Contrary to the hypothesis, Chinese old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the modified LSIA than Chinese adult-age identifiers with a high activity level in total activity ($t=-2.88$), active activity ($t=-2.85$), total instrumental activity ($t=-3.45$), activity providing income ($t=-2.59$), activity serving public benefit with no income ($t=-2.98$), total social activity ($t=-1.85$), activity with family ($t=-2.00$), activity with friends ($t=-2.35$), activity in formal settings ($t=-2.87$), and activity in informal settings ($t=-2.47$).

On the modified PIL, again, all 12 mean differences were in the direction opposed to the hypothesis, and all but one (activity with acquaintances, $t=-1.55$, $P=.06$) were significant at the .05 level. Contrary to the hypothesis, Chinese old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the modified PIL than Chinese adult-age identifiers with a high activity level in total activity ($t=-3.11$), active activity ($t=-4.13$), sedentary activity ($t=-2.29$), total instrumental activity

TABLE XXVI

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with low act.	2.14	.50	53	-2.88*	3.76	.58	53	-3.11*	7.06	2.13	53	-1.83*
Adult-age Iden. with high act.	2.39	.35	46		4.08	.43	46		7.85	2.11	46	
Active Activity												
Old-age Iden. with low act.	2.15	.56	53	-2.85*	3.63	.60	53	-4.13*	6.92	2.22	53	-2.13*
Adult-age Iden. with high act.	2.41	.35	55		4.05	.43	55		7.80	2.03	55	
Sedentary Activity												
Old-age Iden. with low act.	2.26	.57	45	--	3.77	.59	45	-2.29*	7.22	2.14	45	-1.32
Adult-age Iden. with high act.	2.33	.33	42		4.03	.45	42		7.78	1.75	42	
Total Instrumental Activity												
Old-age Iden. with low act.	2.14	.48	62	-3.45*	3.69	.61	62	-3.84*	6.98	2.35	62	-2.00*
Adult-age Iden. with high act.	2.40	.34	62		4.06	.44	62		7.74	1.82	62	
Activity Providing Income												
Old-age Iden. with low act.	2.16	.48	63	-2.59*	3.69	.57	63	-3.92*	6.95	2.30	63	-1.83*
Adult-age Iden. with high act.	2.36	.36	59		4.06	.46	59		7.66	1.94	59	
Activity Serving Public Benefit with no Income												
Old-age Iden. with low act.	2.16	.52	59	-2.98*	3.69	.60	59	-3.72*	6.88	2.19	59	1.95*
Adult-age Iden. with high act.	2.42	.36	45		4.08	.46	45		7.67	1.89	45	

TABLE XXVI (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with low act.	2.23	.49	51	-1.85*	3.78	.63	51	-2.06*	7.14	2.30	51	-1.76*
Adult-age Iden. with high act.	2.40	.42	49		4.00	.41	49		7.88	1.84	49	
Activity with Family												
Old-age Iden. with low act.	2.22	.49	48	-2.00*	3.78	.62	48	-2.33*	7.17	2.24	48	-1.59
Adult-age Iden. with high act.	2.41	.42	46		4.03	.39	46		7.85	1.85	46	
Activity with Friends												
Old-age Iden. with low act.	2.16	.54	43	-2.35*	3.78	.65	43	-2.11*	6.84	2.37	43	-2.45*
Adult-age Iden. with high act.	2.40	.42	52		4.03	.45	52		7.92	1.75	52	
Activity with Acquaintances												
Old-age Iden. with low act.	2.23	.54	49	--	3.83	.63	49	-1.55	7.06	2.44	49	-1.85*
Adult-age Iden. with high act.	2.36	.43	44		4.01	.47	44		7.89	1.81	44	
Activity in Formal Settings												
Old-age Iden. with low act.	2.14	.46	50	-2.87*	3.69	.58	50	-3.68*	7.10	2.30	50	--
Adult-age Iden. with high act.	2.39	.40	50		4.06	.40	50		7.62	2.10	50	
Activity in Informal Settings												
Old-age Iden. with low act.	2.15	.50	50	-2.47*	3.66	.60	50	-3.45*	7.14	2.39	50	--
Adult-age Iden. with high act.	2.39	.41	40		4.05	.46	40		7.52	2.24	40	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

(t=-3.84), activity providing income (t=-3.92), activity serving public benefit with no income (t=-3.72), total social activity (t=-2.06), activity with family (t=-2.33), activity with friends (t=-2.11), activity in formal settings (t=-3.68), and in informal settings (t=-3.45).

On the ABS, again, all 12 mean differences were in the direction against the hypothesis, and eight of them were significant at the .05 level. Opposed to the hypothesis, Chinese old-age identifiers with a low activity level had a significantly lower meaningful existence as measured by the ABS than Chinese adult-age identifiers with a high activity level in total activity (t=-1.83), active activity (t=-2.13), total instrumental activity (t=-2.00), activity providing income (t=-1.83), activity serving public benefit with no income (t=-1.95), total social activity (t=-1.76), activity with friends (t=-2.45), and activity with acquaintances (t=-1.85).

In summary, all of 36 mean differences across all three measures of meaningful existence and all activity types for the Taiwan sample were in the direction opposed to hypothesis six, and 29 of them were significant at the .05 level. Obviously, the data from the Taiwan sample did not support hypothesis six, but favored the opposite alternative hypothesis that Chinese old-age identifiers with a low activity level tend to have lower meaningful existence than Chinese adult-age identifiers with a high activity level. On the specific level, all the items except sedentary activity and activity with acquaintances were salient items against hypothesis six across the measures of meaningful existence in the Taiwan sample. There were no salient items for the hypothesis.

In view of the test results with both samples, hypothesis six was rejected cross-nationally in favor of the opposite alternative hypothesis that old-age identifiers with a low activity level tend to have a lower meaningful existence than adult-age identifiers with a high activity level.

Evaluation of Hypothesis Seven

H_7: Old-age identifiers with a high activity level tend to have a higher meaningful existence than adult-age identifiers with a low activity level.

The American Sample. The test results of hypothesis seven with the American sample are given in Table XXVII. On the modified LSIA, all 12 mean differences across all activity types were in the direction as hypothesized, and four of them were significant at the .05 level. As hypothesized, American old-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the modified LSIA than American adult-age identifiers with a low activity in total instrumental activity (t=2.17), activity providing income (t=2.34), activity serving public benefit (t=2.23), and activity with acquaintances (t=2.48).

On the modified PIL, seven out of 12 mean differences across all activity types were in the direction hypothesized, and one of these seven was significant at the .05 level. Four out of 12 mean differences went against the hypothesis and one of these four was significant. As predicted, American old-age identifiers with a high activity level in the activity serving public benefit (t=2.63) had

TABLE XXVII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with high act.	2.74	.24	39	--	4.38	.49	39	-1.46	8.82	.88	39	--
Adult-age Iden. with low act.	2.67	.29	55		4.52	.39	55		8.69	1.30	55	
Active Activity												
Old-age Iden. with high act.	2.69	.24	32	--	4.31	.50	32	-1.99*	8.75	.95	32	--
Adult-age Iden. with low act.	2.65	.30	57		4.51	.34	57		8.58	1.34	57	
Sedentary Activity												
Old-age Iden. with high act.	2.74	.24	43	--	4.40	.50	43	--	8.86	1.06	43	--
Adult-age Iden. with low act.	2.68	.29	55		4.52	.40	55		8.76	1.25	55	
Total Instrumental Activity												
Old-age Iden. with high act.	2.74	.21	34	2.17*	4.57	.36	34	1.53	8.94	.98	34	1.39
Adult-age Iden. with low act.	2.61	.34	52		4.44	.41	52		8.58	1.40	52	
Activity Providing Income												
Old-age Iden. with high act.	2.75	.16	16	2.34*	4.53	.40	16	--	9.00	1.10	16	--
Adult-age Iden. with low act.	2.62	.31	70		4.44	.39	70		8.78	1.28	70	
Activity Serving Public Benefit with no Income												
Old-age Iden. with high act.	2.76	.23	31	2.23*	4.63	.32	31	2.63*	9.13	.85	31	2.53*
Adult-age Iden. with low act.	2.61	.36	48		4.41	.41	48		8.46	1.47	48	

TABLE XXVII (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with high act.	2.70	.30	33	--	4.52	.36	33	--	8.64	1.36	33	--
Adult-age Iden. with low act.	2.66	.31	57		4.47	.39	57		8.81	1.34	57	
Activity with Family												
Old-age Iden. with high act.	2.70	.29	28	--	4.46	.34	28	--	8.57	1.42	28	--
Adult-age Iden. with low act.	2.65	.32	48		4.47	.41	48		8.79	1.25	48	
Activity with Friends												
Old-age Iden. with high act.	2.73	.25	33	--	4.49	.45	33	--	8.94	.90	33	--
Adult-age Iden. with low act.	2.66	.30	50		4.49	.38	50		8.64	1.37	50	
Activity with Acquaintances												
Old-age Iden. with high act.	2.75	.23	36	2.48*	4.53	.36	36	--	9.00	.83	36	1.35
Adult-age Iden. with low act.	2.60	.32	49		4.49	.38	49		8.67	1.39	49	
Activity in Formal Settings												
Old-age Iden. with high act.	2.74	.24	30	--	4.48	.37	30	--	8.80	.85	30	--
Adult-age Iden. with low act.	2.66	.33	56		4.44	.39	56		8.66	1.39	56	
Activity in Informal Settings												
Old-age Iden. with high act.	2.70	.26	26	--	4.53	.31	26	--	8.85	.92	26	--
Adult-age Iden. with low act.	2.65	.32	46		4.47	.40	46		8.63	1.40	46	

Only t values significant at better than the .10 level (one tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

a significantly higher meaningful existence as measured by the modified PIL than American adult-age identifiers with a low activity level. In the American sample, old-age identifiers with a high activity level also had higher mean scores on the modified PIL than adult-age identifiers with a low activity level in each of the following types of activities: total instrumental activity, activity providing income, total social activity, activity with acquaintances, activity in formal settings and in informal settings. Although these differences were not statistically significant, however, contrary to the hypothesis, American old-age identifiers with a high activity level in active activity ($t=-1.99$) had a significantly lower meaningful existence as measured by the modified PIL than American adult-age identifiers with a low activity level.

On the ABS, ten out of 12 mean differences were in the direction hypothesized, and the remaining two were against the hypothesis. Among the ten mean differences in the direction predicted, one was significant at the .05 level. As hypothesized, American old-age identifiers with a high level of activity serving public benefit ($t=2.53$) had a significantly higher meaningful existence as measured by the ABS than American adult-age identifiers with a low activity level. Although the differences were not statistically significant in the American sample, old-age identifiers with a high activity level did have higher mean scores on the ABS than adult-age identifiers with a low activity level in all activity types except total social activity and activity with family. However, the mean differences in these last two types of activities were not statistically significant.

In summary, 29 out of 36 mean differences across all three measures of meaningful existence and all activity types for the American sample were in the direction hypothesized, and six of these 29 were significant at the .05 level. The pattern of mean differences in the direction predicted in hypothesis seven was quite consistent across all three measures of meaningful existence for the American sample. Six out of 36 mean differences were in the direction opposed to the hypothesis, and one of these six was significant. The B.P.D. of 29 out of 35 in the direction predicted - or six out of 35 in the direction against the prediction - was smaller than .0001. (The base of 36 was reduced to 35 due to a 0.00 value of one mean difference.) In general, the data from the American sample supported hypothesis seven. On the specific level, the activity serving public benefit was a salient item for hypothesis seven across the measures of meaningful existence in the American sample. There was no salient item against the hypothesis among the American sample.

The Taiwan Sample. The test results of hypothesis seven with the Taiwan sample are given in Table XXVIII. On the modified LSIA, half of 12 mean differences across all activity types were in the direction hypothesized, and the remaining half were in the direction against hypothesis seven. Among these 12 mean differences, only one was significant at the .05 level in the direction as hypothesized. As hypothesized, Chinese old-age identifiers with a high activity level in total instrumental activity (t=1.85) had a significantly higher meaningful existence as measured by the modified LSIA than Chinese adult-age identifiers with a low activity level.

TABLE XXVIII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Old-age Iden. with high act.	2.34	.53	51	--	3.79	.49	41	--	7.16	2.18	51	--
Adult-age Iden. with low act.	2.26	.43	49		3.90	.49	49		7.16	1.70	49	
Active Activity												
Old-age Iden. with high act.	2.30	.41	50	--	3.92	.42	50	--	7.30	2.09	50	--
Adult-age Iden. with low act.	2.22	.44	38		3.91	.50	38		7.13	1.74	38	
Sedentary Activity												
Old-age Iden. with high act.	2.24	.48	56	--	3.78	.50	56	-1.88*	7.04	2.16	56	--
Adult-age Iden. with low act.	2.32	.44	51		3.96	.48	51		7.25	2.03	51	
Total Instrumental Activity												
Old-age Iden. with high act.	2.39	.55	40	-1.85*	3.90	.37	40	--	7.38	1.78	40	--
Adult-age Iden. with low act.	2.17	.46	34		3.86	.48	34		7.12	2.07	34	
Activity Providing Income												
Old-age Iden. with high act.	2.31	.52	36	--	3.93	.45	36	--	7.44	1.87	36	--
Adult-age Iden. with low act.	2.22	.48	32		3.85	.46	32		7.16	1.97	32	
Activity Serving Public Benefit with no Income												
Old-age Iden. with high act.	2.33	.52	40	--	3.90	.40	40	--	7.35	2.06	40	--
Adult-age Iden. with low act.	2.21	.41	49		3.90	.46	49		7.35	1.96	49	

TABLE XXVIII (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Old-age Iden. with high act.	2.21	.51	46	--	3.78	.41	46	-2.20*	7.04	2.11	46	--
Adult-age Iden. with low act.	2.25	.36	44		4.00	.52	44		7.18	1.94	44	
Activity with Family												
Old-age Iden. with high act.	2.21	.52	48	--	3.78	.44	48	-1.94*	7.04	2.19	48	--
Adult-age Iden. with low act.	2.25	.37	46		3.98	.54	46		7.24	1.97	46	
Activity with Friends												
Old-age Iden. with high act.	2.27	.46	54	--	3.79	.44	54	-1.82*	7.33	2.02	54	--
Adult-age Iden. with low act.	2.23	.37	40		3.97	.49	40		7.05	2.05	40	
Activity with Acquaintances												
Old-age Iden. with high act.	2.21	.46	47	--	3.75	.43	47	-2.57*	7.17	1.93	47	--
Adult-age Iden. with low act.	2.30	.37	48		3.99	.47	48		7.23	1.99	48	
Activity in Formal Settings												
Old-age Iden. with high act.	2.29	.46	44	--	3.88	.51	44	--	7.18	1.97	44	--
Adult-age Iden. with low act.	2.30	.36	30		3.94	.52	30		7.67	1.71	30	
Activity in Informal Settings												
Old-age Iden. with high act.	2.25	.43	43	--	3.87	.44	43	--	6.93	1.94	43	-1.77*
Adult-age Iden. with low act.	2.32	.36	42		3.96	.44	42		7.64	1.71	42	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

On the modified PIL, three out of 12 mean differences were in the direction predicted in hypothesis seven, and none of these three were significant. For the remaining eight mean differences opposed to the hypothesis, five were significant at the .05 level. Contrary to the hypothesis, Chinese old-age identifiers with a high activity level had a significantly lower meaningful existence as measured by the modified PIL than Chinese adult-age identifiers with a low activity level in sedentary activity ($t=-1.88$), total social activity ($t=-2.20$), activity with family ($t=-1.94$), activity with friends ($t=-1.82$), and activity with acquaintances ($t=-2.57$).

On the ABS, again, only four out of 12 mean differences across all activity types were in the direction hypothesized, and none of these four were significant. Six out of 12 mean differences went directly against the hypothesis and one of these six was significant at the .05 level. Opposed to the hypothesis, Chinese old-age identifiers with a high level of activity in informal settings ($t=-1.77$) had a significantly lower meaningful existence as measured by the ABS than Chinese adult-age identifiers with a low activity level.

In summary, 13 out of 36 mean differences across three measures of meaningful existence and all activity types for the Taiwan sample were in the direction predicted in hypothesis seven, but only one of these was significant at the .05 level. Twenty out of 36 mean differences across all measures of meaningful existence and activity types went directly against the hypothesis and six of these were significant at the .05 level. The B.P.D. of 13 out of 33 mean differences in the direction hypothesized - or 20 out of 33 against

the hypothesis - was .067. In general, the data from the Taiwan sample did not support hypothesis seven and was only weakly in favor of the opposite alternative hypothesis that Chinese old-age identifiers with a high activity level tend to have lower meaningful existence than Chinese adult-age identifiers with a low activity level. On the specific level, there was no item salient either for the hypothesis or against the hypothesis.

In view of inconsistent results between the two samples, no overall conclusion could be drawn concerning hypothesis seven cross-nationally. While the data from the American sample supported hypothesis seven, the data from the Taiwan sample did not support it.

Evaluation of Hypothesis Eight

H_8: Adult-age identifiers with a high activity level tend to have higher meaningful existence than old-age identifiers with a high activity level.

The American Sample. The test results of hypothesis eight with the American sample are given in Table XXIX. On the modified LSIA, only one out of 12 mean differences across all activity types was in the direction hypothesized, and the remaining 11 mean differences went directly against the hypothesis. None of the 12 mean differences were significant. Contrary to the hypothesis in the American sample, adult-age identifiers with a high activity level had lower mean scores on the modified LSIA than old-age identifiers with a high activity level in all activity types except the activity in informal settings.

TABLE XXIX

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Adult-age Iden. with high act.	2.65	.30	49	-1.55	4.47	.36	49	--	8.80	1.19	49	--
Old-age Iden. with high act.	2.74	.24	39		4.38	.49	39		8.82	.88	39	
Active Activity												
Adult-age Iden. with high act.	2.68	.30	45	--	4.49	.42	45	1.64*	8.96	1.13	45	--
Old-age Iden. with high act.	2.69	.24	32		4.31	.50	32		8.75	.95	32	
Sedentary Activity												
Adult-age Iden. with high act.	2.65	.30	46	-1.55	4.48	.30	46	--	8.70	1.28	46	--
Old-age Iden. with high act.	2.74	.24	43		4.40	.50	43		8.86	1.06	43	
Total Instrumental Activity												
Adult-age Iden. with high act.	2.72	.24	52	--	4.55	.33	52	--	8.90	1.05	52	--
Old-age Iden. with high act.	2.74	.21	34		4.57	.36	34		8.94	.98	34	
Activity Providing Income												
Adult-age Iden. with high act.	2.74	.26	34	--	4.61	.31	34	--	8.65	1.18	34	--
Old-age Iden. with high act.	2.75	.16	16		4.53	.40	16		9.00	1.10	16	
Activity Serving Public Benefit with no Income												
Adult-age Iden. with high act.	2.72	.23	52	--	4.59	.34	52	--	9.06	.89	52	--
Old-age Iden. with high act.	2.76	.23	31		4.63	.32	31		9.13	.85	31	

TABLE XXLX (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Adult-age Iden. with high act.	2.68	.26	42	--	4.56	.34	42	--	8.78	1.07	42	--
Old-age Iden. with high act.	2.70	.30	33		4.52	.36	33		8.64	1.36	33	
Activity with Family												
Adult-age Iden. with high act.	2.68	.26	50	--	4.56	.33	50	--	8.80	1.21	50	--
Old-age Iden. with high act.	2.70	.29	28		4.46	.34	28		8.57	1.42	28	
Activity with Friends												
Adult-age Iden. with high act.	2.68	.28	48	--	4.54	.36	48	--	8.96	1.05	48	--
Old-age Iden. with high act.	2.73	.25	33		4.49	.45	33		8.94	.90	33	
Activity with Acquaintances												
Adult-age Iden. with high act.	2.74	.23	48	--	4.55	.36	48	--	8.92	1.05	48	--
Old-age Iden. with high act.	2.75	.23	36		4.53	.36	36		9.00	.83	36	
Activity in Formal Settings												
Adult-age Iden. with high act.	2.67	.26	45	--	4.57	.36	45	--	8.80	1.08	45	--
Old-age Iden. with high act.	2.74	.24	30		4.48	.37	30		8.80	.85	30	
Activity in Informal Settings												
Adult-age Iden. with high act.	2.71	.23	45	--	4.56	.31	45	--	8.82	1.09	45	--
Old-age Iden. with high act.	2.70	.26	26		4.53	.31	26		8.85	.92	26	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

In contrast, on the modified PIL, all but two out of 12 mean differences across all activity types were in the direction hypothesized, and one of these ten mean differences was significant at the .05 level. As hypothesized, American adult-age identifiers with a high level of active activity (t=1.64) had significantly higher meaningful existence as measured by the modified PIL than American old-age identifiers with a high activity level. Although the differences were not statistically significant in the American sample, adult-age identifiers with a high activity level did have higher mean scores on the modified PIL than old-age identifiers with a high activity level in all activity types except total instrumental activity and activity serving public benefit.

On the ABS, four out of 12 mean differences across all activity types were in the direction hypothesized, and seven mean differences were in the direction against the hypothesis. However, none of the 12 mean differences on the ABS were significant.

In summary, 15 mean differences across all three measures of meaningful existence and all activity types for the American sample were in the direction hypothesized, and only one of these 15 was significant. Twenty mean differences across all three measures of meaningful existence and all activity types were in the direction contrary to the hypothesis, and none of these 20 were significant. The B.P.D. of 15 out of 35 mean differences in the direction hypothesized - or 20 out of 35 in the direction against the hypothesis - was .0921. (The base of 36 was reduced to 35 due to a 0.00 value of one mean difference.) The data from the American sample did not support hypothesis eight and was weakly in favor of the opposite

alternative hypothesis that American adult-age identifiers with a high activity level tend to have a lower meaningful existence than American old-age identifiers with a high activity level. It should be noted, however, that there was inconsistency among three measures of meaningful existence with regard to the pattern of direction in mean differences among the American sample. On the specific level, there was no item salient either for or against hypothesis eight across the measures of meaningful existence among the American sample.

The Taiwan Sample. The test results of hypothesis eight with the Taiwan sample are given in Table XXX. On the modified LSIA, all 12 mean differences across all activity types were in the direction hypothesized although only two were significant at the .05 level. As hypothesized, Chinese adult-age identifiers with a high activity level in total social activity (t=1.95) and activity with family (t=2.03) had a significantly higher meaningful existence as measured by the modified LSIA than Chinese old-age identifiers with a high activity level.

