

A SELF-EFFECTANCE VIEW OF EMOTIONAL  
ADJUSTMENT TO AGING

By

THOMAS GEORGE SMITH

Bachelor of Science  
University of Missouri, Rolla  
Rolla, Missouri  
1973

Master of Science  
Oklahoma State University  
Stillwater, Oklahoma  
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Thesis Approved:

*Larry T. Brun*  
\_\_\_\_\_  
Thesis Adviser

*P. L. Claypool*  
\_\_\_\_\_

*Robert A. Acland*  
\_\_\_\_\_

*William H. Rambo*  
\_\_\_\_\_

*Norman N. Durbin*  
\_\_\_\_\_  
Dean of the Graduate College

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## CHAPTER I

### THE RESEARCH PROBLEM

#### Introduction

Sound nutrition, hygienic living, and particularly, recent advances in medical science have been prime determinants in the prolongation of physical health beyond retirement age. Yet, old age continues to be regarded as a curse in our society (Butler, 1969; Comfort, 1976; Palmore & Manton, 1973). Many people feel that the loss of social prestige engendered by retirement coupled with factors such as declining mobility, death of friends and family, social isolation, and loneliness inevitably lead to severe decrements in one's self-worth and dignity. The resultant negative psychological consequences predicted from such a scenario include depression, hostility, anxiety, and other affective disturbances.

Both intuitively and to a limited extent empirically (Denes, 1976; Kogan & Wallach, 1961), the foregoing scenario has received some support. However, such negative consequences are not necessarily an inevitable outcome of the aging process. Indeed, much evidence is being accumulated which would indicate that old age can be an emotionally satisfying time of life with minimal physical and psychological impairment (Butler & Lewis, 1973; Palmore, 1970).

Recent studies indicate that chronological age, by itself, is a

poor discriminator among adults with respect to happiness, intelligence, and personality variables (Kogan & Shelton, 1962; Palmore & Luikart, 1972). Neugarten and her associates (Henley & Davis, 1972; Neugarten, 1968; Neugarten, Havighurst, & Tobin, 1961) report data which reveals fairly high levels of life satisfaction among elderly individuals. In addition, many of the early studies purporting to support the notion of an inevitable age-related decline in functioning have been seriously disputed along methodological lines as representing generational (cohort) differences rather than age differences (Baltes, 1968; Schaie, 1965; Schaie & Strother, 1968).

If, as current research trends indicate, the assumption of an inevitable decline in positive emotional responses with age is unjustified, then questions concerning the processes underlying this seemingly prolonged psychic health become of primary importance. What antecedent and correlative conditions discriminate between those individuals who successfully adjust to age-related changes and those individuals who experience emotional difficulties because of such changes? More importantly, one must also address the question of which of the varied theoretical personality conceptualizations might best provide a predictive underpinning for such results.

Unfortunately, little direct empirical or theoretical information is available regarding emotional development among the elderly. In their recent book, Schwartz and Peterson (1979) summarize our knowledge about the emotional well-being of the aged in the following words:

The appalling neglect of the mental health, so-called, of our society's aged has been so well documented and is now so widely acknowledged as to need little elaboration on that point here. . . . Much of what has been available in the scientific literature has described the use of drugs as a

major therapeutic intervention or has described what are very primitive, limited techniques (p. 266).

A variety of factors have contributed to this lack of knowledge concerning emotional adjustment among the elderly. One major influence has been the tendency of many theories to assume a bipolar growth-decline or expansion-contraction life-cycle theme (e.g., Buhler, 1935; Curtis, 1966; Erikson, 1963; Freud, 1963). Within these approaches, there are explicit or implicit postulates which presuppose decremental functioning with age. Such postulates obviate the necessity for studying emotional growth or development in the aged since it is assumed not to exist.

A second contributor to the lack of focus on emotional adjustment and aging has been the domination of the controversy between activity theory (Havighurst, 1961) and disengagement theory (Cumming & Henry, 1961). These two competing theories, which stress social determinants of successful adjustment, have met with a good deal of heuristic success. However, their success has tended to guide research in the direction of examining the social processes of aging rather than to personality issues.

Finally, the growth of gerontology as an interdisciplinary endeavor has also inadvertently contributed to a lack of information on the emotional development of the elderly individual. Since gerontologists come from a variety of academic backgrounds, measures associated with the study of successful aging have tended to be general or social in nature (e.g., life satisfaction, morale, happiness) and often developed specifically for aged populations. Such measures lack adequate normative data for cross-sectional comparison and represent,

at best, some combination of social, emotional, and cognitive functioning. It is thus difficult to relate these measures precisely with clinical concepts (e.g., anxiety, depression, hostility). This, in turn, limits the interpretability of results from studies which employ such measures.

One should not assume from the preceding discussion that no attempts have been made to apply established personality paradigms to the problems of adjusting to age-related changes. However, traditional personality perspectives stressing endogeneous determinants of emotional states and employing concepts such as intrapsychic conflict, symbolic loss, unresolved trauma, or over-reliance on defense mechanisms have met with little success when applied to emotional development among the elderly (Gordon, 1973; Schwartz, 1974). As Gordon (1973) aptly points out in her discussions of depression among the elderly:

The elderly must be treated differently and their depressions generally understood as reactions to real losses and stresses in their biological, psychological, and social aspects of life (p. 100).

Thus, among gerontologists, there has been a growing realization of and emphasis on the importance of exogeneous determinants in adjustment to aging. In old age, the adjustment crisis is seen as focused on the external environment. The elderly individual's primary concerns revolve around maintaining effectance in an environment where changing health and social status dramatically affect one's ability to fulfill personal needs. In other words, attitudes of competency, self-mastery, or effectance are centrally important in mediating the individual's perceptions of and interactions with the environment.