On the modified PIL, again, all 12 mean differences across all activity types were in the direction hypothesized, and ten of them were significant at the .05 level. As hypothesized, Chinese adult-age identifiers with a high activity level had significantly higher meaningful existence as measured by the modified PIL than Chinese old-age identifiers with a high activity level in each of the following types of activity: total activity (t=3.07), sedentary activity (t=2.57), total instrumental activity (t=1.96), activity serving public benefit with no income (t=1.91), total social activity (t=2.59), activity with

TABLE XXX

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND OLD-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Adult-age Iden. with high act.	2.39	.35	46	--	4.08	.43	46	3.07*	7.85	2.11	46	1.57
Old-age Iden. with high act.	2.34	.53	51		3.79	.49	51		7.16	2.18	51	
Active Activity												
Adult-age Iden. with high act.	2.41	.35	55	1.46	4.05	.43	55	1.55	7.80	2.03	55	--
Old-age Iden. with high act.	2.30	.41	50		3.92	.42	50		7.30	2.09	50	
Sedentary Activity												
Adult-age Iden. with high act.	2.33	.33	42	--	4.03	.45	42	2.57*	7.78	1.75	42	1.85*
Old-age Iden. with high act.	2.24	.48	56		3.78	.50	56		7.04	2.16	56	
Total Instrumental Activity												
Adult-age Iden. with high act.	2.40	.34	62	--	4.06	.44	62	1.96*	7.74	1.82	62	--
Old-age Iden. with high act.	2.39	.55	40		3.90	.37	40		7.38	1.78	40	
Activity Providing Income												
Adult-age Iden. with high act.	2.36	.36	59	--	4.06	.46	59	1.34	7.66	1.94	59	--
Old-age Iden. with high act.	2.31	.52	36		3.93	.45	36		7.44	1.87	36	
Activity Serving Public Benefit with no Income												
Adult-age Iden. with high act.	2.42	.36	45	--	4.08	.46	45	1.91*	7.67	1.89	45	--
Old-age Iden. with high act.	2.33	.52	40		3.90	.40	40		7.35	2.06	40	

TABLE XXX (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Adult-age Iden. with high act.	2.40	.42	49		4.00	.41	49		7.88	1.84	49	
				1.95*				2.59*				2.04*
Old-age Iden. with high act.	2.21	.51	46		3.78	.41	46		7.04	2.11	46	
Activity with Family												
Adult-age Iden. with high act.	2.41	.42	46		4.03	.39	46		7.85	1.85	46	
				2.03*				2.89*				1.92*
Old-age Iden. with high act.	2.21	.52	48		3.78	.44	48		7.04	2.19	48	
Activity with Friends												
Adult-age Iden. with high act.	2.40	.42	52		4.03	.45	52		7.92	1.75	52	
				1.51				2.75*				1.59
Old-age Iden. with high act.	2.27	.46	54		3.79	.44	54		7.33	2.02	54	
Activity with Acquaintances												
Adult-age Iden. with high act.	2.36	.43	44		4.01	.47	44		7.89	1.81	44	
				1.59				2.72*				1.82*
Old-age Iden. with high act.	2.21	.46	47		3.75	.43	47		7.17	1.93	47	
Activity in Formal Settings												
Adult-age Iden. with high act.	2.39	.40	50		4.06	.40	50		7.62	2.10	50	
				--				1.87*				--
Old-age Iden. with high act.	2.29	.46	44		3.88	.51	44		7.18	1.97	44	
Activity in Informal Settings												
Adult-age Iden. with high act.	2.39	.41	40		4.05	.46	40		7.52	2.24	40	
				1.50				1.80*				--
Old-age Iden. with high act.	2.25	.43	43		3.87	.44	43		6.93	1.94	43	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

family (t=2.89), activity with friends (t=2.75), activity with acquaintances (t=2.72), activity in formal (t=1.87), and informal settings (t=1.80).

On the ABS, also all 12 mean differences across all activity types were in the direction hypothesized, and four of them were significant at the .05 level. As hypothesized, Chinese adult-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the ABS than Chinese old-age identifiers with a high activity level in each of the following types: sedentary activity (t=1.85), total social activity (2.04), activity with family (t=1.92), and with acquaintances (t=1.82).

In summary, all 36 mean differences across three measures of meaningful existence and all activity types for the Taiwan sample were in the direction hypothesized, and 16 of them were significant at the .05 level. Obviously, the data from the Taiwan sample supported hypothesis eight. On the specific level, there were four items salient for the hypothesis: total social activity, activity with family, with acquaintances, and sedentary activity. There was no item salient against hypothesis eight in the Taiwan sample.

In view of the inconsistent results between the two samples, no overall conclusion could be drawn on hypothesis eight cross-nationally. While the data from the American sample rejected hypothesis eight, the data from the Taiwan sample supported this hypothesis.

Evaluation of Hypothesis Nine

H_9: Adult-age identifiers with a high activity level tend to have a higher meaningful existence than adult-age identifiers with a

low activity level.

The American Sample. The test results of hypothesis nine with the American sample are given in Table XXXI. On the modified LSIA, ten out of 12 mean differences across all activity types were in the direction hypothesized, and four of these ten were significant at the .05 level. Among the remaining two mean differences appearing against the hypothesis, neither was statistically significant. As hypothesized, American adult-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the modified LSIA than American adult-age identifiers with a low activity level in total instrumental activity (t=1.89), activity providing income (t=2.05), activity serving public benefit with no income (t=1.79), and activity with acquaintances (t=2.45).

On the modified PIL, nine out of 12 mean differences across all activity types were in the direction hypothesized, and three of these nine were significant at the .05 level. Among the remaining three mean differences invalidating the hypothesis, none were significant. As hypothesized, American adult-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the modified PIL than American adult-age identifiers with a low activity level in activity providing income (t=2.38), activity serving public benefit (t=2.35), and activity in formal settings (t=1.72). In the American sample, adult-age identifiers with a high activity level did have higher mean scores on the modified PIL than adult-age identifiers with a low activity level in the rest of the activity types except for total activity, active activity, and sedentary

TABLE XXXI

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Adult-age Iden. with high act.	2.65	.30	49	--	4.47	.36	49	--	8.80	1.19	49	--
Adult-age Iden. with low act.	2.67	.29	55		4.52	.39	55		8.69	1.30	55	
Active Activity												
Adult-age Iden. with high act.	2.68	.30	45	--	4.49	.42	45	--	8.96	1.13	45	1.54
Adult-age Iden. with low act.	2.65	.30	57		4.51	.34	57		8.58	1.34	57	
Sedentary Activity												
Adult-age Iden. with high act.	2.65	.30	46	--	4.48	.30	46	--	8.70	1.28	46	--
Adult-age Iden. with low act.	2.68	.29	55		4.52	.40	55		8.76	1.25	55	
Total Instrumental Activity												
Adult-age Iden. with high act.	2.72	.24	52	1.89*	4.55	.33	52	1.49	8.90	1.05	52	1.31
Adult-age Iden. with low act.	2.61	.34	52		4.44	.41	52		8.58	1.40	52	
Activity Providing Income												
Adult-age Iden. with high act.	2.74	.26	34	2.05*	4.61	.31	34	2.38*	8.65	1.18	34	--
Adult-age Iden. with low act.	2.62	.31	70		4.44	.39	70		8.78	1.28	70	
Activity Serving Public with no Income												
Adult-age Iden. with high act.	2.72	.23	52	1.79*	4.59	.34	52	2.35*	9.06	.89	52	2.42*
Adult-age Iden. with low act.	2.61	.36	48		4.41	.41	48		8.46	1.47	48	

TABLE XXXI (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Adult-age Iden. with high act.	2.68	.26	42	--	4.56	.34	42	--	8.78	1.07	42	--
Adult-age Iden. with low act.	2.66	.31	57		4.47	.39	57		8.81	1.34	57	
Activity with Family												
Adult-age Iden. with high act.	2.68	.26	50	--	4.56	.33	50	--	8.80	1.21	50	--
Adult-age Iden. with low act.	2.65	.32	48		4.47	.41	48		8.79	1.25	48	
Activity with Friends												
Adult-age Iden. with high act.	2.68	.28	48	--	4.54	.36	48	--	8.96	1.05	48	1.29
Adult-age Iden. with low act.	2.66	.30	50		4.49	.38	50		8.64	1.37	50	
Activity with Acquaintances												
Adult-age Iden. with high act.	2.74	.23	48	2.45*	4.55	.36	48	--	8.92	1.05	48	--
Adult-age Iden. with low act.	2.60	.32	49		4.49	.38	49		8.67	1.39	49	
Activity in Formal Settings												
Adult-age Iden. with high act.	2.67	.26	45	--	4.57	.36	45	1.72*	8.80	1.08	45	--
Adult-age Iden. with low act.	2.66	.33	56		4.44	.39	56		8.66	1.39	56	
Activity in Informal Settings												
Adult-age Iden. with high act.	2.71	.23	45	--	4.56	.31	45	--	8.82	1.09	45	--
Adult-age Iden. with low act.	2.65	.32	46		4.47	.40	46		8.63	1.40	46	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

activity, although the differences were not statistically significant.

On the ABS, nine out of 12 mean differences across all activity types were in the direction hypothesized, and one of these nine was significant at the .05 level. Among the remaining three mean differences invalidating the hypothesis, none were statistically significant. As hypothesized, American adult-age identifiers with a high level of activity serving public benefit with no income ($t=2.42$) had a significantly higher meaningful existence than American adult-age identifiers with a low activity level. In the American sample, adult-age identifiers with a high activity level did have higher mean scores on the ABS than adult-age identifiers with a low activity level in the rest of activity types except for sedentary activity, activity providing income, and total social activity. These differences, however, were not statistically significant.

The pattern of mean differences in the direction hypothesized was quite consistent across three measures of meaningful existence for the American sample. In summary, 28 out of 36 mean differences across all three measures of meaningful existence and activity types for the American sample were in the direction hypothesized, and eight of these 28 were significant at the .05 level. Eight out of 36 mean differences went directly against the hypothesis, and none of these eight were statistically significant. The B.P.D. of 28 out of 36 in the direction predicted - or eight out of 36 in the direction against the prediction - was .0006. In general, the data from the American sample supported hypothesis nine. On the specific level, the activity serving public benefit with no income and activity providing income were the salient items for hypothesis nine across

the measures of meaningful existence in the American sample. There was no salient item against the hypothesis in the American sample.

The Taiwan Sample. The test results of hypothesis eight with the Taiwan sample are given in Table XXXII. On the modified LSIA, all 12 mean differences across all activity types were in the direction hypothesized, and seven of them were significant at the .05 level. As hypothesized, Chinese adult-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the modified LSIA than Chinese adult-age identifiers with a low activity level in total activity (t=1.60), active activity (t=2.19), total instrumental activity (t=2.52), activity serving public benefit with no income (t=2.62), total social activity (t=1.83), activity with family (t=1.92), and activity with friends (t=2.04).

On the modified PIL, all except one mean difference (total social activity) were in the direction hypothesized, and four of them were significant at .05 level. As hypothesized, Chinese adult-age identifiers with a high activity level had significantly higher meaningful existence as measured by the modified PIL than Chinese adult-age identifiers with a low activity level in total activity (t=1.89), total instrumental activity (t=1.98), activity providing income (t=2.05), and activity serving public benefit with no income (t=1.87).

On the ABS, ten out of 12 mean differences were in the direction hypothesized, and five of these ten were significant at the .05 level. The remaining two mean differences (activity in formal settings and informal settings) were in the direction disproving the hypothesis and neither of them was significant. As hypothesized, Chinese

TABLE XXXII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN ADULT-AGE IDENTIFIERS WITH HIGH ACTIVITY LEVEL AND ADULT-AGE IDENTIFIERS WITH LOW ACTIVITY LEVEL TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
Adult-age Iden. with high act.	2.39	.35	46	1.60*	4.08	.43	46	1.89*	7.85	2.11	46	1.73*
Adult-age Iden. with low act.	2.26	.42	49		3.90	.49	49		7.16	1.70	49	
Active Activity												
Adult-age Iden. with high act.	2.41	.35	55	2.19*	4.05	.43	55	1.39	7.80	2.03	55	1.68*
Adult-age Iden. with low act.	2.22	.44	38		3.91	.50	38		7.13	1.74	38	
Sedentary Activity												
Adult-age Iden. with high act.	2.33	.33	42	--	4.03	.45	42	--	7.78	1.75	42	1.34
Adult-age Iden. with low act.	2.32	.44	51		3.96	.48	51		7.25	2.03	51	
Total Instrumental Activity												
Adult-age Iden. with high act.	2.40	.34	62	2.52*	4.06	.44	62	1.98*	7.74	1.82	62	1.44
Adult-age Iden. with low act.	2.17	.46	34		3.86	.48	34		7.12	2.07	34	
Activity Providing Income												
Adult-age Iden. with high act.	2.36	.36	59	1.42	4.06	.46	59	2.05*	7.66	1.94	59	--
Adult-age Iden. with low act.	2.22	.48	32		3.85	.46	32		7.16	1.97	32	
Activity Serving Public Benefit with no Income												
Adult-age Iden. with high act.	2.42	.36	45	2.62*	4.08	.46	45	1.87*	7.67	1.89	45	--
Adult-age Iden. with low act.	2.21	.41	49		3.90	.46	49		7.35	1.96	49	

TABLE XXXII (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
Adult-age Iden. with high act.	2.40	.42	49	1.83*	4.00	.41	49	--	7.88	1.84	49	1.76*
Adult-age Iden. with low act.	2.25	.36	44		4.00	.52	44		7.18	1.94	44	
Activity with Family												
Adult-age Iden. with high act.	2.41	.42	46	1.92*	4.03	.39	46	--	7.85	1.85	46	1.51
Adult-age Iden. with low act.	2.25	.37	46		3.98	.54	46		7.24	1.97	46	
Activity with Friends												
Adult-age Iden. with high act.	2.40	.42	52	2.04*	4.03	.45	52	--	7.92	1.75	52	2.12*
Adult-age Iden. with low act.	2.23	.37	40		3.97	.49	40		7.05	2.05	40	
Activity with Acquaintances												
Adult-age Iden. with high act.	2.36	.43	44	--	4.01	.47	44	--	7.89	1.81	44	1.65*
Adult-age Iden. with low act.	2.30	.37	48		3.99	.47	48		7.23	1.99	48	
Activity in Formal Settings												
Adult-age Iden. with high act.	2.39	.40	50	--	4.06	.40	50	--	7.62	2.10	50	--
Adult-age Iden. with low act.	2.30	.36	30		3.94	.52	30		7.67	1.71	30	
Activity in Informal Settings												
Adult-age Iden. with high act.	2.39	.41	40	--	4.05	.46	40	--	7.52	2.24	40	--
Adult-age Iden. with low act.	2.32	.36	42		3.96	.44	42		7.64	1.71	42	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better and the reported t values without "*" marked are significant at the .10 level. A negative t value indicates the opposite direction from the hypothesis.

adult-age identifiers with a high activity level had a significantly higher meaningful existence as measured by the ABS than Chinese adult-age identifiers with a low activity level in total activity (t=1.73), active activity (t=1.68), total social activity (t=1.76), activity with friends (t=2.12), and activity with acquaintances (t=1.65).

The pattern of mean differences in the direction hypothesized was quite consistent across three measures of meaningful existence for the Taiwan sample. In summary, 33 out of 36 mean differences across all three measures of meaningful existence and all activity types for the Taiwan sample were in the direction hypothesized, and 16 of these 33 mean differences were significant at the .05 level. Two out of 36 mean differences went directly against the hypothesis, and neither of them was statistically significant. On the specific level, there were six items salient for hypothesis nine across the measures of meaningful existence in the Taiwan sample: total activity, active activity, total instrumental activity, activity serving public benefit with no income, total social activity, and activity with friends. There was no salient item against the hypothesis in the Taiwan sample.

In view of the test results with both samples, hypothesis nine was substantiated cross-nationally. Adult-age identifiers with a high activity level tend to have higher meaningful existence than adult-age identifiers with a low activity level.

Evaluation of Hypothesis Ten

H_{10}: The activity level has differential effects on meaningful existence depending upon the type of age reference set adopted.

With an adult-age reference set, a high activity level is positively

and a low activity level is negatively related to meaningful existence. With an old-age reference set, the opposite is hypothesized.

To evaluate this hypothesis, we could either compare the findings on the tests of hypothesis four with those of hypothesis nine, or we could calculate the F ratios of interaction between the age reference set and the activity level via two-way analysis of variance. Results via both methods will be discussed here.

As stated previously, the data from both samples did not support hypothesis four but favored the opposite alternative hypothesis that old-age identifiers with a high activity level tend to have higher meaningful existence than old-age identifiers with a low activity level. Data from both samples did, however, substantiate hypothesis nine that adult-age identifiers with a high activity level tend to have a higher meaningful existence than adult-age identifiers with a low activity level. These results from the tests of both hypotheses seemed to suggest that there was no overall interaction between the age reference set and activity level. Regardless of the type of age reference set adopted, activity in general positively related to meaningful existence.

To test the interaction between the age reference set and the activity level in each type of activity, a two-way analysis of variance was adopted. The F ratios of interaction are given in Table XXXIII for the American sample and Table XXXIV for the Taiwan sample. None of the F ratios in either table were significant at the .05 level. These results indicated that there was no interaction between age reference set and each type of activities. In light of the results from the tests of interaction via two-way analysis of variance

TABLE XXXIII

F RATIOS OF INTERACTION BETWEEN AGE REFERENCE SET AND ACTIVITY LEVEL ON MEANINGFUL EXISTENCE AMERICAN SAMPLE

Type of Interaction	Modified LSIA	Modified PIL	Affect Balance
Age Reference Set X Total Activity	.083	.000	.020
Age Reference Set X Active Activity	.258	.582	.180
Age Reference Set X Sedentary Activity	.252	.000	.252
Age Reference Set X Total Instrumental Activity	.183	.501	.008
Age Reference Set X Activity Providing Income	.231	.000	.217
Age Reference Set X Activity Serving Public Benefit with no Income	.158	.348	.018
Age Reference Set X Total Social Activity	.114	.196	.065
Age Reference Set X Activity with Family	.101	.000	.154
Age Reference Set X Activity with Friends	.000	.127	.006
Age Reference Set X Activity with Acquaintances	.000	.654	.272
Age Reference Set X Activity in Formal Settings	.014	.012	.004
Age Reference Set X Activity in Informal Settings	.285	.000	.006

None of the F ratios were significant at the .05 level.

TABLE XXXIV

F RATIOS OF INTERACTION BETWEEN AGE REFERENCE SET AND ACTIVITY LEVEL ON MEANINGFUL EXISTENCE TAIWAN SAMPLE

Type of Interaction	Modified LSIA	Modified PIL	Affect Balance
Age Reference Set X Total Activity	.090	.305	.264
Age Reference Set X Active Activity	.000	.000	.000
Age Reference Set X Sedentary Activity	.010	.112	.405
Age Reference Set X Total Instrumental Activity	.000	.000	.000
Age Reference Set X Activity Providing Income	.000	.000	.000
Age Reference Set X Activity Serving Public Benefit with no Income	.000	.000	.000
Age Reference Set X Total Social Activity	.367	.000	.402
Age Reference Set X Activity with Family	.471	.029	.376
Age Reference Set X Activity with Friends	.032	.025	.085
Age Reference Set X Activity with Acquaintances	.075	.101	.221
Age Reference Set X Activity in Formal Settings	.000	.000	.000
Age Reference Set X Activity in Informal Settings	.000	.052	.016

None of the F ratios were significant at the .05 level.

and via tests of hypothesis four and hypothesis nine, hypothesis ten was rejected. The activity level did not have a differential effect on meaningful existence in either type of age reference set.

Evaluation of Model Implications

Evaluation of Hypothesis Eleven

H_{11}: As compared with the American retirees, Chinese retirees tend to have a more favorable attitude toward old people in general.

The American sample had a mean item average score of 5.40 as compared to 4.93 for the Taiwan sample on the Semantic Differential Scale (Section B, Table XII). The resultant t value of 6.48 was significant at the .05 level. However, the difference was in the opposite direction from prediction. Hypothesis eleven was rejected in favor of the opposite alternative hypothesis that American retirees tend to have a more favorable attitude toward old people in general than do the Chinese retirees.

Evaluation of Hypothesis Twelve

H_{12}: American retirees tend to assume the adult-age reference set; whereas, Chinese retirees tend to assume the old-age reference set.

As discussed in Chapter V, 59% of the American sample were adult-age identifiers. In contrast, only 48% of the Taiwan sample were adult-age identifiers. The test of the difference of proportions yielded a Z value of 2.20 (P=.014), significant at the .05 level. American retirees tend to assume the adult-age reference set; whereas,

Chinese retirees tend to assume the old-age reference set. Hypothesis twelve was confirmed.

Evaluation of Hypothesis Thirteen

H_{13}: As compared with the Chinese retirees, American retirees tend to have higher activity level.

As given under Section B in Table XII, the mean total activity level (an average of two activity items) was 25.30 and 18.79 hours for the American sample and the Taiwan sample, respectively, with a resultant t value of 4.85. As predicted, American retirees had a significantly higher total activity level than Chinese retirees. However, if we focus on different dimensions of activities, these two groups did not differ significantly in total instrumental or in total social activities. This was due to the averaging effects of the sub-parts of the total instrumental activity and the total social activity. In other words, although there was no significant difference between these two groups with regard to the total instrumental and total social activities, there were significant differences in opposite directions with regard to the sub-parts. In the sphere of instrumental activity, the American sample spent fewer hours (4.60 hours per week for the American sample as compared to 12.32 hours for the Taiwan sample) on activity providing income and more hours (9.80 hours as compared to 2.72 hours) on activity serving public benefit with no income than the Taiwan sample. The resultant t values of -5.09 for the activity providing income and 6.16 for the activity serving public benefit were significant. In the sphere of social activity, the American sample spent fewer hours (16.33 hours as

compared to 19.47 hours for the Taiwan sample) on activities with family and more hours on the activity with friends (10.62 as compared to 6.48) and acquaintances (5.21 as compared to 4.12) than the Taiwan sample. The resultant t values of -1.75, 4.03 and 2.24 for the activities with family, friends and acquaintances, respectively, were all significant at the .05 level. As compared with Chinese retirees, American retirees tend to have higher level of activity with friends and acquaintances in the direction predicted and a lower level of activity with family in the direction opposite to the prediction. There were also significant differences between the two groups in the direction predicted with regard to active activity (t=2.08), sedentary activity (t=4.78), and activity in informal settings (t=4.86).

If all 12 types of activities are treated equally, then nine out of these 12 mean differences on activity level were in the direction predicted, and seven of these nine were significant at the .05 level. The remaining three mean differences were in the direction contrary to the prediction, and two of these three were significant at the .05 level. The B.P.D. was .053 for nine out of 12 mean differences in the direction predicted or for three out of 12 mean differences in the direction opposed to the prediction. Hypothesis thirteen was supported on a general level.

Additional supportive data also indicated that American retirees tend to have a lower level of activity with family and a higher level of religious activity than Chinese retirees. The American sample spent an average of 2.75 hours per day as compared to 3.88 hours for the Taiwan sample on activities with children living with them (Section A, Table XII). The resultant t value of -2.16 was significant

at the .05 level. In addition, Chi-squares on four separate items - frequency of personal contact with children not living at home (Chi-square=58.70), with grandchildren not living with them (Chi-square= 50.04), frequency of contact by phone or letter with children (Chi-square=12.91) and with grandchildren (Chi-square=20.13) - were significant at the .05 level (Table XI). The Chi-square value of 223.85 on the frequency of religious activities was also significant at the .05 level.

In view of the test results on 12 types of activities and the additional supportive data, hypothesis thirteen was substantiated on a general level. American retirees tend to have higher activity level than Chinese retirees. On a specific level, however, American retirees tend to have lower level of activity providing income and activity with family than Chinese retirees.

Evaluation of Hypothesis Fourteen

Among those whose age reference set is incongruent with their activity level, American retirees tend to be reluctant disengagers; whereas, Chinese retirees tend to be reluctant engagers.

Focusing on the more general spheres of activities such as total activity, total instrumental activity, and total social activity, we found more adult-age identifiers with a low activity level than old-age identifiers with a high activity level among the American sample, but more old-age identifiers with a high activity level than adult-age identifiers with a low activity level among the Taiwan sample in each of these general activities. This result was in the direction predicted (Table XXXV). However, the resultant Chi-square values were

TABLE XXXV

FREQUENCY OF AGE REFERENCE SETS WITH INCONGRUENT ACTIVITY LEVELS

Type of Incongruence	American Sample	Taiwan Sample	df	Chi-Square	P
Total Activity					
Adult-age Identifier with Low Activity	50 (51.55)	50 (49.02)	1	.15	.703
Old-age Identifier with High Activity	47 (48.45)	52 (50.98)			
Active Activity					
Adult-age Identifier with Low Activity	57 (64.04)	40 (45.46)	1	6.20	.012
Old-age Identifier with High Activity	32 (35.96)	48 (54.54)			
Sedentary Activity					
Adult-age Identifier with Low Activity	53 (54.64)	51 (49.51)	1	.55	.533
Old-age Identifier with High Activity	44 (45.36)	52 (50.49)			
Total Instrumental Activity					
Adult-age Identifier with Low Activity	42 (55.26)	31 (45.59)	1	1.37	.240
Old-age Identifier with High Activity	34 (44.74)	37 (54.41)			
Activity Providing Income					
Adult-age Identifier with Low Activity	70 (81.40)	24 (32.88)	1	38.45	.000
Old-age Identifier with High Activity	16 (18.60)	49 (67.12)			
Activity Serving Public Benefit with no Income					
Adult-age Identifier with Low Activity	29 (34.52)	55 (69.62)	1	20.10	.000
Old-age Identifier with High Activity	55 (65.48)	24 (30.38)			

TABLE XXXV (Continued)

Type of Incongruence	American Sample	Taiwan Sample	df	Chi-Square	P
Total Social Activity					
Adult-age Identifier with Low Activity	57 (63.33)	38 (41.30)	1	8.87	.003
Old-age Identifier with High Activity	33 (36.67)	54 (58.70)			
Activity with Family					
Adult-age Identifier with Low Activity	53 (67.09)	38 (39.18)	1	13.61	.000
Old-age Identifier with High Activity	26 (32.91)	59 (60.82)			
Activity with Friends					
Adult-age Identifier with Low Activity	44 (51.76)	50 (56.82)	1	.47	.501
Old-age Identifier with High Activity	41 (48.24)	38 (43.18)			
Activity with Acquaintances					
Adult-age Identifier with Low Activity	49 (57.65)	44 (50.57)	1	.89	.652
Old-age Identifier with High Activity	36 (42.35)	43 (49.43)			
Activity in Formal Settings					
Adult-age Identifier with Low Activity	41 (48.24)	43 (58.11)	1	1.57	.207
Old-age Identifier with High Activity	44 (51.76)	31 (41.89)			
Activity in Informal Settings					
Adult-age Identifier with Low Activity	30 (40.00)	43 (53.09)	1	2.71	.096
Old-age Identifier with High Activity	45 (60.00)	38 (46.91)			

Numbers in parentheses are percentages.

not statistically significant except for total social activity (Chi-square=8.87). There were no significant differences between American and Chinese retirees with regard to the dominant type of incongruence between the age reference set and activity level in total activity and total instrumental activity. There was a significant difference between American and Chinese retirees with regard to the dominant type of incongruence between the age reference set and total social activity level. American retirees tended to be reluctant disengagers; whereas, Chinese retirees tended to be reluctant engagers. If attention is focused on each specific type of activity within the general ones, the results became more significant. The Chi-square test results were statistically significant at the .05 level for the active activity (Chi-square=6.20), activity providing income (Chi-square=38.45), activity serving public benefit with no income (Chi-square=20.10), and activity with family (Chi-square=13.61). It should be noted that the difference between two groups with regard to the dominant type of incongruence between the age reference set and activity serving public benefit with no income was in the direction opposite to the prediction. In other words, in the sphere of activity serving public benefit with no income, American retirees tended to be reluctant engagers and Chinese retirees tended to be reluctant disengagers. As predicted, American retirees tended to be reluctant disengagers and Chinese retirees reluctant engagers in active activity, activity providing income, and activity with family.

If all types of activities are treated equally, then seven out of 12 had a difference in the direction predicted, and four of these seven were statistically significant at the .05 level. The remaining

five differences were in the direction opposed to the prediction, and one of these five was significant at the .05 level. The B.P.D. was .194 for seven out of 12 differences in the direction predicted or for five out of 12 in the direction opposed to the prediction. Hypothesis fourteen was not supported on a general level although it was confirmed on some specific activities. In general, there was not a significant difference between American retirees and Chinese retirees with regard to the dominant type of incongruence between age reference set and activity level.

The above conclusion about hypothesis fourteen is based on the writer's definition of reluctant disengager and reluctant engager. In this section, hypothesis fourteen will be evaluated based on the retirees' own subjective definition. As shown in Table XXXVI, in the American sample, a majority of those dissatisfied with their activity level thought they should be more active, while in the Taiwan sample, a majority thought they should be less active. The resultant Chi-square value of 24.11 was statistically significant at the .05 level. Hypothesis fourteen was sustained by this data.

Evaluation of Hypothesis Fifteen

H_{15}: Chinese retirees tend to have higher meaningful existence than American retirees.

As shown in Section B in Table XII, the American sample consistently had higher mean item averages across all three measures of meaningful existence than did the Taiwan sample. The mean item averages were 2.69 as compared to 2.29 on the modified LSIA, 4.47 as compared to 3.89 on the modified PIL, and 8.74 as compared to 7.29

TABLE XXXVI

FREQUENCY OF DISSATISFACTION
WITH ACTIVITY LEVEL

Dissatisfaction with Activity Level	American Sample	Taiwan Sample	df	Chi-Square	P
Should Be More Active	37 (88.10)	42 (43.30)	1	24.11	.000
Should Be Less Active	5 (11.90)	55 (56.70)			

Numbers in parentheses are percentages.

on the ABS. These mean differences across three measures of meaningful existence between the two samples were in the direction opposed to the prediction. All three resultant t values were significant. Opposed to the prediction, American retirees tend to have higher meaningful existence measured by the modified LSIA (t=10.03), the modified PIL (t=12.08), and the ABS (t=8.43). Hypothesis fifteen was rejected in favor of the directly opposite alternative hypothesis that American retirees tend to have higher meaningful existence than Chinese retirees.

Evaluation of Hypothesis Sixteen

H_{16}: As compared with the Chinese retirees, the dominant type of aging among American retirees tends to be the adult-age reference set with a high activity level. The dominant type of aging among the Chinese retirees tends to be the old-age reference set with a low activity level.

As shown in Table XXXVII, the Chi-square values on the distribution of aging patterns for the two samples were all statistically significant across all types of activities. There were significant differences between the two samples with regard to aging patterns in every type of activity. From the table, we can see that Type IV (old-age reference set with low activity level) had the highest frequency among the four aging patterns across all activity types, except for activity with family, in the Taiwan sample. In other words, the dominant aging pattern among Chinese retirees tended to be Type IV. The pattern was less uniform among the American retirees. If attention is focused on more general spheres of activities, then as hypothesized, the dominant aging pattern tended to be Type I (adult-age

TABLE XXXVII

FREQUENCY DISTRIBUTION OF AGING PATTERNS
AMERICAN - TAIWAN COMPARISON

Activity	Adult-age Reference Set with High Activity Level (Type I) American Sample	Adult-age Reference Set with High Activity Level (Type I) Taiwan Sample	Old-age Reference Set with High Activity Level (Type II) American Sample	Old-age Reference Set with High Activity Level (Type II) Taiwan Sample	Adult-age Reference Set with Low Activity Level (Type III) American Sample	Adult-age Reference Set with Low Activity Level (Type III) Taiwan Sample	Old-age Reference Set with Low Activity Level (Type IV) American Sample	Old-age Reference Set with Low Activity Level (Type IV) Taiwan Sample	Chi-Square	df	P
*Total Activity[1]	54[2]	33	47	52	50	50	23	64	23.07	3	.000
*Active Activity	45	42	32	48	57	40	38	66	12.31	3	.007
*Sedentary Activity	48	30	44	52	53	51	26	61	17.56	3	.001
*Total Instrumental Activity	62	53	34	37	42	31	35	77	16.63	3	.001
*Activity Providing Income	34	55	16	49	70	24	53	62	44.22	3	.000
*Activity Serving Public Benefit with no Income	71	27	55	24	29	55	12	87	95.41	3	.000
*Total Social Activity	42	43	33	54	57	38	32	55	13.12	3	.005
*Activity with Family	45	42	26	59	53	38	37	49	15.06	3	.002
*Activity with Friends	54	30	41	38	44	50	23	71	29.97	3	.000
*Activity with Acquaintances	48	36	36	43	49	44	26	65	17.01	3	.001
*Activity in Formal Settings	60	27	44	31	41	43	24	73	39.51	3	.000
*Activity in Informal Settings	61	29	45	38	30	43	21	65	35.92	3	.000

[1]Items marked with an "*" are significant at the .05 level or better.

[2]Frequency underlined represents the highest among four patterns within each sample.

reference set with high activity level) for total activity, total instrumental activity, and activity in both formal and informal settings. However, the dominant aging pattern tended to be Type III (adult-age reference set with low activity) for total social activity. If all activity types are treated equally, then Type I was the dominant one in half of the activity types and Type III was the dominant one in the other half of the activity types. More specifically, Type I was the dominant one in activity serving public benefit and activity with friends in addition to those activities mentioned above; whereas, Type III was the dominant one in active activity, sedentary activity, activity providing income, total social activity, activity with family, and with acquaintances. In summary, hypothesis sixteen was partially supported.

CHAPTER VII

FURTHER EXPLORATIONS

Introduction

Although this study has limited itself so far to the analysis of specific hypotheses related to the theoretical model, the data obtained provided extensive supportive and demographic material and hence will be explored in this chapter. First, relationships between meaningful existence and general demographic variables, familial characteristics, activity and related items will be analyzed for each sample separately. Secondly, correlates of meaningful existence among the American retirees will be compared with those among the Chinese retirees to determine whether there is a general similarity of correlates between these two groups. Hopefully, this additional information will add more insights to relationships among variables.

Relationships Between Exploratory Variables and Meaningful Existence Among American Retirees

General Demographic Variables and Meaningful Existence

The Pearson correlation coefficients between general demographic variables and meaningful existence among the American sample are given in Section A, Table XXXVIII. When mean scores on three measures of meaningful existence were compared between American male and female

TABLE XXXVIII

CORRELATION COEFFICIENTS BETWEEN EXPLORATORY ITEMS AND MEASURES OF MEANINGFUL EXISTENCE

Characteristic	Modified LSIA		Modified PIL		Affect Balance	
Section A						
Sex	-.08	(.08)[2]	.10	(-.08)	-.11	(.02)
Age	-.17*[1]	(.02)	-.13	(.02)	-.16*	(.11)
Age at Retirement	-.08	(.02)	.08	(.06)	-.07	(.14)*
Academic Institution Retired From	.09	(-.04)	-.00	(.04)	.07	(.02)
Feeling about Retirement at the Time Retired	.04	(.03)	.08	(-.06)	.02	(-.01)
Present Employment	.10	(.21)*	.22*	(.20)*	.07	(.15)*
Self Report of Present Health	-.25*	(-.28)*	-.24*	(-.27)*	-.26*	(-.40)*
Self Report of Health Comparison	-.21*	(-.24)*	-.18*	(-.24)*	-.18*	(-.35)*
Belief in Life After Death	-.10	(-.03)	-.03	(.08)	.00	(.01)
Comparative Importance of Religion to Times Past	-.03	(.03)	.07	(.15)*	.02	(.08)
Frequency of Religious Activities	-.10	(-.09)	-.12	(-.02)	-.01	(-.02)
Section B						
Marital Status	.25*	(.15)*	.03	(.23)*	.21*	(.06)
Number of Children	.02	(.04)	.08	(.04)	.02	(.01)
Number of Grandchildren	.10	(.16)*	.05	(.07)	-.01	(.17)*
Living Arrangement	.15*	(.08)	-.06	(.16)*	.09	(.10)
Living with Married Children	.21*	(.01)	.04	(.02)	.37*	(.01)
Hours a day Sharing Activities with Children Living Together	.15	(-.04)	.23	(-.12)	-.80*	(-.03)
Hours a day Sharing Activities with Grandchildren Living Together	.42	(-.12)	.63	(-.13)	-.93*	(.10)

TABLE XXXVIII (Continued)

Characteristic	Modified LSIA		Modified PIL		Affect Balance	
Frequency of Personal Contact with Children Not Living Together	.01	(.10)	.07	(-.10)	-.16	(.17)*
Frequency of Personal Contact with Grandchildren Not Living Together	-.05	(.10)	.00	(-.10)	-.18*	(.19)*
Frequency of Contact by Telephone or Letter with Children	-.04	(.00)	-.03	(-.20)*	-.17	(.03)
Frequency of Contact by Telephone or Letter with Grandchildren	-.07	(.00)	-.03	(-.17)	-.23*	(.16)
Helped out by Children when Sick	.03	(-.08)	-.02	(.00)	-.02	(.00)
Given Advice by Children	-.14	(.10)	-.08	(.15)	-.20*	(-.06)
Offered Financial Assistance by Children	-.25*	(-.08)	-.08	(.00)	-.29*	(.00)
Feeling of Being Neglected by Children	-.07	(-.11)	-.18*	(-.13)	-.10	(-.20)*
Perceived Willingness of Making Sacrifices by Children	.07	(.10)	.26*	(.07)	.14	(.08)
Attitude Toward Residential Distance from Parents	.15	(.01)	.14	(.02)	.01	(.10)
Attitude Toward Financial Assistance Given to Parents	.12	(-.01)	.15	(.00)	-.08	(-.02)
Section C						
Attitude Toward Degree of Activeness	.16*	(-.08)	.21*	(-.03)	.19*	(-.13)
Comparative Degree of Activeness to Times Past	-.14*	(-.19)*	-.16*	(-.20)*	-.08	(-.33)*
Age Group Associated Most Frequently With	-.02	(.02)	.00	(.05)	-.11	(.20)*
Interaction Preference in Terms of Age Group	.00	(-.02)	-.11	(-.01)	.00	(.07)
Attitude Toward Old People as Measured by Semantic Differential Scale	.15*	(.00)	.07	(.14)*	.04	(-.01)

[1] Coefficients marked with an "*" are significant at the .05 level or better.

[2] Coefficients in parentheses are Taiwan Sample.

retirees, no resultant t values were significant (Table XXXIX). There was no significant difference between American male and female retirees with regard to meaningful existence. Insignificant Pearson correlation coefficients (r) in Section A, Table XXXVIII demonstrated that age at retirement was not related to any measure of meaningful existence. Nevertheless, higher age was significantly related to lower meaningful existence as shown by statistically significant correlation coefficients between age and the modified LSIA (-.17) and the ABS (-.16) in Section A, Table XXXVIII. The correlation coefficient between age and the modified PIL (-.13) was significant at the .08 level. However, when retirees below age 71, age 71-75, and over age 75 were compared, retirees aged 71-75 tended to have the highest meaningful existence as measured by the modified LSIA and by the ABS. As indicated in Table XL, this age group had the highest mean scores on the modified LSIA and on the ABS. The resultant t values, however, for the mean differences between retirees aged 71-75 and the other two age groups were not significant on the modified LSIA (t=.97) or on the ABS (t=1.79). To guard against the possibility that the relationship between age and meaningful existence was spurious, a partial correlation was calculated controlling for health. With the effect of health taken out, the relationship between age and meaningful existence became weaker. (The first-order partial correlation coefficients were -.13 between age and the modified LSIA, -.09 between age and the modified PIL, and -.11 between age and the ABS.) The level of the academic institution from which subjects retired was not related to any measure of meaningful existence (Section A, Table XXXVIII). Insignificant results of t tests in Table XLI showed that readiness

TABLE XXXIX

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN MALE AND FEMALE

Meaningful Existence	American Sample		Taiwan Sample	
	Male	Female	Male	Female
Modified LSIA (Item Average)				
Mean	2.72	2.67	2.26	2.35
SD	.25	.30	.46	.54
N	72	105	153	48
	df=175		df=199	
	t(two-tailed)=1.20		t(two-tailed)=-1.03	
	P > .05		P > .05	
Modified PIL (Item Average)				
Mean	4.42	4.40	3.91	3.81
SD	.46	.35	.50	.62
N	72	105	153	48
	df=175		df=199	
	t(two-tailed)=-1.24		t(two-tailed)=1.01	
	P > .05		P > .05	
Affect Balance (Item Average)				
Mean	8.90	8.63	7.27	7.35
SD	1.04	1.37	2.00	2.21
N	72	105	153	48
	df=175		df=199	
	t(two-tailed)=1.48		t(two-tailed)=-.22	
	P > .05		P > .05	

TABLE XL

DIFFERENCE IN MEANINGFUL EXISTENCE AMONG DIFFERENT AGE GROUPS

Meaningful Existence	American Sample			Taiwan Sample		
	Below Age 71	Age 71-75	Over Age 75	Below Age 71	Age 71-75	Over Age 75
Modified LSIA (Item Average)						
Mean	2.70	2.73	2.65	2.22	2.42	2.32
SD	.26	.27	.31	.51	.39	.47
N	79	36	62	110	43	49
		df=175			df=200	
		t(two-tailed)=.97			t(two-tailed)=2.36	
		P > .05			P < .05	
Modified PIL (Item Average)						
Mean	4.51	4.40	4.45	3.86	3.95	3.90
SD	.37	.47	.38	.55	.48	.54
N	79	36	62	110	43	49
		df=175			df=200	
		t(two-tailed)=-.93			t(two-tailed)=.93	
		P > .05			P > .05	
Affect Balance (Item Average)						
Mean	8.75	9.03	8.56	6.95	8.09	7.35
SD	1.28	1.00	1.32	2.21	1.60	1.82
N	79	36	62	110	43	49
		df=175			df=200	
		t(two-tailed)=1.79			t(two-tailed)=3.39	
		P > .05			P < .05	

In calculating t values, the age group below 71 was combined into the age group over 75.

to retire was not related to any measure of meaningful existence. Being presently employed was found to be significantly related to higher meaningful existence as measured by the modified PIL (t=-3.26, r=.22) as shown in Table XLII and in Section A, Table XXXVIII. Yet, no relationship was found between being employed and the modified LSIA and the ABS. Both items of health were significantly related to all three measures of meaningful existence. Reporting one's self to be in better health and believing one's health to be better than others were significantly related to higher meaningful existence as measured by the modified LSIA (r=-.25, r=-.21), the modified PIL (r=-.24, r=-.18) and the ABS (r=-.26, r=-.18) (see Section A, Table XXXVIII). Church activities, increased importance of religion, and a belief in life after death were not related to any measure of meaningful existence. This lack of relationship was shown by very low r's between the first two items and measures of meaningful existence in Section A, Table XXXIX, and by insignificant t-values for the mean differences in meaningful existence between those who believed in life after death and those who did not in Table XLIII. These results were in contrast with previous research findings. For example, Acuff, et al. (1968: 115), in their study of emeritus professors found a significant relationship between PIL and religiosity. While Corbett (1974: 100) in her study of residents in nursing homes did not find relationships between PIL and a belief in life after death, she did find PIL to relate significantly with church activity and with increased importance of religion.

TABLE XLI

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN RETIREES READY TO RETIRE AND RETIREES NOT READY AT THE TIME OF RETIREMENT

Meaningful Existence	American Sample		Taiwan Sample	
	Ready to Retire	Not Ready to Retire	Ready to Retire	Not Ready to Retire
Modified LSIA (Item Average)				
Mean	2.69	2.67	2.30	2.27
SD	.28	.27	.50	.42
N	126	51	146	52
	df=175		df=196	
	t(two-tailed)=.44		t(two-tailed)=.42	
	P > .05		P > .05	
Modified PIL (Item Average)				
Mean	4.49	4.42	3.87	3.94
SD	.36	.48	.56	.46
N	126	51	146	52
	df=175		df=196	
	t(two-tailed)=.93		t(two-tailed)=-.88	
	P > .05		P > .05	
Affect Balance (Item Average)				
Mean	8.75	8.70	7.27	7.33
SD	1.25	1.25	2.06	2.04
N	126	51	146	52
	df=.75		df=196	
	t(two-tailed)=.24		t(two-tailed)=-.18	
	P > .05		P > .05	

TABLE XLII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN THE FULLY RETIRED AND THE EMPLOYED RETIREES

Meaningful Existence	American Sample		Taiwan Sample	
	Fully Retired	Employed	Fully Retired	Employed
Modified LSIA				
Mean	2.68	2.74	2.18	2.38
SD	.29	.24	.52	.43
N	141	36	92	106
	df=175		df=196	
	t(two-tailed)=-1.27		t(two-tailed)=-.291	
	P > .05		P < .05	
Modified PIL				
Mean	4.43	4.63	3.76	4.00
SD	.41	.30	.59	.45
N	141	36	92	106
	df=175		df=196	
	t(two-tailed)=-3.26		t(two-tailed)=-3.16	
	P < .05		P < .05	
Affect Balance				
Mean	8.70	8.89	6.88	7.63
SD	1.27	1.14	2.22	1.85
N	141	36	92	106
	df=175		df=196	
	t(two-tailed)=-.86		t(two-tailed)=-2.55	
	P > .05		P < .05	

TABLE XLIII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN THOSE WHO BELIEVE IN LIFE AFTER DEATH AND THOSE WHO DO NOT

Meaningful Existence	American Sample		Taiwan Sample	
	Yes	No	Yes	No
Modified LSIA (Item Average)				
Mean	2.70	2.59	2.29	2.26
SD	.27	.33	.49	.52
N	157	13	85	91
	df=168 t(two-tailed)=1.13 P > .05		df=174 t(two-tailed)=.39 P > .05	
Modified PIL (Item Average)				
Mean	4.46	4.42	3.84	3.93
SD	.40	.40	.57	.54
N	157	13	85	91
	df=168 t(two-tailed)=.33 P > .05		df=174 t(two-tailed)=-1.07 P > .05	
Affect Balance (Item Average)				
Mean	8.76	8.77	7.20	7.25
SD	1.14	1.69	2.35	1.90
N	157	13	85	91
	df=168 t(two-tailed)=-.02 P > .05		df=174 t(two-tailed)=-.15 P > .05	

Familial Characteristics and Meaningful Existence

The Pearson correlation coefficients between familial characteristics and meaningful existence among the American sample are given in Section B, Table XXXVIII. Marital status was significantly related to meaningful existence as measured by the modified LSIA (r=.25) and the ABS (r=.21) but not by the modified PIL. Never being married and disrupted marriage (though widowhood, divorce or separation) were related to lower meaningful existence as measured by the modified LSIA and the ABS. Not living alone, an item significantly correlated with marital status (r=.83), was also found to be significantly related to higher modified LSIA (r=.15) but not to the modified PIL and ABS. While the number of children and grandchildren were not related to any measure of meaningful existence, living with married children was significantly correlated with lower modified LSIA (r=.21) and lower ABS (r=.37). Since living with married children was also related to poor health (r=-.25), to older age (r=-.21) and to more frequent financial assistance offered by children (r=-.28), all three of which were also related to a lower meaningful existence, it was suspected that the relationship found between living with married children and meaningful existence was spurious. (The Pearson correlation coefficients between financial assistance and the modified LSIA (r=-.25) and the ABS (r=-.29) were significant at the .05 level.) With the effects of health and financial assistance taken out one at a time, the first-order partial correlation coefficients between living with married children and the modified LSIA (.16 and .15), between living with married children and the ABS (.33 and .31) were all reduced in

magnitude. Insignificant first-order partial correlation showed a lack of relationship between living with married children and the modified LSIA without the effect of health or financial assistance. Even so, living with married children was still related to the ABS though to a lesser degree than when the effect of health or financial assistance were kept.