If the premise is adopted that the person-environment interaction is a pivotal component in the emotional adjustment process, then one is of course drawn to those personality perspectives which emphasize this interaction. Prominent among these theories is the social learning approach developed by Seligman (1973, 1975b) in his studies on depression. Seligman's learned helplessness paradigm posits that depression is caused by a cognition (belief) that one's outcomes are uncontrollable. In other words, perceptions of lack of self-efficacy or incompetency result in negative affective states. Such a view would appear to fit well into a gerontological framework focused on the exogenous determinants of emotional adjustment to aging. In fact, theoretical models analogous to Seligman's have begun to appear in the literature (Kuypers & Bengtson, 1973; Lawton, 1974; Schwartz, 1974).

The principal intent of the present study is to elucidate and extend a theory of social learning as a foundation for continued inquiry into the process of emotional adjustment to aging. The basic tenet of the model is that feelings or perceptions of self-efficacy, relative to one's environment, are key mediating factors in the adjustment process. These perceptions of self-efficacy are operationalized in terms of Rotter's (1966) locus of control orientation.

Preliminary support for the proposed relationship between locus of control and adjustment to aging is found in recent work by Wolk and Kurtz (1975). These researchers examined the relationship between level of involvement, locus of control, and self-reports of adjustment to aging. Results indicated that elderly individuals with higher levels of internal control tended to report more positive adjustment

and also maintained higher levels of involvement.

Kuypers (1972) also reports results indicating a positive relationship between internal locus of control and adjustment to aging. Internals were rated by clinical judges as displaying more coping behaviors (e.g., flexible, purposive, open) and less defensiveness than externals. In addition, intellectual assessments revealed greater cognitive complexity and higher levels of intellectual prowess for internal locus of control subjects. Some reservations should be noted relative to Kuypers (1972) results since they are presented as descriptive summaries of group characteristics with no inferential statistics accompanying the conclusions.

Finally, Hanes and Wild (1977) examined the relationship between locus of control and emotional responding. Their results revealed a significant positive correlation between depression and locus of control. This suggests that persons exhibiting greater internal control are likely to experience less depression than those individuals manifesting external control.

Not only does the present research project seek to relate Seligman's notions on depression to age-related adjustment, it also asserts that a social-learning approach may be extended to other affective states as well. Research on learned helplessness and affect by Gatchel, Paulus, and Maples (1975) provides indirect support for this proposition. Learned helplessness subjects pretreated with inescapable aversive tones had greater performance debilitation on an anagram task and also reported more hostility, anxiety, and depression relative to a control group pretreated with escapable tones. Hence, the present study will also investigate the linkage between locus of

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control and the attendant mood states of anxiety, hostility, confusion, vigor, and fatigue.

Along with the critique of the social-learning model, possible antecedent and correlative conditions of overall positive emotional adjustment to aging will also be examined. Selection of predictor variables draws heavily on the life satisfaction work of Neugarten, activity theory, disengagement theory, and life stress research initiated by Holmes and Rahe (1967), since research on emotions among the elderly is limited.

In synopsis, what is proffered in the present model is a view of emotional adjustment to aging which stresses the dynamic interaction of the person and environment. Within this framework, the individual is not simply a product of his or her past, or passively subject to the conditions of the present environment. Indeed, the person is viewed as an active coordinator or mediator of action with a basic need to perceive such action as causally important. If one holds a view of self-effectance, one will regard the world with hope, be attracted to moderate challenge, and respond with positive emotional adjustment to the aging process. If, on the other hand, the individual views the self as causally ineffective, feelings of self-doubt, dependence, and negative emotional states will ensue.

The emotional condition of the elderly person is not immutable. Conditions which engender changes in the individual's perceptions of self-effectance will in turn bring about changes in emotional adjustment. Thus, we can hold open the possibility that we as a society can significantly affect the emotional plight of our elderly through social intervention and physical environmental adjustments.

## Successful Adjustment to Aging

### Definitions and Measures

"Life satisfaction," "contentment," "morale," and "happiness" are all terms which have been employed to characterize an array of measures designed to assess the well-being of older persons. Generally, the aim of such measures has been to provide a definition of successful aging. Although seemingly diverse, these measures tend to fit into one of four basic definitional categories delineated by Havighurst (1961). The four definitions include:

- (1) A way of life that is socially desirable for this age group,
- (2) Maintenance of middle-age activity,
- (3) A feeling of satisfaction with one's present status and activities, and
- (4) A feeling of happiness and satisfaction with one's life (pp. 9-10).

In the early phases of research, Havighurst and Albrecht (1953) attempted to define successful aging, normatively, as a way of life regarded by society as appropriate for this age group. A social approval scale was developed based on public opinion surveys about the activities of older persons. From this viewpoint, successful aging depended on the extent to which one's behaviors matched what the public regarded as desirable for older people.

This type of measure has a number of obvious shortcomings. First, it assumes that society in general knows what is best for older people. For example, if the dominant myth abounds that older people should be submissive, uncomplaining, cheerful, and active in social organizations, these criteria become the definition for successful aging. Whether such criteria have any external validity, relative to adjustment, is unknown. Secondly, such a definition assumes public opinion is



invariable, whereas in fact society's opinions concerning the elderly are changeable (Achenbaum, 1978). Lastly, the views of the elderly themselves, although reflected in this definition, are not paramount.

Successful aging has alternatively been defined as the maintenance of the level and range of activities that characterize a person in the "prime" of his or her life. A measure which uses this definition is illustrated by Havighurst (1957) in the Kansas City Study. In this work, success was defined as competent behavior in the common social roles of work, spouse, homemaker, citizen, friend, association member, and church member. A set of rating scales was developed to assess a person's performance relative to societal norms for these roles. Another similar measure is a schedule entitled "Your Activities and Attitudes" (Cavin, Burgess, Havighurst, & Goldhamer, 1949) which sums up a person's participation in a variety of activities.