How is quantitative interaction with children and grandchildren related to meaningful existence? A previous study by Kutner (1956) reported that morale was higher among old people who saw their children seldom rather than often (at least once a week). Similarly, another study (Corbett, 1974: 100) also found that both family visits and communications with family were negatively related to PIL. This present study found that quantitative interaction with children and grandchildren living or not living with the subjects in the form of sharing activities together, personal contacts or contacts by phone or letter was not related to the modified LSIA nor to the modified PIL (see Section B, Table XXXVIII). However, quantitative interaction with children and grandchildren was related to the ABS although the directions of the relationships were not uniform. Fewer activities with both children ($r=-.80$) and grandchildren ($r=-.93$) living with the subjects were significantly related to higher meaningful existence as measured by the ABS. On the contrary, more frequent personal contacts ($r=-.18$) and contacts by phone or letter ($r=-.23$) with grandchildren not living with the subjects were significantly related to higher meaningful existence as measured by the ABS. In addition, higher ABS appeared to be related to more frequent personal contacts ($r=-.16$, $P=.08$) and contacts by phone or letter ($r=-.17$, $P=.06$) with

children not living with the subjects although neither relationship was statistically significant at the .05 level. In a general way, more family functional support from children seemed to relate to lower meaningful existence although some correlations were not statistically significant. Specifically, more frequent advice given by children was significantly related to lower ABS (r=-.20) as was more frequent financial assistance offered by children (r=-.29). Furthermore, more frequent financial assistance was also significantly related (r=-.25) to the modified LSIA. It might be that those retirees who experienced more family functional supports were older and less healthy and hence less self-sufficient retirees. Data did show a significant relationship between older age and more frequent help when sick (r=.21), advice on business and money matters (r=.49) and financial assistance (r=.43) from children. Higher family functional supports also seemed to be related to poor health although the relationship was significant between financial assistance from children and poor health (r=.24). The first-order partial correlation coefficients between financial assistance and the modified LSIA (r=-.20) and the ABS (r=-.24) while controlling for health remained statistically significant although reduced in magnitude. The first-order partial correlation between financial assistance and the modified LSIA (r=-.20) and the ABS (r=-.25) while controlling age followed a similar pattern. In a general way, those retirees among the sample who did not think that married children should either live with parents or that they are obligated to support parents financially scored higher on the modified LSIA and the modified PIL although none of the correlations were significant at the .05 level. The Pearson correlation coefficients

between the attitude toward residential distance from parents and the modified LSIA (.15) and the modified PIL (.14) were both significant at the .10 level. The Pearson correlation coefficient between the attitude toward financial assistance given to parents and the modified PIL (r=.15) was also significant at the .10 level. Both items concerning perceived quality of relationship with children were significantly related to meaningful existence as measured by the modified PIL. Both those who felt that they were neglected by their children (r=-.18) and those who felt that their children were less willing to make sacrifices for them (r=.26) also scored significantly lower on the modified PIL. These retirees also scored lower on the other two measures of meaningful existence, but none of these correlations were statistically significant at the .05 level.

Activity and Related Items in Relation to Meaningful Existence

Differences in meaningful existence between retirees with high activity level and retirees with low activity level for the American sample are presented in Table XLIV. Among the American sample, retirees with a high activity level had higher mean scores on the modified LSIA than the retirees with a low activity level across all activity types except active activity and total social activity, which had equal mean scores. The resultant t values were significant at the .05 level for mean differences in four activity types: total instrumental activity, activity providing income, activity serving public benefit and activity with acquaintances. American retirees with a high activity level in total instrumental activity (t=1.64), activity providing income (t=1.88), activity serving public benefit

TABLE XLIV

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN RETIREES WITH HIGH ACTIVITY LEVEL AND RETIREES WITH LOW ACTIVITY LEVEL
AMERICAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
High	2.69	.28	88	--	4.43	.43	88	--	8.81	1.06	88	--
Low	2.68	.28	86		4.50	.37	86		8.66	1.43	86	
Active Activity												
High	2.69	.27	77	--	4.42	.46	77	-1.58	8.87	1.06	77	--
Low	2.69	.29	95		4.52	.34	95		8.63	1.40	95	
Sedentary Activity												
High	2.69	.28	89	--	4.44	.41	89	--	8.78	1.18	89	--
Low	2.68	.28	82		4.51	.38	82		8.68	1.35	82	
Total Instrumental Activity												
High	2.72	.23	86	1.64*	4.56	.34	86	3.00*	8.92	1.02	86	1.89*
Low	2.65	.32	87		4.38	.44	87		8.56	1.44	87	
Activity Providing Income												
High	2.74	.23	50	1.88*	4.58	.34	50	2.59*	8.76	1.15	50	--
Low	2.66	.30	123		4.42	.42	123		8.73	1.30	123	
Activity Serving Public Benefit with no Income												
High	2.73	.23	83	1.85*	4.60	.33	83	4.27*	9.08	.87	83	3.39*
Low	2.65	.32	84		4.36	.39	84		8.44	1.48	84	

TABLE XLIV (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
High	2.69	.28	75	--	4.54	.35	75	1.79*	8.72	1.20	75	--
Low	2.69	.28	89		4.43	.43	89		8.83	1.31	89	
Activity with Family												
High	2.69	.27	78	--	4.52	.33	78	--	8.72	1.29	78	--
Low	2.68	.29	83		4.44	.46	83		8.83	1.24	83	
Activity with Friends												
High	2.70	.27	81	--	4.52	.40	81	--	8.95	.99	81	1.67*
Low	2.68	.29	81		4.44	.40	81		8.62	1.47	81	
Activity with Acquaintances												
High	2.74	.23	84	2.73*	4.54	.36	84	2.01*	8.95	.96	84	1.90*
Low	2.62	.31	75		4.41	.44	75		8.56	1.52	75	
Activity in Formal Settings												
High	2.70	.25	75	--	4.54	.36	75	1.96*	8.80	.99	75	--
Low	2.68	.31	94		4.42	.43	94		8.68	1.45	94	
Activity in Informal Settings												
High	2.70	.24	71	--	4.55	.31	71	2.12*	8.83	1.03	71	--
Low	2.69	.30	86		4.42	.45	86		8.65	1.44	86	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better. The reported t values without "*" marked are significant at the .10 level.

TABLE XLV

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN RETIREES WITH HIGH ACTIVITY LEVEL AND RETIREES WITH LOW ACTIVITY LEVEL
TAIWAN SAMPLE

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Activity												
High	2.37	.45	97		3.92	.48	97		7.48	2.16	97	
				2.59*				--				--
Low	2.20	.47	102		3.83	.54	102		7.11	1.93	102	
Active Activity												
High	2.36	.38	105		3.99	.43	105		7.56	2.06	105	
				2.75*				3.41*				1.87*
Low	2.18	.51	91		3.74	.57	91		7.01	2.02	91	
Sedentary Activity												
High	2.28	.42	98		3.89	.49	98		7.36	2.02	98	
				--				--				--
Low	2.29	.51	96		3.87	.54	96		7.24	2.07	96	
Total Instrumental Activity												
High	2.39	.43	102		4.00	.42	102		7.60	1.80	102	
				3.72*				3.48*				1.96*
Low	2.15	.47	96		3.75	.57	96		7.03	2.24	96	
Activity Providing Income												
High	2.34	.42	95		4.01	.46	95		7.58	1.91	95	
				2.43*				3.69*				1.87*
Low	2.18	.48	95		3.74	.54	95		7.02	2.18	95	
Activity Serving Public Benefit with no Income												
High	2.38	.44	85		4.00	.44	85		7.52	1.97	85	
				3.03*				2.93*				--
Low	2.18	.47	108		3.79	.55	108		7.09	2.09	108	

TABLE XLV (Continued)

Activity	Modified LSIA (Item Average) Mean	SD	N	t	Modified PIL (Item Average) Mean	SD	N	t	Affect Balance (Item Average) Mean	SD	N	t
Total Social Activity												
High	2.31	.47	95	--	3.89	.42	95	--	7.47	2.01	95	--
Low	2.24	.44	95		3.88	.59	95		7.16	2.13	95	
Activity with Family												
High	2.30	.48	94	--	3.90	.43	94	--	7.44	2.06	94	--
Low	2.24	.43	94		3.88	.59	94		7.20	2.10	94	
Activity with Friends												
High	2.34	.44	106	2.10*	3.90	.46	106	--	7.62	1.90	106	2.22*
Low	2.20	.46	83		3.87	.58	83		6.94	2.21	83	
Activity with Acquaintances												
High	2.28	.45	91	--	3.88	.46	91	--	7.52	1.89	91	--
Low	2.27	.46	97		3.91	.56	97		7.14	2.22	97	
Activity in Formal Settings												
High	2.34	.43	94	2.13*	3.97	.46	94	2.28*	7.41	2.04	94	--
Low	2.20	.43	80		3.79	.56	80		7.31	2.11	80	
Activity in Informal Settings												
High	2.32	.43	83	--	3.96	.45	83	--	7.22	2.10	83	--
Low	2.40	.69	27		3.98	.65	27		7.26	1.65	82	

Only t values significant at better than the .10 level (one-tailed) are reported here. The t values marked with "*" are significant at the .05 level or better. The reported t values without "*" marked are significant at the .10 level.

(t=1.85), and activity with acquaintances (t=2.73) had higher meaningful existence as measured by the modified LSIA than the American retirees with a low activity level.

On the modified PIL, retirees with a high activity level among the American sample had higher mean scores than those with a low activity level across all activity types except total activity, active, and sedentary activities, which had mean differences in the opposite direction. The resultant t values were significant at the .05 level for mean differences in the remaining seven activity types. American retirees with a high activity level had higher meaningful existence as measured by the modified PIL than American retirees with a low activity level in total instrumental activity (t=3.00), activity providing income (t=2.59), activity serving public benefit with no income (t=4.27), total social activity (t=1.79), activity with acquaintances (t=2.01), activity in formal settings (t=1.96) and in informal settings (t=2.12). For those three mean differences on the modified PIL in the opposite direction, none were statistically significant.

On the ABS, retirees with a high activity level among the American sample had higher mean scores than those with a low activity level across all activity types except total social activity and activity with family which had mean differences in the opposite direction. The resultant t values were significant at the .05 level for mean differences in the remaining four activity types. American retirees with a high activity level had higher meaningful existence as measured by the ABS than American retirees with a low activity level in total instrumental activity (t=1.89), activity serving public benefit with no income (t=3.39), activity with friends (t=1.67) and

activity with acquaintances (t=1.90).

In summary, 29 out of 36 mean differences across all three measures of meaningful existence and all activity types were in the direction favoring the high activity with high meaningful existence relationship. Among these 29 mean differences, 15 were significant at the .05 level. Five out of 36 mean differences across all three measures of meaningful existence, and all activity types were in the direction favoring the low activity with high meaningful existence relationship, and none of these five were significant at the .05 level. The B.P.D. of 29 out of 34 mean differences favoring high activity - or five out of 34 favoring low activity - was less than .0001. On the general level, the data from the American sample suggested that high activity is related to high meaningful existence and low activity to low meaningful existence. On the specific level, four activity types were salient across measures of meaningful existence. These were total instrumental activity, activity serving public benefit with no income, activity with acquaintances, and activity providing income. When these three measures of meaningful existence were compared, the modified PIL seemed to be more sensitive to the variation in activity level. This result was in agreement with Lewis' study (1972: 198) in which the original LSIA was compared with the original PIL.

Since a reference set serves a normative function and the old-age reference set is viewed as less activity oriented than the adult-age reference set, we should expect that the activity level is less important in relation to meaningful existence for the old-age identifiers than for the adult-age identifiers. As was found in the previous

chapter, among the old-age identifiers six out of 36 mean differences across three measures of meaningful existence and all activity types were significant at the .05 level and were in the direction favoring high activity with high meaningful existence (see Table XXI). In addition, among the old-age identifiers one mean difference was in the direction favoring low-activity and high-meaningful existence and was significant at the .05 level (see Table XXI). In comparison, among the adult-age identifiers eight out of 36 mean differences were significant at the .05 level and all of these eight mean differences were in the direction favoring high-activity and high-meaningful existence (see Table XXXI). This comparison seems to suggest that activity is less critical in relation to meaningful existence for the old-age identifiers than for the adult-age identifiers.

Since higher age was found to be significantly related to having an old-age reference set ($r=-.15$, $P=.05$), it might also be suspected that activity is less important in relation to meaningful existence for the old-old than for the young-old. The data did not substantiate this (see Table XLVI). Among the young-old, only one statistically significant and positive correlation and two significant and negative correlations existed between activity level in various activity spheres and all three measures of meaningful existence. These were correlations between total instrumental activity and the modified PIL ($r=.27$), between total activity and the modified PIL ($r=-.33$), between sedentary activity and the modified PIL ($r=-.23$). Among the old-old, three significant and positive correlations existed between activity level in various activity spheres and the three measures of meaningful existence. These were correlations between

TABLE XLVI

CORRELATION COEFFICIENTS BETWEEN ACTIVITY LEVEL AND MEASURES OF MEANINGFUL EXISTENCE AMONG THE YOUNG-OLD AS WELL AS THE OLD-OLD

Activity	Young-Old			Old-Old		
	Modified LSIA	Modified PIL	Affect Balance	Modified LSIA	Modified PIL	Affect Balance
Total Activity	-.05 (.25)*[1,2]	-.33* (.20)*	.01 (.18)	.05 (.12)	.03 (.08)	.15 (.14)
Active Activity	.01 (.28)*	-.19 (.23)*	-.01 (.20)*	-.06 (.19)*	-.09 (.16)	.13 (.19)
Sedentary Activity	-.04 (.02)	-.23* (.07)	.03 (.02)	.12 (.03)	.09 (-.01)	.12 (.07)
Total Instrumental Activity	.09 (.21)*	.27* (.15)	.07 (.17)	.05 (.10)	.03 (.28)*	.21*(-.01)
Activity Providing Income	-.03 (.20)*	.19 (.13)	.02 (.16)	.20 (.09)	.03 (.30)*	.05 (-.02)
Activity Serving Public Benefit with no Income	.16 (.20)*	.19 (.16)	.10 (.18)	-.06 (.14)	-.03 (.13)	.20 (.06)
Total Social Activity	-.08 (.18)	.04 (.16)	-.09 (.23)*	.08 (.06)	.05 (.11)	.04 (.10)
Activity with Family	-.02 (.13)	.04 (.09)	-.11 (.14)	.05 (.06)	-.12 (.16)	-.04 (.08)
Activity with Friends	-.08 (.16)	-.02 (.14)	.03 (.17)	.04 (.09)	.22*(-.03)	.10 (.17)
Activity with Acquaintances	.13 (.09)	.12 (.05)	.06 (.22)*	.24*(-.08)	.10 (-.06)	.14 (.02)
Activity in Formal Settings	-.02 (.21)*	-.01 (.00)	-.03 (.03)	.20 (.22)*	.14 (.22)*	.16 (.04)
Activity in Informal Settings	.04 (.08)	.12 (.02)	.04 (-.01)	.06 (.16)	.07 (.13)	.04 (.02)

[1]Coefficients marked with an "*" are significant at the .05 level or better.

[2]Coefficients in parentheses are Taiwan sample.

total instrumental activity and the ABS (r=.21), between activity with friends and the modified PIL (r=.22), and between activity with acquaintances and the modified LSIA (r=.24). Thus, the number of significant correlations among the old-old were greater than among the young-old.

The item concerning the attitude toward the degree of activeness was significantly related to all three measures of meaningful existence as given in Section C, Table XXXVIII. Retirees who thought they should be more active scored significantly lower on the modified LSIA (r=.16), the modified PIL (r=.21) and the ABS (r=.19). When retirees, who thought they should be either more or less active than they were, were compared with those who thought they should be as active as they were, the latter showed significantly higher meaningful existence as measured by the modified LSIA (t=-1.83), the modified PIL (t=-2.08), and the ABS (t=-2.24) (see Table XLVII). Another item related to activity is about the degree of present activeness compared to the past. Retirees who felt a decrease in activity had significantly lower modified LSIA (r=-.14) and lower modified PIL (r=-.16) (see Section C, Table XXXVIII). When retirees who felt a change of activity level in either direction were compared with those who did not feel any change, the former again showed significantly lower mean scores on the modified LSIA (t=-2.74) and on the modified PIL (t=-1.97) (see Table XLVIII). A relationship with meaningful existence was sought for two additional items - one concerning the age group with which the subjects most frequently associated and the other concerning interaction preference in terms of age group. Neither of these items was found to be related to any measure of meaningful existence.

TABLE XLVII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN THOSE WHO THINK THEY SHOULD BE EITHER MORE OR LESS ACTIVE AND THOSE WHO THINK THEY SHOULD BE AS ACTIVE AS THEY ARE

Meaningful Existence	American Sample		Taiwan Sample	
	Should be Either More or Less Active	Should be as Active as They Are	Should be Either More or Less Active	Should be as Active as They Are
Modified LSIA (Item Average)				
Mean	2.60	2.71	2.20	2.35
SD	.36	.24	.46	.46
N	42	134	97	103
	df=174		df=198	
	t(one-tailed)=-1.83		t(one-tailed)=-2.29	
	P < .05		P < .05	
Modified PIL (Item Average)				
Mean	4.36	4.50	3.77	3.98
SD	.37	.40	.42	.57
N	42	134	97	103
	df=174		df=198	
	t(one-tailed)=-2.08		t(one-tailed)=-2.96	
	P < .05		P < .05	
Affect Balance (Item Average)				
Mean	8.31	8.87	6.81	7.77
SD	1.47	1.15	2.26	1.72
N	42	134	97	103
	df=174		df=198	
	t(one-tailed)=-2.24		t(one-tailed)=-3.35	
	P < .05		P < .05	

TABLE XLVIII

DIFFERENCE IN MEANINGFUL EXISTENCE BETWEEN THOSE WHO ARE EITHER MORE OR LESS ACTIVE NOW AND THOSE WHO ARE AS ACTIVE AS BEFORE

Meaningful Existence	American Sample: More or Less Active Now	American Sample: As Active as Before	Taiwan Sample: More or Less Active Now	Taiwan Sample: As Active as Before
Modified LSIA (Item Average)				
Mean	2.66	2.77	2.24	2.38
SD	.30	.21	.53	.34
N	127	50	132	69
	df=175		df=199	
	t(two-tailed)=-2.74		t(two-tailed)=-2.26	
	P < .05		P < .05	
Modified PIL (Item Average)				
Mean	4.43	4.56	3.80	4.06
SD	.40	.39	.55	.45
N	127	50	132	69
	df=175		df=199	
	t(two-tailed)=-1.97		t(two-tailed)=-3.58	
	P < .05		P < .05	
Affect Balance (Item Average)				
Mean	8.64	8.98	6.84	8.16
SD	1.28	1.15	2.20	1.37
N	127	50	132	69
	df=175		df=199	
	t(two-tailed)=-1.70		t(two-tailed)=-5.20	
	P > .05		P < .05	

Relationships Between Exploratory Variables and Meaningful Existence Among Chinese Retirees

General Demographic Variables and Meaningful Existence

The Pearson correlation coefficients between general demographic variables and meaningful existence among the Taiwan sample are given in parentheses in Section A, Table XXXVIII. When mean scores on three measures of meaningful existence were compared between Chinese male retirees and female retirees, none of the resultant t values were significant (see Table XXXIX). There was no significant difference between Chinese male and female retirees with regard to meaningful existence. Although the correlation between the three measures of meaningful existence and age and age at retirement were all positive, these correlations were not statistically significant at the .05 level except for a positive relationship between age at retirement and the ABS (r=.14). Since old-age reference set was related to both higher age (r=-.41, P=.0001) and lower meaningful existence as measured by the modified LSIA (r=.13, P=.058), the modified PIL (r=.29, P=.0001), and the ABS (r=.10, P=.16), it was suspected that age reference set might be a suppressor between age and meaningful existence. With the effect of age reference set taken out, the first-order partial correlation coefficients between age and meaningful existence as measured by the modified LSIA (.08), the modified PIL (.16) and the ABS (.17) were all higher and two of them (age with the modified PIL and with the ABS) became significant at the .05 level. In this case, age reference set was a suppressor in the Taiwan sample. In order to find out whether age is related differently to meaningful existence

among different subgroups, the Pearson correlation coefficients were calculated for each subgroup. Among the old-age identifiers, the correlations between higher age and higher modified LSIA (r=.27) and between higher age and higher ABS (r=.26) became significant at the .05 level, while the correlation coefficient between higher age and higher modified PIL score (r=.09) was also increased in magnitude but not enough to be statistically significant. Among the adult-age identifiers, however, the correlations between higher age and higher modified LSIA (r=.02) and between higher age and higher ABS (r=.11) remained the same as among the total sample, while the correlation between higher age and higher modified PIL (r=.17, P=.086) was increased in magnitude but still not enough to be statistically significant at the .05 level. Similar results were also found among subgroups with different perceived health. More specifically, the correlation between higher age and higher modified LSIA (r=.58) and the ABS (r=.54) also became significant among the group with poor perceived health. However, with the effect of perceived health taken out, the first-order partial correlation coefficients between age and meaningful existence as measured by the modified LSIA (r=.03), the modified PIL (r=.03) and the ABS (r=.14) remained insignificant. In summary, higher age by itself seems to be a positive value in relation to meaningful existence particularly among the old-age identifiers and retirees with poor self-reported health among Chinese retirees. When retirees below age 71, age 71-75, and over age 75 were compared with regard to meaningful existence, results similar to the American sample emerged. Again, retirees in the age range from 71 to 75 had the highest mean scores on all three

measures of meaningful existence (see Table XL). The resultant t values for the mean differences between retirees aged 71-75 and the other two age groups combined were significant at the .05 level on the modified LSIA (t=2.36) and on the ABS (t=3.39) but not on the modified PIL. The level of academic institution from which subjects retired was not related to any measure of meaningful existence (Section A, Table XXXVIII). Insignificant t values in Table XLI showed that readiness to retire was not related to any measure of meaningful existence, but being presently employed was significantly related to higher meaningful existence in all three measures. As shown in Table XLII, fully-retired retirees had significantly lower mean scores than those presently employed on the modified LSIA (t=-2.91), the modified PIL (t=-3.16) and the ABS (T=-2.55). Consistent with this result, the correlation coefficients between present employment and the modified LSIA (.21), the modified PIL (.20) and the ABS (.15) were all significant at the .05 level (see Section A, Table XXXVIII). Both items of health were significantly related to all three measures of meaningful existence. Reporting one's self to be in better health and believing one's health to be better than others were significantly related to higher meaningful existence as measured by the modified LSIA (r=-.28, -.24), the modified PIL (r=-.27,-.24) and the ABS (r=-.40,-.35)(see Section A, Table XXXVIII). Frequent religious activities and increased importance of religion were not related to meaningful existence with the exception of a significant correlation between increased importance of religion and lower modified PIL (r=.15) (see Section A, Table XXXVIII). With the effect of total instrumental activity level controlled, the first-order

partial correlation (.13) between increased importance of religion and lower modified PIL reduced in magnitude. Insignificant t values in Table XLIII showed that belief in life after death was also not related to any measure of meaningful existence.