This second class of measures provides an index of what has been called "social competence" (Havighurst, 1957). It is heavily biased toward the view that the more active one is, the more adjusted one is. This view has been severely criticized (Kalish, 1975) as representing a form of ageism at its worst. Its emphasis on youthful activity is seen as fostering negative attitudes about and devaluation of the elderly and their societal contributions.

A third class of measures has defined successful aging as a condition in which a person feels satisfied with his or her finances, family, friends, work, clubs, and church activities. A widely used example of this type of measure is the "Chicago Attitude Inventory" (Cavin, Burgess, Havighurst, & Goldhamer, 1949; Havighurst, 1957). Unlike the previous class, this definition employs satisfaction with

one's activities rather than activity itself as one of its criteria. This definition presupposes that the elderly's feelings of success and adjustment are contingent upon their self-reports of satisfaction within a somewhat narrowly defined set of life events. Little evidence is available to lend validity to this supposition.

By far the largest class of measures are those that assume that a person who is successfully aging feels satisfied with his or her present and past life. In large part because of the disengagement theory - activity theory controversy, these measures are inclined to avoid any criteria which reflect on the individual's activity levels or engagement in social functions. Included in this group are the so-called "morale" scales (Kutner, Fanshel, Togo, & Langner, 1956; Lawton, 1972; Thompson, 1973) and "contentment" measures (Blenkner, Bloom, & Weber, 1964; Spreitzer & Snyder, 1974). The logic underlying these measures is that contentment or morale reflects cognitive dispositions from which adjustment behaviors evolve. Thus, it is assumed that scales tapping these attitudinal dimensions mirror life adjustment as well.

✓ Another measure representing this final definitional category is the "Life Satisfaction Index" (LSI) developed by Neugarten and her associates (Neugarten, Havighurst, & Tobin, 1961). Because of its close association with the activity theory - disengagement theory controversy, this instrument is likely the most widely employed measure of adjustment to aging. The LSI has a number of alternative forms which purport to measure a multidimensional conceptualization of adjustment which includes the following five components: (1) zest vs. apathy, (2) resolution and fortitude, (3) goodness of fit between

desired and achieved goals, (4) positive self-concept, and (5) mood tones. These components were derived intuitively by examining earlier measures of adjustment rather than factor analytically.

Subsequent factor analysis of the LSI (Form A) by Adams (1969) would seem to dispute the claim of multidimensionality. When limiting the number of factors to five, Adams found that the first factor accounted for 34% of the variance, while the next four factors accounted for 8%, 7%, 5%, and 4%, respectively. These values suggest that there is but one major factor associated with the LSI.

Overall, these established adjustment measures are rather rudimentary indices which utilize some combination of affect, attitude, and behavior. Few report any extensive validity or reliability data (Carp, 1969; Larson, 1978). Hence, it is difficult to interpret precisely what each is measuring. This ambiguity also creates problems in comparing results from different studies using different criterion measures and make clinical applicability of the findings all but impossible. Carp (1969) succinctly sums up the state of the art for measurement in research on older persons with the following synopsis:

In gerontological studies in the behavioral sciences, important criterion concepts tend to be imprecisely defined. This tendency allows for the possibility that different studies deal with different traits under the same name and with the same trait under different names. In addition, important gerontological criterion concepts tend to be global, which provides opportunity for elements to be variously included and weighted in criterion measures for different studies (p. 341).

### Gerontological Perspectives: Activity Versus

### Disengagement

Controversy over two competing theories of aging has molded the

development of social gerontology in the past 20 years. These two formulations, known as activity theory (Havighurst, 1961) and disengagement theory (Cumming & Henry, 1961), seek to identify patterns of responding to aging which result in successful adaptation. Both approaches focus on the social and behavioral components of the aging process rather than on personality dimensions.

Activity theory has its roots in the early writings of gerontologists (Cavin, Burgess, Havighurst, & Goldhamer, 1949; Havighurst & Albrecht, 1953), but was not recognized as a distinct theory until the development of the disengagement approach. Proponents of activity theory believe that those individuals who can remain active will more likely be socially integrated, achieve a positive self-concept, feel satisfied with life, and thus age successfully (Havighurst, 1961; Rose, 1964). Any activities or roles which the person is forced to give up due to retirement, age-associated decrements in functioning, or death of loved ones, should be replaced by new activities or new social relations with other people.

The point of view expounded by activity theory reflects traditional notions in Western societies regarding progress, industry, and achievement. One can see the ethic of rugged American individualism in the theory (Kuypers & Bengtson, 1973). Thus, it is not difficult to understand that the theory has great popular appeal and support among laymen as well as gerontological practitioners. However, research support for the theory is far less enthusiastic.

A number of studies (e.g., Lawton, 1972; Neugarten, 1968; Wylie, 1970) have demonstrated a positive relationship between general indices of social activity and various adjustment measures. Yet, results from

other works employing more specific measures such as contact with one's own children, visits from friends and neighbors, number of social contacts, and hours of social activity often fail to show this positive association (Edwards & Klemmack, 1973; Palmore & Luikart, 1972; Pihlbald & Adams, 1972). Reports of high morale or life satisfaction associated with inactivity or isolation (Gubrium, 1970; Messer, 1967; Tunstall, 1966) are also inconsistent with activity theory suppositions.

Another major shortcoming of the activity orientation is that it has remained more a set of assumptions about social-psychological processes in aging than an explicit testable theory. Lemon, Bengtson, and Peterson (1972) attempted to isolate and test what appeared to be two clear propositions of the activity theory approach. The first was that there is a positive relationship between social activity and life satisfaction in old age. The second proposition suggested that role loss (such as widowhood or retirement) was inversely related to life satisfaction. Results from a sample of older people moving into a retirement community did not support these propositions. Only social activity with friends was in any way related to life satisfaction. In short, this study raises more serious questions about the adequacy of activity theory.

A very different perspective is presented by the disengagement theory of aging (Cumming & Henry, 1961). Within this framework, the aging process is seen as a mutual and inevitable withdrawal of the aged from society and society from the elderly for the benefit of both. The individual is seen as gradually withdrawing socially as well as psychologically from his or her environment in order to reduce stress

and escape societal pressures. Society withdraws from the aging person which presumably allows younger, more competent individuals to assume functional roles which are necessary for the survival of the social system.

Cumming and Henry (1961) present data which indicate that there is a measurable decrease with age in the individual's psychological engagement with the environment. They interpret this lower level of involvement with the external world as being associated with higher levels of psychological well-being. It is this predicted association of disengagement and psychological well-being that has drawn the greatest criticism.

Although it is generally accepted that there is a decrease in social activity with age (Havighurst, Neugarten, & Tobin, 1968; Maddox, 1963) there is a great deal of disagreement with the propositions that disengagement is inevitable and that it relates positively to life satisfaction (Maddox, 1963; Palmore, 1968; Prasad, 1964; Tallmer & Kutner, 1970). Rose (1964) criticizes disengagement theory as being ethnocentric because it reflects the biases of industrialized societies, and Butler (1975) calls the whole idea a myth.

Not all studies exploring disengagement theory have been negative. Many have expressed conditional support and suggested modifications. Williams and Wirths (1965) have found that disengagement occurs at varying rates and in different aspects of behavior. It has been suggested that the increased social and physical stress that often accompanies aging produces disengagement rather than age per se (Tallmer & Kutner, 1970). Many questions still remain unanswered about this approach.

The controversy between activity theory and disengagement theory is far from being resolved. Despite negative results for both approaches, there is great reluctance to dismiss either. This is, in part, due to the historical importance and heuristic success each has contributed to the field of social gerontology. Also, the number of available alternatives is limited. Even suggestions aimed at resolving the controversy such as Gubrium's (1972) consistency model tend to incorporate the main themes of activity or disengagement rather than espousing radically new central positions.

### Personality Perspectives

The debate over state versus trait personality conceptualizations and questions regarding the continuity of personality across the life cycle continue to plague the field of psychology (Mischel, 1968, 1969; Neugarten, 1969). These issues along with the relatively late establishment of gerontology as a distinct field of study have contributed to a paucity of personality perspectives regarding successful aging.

With few exceptions, traditional personality approaches have tended to ignore late adult development or assume little change from earlier life stages. One major exception among analytic theorists was Jung (1933) who described stages of development in adulthood. In particular, he postulated increasing extroversion and the reorganization of personal value systems as people age.

A second exception is Erikson (1963, 1980) who delineated an eight-stage view of personality which spans the entire life cycle. Each stage revolves around a choice or crisis which must be addressed

for ego development. The last three stages, covering adult development, identify: (1) the ability to develop intimacy as crucial to early adulthood, (2) the crisis of generativity which deals with investing in the products of one's own creation and identification with the future as focal for middle adulthood, and (3) the crisis of ego integrity or view that one's life has been meaningful and the product of one's own making as critical to late adulthood.

For the most part, the formulations of these two theorists have stemmed from clinical observation and although they represent a useful analytic tool, they have not led to a great deal of systematic research on aging. This may be due primarily to the fact that these approaches have not focused on the processes of personality or the events that produce change, but have instead described tasks for the ego, changing value systems, or the characteristics of adjusted personalities. Without more delineation of processes and operational definitions of concepts, it has been difficult for other investigators to follow up or extend these views.

Contemporary personality perspectives also tend to be more typological than process-oriented. A study by Havighurst, Neugarten, and Tobin (1968) outlines four personality types found among older adults: namely, integrated, defended, passive, and unintegrated. The integrated personality occurs in individuals who are mature, happy, and accepting of their roles in life. This group is comprised of both reorganizers who maintain active lives, substituting new activities for lost ones, and of disengagers who are content to move away from activity and role commitments. A second personality type, called defended, seeks to block out the realities of aging either by trying to



hold on to the roles of middle age or by viewing the world as deteriorating and ruminating over their losses. The passive types need a great deal of help because they are apathetic, unhappy, and strongly dependent. The final type is composed of unintegrated personalities who exhibit disorganized behavior patterns and suffer more severe psychological impairments.

Similar typologies have also been offered by other researchers. Reichard, Livson, and Peterson (1962) identify the following five personality types: (1) mature or well-integrated, (2) rocking chair or passive-dependent, (3) armored, (4) angry, and (5) self-haters. Lowenthal (1971) considers personality to be either constricted or expansive. The constricted person is ready to face losses but not gains while the expansive type is just the opposite. As is obvious, all these typologies do little to aid in the prediction of successful aging.

A somewhat more process-oriented approach has been proposed by Neugarten (1968). Based upon early studies of personality continuity, she concludes that although intra-psychic processes seem to change as a function of age, basic adaptational patterns show little variation. Hence, she postulates that a person's general adjustment to aging can be predicted around age 50. This approach is consistent with the majority of traditional personality perspectives which relate adult development to the growth and adjustment patterns of former years. Past success is seen as the best predictor of future success.

Finally, Thomae (1970) has advanced a cognitive theory of aging which emphasizes the elderly's perceptions of their world. This point of view asserts that perceptions of change, rather than actual change,

influence behavior and that this change is perceived as a function of the dominant concerns or expectations of the individual. Consequently, adjustment to aging depends upon the balance between cognitive and motivational factors which allow the elderly person to adequately perceive age-related changes and make appropriate, adaptive responses to such changes.