Familial Characteristics and Meaningful Existence

The Pearson correlation coefficients between familial characteristics and meaningful existence in the Taiwan sample are given in parentheses in Section B, Table XXXVIII.

Marital status was significantly related to two measures of meaningful existence - the modified LSIA (r=.15) and the modified PIL (r=.23) - but not related to the ABS although the direction of relationship was the same. Never married and disrupted marriage were associated with lower meaningful existence as measured by the modified LSIA and the modified PIL. Although number of children was not related to any measure of meaningful existence, more grandchildren was significantly related to higher modified LSIA (r=.16) and the ABS (r=.17). While living with married children was not related to any measure of meaningful existence, living with others was found to be significantly related to one measure of meaningful existence - higher modified PIL (r=.16). Like American retirees, living with married children was significantly related to more frequent financial assistance from children (r=-.32). Unlike American retirees, however, living with married children was also significantly related to more frequent help when sick (r=-.20) and to advice from children on money and business matters (r=-.22). In addition, in contrast to American retirees, living with married children was not related to higher age

(r=-.001) nor to poor self-reported health (r=-.04).

In general, items concerning the quantitative interaction with children and grandchildren were not very sensitive to measures of meaningful existence particularly the modified LSIA nor the modified PIL. Neither of the directions of relationships was uniform though predominantly negative. More specifically, quantitative interaction with children and with grandchildren living with retirees was not related to any measure of meaningful existence (see Section B, Table XXXVIII). Less frequent personal contacts with either children (r=.17) or grandchildren (r=.19) not living with retirees were significantly related to higher ABS. On the contrary, more frequent contacts with children by telephone or letter was significantly related to higher meaningful existence as measured by the modified PIL (r=-.20).

Family functional support from children in terms of help when sick, advice on money or business matters, and financial assistance were not related to any measure of meaningful existence. Furthermore, the attitudes toward residential distance from parents and financial assistance given to parents were not related to any measure of meaningful existence. Concerning the relation between meaningful existence and perceived qualitative relationship with children in terms of feeling neglected, perceived willingness of making sacrifices by children, only one correlation coefficient was significant at the .05 level. Feeling neglected by children was significantly related to lower meaningful existence as measured by the ABS (r=-.20).

Activity and Related Items in Relation to Meaningful Existence

Differences in meaningful existence between retirees with high

activity level and retirees with low activity level for the Taiwan sample are presented in Table XLV. In the Taiwan sample, retirees with a high activity level had higher mean scores on the modified LSIA than retirees with a low activity level across all activity types except sedentary activity and activity in informal settings which had mean differences in the opposite direction. The resultant t statistics yielded seven significant mean differences at the .05 level among these ten activity types. Between the two mean differences in the opposite direction, neither was statistically significant. Chinese retirees with a high activity level had significantly higher meaningful existence as measured by the modified LSIA than Chinese retirees with a low activity level in total activity (t=2.59), active activity (t=2.75), total instrumental activity (t=3.72), activity providing income (t=2.43), activity serving public benefit with no income (t=3.03), activity with friends (t=2.10), and activity in formal settings (t=2.13).

On the modified PIL, retirees with a high activity level in the Taiwan sample had higher mean scores than those with a low activity level across all activity types except activity with acquaintances and activity in informal settings, which had mean differences in the opposite direction. The resultant t statistics yielded five significant mean differences at the .05 level among these ten activity types. Neither of the two mean differences in the opposite direction was statistically significant. Chinese retirees with a high activity level had significantly higher meaningful existence as measured by the modified PIL than Chinese retirees with a low activity level in active activity (t=3.41), total instrumental activity (t=3.48), activity providing income (t=3.69), activity serving public benefit

with no income (t=2.93), and activity in formal settings (t=2.28).

On the ABS, retirees with a high activity level in the Taiwan sample had higher mean scores than those with a low activity level across all activity types except activity in informal settings with an insignificant mean difference in the opposite direction. The resultant t statistics yielded four significant mean differences at the .05 level. Chinese retirees with a high activity level had significantly higher meaningful existence as measured by the ABS than Chinese retirees with a low activity level in active activity (t=1.87), total instrumental activity (t=1.96), activity providing income (t=1.87), and activity with friends (t=2.22).

In summary, 31 out of 36 mean differences across all three measures of meaningful existence and all activity types were in the direction favoring the high activity with high meaningful existence. Among these 31 mean differences, 16 were significant at the .05 level. The remaining five out of 36 mean differences were in the direction favoring the low activity with high meaningful existence, and none of these five were significant at the .05 level. The B.P.D. of 31 out of 36 mean differences favoring high activity - or five out of 36 favoring low activity - was less than .0001. On the general level, the data from the Taiwan sample supported the relationship of high activity with high meaningful existence and low activity with low meaningful existence. On the specific level, six activity types were salient across the measures of meaningful existence. These were active activity, total instrumental activity, activity providing income, activity serving public benefit with no income, activity with friends, and activity in formal settings. Among the three measures of meaningful

existence, the modified LSIA seems to be most sensitive to variation in activity level for the Taiwan sample.

Is activity less salient in relation to meaningful existence for the old-age identifiers than for the adult-age identifiers among Chinese retirees? As was found in the previous chapter, among the old-age identifiers eight out of 36 mean differences across the measures of meaningful existence and all activity types were significant at the .05 level and were in the direction favoring high activity with high meaningful existence (see Table XXII). In comparison, among the adult-age identifiers 16 out of 36 mean differences were significant at the .05 level, and all of these 16 mean differences were in the direction favoring high activity and high-meaningful existence (see Table XXXII). This result seems to suggest that activity is less important in relation to meaningful existence for the old-age identifiers than for the adult-age identifiers among Chinese retirees.

It was also found that activity was less salient in relation to meaningful existence for the old-old than for the young-old among Chinese retirees. While 11 positive correlations between activity level in various spheres and three measures of meaningful existence were significant at the .05 level among the young-old, only five positive correlations were significant among the old-old. These 11 were correlations between the modified LSIA and total activity (r=.25), total instrumental activity (r=.21), active activity (r=.28), activity providing income (r=.20), activity serving public benefit (r=.20), and activity in formal settings (r=.21); between the modified PIL and total activity (r=.20) and activie activity (r=.23); and between the ABS and active activity (r=.20), total social activity

(r=.23), and activity with acquaintances (r=.22). The five correlations (among the old-old) were between the modified LSIA and active activity (r=.19) and activity in formal settings (r=.22); and between the modified PIL and total instrumental activity (r=.28), activity providing income (r=.30), and activity in formal settings (r=.22) (see Table XLVI).

The correlations between attitude toward degree of activeness and the three measures of meaningful existence were not statistically significant as shown in Section C, Table XXXVIII. However, when retirees who thought they should be either more active or less active were compared with those who thought they should be as active as they are now, the latter group showed significantly higher meaningful existence as measured by the modified LSIA (t=-2.29), the modified PIL (t=-2.96) and the ABS (t=-3.35) (see Table XLVII). This result seems to suggest a nonlinear relationship between the attitude toward degree of activeness and meaningful existence among Chinese retirees. Another item related to activity is the degree of present activeness compared to activeness in the past. A decrease in activeness was significantly related to lower meaningful existence as measured by the modified LSIA (r=-.19), the modified PIL (r=-.20) and the ABS (r=-.33) (see Section C, Table XXXVIII). When retirees who felt a change of activity level in either direction were compared with those without feeling any change, the former again showed significantly lower mean scores on the modified LSIA (t=-2.26), the modified PIL (t=-3.58) and the ABS (t=-5.20) (see Table XLVIII). While interaction preference in terms of age group was not related to any measure of meaningful existence, the age group associated most frequently with

was significantly related to one measure of meaningful existence - the ABS (r=.20) (see Section C, Table XXXVIII).

Correlates of Meaningful Existence and Its Relative Saliency

In this study, a few variables were found to be unrelated to any measure of meaningful existence among American as well as Chinese retirees. These items were sex, academic institution from which subjects retired, readiness to retire, belief in life after death, religious activity level, number of children, help from children when sick, attitude toward residential distance from parents, attitude toward financial assistance given to parents, interaction preference in terms of age group, sedentary activity, and activity with family. The remaining 35 items were found to be significantly related to at least one measure of meaningful existence in either or both cultures. A summary of these significant items including the model variables on the measures of meaningful existence is given in Table XLIX.

Are the correlates of meaningful existence similar between American and Chinese retirees? To answer this question the gross analysis and salient item analysis will be adopted here.

Gross Analysis

In the gross analysis, all three measures of meaningful existence will be considered to be of equal importance. Among American retirees, a total of 26 items were significantly related to at least one measure of meaningful existnece. Among Chinese retirees, a total of 24 items were significantly related to at least one measure. Out of 35

TABLE XLIX

SUMMARY OF SIGNIFICANT ITEMS ON MEASURES OF MEANINGFUL EXISTENCE[1]

Item	American Sample			Taiwan Sample		
	Modified LSIA	Modified PIL	Affect Balance	Modified LSIA	Modified PIL	Affect Balance
Age	X		X			
Age at Retirement						X
Present Employment		X		X	X	X
Self Report of Present Health	X	X	X	X	X	X
Self Report of Health Comparison	X	X	X	X	X	X
Comparative Importance of Religion to Times Past					X	
Marital Status	X		X	X	X	
Number of Grandchildren				X		X
Living Arrangement	X				X	
Living with Married Children	X		X			
Hours/Day Sharing Activities with Children Living Together			X			
Hours/Day Sharing Activities with Grandchildren Living Together			X			
Frequency of Personal Contact with Children Not Living Together						X
Frequency of Personal Contact with Grandchildren Not Living Together			X			X
Frequency of Contact by Telephone or Letter with Children					X	
Frequency of Contact by Telephone or Letter with Grandchildren			X			
Feeling of Being Neglected by Children		X				X
Perceived Willingness of Making Sacrifices by Children		X				

TABLE XLIX (Continued)

Item	American Sample			Taiwan Sample		
	Modified LSIA	Modified PIL	Affect Balance	Modified LSIA	Modified PIL	Affect Balance
Given Advice by Children			X			
Offered Financial Assistance by Children	X		X			
Attitude Toward Old People as Measured by Semantic Differential Scale	X				X	
Age Reference Set	X			X[2]	X	
Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)	X	X	X	X	X	X
Comparative Degree of Activeness to Times Past	X	X		X	X	X
Age Group Associated Most Frequently With						X
Total Activity				X		
Active Activity				X	X	X
Total Instrumental Activity	X	X	X	X	X	X
Activity Providing Income	X	X		X	X	X
Activity Serving Public Benefit with no Income	X	X	X	X	X	
Total Social Activity		X				
Activity with Friends			X	X		X
Activity with Acquaintances	X	X	X			
Activity in Formal Settings		X		X	X	
Activity in Informal Settings		X				

[1]With the exception of the item on frequency of personal contact with grandchildren not living together, the direction of relationship was the same between two samples on all items significant across both samples. Items marked with an "X" are significant for the measure indicated at the .05 level or better.

[2]Item significant on the correlation coefficient only.

significant items, 15 were significantly related to at least one measure of meaningful existence among both American and Chinese retirees or, in other words, shared by American and Chinese retirees. The B.P.D. of 15 out of 35 significant items shared by both American and Chinese retirees - or 20 out of 35 not shared - was .0921. From the gross analysis, the correlates of meaningful existence between two samples could not be considered as similar in a general way.

Salient Items Analysis

To be a salient item, the item must be significant in more than one test. There are six categories of salient items. There are those items salient across the modified LSIA, those salient across the modified PIL and those salient across the ABS. To be a salient item across a specific measure, the item must be significant among both American and Taiwan samples for the measure indicated. There are those items salient across all three measures of meaningful existence within each sample. To be a salient item across all three measures of meaningful existence for a specific sample, the item must be significant in at least two out of three possible tests for the sample indicated. Finally, there are also those items that are salient across three measures of meaningful existence and both samples. To be a salient item across three measures and across both samples, the item must be significant in at least two out of three possible tests in each sample. An index of relative salience was developed. This measure was simply a number indicating that the item was significant across a specified number of possibilities. Items salient across

three measures of meaningful existence within each sample are given in Table L. Items salient on the measure indicated across both samples are presented in Table LI. As indicated by Table L, there were 12 items salient across three measures of meaningful existence among the American sample and 14 items salient across three measures in the Taiwan sample. Eight items were salient across three measures of meaningful existence and across both samples. These eight items were: self-report of present health (6), self-report of health comparison (6), attitude toward degree of activeness (6), total instrumental activity (6), comparative degree of present to past activeness (5), activity providing income (5), activity serving public benefit with no income (5), and marital status (4). (Numbers in parentheses are the total number of salience.) It is evident that four items - self-report of present health, self-report of health comparison, attitude toward degree of activeness, and total instrumental activity - have achieved the maximum salience possible. In addition to these eight items, there were items salient only in one sample. Items salient only in the American sample were activity with acquaintances, age, living with married children, and financial assistance from children. In addition to those eight items salient across three measures and across both samples, items salient only in the Taiwan sample were active activity, activity with friends, activity in formal settings, present employment, age reference set and number of grandchildren. Are salient items similar in a general way between the two samples? The total number of 18 items salient across three measures of meaningful existence within each sample will be used as the base. The B.P.D. of 8 out of 18 salient items

TABLE L

ITEMS SALIENT ACROSS THREE MEASURES OF MEANINGFUL EXISTENCE WITHIN EACH SAMPLE SEPARATELY

American Sample	Index of Salience	Taiwan Sample	Index of Salience
Self Report of Present Health	3	Self Report of Present Health	3
Self Report of Health Comparison	3	Self Report of Health Comparison	3
Marital Status	2	Marital Status	2
Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)	3	Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)	3
Comparative Degree of Activeness to Times Past	2	Comparative Degree of Activeness to Times Past	3
Total Instrumental Activity	3	Total Instrumental Activity	3
Activity Providing Income	2	Activity Providing Income	3
Activity Serving Public Benefit with no Income	3	Activity Serving Public Benefit with no Income	2
Activity with Acquaintances	3	Active Activity	3
Age	2	Activity with Friends	2
Living with Married Children	2	Activity in Formal Settings	2
Offered Financial Assistance by Children	2	Present Employment	3
		Age Reference Set	2
		Number of Grandchildren	2

TABLE LI

ITEMS SALIENT ON THE MEASURE INDICATED ACROSS BOTH SAMPLES

Modified LSIA	Modified PIL	Affect Balance
Self Report of Present Health	Self Report of Present Health	Self Report of Present Health
Self Report of Health Comparison	Self Report of Health Comparison	Self Report of Health Comparison
Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)	Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)	Attitude Toward Degree of Activeness (Should be either more or less active vs. should not change)
Total Instrumental Activity	Total Instrumental Activity	Total Instrumental Activity
Comparative Degree of Activeness to Times Past	Comparative Degree of Activeness to Times Past	Total Activity with Friends
Activity Providing Income	Activity Providing Income	Frequency of Personal Contact with Grandchildren not Living Together
Activity Serving Public Benefit with no Income	Activity Serving Public Benefit with no Income	
Marital Status	Present Employment	
	Activity in Formal Settings	

shared by both samples - or 10 out of 18 salient items not shared - was .1663. From the result of salient items analysis, again both samples do not have in general similar salient items.

CHAPTER VIII

SUMMARY AND DISCUSSION

Purposes of the Study

In social gerontological literature, disengagement theory and activity theory have been the two dominant theories of successful aging. Research, however, has consistently implied that neither of these two theories is sufficient to explain successful aging. Yet many aging programs have been geared toward the activity model. The question concerning the relation between activity and meaningful existence of old people is thus a crucial one considering its implications for policy. In addition, these theories tend to be based on experiences in American society. Cross-national studies, which are relatively few, are particularly needed which focus on non-western societies.

This study was an attempt at presenting and at testing a formal theoretical model of aging in a cross-national context. Additional objectives include (1) describing the similarities and differences between the American sample and the Taiwan sample of retirees, (2) exploring some correlates of the meaningful existence of old people, and (3) studying measurement scales in a cross-national setting.

In the theoretical formulation, an effort was made to integrate

both activity and disengagement theories through a reference group perspective and to explain both cross-national and within cultural differences in aging among American and Chinese retired teachers. In an attempt to overcome some shared weaknesses of both activity and disengagement theories, the writer incorporated into the model such variables as culture (dominant cultural values and cultural meaning of old people) and individual perspectives which were viewed as filtered through the adoption of specific age reference sets. Such variables as social environment and personal resources were perceived primarily as influencing the behavioral aspect of old people (both the activity level and patterns). The fact of increasing physical decline accompanying the aging process was given recognition in the model. Individuals were conceptualized as both actors and reactors. Mankind was seen as motivated by a search for meaningful existence as theorized by Viktor Frankl. The major thesis was that the congruence between individuals' age reference set and activity level leads to high meaningful existence of old people in both societies. Activity level was viewed as having a differential effect on meaningful existence depending upon the age reference set adopted. With an adult-age reference set, which is engagement or activity oriented in both societies, high activity was thought to lead to high meaningful existence with low activity leading to low meaningful existence. Conversely, with an old-age reference set, low activity was thought to lead to high meaningful existence. Based on the general fact of increasing physical decline in old age, which tends to impose limitations on activity and possible experiences of relative deprivation, the adoption of an adult-age reference set was thought to become

increasingly dysfunctional for old people as an age group in defining meaningful existence. Four types of aging patterns and predictions of meaningful existence were derived from various combinations of age reference sets and activity levels (see page 42 for the diagram of predictions). The writer proposed that the model thus conceived may be applicable to both American and Chinese cultures.

When individuals move from a middle-age status to an old-age status in the life cycle, they may be forced into a behavioral transition from an engaged state to a disengaged state by restrictive social environments which accompany compulsive retirement and/or by a lack of personal resources without a corresponding transition in age reference sets. Such was thought to be the dominant case in American society where old people continue to use an adult-age reference set as a result of lack of cultural support for making an orientational transition. Thus the dominant aging pattern in America was predicted to be an adult-age reference set with high activity. The activity model of successful aging seemed to fit better in American society due to the dominant adoption of an adult-age reference set. Some autonomous old people in American society, however, may be able to make an orientational transition to an old-age reference set on an individual basis; and hence, they may retain high meaningful existence with low activity level. In contrast, Chinese culture, through its supportive nature, helps old people make a transition to an old-age reference set (defining old people as dependent, viewing this dependency as reciprocal for services rendered in the remote past, hence being a prerogative and according high status to them). The event of retirement in Taiwan may serve as a rite of passage which socially

validates dependency and disengagement for old people. Thus the dominant pattern in Taiwan was predicted to be an old-age reference set with low activity. The disengagement model seems to fit better in Taiwan, although some old Chinese may still identify with the adult-age group and act upon the dominant favorable cultural definition of old people.

Methods and Procedures

In order to test the model in two cultures separately, two samples were drawn. One consisted of retirees from the school system in Payne County of Oklahoma; the other included retired teachers in Taipei of Taiwan. Teachers retired from various levels of academic institutions were included to insure a greater diversity in the major independent variables of the study. For the American sample, all retirees listed in the 1975-1976 Yearbook of Payne County Retired Teachers Association were included in the sample. In Taiwan, since there is no retired teachers association as such and a random sample is not feasible because of the unavailability of a comprehensive name list and a lack of other adequate sampling frame, the sampling procedure for the Taiwan sample was rather unsystematic. Considering the great variation in school size, history and the number of retired teachers, the writer obtained name lists from major schools on each academic level. Then, every retired teacher on these lists was contacted until the data from approximately 200 respondents were collected. Included in the final Taiwan sample were 202 usable data from seven major universities and colleges, four major senior high

schools, four major junior high schools, and seven major primary schools in Taipei. Included in the final American sample were 177 usable responses. As the major purpose of this study was to test hypotheses derived from the model within each culture rather than to make descriptive statements, the purposive sample was considered to be adequate.

Out of practical considerations, data were collected by mailed questionnaire for the American sample and by personal interview for the Taiwan sample. The major data collection instrument was a questionnaire which contained activity indices, the age reference set scale, the modified PIL, the modified LSIA, the ABS, the Semantic Differential Scale, demographic data, and exploratory items. In addition to the Chinese version of the questionnaire, the data collection instrument for the Taiwan sample also included a form for each interviewer to fill out after each interview. This form was designed for providing a cross-check on the quality of data collected.

Data analysis was approached in three separate phases: (1) descriptive analysis, (2) evaluation of specific hypotheses, and (3) further explorations. The techniques of descriptive analysis included frequency, percentage, sample mean, proportion, range, and standard deviation; hypothesis evaluation used the t-test, the binomial population distribution (B.P.D.), two-way analysis of variance, the Chi-square test, and the test of proportions; further explorations were made by the Pearson product moment correlation method, the t-test, the B.P.D. and by the partial correlation method.

The study was to test hypotheses derived from the theoretical

model within each sample separately; cross-national comparisons were made primarily in terms of relationships among variables. But efforts were still made to maximize the comparability of data whenever feasible. However, the extent to which the observed differences between the samples on any attribute are accounted for by incomparability is virtually unknown in the present study. Hence, any interpretation of the differences between two samples concerning certain characteristics should be carefully guarded.

Summaries and Discussions of Results

Summary of Cross-national Validation of Measurement Scales Pertaining to Meaningful Existence

Meaningful existence was measured by the modified Life Satisfaction Index A (LSIA), the modified Purpose in Life Test (PIL) and the Affect Balance Scale (ABS) in the present study. The ABS was adopted in its original form. The LSIA and the PIL were adopted with modifications. Since the extensive usage of the LSIA and the PIL has been largely limited to American culture, the cross-national validity of these two scales is virtually unknown. An intuitive examination of these scales led the writer to question the cross-national validity of some items. Hence, this writer initially selected ten items from each scale which appeared to be neutral and general to both American and Chinese cultures. Indirect questions which require interpretation in the context of a given culture were avoided in this selection. In the modified LSIA scale, an alternative method of scoring was used. In the modified PIL, the original form and response categories were

also modified. These initially selected ten-item modified LSIA and ten-item modified PIL were subjected to item analysis techniques including the item with total score correlation method and factor analysis. The assessment of measurement scales was done on the American and Taiwan samples separately. Based on these initial item analysis, one item from the ten-item modified LSIA and three items from the ten-item modified PIL were deleted. Subsequent item analyses on the remaining items in both scales yielded satisfactory results. Hence, the nine-item modified LSIA and the seven-item modified PIL were used in data analysis. The ABS was also subjected to item analysis. It was found that item 3 and item 10 failed to meet the criteria of .30 loading or better on factor I consistently for both samples. Item 2 for the American sample only and item 5 for the Taiwan sample only failed to load at .30. Thus, while item 2 was a specific item salient to the Taiwan sample only, item 5 was a specific item salient to the American sample. Furthermore, upon varimax rotation, four underlying factors for the American sample and three underlying factors for the Taiwan sample appeared instead of two dimensions as intended by the scale designer. These results seemed to challenge the assumption that the ABS measures one general factor called psychological well-being comprised of two conceptual dimensions. Although the results of principal axis analysis on the ABS were quite comparable for two samples, the scale should be reassessed before adoption in future study.

Since all these three measures of meaningful existence were significantly intercorrelated with one another and the factor loadings on factor I were all far above the .30 criteria for both

samples, they seemed to measure one general concept. Varimax rotation of all factors produced differential results between two samples. For the American sample, while the modified PIL and the modified LSIA appeared to be relatively independent from each other, the ABS overlapped the other two measures. For the Taiwan sample, however, the principal axis analysis produced only one factor. This was interpreted to mean that the modified LSIA, the modified PIL, and the ABS did not constitute separate dimensions of one general concept. This result may suggest that one measure of meaningful existence was sufficient for the Taiwan sample.

The general impression obtained from the cross-national validation of measurement scales could be summarized as follows: (1) Surprisingly, the scales in the present study seemed to be more scalable for the Taiwan sample than for the American sample in general; (2) The Taiwan sample seemed to make less differentiation about concept than did the American sample as evidenced by the fact that either an equal number or fewer factors appeared upon rotation for the Taiwan sample.

Summary and Discussion of the Test of the Theoretical Model

Summary. Contrary to the hypothesis, there was no interaction between activity level and age reference set. Rather, higher activity level was found to be related to higher meaningful existence in general regardless of age reference set. That is, among both old-age identifiers and adult-age identifiers, retirees with a higher activity level tended to have higher meaningful existence. This held in both American and Chinese societies. When various dimensions of activity were examined in their relation to meaningful existence, four activity

types among American retirees and six activity types among Chinese retirees were found to be salient across the measures of meaningful existence. These four for the American sample were: total instrumental activity, activity serving public benefit with no income, activity providing income, and activity with acquaintances. And these six activity types in the Chinese sample were: active activity, total instrumental activity, activity providing income, activity serving public benefit with no income, activity with friends, and activity in formal settings. In other words, total instrumental activity, activity providing income and activity serving public benefit with no income were general items salient across measures of meaningful existence for both American and Chinese retirees. In addition, activity with acquaintances was salient for American retirees only while active activity, activity in formal settings and activity with friends were salient for Chinese retirees. Activity with family and sedentary activity were found to be unrelated to any measure of meaningful existence among either American or Chinese retirees.

Although activity level was not found to be differentially related to meaningful existence among old-age identifiers and adult-age identifiers, the results seemed to suggest that activity is less critical for old-age identifiers than for adult-age identifiers among both American and Chinese retirees. It was also found that activity was less salient in relation to meaningful existence for the older than for the less old among Chinese retirees although no such relationship was found among American retirees.

The relationship between age reference set and meaningful existence was found to be less consistent and clear cross-nationally.

As hypothesized for American retirees, old-age identifiers had a significantly higher meaningful existence as measured by the modified LSIA. However, there were no significant differences between American old-age identifiers and adult-age identifiers with regard to the meaningful existence as measured by the modified PIL and the ABS. With the effect of activity controlled, the relationship between age reference set and meaningful existence among American retirees followed similar patterns. While among American retirees with low activity level, there was no general difference in meaningful existence between old-age identifiers and adult-age identifiers, there seemed to be a slight difference among American retirees with high activity level. Among American retirees with high activity level, old-age identifiers seemed to have slightly higher meaningful existence in general. Nevertheless, inconsistent results were found among three measures of meaningful existence. Similar to the original relationship between age reference set and meaningful existence, old-age identifiers, again, seemed to have higher LSIA than adult-age identifiers regardless of activity level. For Chinese retirees, adult-age identifiers had significantly higher meaningful existence as measured by the modified LSIA and the modified PIL than old-age identifiers regardless of the activity level. This result was in the direction contrary to the hypothesis.

When adult-age identifiers with high activity level were compared with old-age identifiers with low activity level, the former group tended to have higher meaningful existence among both American and Chinese retirees. However, when adult-age identifiers with low activity level and old-age identifiers with high activity level were

compared with regard to meaningful existence, inconsistent results were found between American retirees and Chinese retirees. For American retirees old-age identifiers with high activity level tended to have higher meaningful existence in general than adult-age identifiers with low activity level. This result for American retirees was in the direction predicted. The opposite case was found for Chinese retirees.

Discussion of the Model Evaluation. The cross-national data suggested that the theoretical model only partially held. Some tentative explanations will be offered in this section.

As opposed to the original contention that the old-age reference set was positively related to meaningful existence, and that the adult-age reference set was negatively related, the age reference set seemed to produce a differential result cross-nationally. Among American retirees, the old-age reference set seemed to have a slightly positive effect on meaningful existence and the adult-age reference set a negative effect. In contrast, among Chinese retirees an old-age reference set seemed to be negatively related to meaningful existence and an adult-age reference set positively related - the opposite of the model expectation. At first, it was suspected that health and age may play a suppressing or distorting effect on the relationship between age reference set and meaningful existence. Data not reported in this study did not substantiate this argument. The next step was to examine the assumption underlying the contention that the old-age reference set was positively related to meaningful existence. At least, the empirical data did not substantiate the assumption that

old-age identifiers tend to have a more favorable attitude toward old people in general than do adult-age identifiers. Rather, there was no significant difference between these two in both samples. It should also be mentioned that there are some weaknesses in the measure of age reference set in this study: (1) it is not a very good measure for the American sample although it is a fairly good one for the Taiwan sample; (2) the scale, even carefully worded as such, may not in fact measure retiree's own behavioral orientation as intended by the writer; and (3) instead of assuming that whatever type of age-reference set was adopted by the retirees was always a positive one to them, their affective evaluation of this age reference set should be explored.

The original contention that activity level has a differential effect on meaningful existence depending upon the age reference set adopted was not upheld. Higher activity level was found to be related to higher meaningful existence among American retirees as well as among Chinese retirees. The type of age reference set seemed to affect, not the direction, but the strength of relationship between activity level and meaningful existence. Activity was less crucial for old-age identifiers than for adult-age identifiers. In view of previous research, the present results on the activity level in relation to meaningful existence are not at all surprising. Further discussion of the relationship between activity level and meaningful existence was given under the section of "Theoretical Implications of the Findings on Disengagement and Activity Theories."

The cross-national test results did not seem to bear out the major thesis of the model that congruence between the individuals' age reference sets and their activity levels leads to high meaningful

existence. Rather, it seemed that this congruence was unrelated to meaningful existence. In other words, there seemed to be no difference in meaningful existence when retirees with adult-age reference set and high activity level or retirees with old-age reference set and low activity level were compared with those with an adult-age reference set and low activity level or those with an old-age reference set and high activity level. Nevertheless, in both cultures, retirees who thought they should be as active as they were at the time this research was conducted showed higher meaningful existence as measured by the modified LSIA, the modified PIL, and the ABS than those who thought they should be either more or less active. Stated differently, congruence as subjectively perceived by the retirees themselves (activity level lives up to their expectation) may lead to higher meaningful existence. The result seemed to suggest that there was a discrepancy between the congruence objectively defined by the writer and the congruence subjectively perceived by retirees themselves. The findings also seemed to suggest that the major thesis of the model held only when congruence was defined subjectively by retirees. Provided this explanation is true, then it may also suggest that the way that retirees construct reality is more relevant to their meaningful existence than the actual objective reality. False assumption might also explain why the major thesis of the model did not hold. Implied in the objective definition of congruence between activity level and age reference set was the assumption that old-age identifiers tend to have a lower activity level than adult-age identifiers. The test results within the American sample did not substantiate this contention on a general level. However, this assumption was

substantiated by the data from the Taiwan sample. Thus, the result that the major thesis in the model did not hold in both cultures could not well be accounted for by false assumptions.

One last possible explanation for the unexpected results of the model testing is that the model itself may not be properly conceived. Actual diagrams of results can be induced from all test results on model evaluation (see Tables LII and LIII).

As shown in the two tables, higher activity was related to higher meaningful existence and lower activity was related to lower meaningful existence. Also, age reference set produced differential meaningful existence depending on culture. For American retirees, old-age reference set was positively related to meaningful existence and adult-age reference set negatively related. The converse held for Chinese retirees. In addition, activity level took precedence over age reference set for American retirees; but age reference set took precedence over activity level for Chinese retirees. That is, American retirees with an old-age reference set and a high activity level had the highest meaningful existence among the four groups. Next highest was the group with an adult-age reference set and a high activity level. The group of retirees with an adult-age reference set and a low activity level had the lowest meaningful existence among American retirees. For Chinese retirees, on the other hand, the group with an adult-age reference set and a high activity level had the highest meaningful existence. Next highest was the group with an adult-age reference set and a low activity level. The group with an old-age reference set and a low activity level had the lowest meaningful existence among Chinese retirees.

TABLE LII

DIAGRAM OF RESULTS ON AMERICAN RETIREES

	Age Reference Set	
	Adult-age (-)	Old-age (+)
Activity Level	Reference Set	Reference Set
High (+)	High Meaningful Existence	Highest Meaningful Existence
Low (-)	Lowest Meaningful Existence	Low Meaningful Existence

In this diagram, activity level takes precedence over age reference set among American retirees.

TABLE LIII

DIAGRAM OF RESULTS ON CHINESE RETIREES

	Age Reference Set	
	Adult-age (+)	Old-age (-)
Activity Level	Reference Set	Reference Set
High (+)	Highest Meaningful Existence	Low Meaningful Existence
Low (-)	High Meaningful Existence	Lowest Meaningful Existence

In this diagram, age references set takes precedence over activity level among Chinese retirees.

Assuming these findings to be correct, what would be the underlying rationale of a model which would generate such hypotheses? This writer speculates that, perhaps, modernization may be the underlying process. In a traditional society, it seems that old people assume functional roles because of the useful knowledge they provide. Further, in a traditional type of society, old people appear to be accorded high status; and hence, have a high meaningful existence. Since an old-age reference set is functional in a traditional society, it is positively related to meaningful existence. On the contrary, in a modernizing society, old people appear to be deprived of their functional role and appear to be accorded low status; they, therefore, have low meaningful existence. Since an old-age reference set is no longer functional in a modernizing type of society, it is, hence, negatively related to meaningful existence. Instead, an adult-age reference set is positively related to meaningful existence in a modernizing type of society. In the type of society beyond modernization or in a post industrialized society, again, old people may be viewed favorably, not because of the functional role they provide, but because of an increased leisure ethic. In such a society old people would have a high meaningful existence and would be accorded high status. Hence, an old-age reference set would be positively related to meaningful existence because of the new self awareness on the part of old people. If the above speculation is true, it may suggest that perhaps Taiwan is a modernizing society instead of a traditional society as originally conceived. Also, America is then, perhaps, post-industrialized or beyond modernization. If the above speculation holds, a study on a truly traditional society is suggested

to see whether the type of relationship speculated above between activity level and meaningful existence holds in such a society.

Summary and Discussion of the Test of Model Implications

Most predictions pertaining to American-Chinese comparisons were substantiated in this study. As expected, American retirees tended to assume the adult-age reference set; whereas, Chinese retirees tended to assume the old-age reference set. Also as predicted, American retirees tended to have a higher activity level in general than Chinese retirees. However, if we focus on different dimensions of activities, these two groups did not differ significantly in total instrumental or in total social activities. These results seem to suggest that American retirees, perhaps, spend more time on non-instrumental or solitary type of activities than do Chinese retirees. Although no significant difference between these two groups of retirees with regard to the total instrumental and total social activities was found, there were significant differences in opposite directions with regard to the sub-parts. In the sphere of instrumental activity, American retirees spent more time on activity serving public benefit with no income and less time on activity providing income than did Chinese retirees. This may be partly because more Chinese retirees than American retirees were found still to be employed at the time this study was conducted. It is interesting to note a significant difference in the major reason given for employment after retirement. For the Americans it was for keeping busy, but for the Chinese it was for income. In the sphere of social activity American retirees spent more time on activities with friends or acquaintances as compared with

Chinese retirees and less time on activities with family than Chinese retirees, although retirees in both groups did spend significantly more time with family than with either friends or acquaintances. This finding seems to suggest that Chinese retirees are more family oriented than American retirees.

Among those whose age reference set was incongruent with their activity level in an objective sense, there was no significant difference between American and Chinese retirees with regard to the dominant type of incongruence. However, a significant difference was found if the incongruence was defined in terms of retirees' own subjective perception. In the American sample a majority of those dissatisfied with their activity level thought they should be more active; whereas, a majority of those dissatisfied thought they should be less active in the Taiwan sample. The resultant Chi-square value was statistically significant at the .05 level. The prediction that American retirees tend to be reluctant disengagers and Chinese retirees tend to be reluctant engagers was confirmed by this subjective data. Just like the concept of congruence, there was also a discrepancy between incongruence objectively defined and incongruence subjectively perceived. Again, the disparity between activity level and age reference set may not be viewed as indicative of reluctance by the retirees themselves. Or the opposite might be true: a congruence might not demonstrate a willingness to engage.

As far as the dominant type of aging is concerned, there were significant differences between two groups. Nevertheless, the differences were not all in the direction predicted. Among Chinese retirees, the dominant aging pattern tended to be Type IV (old-age

reference set with low activity level) as predicted. The pattern was less uniform across all activity types among American retirees. If attention is focused on more general spheres of activities, the dominant aging pattern tended to be Type I (adult-age reference set with high activity level) in the direction predicted. If all activity types are treated equally, then Type I was the dominant one in half of the activity types (total activity, total instrumental activity, activity in both formal and informal settings, activity serving public benefit with no income and activity with friends), and Type III (adult-age reference set with low activity) was the dominant one in the other half of activity types (active activity, sedentary activity, activity providing income, total social activity, activity with family and with acquaintances).

Perhaps the most unexpected results of cross-national comparison concerned the retirees' own attitude toward old people and their meaningful existence. Directly opposite to the prediction, American retirees consistently showed significantly higher meaningful existence in every measure and significantly more favorable attitude toward old people than did Chinese retirees. What could be the possible explanations for this surprising result? Since Chinese retirees reported significantly poorer health than American retirees, it was suspected that "health" may have a distorting effect on meaningful existence. However, data (not reported in this study) indicated that American retirees still had considerably higher meaningful existence within each category of retirees with different degrees of self-reported health. Obviously, "health" should be ruled out as an explanation. With regard to meaningful existence, the unexpected cross-national

difference could be simply a result of prediction from an incorrect model. If the model is revised according to the diagrams of actual results, as spelled out in previous pages in this chapter, then a correct prediction could be derived that American retirees tend to have significantly higher meaningful existence than do Chinese retirees. Other plausible explanations for the unexpected cross-national differences in meaningful existence and in attitude toward old people could be sought outside the model. Perhaps, it could be partially accounted for by the modernization of a traditional Chinese society in Taiwan and a post-industrialization of the American society. Or maybe people in Taiwan are in a state of anomie resulting from the political setbacks of Nationalist Chinese. Or perhaps, the reported differences may be partially accounted for by a differential response bias. Maybe, American retirees tend to present self in a more favorable light than do Chinese retirees. It is also possible that American subjects may try to present themselves as being more active and having a more meaningful existence than is actually the case. Or Chinese retirees may focus their thought and attention less on self than on their continuing families with a consequent down-grading of old age. It would be of interest to compare Americans and Chinese with regard to the perception toward the old people among other age groups to see whether a pattern similar to this study holds. Whatever the real explanation might be, the old stereotype of honorable Chinese elders might be challenged in Taiwan.

Summary and Discussion of Correlates of Meaningful Existence

In this study, a few variables were found to be unrelated to any

measure of meaningful existence among American or among Chinese retirees. These items were sex, academic institution from which subjects retired, readiness to retire, belief in life after death, religious activity, number of children, help from children when sick, attitude toward residential distance from parents, attitude toward financial assistance given to parents, interaction preference in terms of age group, sedentary activity, and activity with family. The remaining items were found to be related to at least one measure of meaningful existence in either or both national groups. A summary of these significant items on the measures of meaningful existence was given in Table XLIX in Chapter VII. Among these correlates of meaningful existence, eight items were found to be positively related to higher meaningful existence in at least two measures for both national groups. These eight items were: better self-report of present health, better self-report of health comparison, satisfaction with the activity level, higher total instrumental activity level, higher level of activity providing income, higher level of activity serving public benefit with no income, no change in activity level, and being presently married. The first four items were related to all three measures of meaningful existence in both national groups. In addition to these eight items which were salient to both cultures, there were items salient only in one culture. Items salient only in the American group included higher level of activity with acquaintances, younger age, not living with married children, and receiving less financial assistance from children. Items salient only in the Taiwan group included higher level of active activity, higher level of activity with friends, higher level of activity in formal settings, present employment, adult-age reference

set and more grandchildren. Although both national groups shared some correlates of meaningful existence, the general pattern of correlates was dissimilar.

Certain other correlates of meaningful existence deserve special attention. These are age, living with married children, and familial functional supports. In both American and Taiwan groups, the age group 71-75 tended to have higher meaningful existence in general than either the age group below 71 or the age group over 75 although some of these relationships were not statistically significant. However, age was found to have differential effects on meaningful existence. For American retirees, higher age was related to lower meaningful existence in general. With the effect of perceived health taken out, the relationship between age and meaningful existence became weaker. This result seems to suggest that age is less important than health for American retirees. On the contrary, for the Taiwan sample higher age seemed to be positively correlated with higher meaningful existence although these correlations were not statistically significant at the .05 level. With the effect of age reference set taken out, the correlations between age and two measures (the modified PIL and the AES) of meaningful existence became statistically significant. This finding seems to suggest that higher age per se has a positive effect on meaningful existence for Chinese retirees. It was also found that this was particularly true among Chinese old-age identifiers and among Chinese retirees with poor self-reported present health.

Other contrasts with regard to correlates of meaningful existence were found in the familial characteristics. Among American retirees, those who lived with married children or received more family

functional support tended to have lower meaningful existence. Furthermore, living with married children and receiving financial assistance from children were found to be related to poor health among American retirees. Perhaps, American retirees live with their married children and receive financial assistance from children because of poor health. Since with the effect of health controlled, the relationship between meaningful existence and living with married children or between meaningful existence and familial functional support became weaker, these relationships could be explained partially by the variable of health. The loss of a sense of independence, a value greatly emphasized in American culture, might also account for or contribute to the lower meaningful existence for such retirees. In contrast, among Chinese retirees no relationship was found between meaningful existence and living with married children and family functional support. Neither was living with married children and receiving functional support related to poor health. Perhaps Chinese retirees choose to live with their married children because of cultural tradition.

Theoretical Implications of the Findings on Disengagement and Activity Theories

The results of this cross-national research may be interpreted as both supportive and non-supportive of either theory. The general tendency of disengagement in terms of self-reported decline of activity level as compared to middle age is confirmed by this cross-national data. Further, the basic assumption of disengagement theory, i.e. decline in physical capacity, etc., leading to death, also seems to be

supported. In both national groups, poor health was found to be significantly related to the activity level, particularly the instrumental activity. These cross-national findings appear to imply the basic postulate in disengagement theory; i.e. disengagement is an inevitable process. However, the predictions of the disengagement theory related to the consequence of the disengagement were not substantiated in this study. Contrary to disengagement theory, higher level of activity in general was found to be related to higher meaningful existence not only among American retirees but also among Chinese retirees as well. This general finding may be interpreted as supportive of the activity theory. In other words, the activity model of successful aging in terms of high meaningful existence seems to fit both societies. Perhaps the most surprising finding in this regard is that activity seems to be even more salient in defining meaningful existence for Chinese than for American retirees. The original contention that activity theory of successful aging fits better for American society and disengagement theory fits better for Chinese society is contradictory to the findings of this research. One possible explanation would be that the curvelinear relationship between activity level and meaningful existence in the American sample as suggested by data not included in this study lessened the strength of relationship when the variable of activity level is dichotomized as in this study.

Although the data from either the American or the Taiwan sample supported the relationship of high activity with high meaningful existence and low activity level with low meaningful existence in general, the activity theory of successful aging seems to be more

pertinent to the instrumental type of activities such as activity serving public beneift with no income and activity providing income, cross-nationally. Activity with family, sedentary activity and religious activity were found to be unrelated to any measure of meaningful existence in either sample. Perhaps activity is a component variable composed of several independent non-unitary parts. Thus, it would be more fruitful to limit the theory to certain specific type of activities rather than to overall activity. In addition, the relationship between activity and meaningful existence was found to become weaker for old-age identifiers among American retirees and among Chinese retirees as well. Activity appears to be less important for old-age identifiers than for adult-age identifiers with regard to meaningful existence. Since age reference set was found to be unrelated to activity level but related to activity types for American retirees, it would be of interest to examine and to compare the relationship between activity and meaningful existence among old-age identifiers and adult-age identifiers separately.

Finally, although this research offers a cross-national validation of activity theory based upon separate data from two different kinds of societies and with measures of meaningful existence largely free from the activity bias, the writer still wonders whether this relationship of high activity level with high meaningful existence or low activity level with low meaningful existence would hold in societies that are less modernized than these two societies.

BIBLIOGRAPHY

Acuff, F. Gene.
1967 Retirement, Meaning and Adjustment: The Emeritus Professor and Retired Clergy of a Southwestern State. Unpublished Ph.D. dissertation, University of Missouri.