The foregoing discussions are not meant to be an exhaustive itemization of all personality conceptualizations which have contributed to the thinking about old-age adjustment. Rather, it has sought to concentrate on those approaches whose major focus has been on the aging process. Other theorists have made significant contributions which have been iterated elsewhere (e.g., Birren, 1959; Neugarten, 1968; Schaie, 1979).

#### Person-Environmental Perspectives

Combining personality and sociological theory are those approaches which are here labeled as person-environmental perspectives. These views draw, both explicitly and implicitly, on the tenets of various theoretical paradigms including psychological social learning theories, sociological symbolic interactionism, theories of socialization, and on applied research in environmental design. All underscore the interaction between and mutual influences of the person and his or her social environment.

Most notable among these perspectives is the social reconstruction syndrome developed by Kuypers and Bengtson (1973). Borrowing from labeling theory and Zusman's (1966) social breakdown syndrome, these authors outline a cyclical model whereby the person's social

environment can interact with self-concept to produce a vicious spiral of negative psychological consequences. The four steps comprising this breakdown cycle are: (1) a precondition of susceptibility in the individual for psychological breakdown, (2) the experience of being negatively labeled as incompetent or deficient by others, (3) adjustment of one's behaviors to accommodate others' expectations, and (4) acceptance of the dysfunctional role and identification of oneself as incompetent.

This breakdown model suggests that the individual's sense of worth, ability to mediate between self and society, and feelings of competence relative to the environment, are inextricably tied to the kinds of social labels he or she experiences. In terms of the first stage of social breakdown, Kuypers and Bengtson (1973) argue that the elderly are likely to be susceptible because of the nature of social reorganization in later life. Role loss, poorly defined behavioral norms, and lack of reference groups all serve to deprive the individual of feedback concerning who he or she is and what value he or she has to society. This feedback vacuum creates dependence on external sources of labeling, many of which communicate a stereotypic portrayal of the elderly as useless and obsolete which sets up stage two of the breakdown syndrome. Thirdly, if people accept the negative labeling, they learn to act in accordance with these images: namely, like "old" people" are suppose to act. Finally, the individual incorporates the view of the self as inadequate or ineffective, setting the stage for the cycle to begin anew.

In order to arrest this malignant social breakdown cycle, Kuypers and Bengtson (1973) propose a benign cycle for increasing competence


which they term "Social Reconstruction Syndrome". To accomplish this reconstruction, they suggest the following types of intervention: (1) eliminate the idea from the Protestant work ethic that work is worth and adopt a more humanitarian framework to judge worth; (2) improve the social services, housing, health, and financial status of the elderly; and (3) facilitate the development of internal control by allowing more self-determination by the elderly on policies and programs which affect them.

Another person-environmental perspective is offered by Schwartz (1974, 1975). This transactional framework is quite similar in philosophy and emphasis to Kuypers and Bengtson's (1973) views. Again, the tenet is expounded that positive self-esteem is the critical component providing the foundation for competent functioning and thus successful aging (Schwartz, 1975, p. 470). Losses or decrements in functioning are seen as working against the maintenance of self-esteem. To combat these physical, social, economic, and psychological losses, the environment must be restructured or modified. Given appropriate compensation, the senescent individual can continue to function effectively, maintain self-esteem, and achieve satisfaction with life.

Within the past decade, increasing attention has been paid to the design of environments for older people, especially those in institutionalized settings (Kiritz & Moos, 1974; Lawton, 1974; Moos, 1976). Such environments are called prosthetic because they are intended to eliminate elements that penalize impaired or ailing elderly. The elimination of such elements is meant to increase competence and thus contribute to physical and psychological well-being.

Moos (1976) and his associates (Kiritz & Moos, 1974) have developed a three-dimensional scheme for categorizing elements of the environment that contribute to competent functioning. The first of these components (relationship dimension) refers to the degree to which individuals are involved in the environment and their willingness to help each other. Here we are dealing with affiliation and group cohesiveness. The second dimension (personal development) refers to the self-enhancement or self-actualization potential within a given environment. Independence, practical orientation, and responsibility are subcategories within this dimension. The last component (system maintenance and system change) assesses the organization, clarity, control, and change of the environment. It is presumed that individuals cope most effectively in unambiguous environments where there is sufficient self-direction and self-initiated change. The theoretical implications of the concept of prosthetic environments are fairly obvious: the maintenance of personal effectiveness is a pivotal component for successful aging.

To summarize, these person-environmental perspectives designate significant others and the environment as critical variables in adjustment to aging. Rather than advocating expanding-contracting stages, these views characterize the life cycle in terms of the continuous, dynamic processes of adaptation and growth. Any intervention which allows for increased control will enhance self-esteem and thus contribute to successful adaptation. It is still too early to make a final judgment concerning the validity of these approaches but evidence is accumulating which attests to their potential utility (e.g., Aloia, 1973; Kuypers, 1972, 1974; Lawton &



Cohen, 1974).

Social Learning and Age-Related Adjustment:  
Extending Seligman's Views

The Learned Helplessness Model

The previously examined person-environmental perspectives allude to the crucial effects that perceptions of self-efficacy have on self-esteem, self-labeling, and ultimately one's adjustment to the aging process. Seligman (1973, 1975a, 1975b) has advanced a similar model which focuses more directly on these perceptions of control over one's outcomes. Although not targeted to age-related adaptation, the present research will suggest that this paradigm appropriately reflects the malevolent environmental conditions of many aged individuals who through loss of functioning or social stigmatization come to perceive their outcomes as uncontrollable and hence experience the concomitant negative personal consequences outlined in Seligman's formulations.