Acuff, Gene and Benjamin Gorman.
1968 "Emeritus Professors: The Effect of Professional Activity and Religion on 'Meaning'." Sociological Quarterly 9: 112-116.

Acuff, Gene and Donald Allen.
1970 "Hiatus in 'Meaning': Disengagement for Retired Professors." Journal of Gerontology 25: 126-128.

Adams, David L.
1969 "Analysis of a Life Satisfaction Index." Journal of Gerontology, No. 4, 24: 470-474.

1971 "Correlates of Satisfaction Among the Elderly." The Gerontologist 11: 64-68.

Baizerman, Michael and David L. Ellison.
1971 "A Social Role Analysis of Senility." The Gerontologist 11 (2, part I): 163-169.

Bell, Bill D.
1974 "Cognitive Dissonance and the Life Satisfaction of Older Adults." Journal of Gerontology, 29, No. 5, 564-571.

Bendix, Reinhard and Seymour Martin Lipset.
1966 Class, Status, and Power: Social Stratification in Comparative Perspective (2nd ed.) New York: The Free Press, p. 324.

Bengtson, V. L. and B. C. Neugarten.
1966 Problems of Method in the Cross-National Study of Aging. Paper read at the 7th Int. Congr. Gerontology (Vienna).

Bengtson, Vern L.
1968 Cultural and Occupational Differences in Social Participation and Psychological Well-being: A Cross-National Study. Unpublished Ph.D. dissertation, University of Chicago.

Bengtson, V. L.
1973 The Social Psychology of Aging. New York: The Bobbs-Merrill Company, Inc.

Blau, Z. S.
1973 Old Age in a Changing Society. New York: New Viewpoints.

Brehm, R.
1962 "Sociology and Aging: Orientations and Research." The Gerontologist 8: 24-31.

Britton, Joseph.
1963 "Dimensions of Adjustment of Older Adults." Journal of Gerontology 18: 60-65.

Brown, Arnold S.
1974 "Satisfying Relationships for the Elderly and Their Patterns of Disengagement." Gerontologist, 14: 258-262.

Bull, C. N. and Aucoin, J. B.
1975 "Voluntary Association Participation and Life Satisfaction: A Replication Note." Journal of Gerontology 30: 73-76.

Bultena, Gordon L.
1969 "Life Continuity and Morale in Old Age." The Gerontologist 9 (4, part I): 251-253.

Burgess, Ernest W.
1960 Aging in Western Societieis. Chicago: University of Chicago Press.

Bynum, Jack Edward, Jr.
1972 An Exploration of Successful Retirement Adjustment: The Formulation of Hypotheses. Unpublished Ph.D. dissertation, Washington State University.

Cain, L. D., Jr.
1964 "Life Course and Social Structure." Pp. 272-309 in Robert Faris (ed.), Handbook of Modern Sociology. Chicago: Rand McNally & Company.

Carp, Frances M.
1968 "Some Components of Disengagement." Journal of Gerontology 23 (3): 382-386.

Cavan, Ruth, E. Burgess, R. Havighurst, and H. Goldhammer.
1949 Personal Adjustment in Old Age. Chicago: Science Research Associates.

Chen, Shao-hsing.
1966-
1967 "Taiwan as a Laboratory for the Study of Chinese Society and Culture." Pp. 1-8 in Shao-hsing Chen, Bernard Gallin and Arthur F. Raper (eds.), Four Articles on Population and Family Life in Taiwan. Michigan State University, Asian Studies Center.

Clark, M. Margaret and B. G. Anderson.
1967 Culture and Aging. Springfield: Charles C. Thomas.

Clark, Margaret.
1972 "Cultural Values and Dependency in Later Life." Pp. 263-274 in Donald Cowgill and Lowell Holmes (eds.), Aging and Modernization. New York: Appleton-Century-Crofts.

1973 "Contributions of Cultural Anthropology to the Study of the Aged." Pp. 78-88 in Laura Nader and T. W. Maretzki (eds.), Cultural Illness and Health, Anthropological Studies, David H. Maybury Lewis, No. 9.

Corbett, Sherry Lee.
1974 Social Structural Labeling and Self-Labeling of the Aged. Unpublished Ph.D. dissertation, Oklahoma State University.

Cowgill, Donald O.
1972 "A Theory of Aging in Cross-Cultural Perspective." Pp. 1-13 in Donald Cowgill and Lowell Holmes (eds.), Aging and Modernization. New York: Appleton-Century-Crofts.

Cowgill, Donald and Lowell Holmes.
1972 Aging and Modernization. New York: Appleton-Century-Crofts.

Crumbaugh, James C.
1968 "Cross-Validation of Purpose-in-Life Test Based on Frankl's Concepts." Journal of Individual Psychology 24 (May): 74-71.

1972 "Aging and Adjustment: the Applicability of Logotherapy and the Purpose-In-Life-Test." The Gerontologist 12 (Winter): 418-420.

Crumbaugh, James C., and Leonard T. Maholick.
1963 "The Case for Frankl's 'Will to Meaning'." Journal of Existential Psychiatry 4: 43-48.

1969 Manual of Instructions for the Purpose in Life Test. Brookport, Illinois: Psychometric Affiliates.

Cumming, Elaine.
1964 "New Thoughts on the Theory of Disengagement." In Robert Kastenbaum (ed.), New Thoughts on Old Age. New York: Springer.

Cumming, Elaine and William Henry.
1961 Growing Old. New York: Basic Books, Inc.

Cutler, Stephen J.
1973 "Voluntary Association Participation and Life Satisfaction: A Cautionary Research Note." Journal of Gerontology 28 (January): 96-100.

Dowd, J. J.
1975 "Aging as Exchange: A Preface to Theory." Journal of Gerontology 30: 584-594.

Dressler, David M.
1973 "Life Adjustment of Retired Couples." International Journal of Aging and Human Development, 4 (4), 335-350.

Edwards, John N. and David L. Klemmack.
1973 "Correlates of Life Satisfaction: A Re-examination." Journal of Gerontology, 28 (4), 497-502.

Ehrlich, I. F.
1972 "Life-Styles Among Persons 70 Years and Older in Age-Segregated Housing." The Gerontologist 12: 27-31.

Festinger, L. A.
1957 A Theory of Cognitive Dissonance. Evanston, Ill.: Row, Peterson.

Frankl, Viktor B.
1963 Man's Search for Meaning: An Introduction to Logotheraphy. New York: Washington Square Press.

Friedmann, Eugene A.
1967 "The Impact of Aging on the Social Structure." Pp. 120-144 in Clark Tibbitts (eds.), Handbook of Social Gerontology. Chicago: The University of Chicago Press.

Glenn and Grimes.
1968 "Aging, Voting, and Political Interest." American Sociological Review 33: 563-568.

Goldfarb, Alvin L.
1965 "Psychodynamics and the Three-Generation Family." In Shanas and Streib (eds.), Social Structure and the Family: Generational Relationships. Englewood Cliffs, N.J.: Prenctice Hall.

Gubrium, Jaber F.
1972 "Toward a Socio-Environmental Theory of Aging." Gerontologist, 12: (3, part I), 281-284.

Guptill, Carleton S.
1969 "A Measure of Age Identification." The Gerontologist 9 (2): 96-102.

Gurin, Gerald, J. Veroff, and Sheila Field.
1960 Americans View Their Mental Health: A Nationwide Interview Study. New York: Basic Books, Inc.

Halbgewachs, Nancy C.
1965 "The Impossibility of Predicting Behavior from Attitudes." Kansas Journal of Sociology. Pp. 31-36.

Havens, B. J.
1968 "An Investigation of Activity Patterns and Adjustment in An Aging Population." Gerontologist, 8: 201-206.

Havighurst, R. J.
1954 "Flexibility and the Social Roles of the Retired." American Journal of Sociology 59: 310.

Havighurst, Robert J.
1961 "The Nature and Values of Meaningful Free-Time Activity." Pp. 309-344 in Roberts Kleemeier (ed.), Aging and Leisure. New York: Oxford University Press.

1961 "Successful Aging." The Gerontologist, Vol. 1 (March): 8-13.

Havighurst, R. J., et al.
1969 Adjustment to Retirement: A Cross-National Study. Netherlands: Royal Van Gorcum Ltd., Assen.

Havighurst, R. J., B. L. Neugarten and S. S. Tobin.
1968 "Disengagement and Patterns of Aging." In Middle Age and Aging (eds.) B. L. Neugarten, Chicago: University of Chicago Press.

Henry, William.
1963 "The Theory of Intrinsic Disengagement." (A Paper presented at the International Gerontological Research Seminar, Markaryd, Sweden.)

Hochschild, Arlie Russell.
1975 "Disengagement Theory: A Critique and Proposal." American Sociological Review 40: 553-569.

Hyman, H.
1942 The Psychology of Status. Arch. Psychology 269.

Hyman, H. and E. Singer (eds.)
1968 Readings in Reference Group Theory and Research. New York: The Free Press.

Kaplan, Norman.
1955 "Reference Groups and Interest Group Theories of Voting." Pp. 461-472 in H. Hyman and Singer (eds.), Readings in Reference Group Theory and Research. New York: The Free Press.

Kelley, H. H.
1952 "Two Functions of Reference Groups." Pp. 77-83 in Hyman and Singer Readings in Reference Group Theory and Research.

Kluckholn, Florence and Fred Strodtbeck.
1961 Variations in Value Orientations. Evanston, Illinois: Row, Peterson and Company.

Koller, Marvin.
1968 Social Gerontology. New York: Random House.

Krech, David, et al.
1962 Individual in Society. New York: McGraw-Hill, p. 197.

Kuhn, M. H.
1964 "The Reference Group Reconsidered." Sociological Quarterly 5: 5-25.

Kutner, Bernard.
1969 "The Social Nature of Aging." The Gerontologist 2: 5-8.

Kutner, Bernard, et al.
1956 Five Hundred Over Sixty: A Community Survey on Aging. New York: Russell Sage Foundation.

Kuypers, J. A. and V. L. Bengtson.
1973 "Competence and Social Breakdown: A Social-Psychological View of Aging." Human Development 16 (2): 37-49.

Lemon, B. W., V. L. Bengtson, J. A. Peterson.
1972a "Activity Types and Life Satisfaction in a Retirement Community." Journal of Gerontology, 27, 4: 511-523.

1972b "An Exploration of the Activity Theory of Aging: Activity Types and Life Satisfaction Among In-movers to a Retirement Community." Journal of Gerontology 24 (October): 511-523.

Lewis, H. Charles.
1972 Meaning and Adjustment: A Study of Active Professionals, Professors and Clergy of a Southwestern State. Unpublished Ph.D. dissertation, Oklahoma State University.

Linton, R.
1942 "Age and Sex Categories." American Sociological Review 7: 589-603.

Lowenthal, Marjorie Fiske, and Deetje Boler.
1965 "Voluntary vs. Involuntary Social Withdrawal." Journal of Gerontology 20: 363-371.

Lowenthal, M. F., and C. Haven.
1968 "Interaction and Adaptation; Intimacy as a Critical Variable." American Sociological Review, 33: 20-30.

Maddox, George and Carl Eisdofer.
1962 "Some Correlates of Activity and Morale Among the Elderly." Social Forces 40 (March): 254-260.

Maddox, G. L.
1963 "Activity and Morale: A Logitudinal Study of Selected Elderly Subjects." Social Forces 42: 195-204.

Maddox, G. L., Jr.
1964 "Disengagement Theory: A Critical Evaluation." Gerontologist 4 (2), 80-82.

1965 "Fact and Artifact: Evidence Bearing on Disengagement Theory From the Duke Geriatrics Project." Human Development, 8: 117-130.

Maddox, George.
1970 "Themes and Issues in Sociological Theories of Human Aging." Human Development, 13: 17-27.

Martin, William C.
1973 "Activity and Disengagement: Life Satisfaction of In-Movers into a Retirement Community." Gerontologist, 13: (2), 224-227.

Moriwaki, Sharon Y.
1974 "The Affect Balance Scale: A Validity Study with Aged Samples." Journal of Gerontology 29, No. 1: 73-78.

Neugarten, Bernice L. and Vern L. Bengtson.
1968 "Cross-National Studies of Adulthood and Aging," in Ethel Shanas and J. Madge (eds.), Methodological Problems in Cross-National Studies in Aging. Interdisciplinary Topics in Gerontology, 2.

Neugarten, Bernice L., Robert Havighurst and S. S. Tobin.
1961 "The Measurement of Life Satisfaction." Journal of Gerontology 16 (January): 134-143.

Neugarten, Bernice L. (ed.)
1968 "Adult Personality: Toward a Psychology of the Life Cycle." Pp. 137-147 in Middle Age and Aging: A Reader in Social Psychology. Chicago: University of Chicago Press.

Newcomb, T.
1958 "Attitude Development as a Function of Reference Groups." Pp. 257-267 in Human and Singer (1968).

Peppers, Larry Gene.
1973 Leisure Activity and Adjustment to the Retirement Process. Unpublished Ph.D. dissertation, Oklahoma State University.

Phillips, B. S.
1957 "A Role Theory Approach to Adjustment in Old Age." American Sociological Review 22: 211-217.

Phillips, B.
1961 "Role Change, Subjective Age, and Adjustment: A Correlational Analysis." Journal of Gerontology, 16: 347-352.

Pihlblad, Terence and Robert McNamara.
1965 "Social Adjustment of Elderly People in Three Small Towns."

Pp. 49-73 in Arnold Rose and Warren Peterson (eds.), Older People and Their Social World. Philadelphia, Pennsylvania: F. A. Davis Company.

Pihlblad, C. T.
1975 Advance Report of Current Research Presented to Midwest Council for Social Research in Aging, presented at the University of Minnesota, in Minneapolis, September 19.

Reichard, Susan, F. Livson and P. Peterson.
1962 Aging and Personality. New York: John Wiley and Sons.

Reisman, David.
1954 "Some Clinical and Cultural Aspects of Aging." American Journal of Sociology 59: 379-383.

Roman, Paul and Philip Taietz.
1967 "Organizational Structure and Disengagement: The Emeritus Professor." The Gerontologist 7 (3, part I): 147-152.

Romeis, James, et al.
1971 "Reference Group Theory: A Synthesizing Concept for the Disengagement and Interactionist Theories." International Review of Sociology, 1: 66-70.

Rose, Arnold.
1962a Human Behavior and Social Process. Boston: Houghton Mifflin Company.

1962b "A Systematic Summary of Symbolic Interation Theory," in A. Rose, Human Behavior and Social Processes. Boston: Houghton Mifflin.

Rose, Arnold and Warren Peterson.
1965 Older People and Their Social World. Philadelphia, Pennsylvania: F. A. Davis Company.

Rose, Arnold.
1965 "A Current Issue in Social Gerontology." Pp. 359-366 in Arnold Rose and W. Peterson (eds.), Older People and Their Social World. Philadelphia: F. A. Davis.

Rosen, Bernard.
1955 "Conflicting Group Membership: A Study of Parent-Peer Cross-Pressures." Pp. 402-412 in Hyman and Singer (eds.), Readings in Reference Group Theory and Research. New York: The Free Press, 1968.

Rosencranz, Howard.
1966 "Role Perceptions of Significant Others by Older People." (Proceedings, Seventh Intergenerational Congress of Gerontology, Vienna).

Rosenmayr, Leopold and Eva Kockeis.
1963 "Propositions for a Sociological Theory of Aging and the Family." International Social Science Journal 15: 410-426.

Rosow, Irving.
1965 "Intergenerational Relationships: Problems and Proposals." In E. Shanas (ed.), Social Structure and the Family: Generational Relationships, Englewood Cliffs, N.J.: Prentice-Hall.

1967 Social Integration of the Aged. New York: The Free Press.

1973 Socialization to Old Age. Berkeley: University of California Press.

Secord, P. F. and C. W. Backman.
1961 "Personality Theory and the Problem of Stability and Change in Individual Behavior: An Interpersonal Approach." Psychological Review 68: 21-32.

Shanas, E.
1963 "Some Observations on Cross-National Surveys of Aging." The Gerontologist 3: 7-9.

1970 "What's New in Old Age." American Behavioral Scientist 14: 5-11, pt. 1.

Shanas, Ethel and J. Madge (eds.).
1968 "Methodological Problems in Cross-National Studies in Aging." Interdisciplinary Topics in Gerontology 2.

Shanas, Ethel, et al.
1968 Old People in Three Industrial Societies. New York: Atherton Press.

Shelton, A. J.
1969 Igbo Child-Rearing, Eldership, and Dependence: A Comparison of Two Cultures. Occasional Papers in Gerontology 6: 97-106.

Sherif, M. and C. Sherif.
1969 Social Psychology. New York: Harper and Row Publishers, Chapters 13, 18 and 19.

Sherman, S.
1974 "Leisure Activities in Retirement Housing." Journal of Gerontology 29: 325-335.

Sherwood, J.
1965 "Self-identity and Referent Others." Sociometry 28: 66-81.

Siegel, A. E. and S. Siegel.
1957 "Reference Groups, Membership Groups, and Attitude Change." Journal of Abnormal Social Psychology 55: 360-364.

Simmons, Leo W.
1960 "Aging in Preindustrial Socieites." Pp. 62-91 in Clark Tibbitts (eds.), Handbook of Social Gerontology. Chicago: The University of Chicago Press.

Simone de Beauvoir (transl.).
1972 The Coming of Age. New York: G. P. Putnam's Sons.

Spreitzer, Elmer and Eldon E. Snyder.
1974 "Correlates of Life Satisfaction Among the Aged." Journal of Gerontology, 29: (4), 454-458.

Tallmer, Margot and Bernard Kutner.
1969 "Disengagement and the Stresses of Aging." Journal of Gerontology, 24: (1), 70-75.

Tobin, Sheldon and Bernice Neugarten.
1961 "Life Satisfaction and Social Interaction in Aging." Journal of Gerontology 16: 344-346.

Van Gennep, Arnold.
1960 The Rites of Passage. Translated by Monika B. Vizedom and G. Caffee. The University of Chicago Press.

Warwick and Samuel Osherson (eds.)
1973 Comparative Research Methods. Englewood Cliffs, N.J.: Prentice-Hall, Inc.

Wood, Vivian, et al.
1969 "An Analysis of a Short Self-Reported Measure of Life Satisfaction: Correlation with Rater." Journal of Gerontology 24 (4): 465-474.

Youmans, E. G.
1968 "Studies of Family Disengagement Among Older Urban and Rural Women and Among Rural and Urban Men." Journal of Gerontology 22: 209-211.

1969 "Some Perspectives on Disengagement Theory." Gerontologist, 9: 254-258.

Zanden, James W. Vander.
1970 Sociology: A Systematic Approach. New York: The Ronald Press Company.

Zborowski, M. and L. D. Eyde.
1962 "Aging and Social Participation." Journal of Gerontology 17: 424-431.

Zusman, J.
1966 "Some Explanations of the Changing Appearance of Psychotic Patients: Antecedents of the Social Breakdown Syndrome Concept." The Millbank Memorial Fund Quarterly 64, 1, 2 (January).

APPENDIX A

SELECTED LETTERS OF COMMUNICATION WITH THE GOVERNMENT AUTHORITIES IN TAIWAN

OKLAHOMA STATE UNIVERSITY • STILLWATER

Department of Sociology
(405) 372-6211, Exts. 7020, 7021

74074

July 21, 1975

Dr. Yien-si Tsiang, Minister
Ministry of Education
Taipei, Taiwan

Dear Dr. Tsiang:

This is to introduce Mrs. Peter (Rosanna) Chang and her proposed research for the completion of her Ph.D. Degree in Sociology at Oklahoma State University. She was recently awarded a small grant from the Administration on Aging, Department of Health, Education, and Welfare, Washington, D.C. Her research involves a comparative study of retired teachers in Taipei and Stillwater.

She desperately needs the cooperation and endorsement of your office to complete the project. In her own separate letter, she describes in detail her needs. I am writing to verify her status with us, to affirm her total integrity, and to encourage your support. Rosanna has been an absolutely beautiful student, cooperative in every way, committed to the highest scholarship, and an excellent international ambassador of goodwill.

Your support would contribute immeasurably to the successful completion of her Ph.D. I do trust you will be able to grant her request.

Sincerely,

Gene Acuff
Professor and Head

GA·jf

Enclosures

教育部函

保存年限 / 檔號

速別

受文者：張康惠貞女士

發文日期：中華民國陸拾肆年拾月拾陸日

發文字號：台(64)人 27249

附件隨文

一、台端一九七五年九月八日來函敬悉。

二、茲檢附本部所屬各國立學校退休教師之綜合性統計資料乙份如附表至所需歷年退休教師姓名、地址、性別等項資料乙節，因限於退休人員退休後遷移頻繁，缺少聯絡等種種困難無法提供，敬請見諒。

教育部

64. 8. 20.000

台北市政府教育局（函）

保存年限
檔號

速別
密等

受文者 張蒙恩員女士

副本收文者 教育部
本局人事室、人副室

批示

擬辦

發文日期 字號 附件

一、台端一九七五年九月四日函敬悉。

二、本局副所提供本市各級學校退休教師之綜合統計資料，已够詳盡，至索取自五十六年至六十四年本市全部退休教師一〇〇九人姓名、地址、性別、退休年份及教育單位等項資料一節，因限於檔案困難，無法提供，敬請見諒。

局長 [illegible]

裝 訂 線

APPENDIX B

LETTERS TO RESPONDENTS AND THE ENGLISH VERSION OF THE QUESTIONNAIRE

October 7, 1975

Dear Payne County Retired Teacher,

You may be surprised to receive a letter from two of your long time retired associates. We want to introduce to you, by mail, Rosanna Chang, who is a Ph.D. candidate in the Department of Sociology at Oklahoma State University. At present, she is engaged in a research project to study retired teachers.

We have had the opportunity to meet with Mrs. Chang and she has what we think an interesting topic. As you know, for research to have the most value, a high percentage of responses is needed. We hope that you will be able to complete the questionnaire and return it to her in a fairly short period of time.

We believe this research will make a significant contribution and your cooperation will be most gratefully appreciated.

Sincerely yours,

Edward R. Stapley
Dean Emeritus
College of Engineering
Oklahoma State University

Virginia M. Stapley
Professor and Head Emeritus
Department of FRCD
Oklahoma State University

OKLAHOMA STATE UNIVERSITY · STILLWATER

Department of Sociology
(405) 372-6211, Exts. 7020, 7021

74074

October 7, 1975

Dear Payne County Retired Teacher:

Currently, I am engaged in a research project involving retired teachers. I am requesting your assistance in this endeavor. As you know, your response is essential to the success of this research.

To facilitate your response, nearly all questions are written in multiple choice form. The enclosed self-addressed and stamped envelope is for your convenience in returning your completed questionnaire. Needless to say, all your responses will be absolutely confidential.

Your cooperation will be most gratefully appreciated.