In germinal experiments by Seligman and his colleagues (Overmier & Seligman, 1967; Seligman & Maier, 1967) profound interference with shuttle box escape-avoidance learning was demonstrated in the behavior of dogs who had received prior inescapable shock treatments. These researchers reasoned that the dogs who were given inescapable shock treatments failed to escape later in the shuttle box because they had learned that shock termination was independent of responding. This learning was hypothesized to impede the later acquisition of escape behavior because the incentives for initiating responses had been lowered and the association between responding and shock had been

proactively impaired.

In the decade following these investigations, numerous experiments were carried out with other animal species and human subjects which replicated the basic finding that exposure to uncontrollable events often results in decrements in behavior and learning (e.g., Hiroto & Seligman, 1975; Maier & Testa, 1975; Masserman, 1971; Miller & Seligman, 1975; Padilla, Padilla, Ketterer, & Giacalone, 1970; Seward & Humphrey, 1967). "Learned helplessness" was chosen as a descriptive label for the process whereby the learning of independence between responding and reinforcement interferes with future responding. As an outgrowth of this work, Seligman (1973, 1975a, 1975b) formulated a learned helplessness hypothesis for the development of depression. The cornerstone of this view is that learning that one's outcomes are uncontrollable results in deficits in cognitive, motivational, and emotional functioning. Subsequent research by Gatchel, Paulus, and Maples (1975) indicates that the deficits in emotional functioning may be extended to include anxiety and hostility, as well as depression.

Seligman's (1973, 1975a, 1975b) paradigm is cognitively based in that it postulates that simple exposure to uncontrollability is not a sufficient condition to engender helplessness. Rather, the organism must come to expect that its outcomes are uncontrollable in order to develop helplessness. Once the organism develops this expectation, cognitive, motivational, and emotional deficits will ensue. Specifically, Seligman (1975b) hypothesizes that learned helplessness (1) reduces the motivation to attempt control of one's outcomes in the future, (2) interferes with future learning that responding controls outcomes, and (3) produces depressed affect as long as the individual

feels that his or her outcomes are uncontrollable. It should be noted that in a recent reformulation of the model by Abramson, Seligman, and Teasdale (1978), depressed affect is associated only with uncontrollable negative events and not with uncontrollable positive outcomes.


Thus Seligman's formulations, like the person-environmental perspectives of Kuypers and Bengtson (1973) and Schwartz (1974, 1975), focus on the interplay between the individual and his or her environment. This interplay, if malignant, is seen as producing a maladaptive cycle in that perceptions of uncontrollability inhibit future ability to associate responding and reinforcement, which propagates the debilitating effects of learned helplessness. However, unlike the person-environmental perspectives, Seligman details the precise conditions necessary for the induction of helplessness and relates these to specific emotional reactions rather than self-concept or general life satisfaction. Accordingly, the learned helplessness model is better integrated into the mainstream of psychology and allows for more concise interpretation of findings. ✓

Although Seligman's conceptualizations were not originally directed toward an explanation of age-related emotional adjustment, it does not seem a quantum leap to suggest that extension of these notions allows one to evolve a relatively succinct paradigm for the evaluation of such adjustment. There are many components in the social and physical environments of the elderly which may institute inescapable noxious events. Losses in functioning due to ill-health, social isolation, characterizations of the elderly as ineffectual or useless by significant others, and involuntary institutionalization might all



be seen as potential sources of lack of control over one's outcomes. Indeed, Seligman (1975b) suggests that sudden "unexpected" deaths of recently institutionalized elderly patients might well be an extreme example of the learned helplessness phenomenon. In addition, the depressed affect and failure to initiate responding associated with learned helplessness is not an uncommon observation made about the elderly by gerontological practitioners.

Locus of Control as a Cognitive Representation  
of Learned Helplessness



In conventional learned helplessness research (e.g., Hiroto & Seligman, 1975; Maier & Testa, 1975; Miller & Seligman, 1975; Overmier & Seligman, 1967), helplessness is induced by a set of experimental manipulations designed to engender perceptions of a lack of mastery or controllability of one's environmental outcomes. These percepts are not assessed directly, but rather are inferred from the attendant decrements in responding or negative emotional consequences.

If one is to extend Seligman's (1973, 1975a, 1975b) learned helplessness model to age-related emotional adjustment, it becomes necessary to operationalize and measure these feelings or attitudes of effectance directly. Fortunately, such an index already exists in Rotter's (1966) Internal-External Control Scale.

Starting from a social-learning perspective, Rotter (1966) sought to quantify what he termed the individual's "generalized expectancy for internal versus external control of reinforcement." Briefly, "internals" hold the dominant belief or attitude that their outcomes or reinforcements are primarily the result of their own action and

behavior. Conversely, "externals" typically perceive their outcomes as a matter of luck, chance, fate, or some condition beyond their control.

Thus, the locus of control dimension as developed by Rotter provides a way to operationalize Seligman's (1973, 1975a, 1975b) "controllability" concept. In other words, locus of control can be conceptualized as a cognitive orientation or personal attribute (attitude, set, expectancy) which provides a standard against which experience is judged and by which choice and action are guided.

Extensive research has already accumulated indicating that this concept of internality-externality has predictable behavioral as well as personality consequences. Internals (those who hold a belief in the power of their own control) have been shown to adjust their expectations of a successful performance more closely with prior experiences of success or failure (Rotter, 1966), to be less conforming and more resistant to external influence attempts (Gore & Rotter, 1963), to be more knowledgeable about their environment (Seeman & Evans, 1962), and to be better learners (Hamsher, Gellon, & Rotter, 1968).

More direct support for the use of locus of control as an index of the feelings of mastery or controllability of which Seligman (1973, 1975a, 1975b) speaks is found in recent work by Hiroto (1974). Subjects either low or high on external locus of control received one of three pretreatment conditions using an aversive tone. The first group of subjects could neither escape nor avoid the aversive tone, the second group could escape the tone, and the third group, used as a control group, was not exposed to the tone. All subjects were then assessed for signs of learned helplessness on an escape-avoidance task. Results indicated that subjects in the inescapable aversive tone

condition exhibited greater impairment in escape-avoidance learning than subjects in the other two pretreatment conditions. More importantly, locus of control was found to interact with the pretreatment variable. External locus of control produced decrements in escape-avoidance learning similar to those engendered by inescapability. In view of the parallel effects of locus of control and helplessness inducement, it is suggested that a common process underlies both concepts.

Finally, if locus of control is an appropriate index of Seligman's (1973, 1975a, 1975b) "controllability" concept, one would expect an association between the attendant emotional deficits of learned helplessness and locus of control orientation. Results from a recent study by Hanes and Wild (1977) confirm this expectation. Individuals manifesting internal locus of control were less likely to experience depression than those individuals exhibiting external control. Findings relating locus of control to coping behavior (Kuypers, 1972) and self-reported adjustment among the elderly (Wolk & Kurtz, 1975), portend the extension of the relationship of locus of control to other emotional states as well.

### Correlates of Successful Aging

#### Prologue

The principal intent of the present study is to elucidate and extend a self-efficacy model of emotional adaptation for continued inquiry into the process of age-related adjustment. Of necessity, the research requires an affective criterion measure of successful aging

because of the model's theoretical foundations.

The use of an affective or emotional adjustment criterion represents a break with traditional gerontological methodology. Irrespective of the veracity of the self-effectance model, one might also question the use of emotional adaptation as a criterion measure of successful aging. Do those variables found to be significant correlates of other indices of successful aging also relate to emotional adaptation? If self-perceptions of effectance are central mediators in the emotional adjustment process, how do these correlative conditions relate to effectance?

Little direct empirical evidence is available to answer these questions. Kivett, Watson, and Busch (1977) examined the relative importance of a variety of social and psychological variables to locus of control orientation among middle aged persons. Their results indicated that psychological variables such as actual and ideal self-concepts were of greatest importance, sociological variables such as education and occupation of secondary importance, and physical variables such as sex, race, age, and health of least importance. Whether these results could be generalized to elderly populations remains an open question.

Thus, as a secondary aim, the present research also examines possible antecedent or correlative conditions of overall positive emotional adjustment to aging. These conditions or predictor variables are drawn from a large body of research which has been developed over the past 30 years. Much of this body of research is atheoretical, employing varied conceptualizations of successful aging, and utilizing different indices to operationalize predictor variables.

It is therefore difficult to offer precise, unequivocal statements concerning the results of this literature. However, based upon consistency of findings across studies, some tentative conclusions have been drawn.

These conclusions are discussed in the sections which follow. These sections are not meant to be a comprehensive review of the literature on predictors of successful aging. Rather, they are presented to give the reader a synopsis and to lay a foundation for selection of possible predictor variables for the present research project. Those readers wishing a more detailed accounting may find review articles by Adams (1971) or Larson (1978) interesting reading.

#### Demographic and Background Characteristics

Numerous studies have been undertaken examining the relationships between adjustment to aging and various objective indices of the background characteristics of elderly individuals. These background indices encompass two main classes of variables. In the first class are those indices such as sex, race, or socio-economic status related to the demographic characteristics of individuals. The second class of measures includes a potpourri of variables which assess objective conditions within the present life circumstances or environmental milieu of the elderly. These involve such variables as frequency of family visits, level of general or social activity, presence of stressful environmental conditions, and objective health measures.

With regard to the first class of variables, three biological attributes have been considered extensively in the literature. These are age, sex, and race.

Though occasional studies show slight associations between sex and adjustment, the majority of research would seem to indicate that there is no consistent sex difference (Harris, 1975; Kutner, Fanshel, Togo, & Langner, 1956; Lawton, 1972; Neugarten, Havighurst, & Tobin, 1961). Results from studies on racial influences also yield similar results. If one controls for differences in income and other variables that differentiate Blacks and Whites, the association between race and adjustment is nonsignificant (Clemente & Sauer, 1974; Harris, 1975; Spreitzer & Snyder, 1974).

Results from studies examining age and adjustment are less clear. Some researchers have found a decline in adjustment with age, others have found a curvilinear relation, and still others find no relationship (Edwards & Klemmack, 1973; Loeb, Pincus, & Mueller, 1963; Kivett, Note 1; Larson, Note 2). It is likely that because age is associated with other variables such as health, mobility, and income, no clear statement of a relationship between age and adjustment is possible.

Socio-economic status indicators are another set of demographic characteristics which have received protractive examination. Many studies have shown that variables such as income, home ownership, education, and pre-retirement employment status are positively associated with adjustment to aging (e.g., Edwards & Klemmack, 1973; Hansen & Yoshioka, 1962; Kutner, Fanshel, Togo, & Langner, 1956; Palmore & Luikart, 1972; Streib, 1968). The magnitude of the association between socio-economic status and adjustment depends upon which status indicator is employed and the criterion measure of adjustment. Generally, status indicators closely linked to monetary

resources such as income or home ownership when examined in relationship to criterion measures emphasizing satisfaction (e.g., Neugarten's Life Satisfaction Index) yield the highest levels of positive association.

Although these status indicators are important in themselves because they identify groups which may require special attention, they are probably more important in mediating perceptions. Higher socio-economic groups are more likely to perceive themselves as independent, highly mobile, and socially integrated, and thus experience greater satisfaction. In addition, people react to aging according to the norms of their social class, which may vary as a function of socio-economic position.

Objective indices of the elderly's environmental conditions or life circumstances comprise the second class of background variables which have been examined in the literature. This is a fairly broad class of measures assessing such diverse concepts as health, availability of social contacts, and proximity of family members.