Sincerely yours,

Rosanna Chang

Rosanna H. Chang

台北市第三十二(山而)國際獅子會
Lions Club of Taipei
(32nd of Taipei)
DISTRICT 300, LIONS INTERNATIONAL
REPUBLIC OF CHINA
WE SERVE

台北市永康街七十巷五十號底樓
TEL. (02) 391-[redacted] 0939

敬啓者：本會爲擴大響應中華民國政府照顧退休公教人員生活的「長青計畫」，將透過國際合作，研究老人問題，茲委託台灣大學社會系畢業，刻在美國奧克拉荷馬大學攻讀社會學博士之蘇思貞女士，作專題研究，擬請貴校歷年退休教員名冊及詳細住址，以邀[illegible]人訪問，當面請教「退休教師生活狀況」諸問題，增進社會福利，助益人群，敬請惠賜支持合作爲禱！

此致

校長　　先生

台北市山而國際獅子會

理事長

民國六十五年二月十二日

台北市第三十二(而山)國際獅子會

Lions Club of Taipei

(32nd of Taipei)

DISTRICT 300, LIONS INTERNATIONAL
REPUBLIC OF CHINA

WE SERVE

台北市永康街七十巷五十號底樓
TEL. (02) 391—[redacted]0939

敬愛的老師們，您好！

本會為擴大服務範圍，本年度特別舉辦退休公務人員生活問

「長青學術」，希望經由研究老人問題，為老人謀福利，並為台灣

大學社會系[illegible][illegible]系社大政與[illegible]指何為大學攻讀碩[illegible]學士之參

[illegible]民多士，[illegible][illegible][illegible][illegible]「中美老人問題之比較」，由於

台端支持合作，懇予協助各自「退休公務人員生活狀況」調查問題，敬

邀聘大學同學、碩士班的同學若干人，分組專訪拜候，就教有關問

題，敬請

賜予指教，填妥問卷，俾作更多資料，正式作供俾服務之用。

專此奉懇，敬頌

[illegible]安！

台北而山國際獅子會 敬啟

民國六十[illegible]年[illegible]月 日

Liberty, Intelligence, Our Nation's Safety

INSTRUCTIONS:

PLEASE READ EACH ITEM THOROUGHLY AND ANSWER AS IT APPLIES TO YOU. WRITE IN ANY REMARKS YOU CARE TO MAKE AFTER ANY ITEM. PLEASE NOTE SPECIFIC INSTRUCTIONS AT THE END OF EACH ITEM AND ANSWER ALL THE ITEMS.

1. Sex
   _____ (1) Male
   _____ (2) Female

2. Age to nearest birthday. (write in)_____

3. What is your primary teaching and/or research field during most of your work history? (write in)_____

4. At what age did you formally retire from your profession? (write in)_____

5. What is the academic institution from which you formally retired? (check one)
   _____ (1) Primary school
   _____ (2) Junior high school
   _____ (3) Senior high school
   _____ (4) College

6. At the time you formally retired from your profession, which one of the following best represented your feeling? (check one)
   _____ (1) I would have preferred to continue my profession full time.
   _____ (2) I would have preferred to continue working outside my profession.
   _____ (3) I was ready to retire because of age.
   _____ (4) I was ready to retire because of health
   _____ (5) I was ready to retire for other personal reasons.
   _____ (6) Others (please specify)_____

7. Do you work at the present time? (check one)
   _____ (1) No, fully retired.
   _____ (2) Yes, part-time.
   _____ (3) Yes, full-time.
   If you work at the present time, please write in the type of job_____
   and the major reason for employment after formal retirement._____

8. Indicate your present most important source of income. (check one)
   _____ (1) Social security
   _____ (2) Retirement programs of my profession other than (1)
   _____ (3) Support from family
   _____ (4) Regular cash contribution from someone other than family
   _____ (5) Cash from financial investment (such as savings, rent, dividends,etc.)
   _____ (6) Employment
   _____ (7) Others (please specify)_____

9. In general, would you say that your present health is: (check one)
   _____ (1) Good
   _____ (2) Fair
   _____ (3) Poor

10. Would you say that your present health is better, about the same or worse than the health of other people your age? (check one)
    _____ (1) Better
    _____ (2) About the same
    _____ (3) Worse

11. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent on physically active activities which normally require considerable physical effort (such as tennis, hiking, jogging, gardening, and other similar kinds of activities)? _____hr./week

---

WE ARE INTERESTED IN THE WAY PEOPLE ARE FEELING THESE DAYS. LOOKING AT YOUR PRESENT LIFE SITUATION IN GENERAL, DO YOU FEEL:

		YES	NO
12.	Particularly excited or interested in something?	_____	_____
13.	So restless you could not sit long in a chair?	_____	_____
14.	Proud because someone complimented you on something you had done?	_____	_____
15.	Very lonely or remote from other people?	_____	_____
16.	Pleased about having accomplished something?	_____	_____
17.	Bored?	_____	_____
18.	On top of the world?	_____	_____
19.	Depressed or very unhappy?	_____	_____
20.	That things were going your way?	_____	_____
21.	Upset because someone criticized you?	_____	_____

---

22. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent on quiet activities, which normally require little physical effort (such as card games, checkers, reading, watching T.V., attending events, visiting people, and other similar kinds of activities)? _____hr./week

---

WE ARE ALSO INTERESTED IN THE WAY YOU THINK PEOPLE LIKE YOURSELF AT YOUR AGE SHOULD BEHAVE.

		AGREE	DISAGREE
23.	People like myself at my age should retire more from employment.	_____	_____
24.	People like myself at my age should stay physically active.	_____	_____
25.	People like myself at my age should have more rest.	_____	_____
26.	People like myself at my age should compete less with young people.	_____	_____

	AGREE	DISAGREE
27. People like myself at my age should stay looking young.	_____	_____
28. People like myself at my age should do the same things that young people do.	_____	_____
29. People like myself at my age should continue to be financially self supporting.	_____	_____
30. People like myself at my age should expect more assistance from others in daily life.	_____	_____

---

31. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent on activities with family, friends, or acquaintances? _____hr./week. Of these hours with other people, how many hours are spent with family (include relatives)?____hr./week, with friends other than family? _____hr./week, with acquaintances?____hr./week

---

HERE ARE SOME STATEMENTS ABOUT LIFE IN GENERAL THAT PEOPLE FEEL DIFFERENTLY ABOUT.

	AGREE	DISAGREE	?
32. I have gotten more of the breaks in life than most of the people I know.	_____	_____	_____
33. This is the dreariest time of my life.	_____	_____	_____
34. These are the best years of life.	_____	_____	_____
35. Most of the things I do are boring or monotonous.	_____	_____	_____
36. I expect some interesting and pleasant things to happen to me in the future.	_____	_____	_____
37. The things I do are as interesting to me as they ever were.	_____	_____	_____
38. As I look back on my life, I am fairly well satisfied.	_____	_____	_____
39. Compared to other people, I get down in the dumps too often.	_____	_____	_____
40. I have gotten pretty much what I expected out of life.	_____	_____	_____
41. As I grow older, things seem better than I thought they would be.	_____	_____	_____

---

42. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent on activities which provide personal income (such as part-time employment, self-employment, income from selling own art work and other similar kinds of activities)? _____hr./week

---

FOR EACH OF THE FOLLOWING STATEMENTS PUT A CHECK MARK IN THE SPACE THAT WOULD BE MOST NEARLY TRUE FOR YOU.

	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
43. I am usually completely bored.					
44. In life I have no goals or aims at all.					
45. My personal existence is very purposeful and meaningful.					
46. If I could choose, I would prefer never to have been born.					
47. In achieving life goals, I have progressed to complete fulfillment.					
48. My life is empty, filled only with despair.					
49. In thinking of my life, I often wonder why I exist.					
50. I am a very responsible person.					
51. With regard to death, I am prepared and unafraid.					
52. Facing my daily tasks is a source of pleasure and satisfaction.					

53. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent on activities which serve a public benefit but do not provide personal income (such as volunteer work, civic activities, professional activities and other similar kinds of activities)?_____ hr./week

54. Would you say that you should be: (check one)
_____ (1) More active
_____ (2) As active as I am
_____ (3) Less active

55. Would you say that you are generally more, about the same or less active than you were at age 40-50? (check one)
_____ (1) More
_____ (2) About the same
_____ (3) Less

56. Considering all the things that you do in a typical week of approximately 100 waking hours, how many of these 100 hours are spent with people in a formal setting such as church, club, organization or work setting?_____hr./week, with people in an informal setting?_____hr./week

57. In terms of persons(other than family and relatives) with whom you associate most frequently, are they mostly: (check one)
_____ (1) Older than I am
_____ (2) About my own age
_____ (3) Younger than I am

58. If it had been up to you alone, which of the following would you prefer to associate with: (check one)
_____ (1) People older than me
_____ (2) People about my own age
_____ (3) People younger than me

---

59. Marital status: (check one)
_____ (1) Never married
_____ (2) Married only once and spouse is living
_____ (3) Widowed
_____ (4) Divorced
_____ (5) Separated
_____ (6) Remarried

60. Number of living children (write in) _____ and grandchildren. (write in)_____

61. With whom are you living? (check one)
_____ (1) Live alone
_____ (2) Live with spouse only
_____ (3) Live with spouse, children and/or grandchildren
_____ (4) Live in a retirement home
_____ (5) Live with others than the above

62. Are you living with any of your married children? (check one)
_____ (0) I have no children or no married children
_____ (1) Yes
_____ (2) No

63. If you have children and/or grandchildren living with you, about how many hours a day do you share your activities with any of your children living with you? _____hr./day, with any of your grandchildren living with you? _____hr./day

64. Frequency of contact by personal visit with any of your children not living with you. (check one)
_____ (0) I have no children not living with me
_____ (1) Daily or more
_____ (2) Several times a week
_____ (3) Several times a month
_____ (4) Several times a year
_____ (5) Yearly or less
_____ (6) Never

65. Frequency of contact by personal visit with any of your grandchildren not living with you. (check one)
_____ (0) I have no grandchildren not living with me
_____ (1) Daily or more
_____ (2) Several times a week
_____ (3) Several times a month
_____ (4) Several times a year
_____ (5) Yearly or less
_____ (6) Never

66. Frequency of contact by phone or letter with any of your children not living with you. (check one)
_____ (0) I have no children not living with me
_____ (1) Daily or more
_____ (2) Several times a week
_____ (3) Several times a month
_____ (4) Several times a year
_____ (5) Yearly or less
_____ (6) Never

67. Frequency of contact by phone or letter with any of your grandchildren not living with you. (check one)
_____ (0) I have no grandchildren not living with me
_____ (1) Daily or more
_____ (2) Several times a week
_____ (3) Several times a month
_____ (4) Several times a year
_____ (5) Yearly or less
_____ (6) Never

68. Do you feel that you are generally neglected by your children? (check one)
_____ (0) I have no children
_____ (1) Not at all
_____ (2) A little
_____ (3) Moderately
_____ (4) Completely

69. How willing would you say that your children would be to make sacrifices for you?
_____ (0) I have no children
_____ (1) Not willing
_____ (2) Moderately willing
_____ (3) Completely willing

70. How often are you helped out by any of your children when you are sick?(check one)
_____ (0) Not applicable (no children or never such need)
_____ (1) Never
_____ (2) Sometimes
_____ (3) Usually
_____ (4) Always

71. How often are you given advice by any of your children on business or money matters? (check one)
_____ (0) Not applicable (no children or never such need)
_____ (1) Never
_____ (2) Sometimes
_____ (3) Usually
_____ (4) Always

72. How often are you offered financial assistance by any of your children?(check one)
_____ (0) Not applicable (no children or never such need)
_____ (1) Never
_____ (2) Sometimes
_____ (3) Usually
_____ (4) Always

73. Married children, when possible, should: (check one)
_____ (1) Live with their parents together
_____ (2) Live close to their parents
_____ (3) Live far away from their parents

74. Grown children should: (check one)
_____ (1) Support parents financially in any way
_____ (2) Support parents financially only when possible
_____ (3) Support parents financially only when such supports are needed
_____ (4) Not support parents financially in any way

75. Of the following items, which one causes you the greatest amount of concern?
_____ (1) Health
_____ (2) Finances
_____ (3) Children
_____ (4) Age and/or death
_____ (5) Being useful
_____ (6) Others (please specify)_____

76. How often do you attend or engage in religious activities (such as attending church, reading the Bible, silent prayer,etc.)? (check one)
_____ (1) Several times a day
_____ (2) About once a day
_____ (3) About once a week
_____ (4) About once a month
_____ (5) About once a year
_____ (6) Almost never or never

77. Do you believe in life after death? (check one)
_____ (1) Yes
_____ (2) No

78. Is religion more, about the same or less important to you now than at the time you were age 40-50? (check one)
_____ (1) More important
_____ (2) About the same
_____ (3) Less important

FOR EACH OF THE FOLLOWING STATEMENTS CIRCLE THE NUMBER THAT WOULD MOST NEARLY REPRESENT YOUR OWN ATTITUDE TOWARD OLD PEOPLE IN GENERAL. NOTE THAT THE NUMBERS EXTEND FROM ONE EXTREME DESCRIPTION TO ITS OPPOSITE KIND OF DESCRIPTION.

Old people in general are:

79.	Free to do things	1	2	3	4	5	6	7	Not free to do things
80.	Useless	1	2	3	4	5	6	7	Useful
81.	Look to future	1	2	3	4	5	6	7	Look to past
82.	Ineffective	1	2	3	4	5	6	7	Effective
83.	Satisfied with life	1	2	3	4	5	6	7	Dissatisfied with life
84.	Respected	1	2	3	4	5	6	7	Disregarded
85.	Busy	1	2	3	4	5	6	7	Inactive

PLEASE CHECK TO MAKE SURE THAT YOU ANSWERED ALL THE ITEMS. THANK YOU.

This number is for computer coding purposes only. It will not be used for any other purposes and your confidentiality will be maintained.

APPENDIX C

FACTOR ANALYSES TABLES

TABLE LIV

FACTOR ANALYSES OF MODIFIED LSIA VARIMAX ROTATION
OF ALL FACTORS WITH AMERICAN SAMPLE
(N=177)

Factor Item	I	II	III
2.	.62	-.31	
3.	.51	.35	
4.	.73		
6.	.74	.39	
1.		.50	
7.		.72	
9.		.69	
5.	.32		-.73
10.		.34	-.65

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LV

FACTOR ANALYSES OF MODIFIED LSIA VARIMAX ROTATION
OF ALL FACTORS WITH TAIWAN SAMPLE
(N=199)

Factor Item	I	II	III
1.	.68		
7.	.67		
9.	.79		
10.	.74		
2.	<u>.33</u>	.76	
4.		.83	
6.		.55	<u>.51</u>
3.			.69
5.			.74

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LVI

FACTOR ANALYSES OF MODIFIED PIL VARIMAX ROTATION
OF ALL FACTORS WITH AMERICAN SAMPLE
(N=177)

Factor Item	I	II	III
4.	.83		
6.	.79	<u>-.30</u>	
7.	.82		
1.		-.75	
2.		-.79	
3.	<u>.32</u>		.79
10.		<u>-.34</u>	.75

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

Since only one factor retained with Taiwan sample, no rotation was made.

TABLE LVII

FACTOR ANALYSES OF AFFECT BALANCE SCALE
PRINCIPAL AXIS ANALYSIS FACTOR I

Factor Item	American Sample N=177	Taiwan Sample N=201
1. Excited in something	.63	.62
2. So restless could not sit long	-.14	-.65
3. Proud being complimented	.26	.22
4. Very lonely	-.41	-.65
5. Pleased about accomplishment	.56	.26
6. Bored	-.50	-.64
7. On top of the world	.52	.60
8. Depressed	-.41	-.70
9. Things going your way	.63	.57
10. Upset being criticized	-.14	-.20
Percent of Variance Extracted by Factor I	21	30

Underscoring of an item indicates that the item fails to meet criteria of .30 loading or better.

TABLE LVIII

FACTOR ANALYSES OF AFFECT BALANCE VARIMAX ROTATION
OF ALL FACTORS WITH AMERICAN SAMPLE
(N=177)

Factor Item	I	II	III	IV
5.	.69			.30
7.	.63		-.36	
9.	.78			
4.		.74		
6.		.76		
8.		.69		
10.			.85	
1.	.33			.62
2.	.34	.30		-.53
3.				.64

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LIX

FACTOR ANALYSES OF AFFECT BALANCE VARIMAX ROTATION
OF ALL FACTORS WITH TAIWAN SAMPLE
(N=201)

Factor Item	I	II	III
2.	-.72		
4.	-.74		
6.	-.68		
8.	-.81		
1.	.40	.53	
5.		.65	.34
7.		.71	-.33
9.		.81	
3.			.70
10.			.57

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LX

FACTOR ANALYSES ON DIFFERENT MEASURES OF MEANINGFUL EXISTENCE
PRINCIPAL AXIS ANALYSIS FACTOR I

Measure	American Sample	Taiwan Sample
Modified LSIA	.67	.72
Modified PIL	.53	.61
PAS	.82	.77
NAS	-.48	-.77
Affect Balance	.94	.95
Percent of Variance Extracted by Factor I	50	60

PAS and NAS are subscales of the Affect Balance Scale.

TABLE LXI

FACTOR ANALYSES ON DIFFERENT MEASURES OF MEANINGFUL EXISTENCE
VARIMAX ROTATION OF ALL FACTORS
AMERICAN SAMPLE[1]

Measure	I	II
Modified LSIA Scale	.60	
Positive Affect (PAS)	.98	
Affect Balance Scale (ABS)	.89	.33
Modified PIL Scale		.69
Negative Affect (NAS)		-.86

[1]Since only one factor retained with Taiwan sample, no rotation was made.

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LXII

FACTOR ANALYSES OF AGE REFERENCE SET SCALE
PRINCIPAL AXIS ANALYSIS FACTOR I

Item	American Sample	Taiwan Sample
1. Should retire more from employment	.68	.50
2. Should stay physically active	.007	.40
3. Should have more rest	.69	.59
4. Should compete less with young people	.64	.03
5. Should stay looking young	.01	.63
6. Should so same things that young people do	.05	.57
7. Should continue to be financially self-supporting	.18	.45
8. Should expect more assistance	.37	.54
Percent of Variance Extracted by Factor I	19	25

Underscoring of an item indicates that the item fails to meet criteria of .30 loading or better.

TABLE LXIII

FACTOR ANALYSES OF AGE REFERENCE SET SCALE
VARIMAX ROTATION OF ALL FACTORS
AMERICAN SAMPLE

Factor Item	I	II	III	IV
1.	.68			
3.	.74			
4.	.66			<u>.37</u>
2.		.68		
7.		.80		
5.			.75	
8.			.67	
6.				.92

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LXIV

FACTOR ANALYSES OF AGE REFERENCE SET SCALE
VARIMAX ROTATION OF ALL FACTORS
TAIWAN SAMPLE

Factor Item	I	II	III
5.	.68		
6.	.74		
7.	.66		
3.		.82	
8.		.83	
1.		.31	.45
2.			.65
4.			.65

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LXV

CORRELATION MATRIX FOR THE INDICATORS OF ACTIVITY LEVEL

		1	2	3	4	5	6	7	8	9	10	11	12
Total Activity	1	--	.65(.71)	.81(.79)	.13(-.04)	-.11(-.01)	.22(.02)	.33(.30)	.19(.22)	.24(.23)	.24(.24)	.25(.07)	.42(.10)
Active Activity	2		--	.04(.06)	.27(.02)	.08(.01)	.26(.02)	.22(.25)	.14(.12)	.11(. 31)	.17(.26)	.12(.20)	.21(.13)
Sedentary Activity	3			--	-.02(-.08)	-.17(-.10)	.08(.02)	.23(. 20)	.14(.21)	.18(.03)	.20(.10)	.21(-.07)	.36(.01)
Total Instrumental Activity	4				--	.54(.96)	.82(.47)	.13(.08)	.05(.04)	.18(.08)	.14(.11)	.27(.64)	.31(.25)
Activity Providing Income	5					--	-.03(.23)	.08(.04)	.10(.01)	.01(.07)	-.01(.06)	.03(.64)	.01(.18)
Activity Serving Public Benefit with no Income	6						--	.10(.20)	-.02(.13)	.21(.12)	.17(.22)	.30(.12)	.36(.38)
Total Social Activity	7							--	.82(.88)	.50(.61)	.39(.43)	.13(.19)	.15(.27)
Activity with Family	8								--	-.01(.21)	.08(.11)	-.02(.09)	.04(.17)
Activity with Friends	9									--	.33(.38)	.39(.28)	.35(.31)
Activity with Acquaintances	10										--	.10(.10)	.12(.12)
Activity in Formal Settings	11											--	.54(.34)
Activity in Informal Settings	12												--

Correlation coefficients in parentheses are Taiwan sample.

TABLE LXVI

FACTOR ANALYSES OF THE INDICATORS OF ACTIVITY LEVEL
PRINCIPAL AXIS ANALYSIS FACTOR I

Item	American Sample	Taiwan Sample
1.	.75	.50
2.	.53	.48
3.	.55	.26
4.	.54	.56
5.	.10	.49
6.	.57	.45
7.	.61	.75
8.	.34	.53
9.	.57	.62
10.	.45	.50
11.	.55	.59
12.	.65	.52
Percent of Variance Extracted by Factor I	29	28

Item number corresponds with that in Table LXIII.

TABLE LXVII

FACTOR ANALYSES OF SEMANTIC DIFFERENTIAL VARIMAX ROTATION
OF ALL FACTORS WITH AMERICAN SAMPLE
(N=170)

Factor Item	I	II
1.	.70	
3.	.71	.36
5.	.86	
6.	.85	
7.	.83	
2.		.82
4.		.85

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

TABLE LXVIII

FACTOR ANALYSES OF SEMANTIC DIFFERENTIAL VARIMAX ROTATION
OF ALL FACTORS WITH TAIWAN SAMPLE
(N=174)

Factor Item	I	II
1.	.81	.36
3.	.78	
5.	.84	
6.	.86	
7.	.88	
2.		.87
4.		.86

Underscoring of an item indicates an item mathematically retained on a rotated factor but excluded from that factor by interpretation because of greater loading on another factor.

VITA[2]

ROSANNA HWEI-CHEN KUNG CHANG

Candidate for the Degree of

Doctor of Philosophy

Thesis: REFERENCE GROUP AND AGING: A CROSS-NATIONAL STUDY

Major Field: Sociology

Biographical:

Personal Data: Born in Hunan, China, November 20, 1943, the daughter of Mr. and Mrs. Quo-pen Kang.

Education: Received the Bachelor of Arts degree in Sociology from National Taiwan University in 1965; received Master of Science degree in Sociology from Brigham Young University in 1970; completed requirements for Doctor of Philosophy degree at Oklahoma State University in July, 1977.

Professional Experience: Graduate Teaching Assistant, Department of Sociology, Brigham Young University, 1967-1969; Authorized Campus Tutor, Social Statistics, Brigham Young University, 1967-1979; Graduate Teaching Associate, Department of Sociology, Oklahoma State University, 1972-1974 and Spring 1975; Research Associate, Department of Sociology, Oklahoma State University, Fall 1974 and 1975-1976.