Among all the elements in an older person's life situation, physical health is most strongly associated with adjustment. People who are sick or physically disabled are much less likely to express contentment about their lives (Jeffers & Nichols, 1961; Loeb, Pincus, & Mueller, 1963; Lowenthal & Boler, 1965; Palmore & Luikart, 1972; Marshall & Eteng, Note 3).

Ill-health or disability often results in institutionalization or other types of restricted environmental conditions. These are not the only causes of constricted environments for the elderly. Retirement, loss of friends through death, and mobility of children all serve to

narrow the life space of the older individual. These constrictions have consequences in terms of the types and frequency of social interaction with family and friends.

Lopata (Note 4) has discussed the importance of a "society of widows" as a key element in the adjustment process of the recently widowed. Phillips (1961) found that activity with friends, particularly age peers, was a significant correlate of adjustment to aging. Other types of social contacts such as interactions with children, relatives, and neighbors have been found to be associated with adjustment, although not all studies yield positive findings (Kutner, Fanshel, Togo, & Langner, 1956; Lopata, 1969; Lowenthal & Haven, 1968; Tobin & Neugarten, 1961).

Finally, the activity theory - disengagement theory controversy has led to examinations of objective indices of activity. A number of studies (e.g., Lawton, 1972; Neugarten, 1968; Wylie, 1970) have demonstrated a positive relationship between general indices of activity and various adjustment measures. Yet, results from other works employing more specific measures such as frequency of contact with one's own children, number of social contacts, and hours of social contact often fail to show this positive association (Edwards & Klemmack, 1973; Palmore & Luikart, 1972; Pihlbald & Adams, 1972).

#### Social-Psychological Characteristics

Although chronological age is not consistently related to adjustment, self-perceptions of age are. If one perceives oneself as "old," this seems to be a more crucial variable in declining adjustment than is the objective reality of chronological age (Hansen & Yoshioka,



1962; Phillips, 1961).

This contrast between objective states and perceptions is consonant with Thomae's (1970) cognitive theory of aging. Perceptions concerning retirement, income adequacy, mobility, incapacitation, and health are additional subjective indices which may also be better predictors of successful aging than their objective counterparts (Hansen & Yoshioka, 1962; Phillips, 1961; Thompson, 1958; Lieberman, Note 5).

Social isolation is another variable for which the contrast between subjective and objective states might be made. One can be physically alone without experiencing loneliness or conversely, lonely in the midst of a crowd (Jones, Notes 6, 7). Thus, the experience of loneliness as a subjective state may be more pivotal to adequate emotional adjustment than are objective indices of isolation (Lopata, 1969; Jones, Smith, & Hansson, Note 8).

Sociological research on the elderly has focused attention on the importance of changing social relationships and roles (Rosow, 1962). With decreased mobility and retirement come limitations in the way the individual defines him- or herself and curtailment of the number and types of social interactions. How the individual perceives and adapts to these changing social situations has consistently been shown to influence adjustment (e.g., Lopata, 1971; Lowenthal & Boler, 1965; Williams & Wirths, 1965; Lopata, Note 4).

Many of these changing social roles are thrust upon the elderly person as the result of major traumatic life situations. Widowhood, loss of friends through death or illness, and institutionalization involve this type of stressful life event. For these types of

situations, not only must individuals acquire new behaviors appropriate to changing social roles, but they must do so under highly stressful conditions (Lopata, 1971).

That such stressful events play a mediating role in the development of pathology is well documented. For example, Paykel, Meyers, Dienelt, and Kleinman (1969) found that depressive patients had a greater number of stressful precipitating events and perceived these events as more personally undersirable than did normals. Other studies report similar findings (e.g., Berkman, 1971; Lazarus, 1966; Rahe & Lind, 1971).

#### Concluding Remarks

It is important to keep in mind the dual purposes of the present research project. This is particularly true when thinking ahead to the procedure and analysis. Both purposes involve questions related to concepts and variables most amenable to examination through survey research methodology.

At a primary level, the effectance model predicts a positive relationship between perceptions of mastery or controllability of one's environment and successful emotional adaptation to age-related change. Examination of this hypothesis involves operationalization of a self-effectance index as well as emotional adjustment criterion variables. Obviously, judgments concerning the adequacy of the model are dependent upon observance of significant associations between these variables.

At a secondary level of analysis, the research will also investigate possible antecedent and correlative conditions related to positive emotional adjustment to aging. Again, associational analyses

(e.g., multiple regression and correlation) will be the primary means of approach.

As a means of connecting the two levels of analysis, the relationship between self-effectance and the other correlative conditions related to emotional adjustment will also be examined. If perceptions of self-effectance are central mediators in the emotional adjustment process, one would expect them to relate to other predictors of successful aging.

There are always some reservations regarding the outcomes of studies which are principally correlational because of the inability to infer definitive causal relationships. However, given the nature of the variables under study and the germinal state of the effectance model, a correlational approach is probably warranted.

If the study reveals preliminary support for the effectance model, it opens up the possibility of future development through the application of recursive and nonrecursive causal modeling (Namboodiri, Carter, & Blalock, 1975, pp. 439-532; Joreskog, 1973). Such models allow one to make causal statements concerning the relationships among variables from data which are strictly correlational. This is accomplished by examining the predicted intercorrelations (or covariance structure) among the variables relative to their observed intercorrelations. The predicted intercorrelations are derived from an assumption of some type of causal schema. Limiting the number of variables in the system greatly reduces the complexity of this type of analysis and enhances interpretability of results. Findings of the present research project would also help accomplish this aim.

## CHAPTER II

### METHODS

#### Instrumentation

##### Overview

A substantial number of criterion and predictor variables needed to be operationalized to accomplish the aims of the present research project. Table I presents an overview of these variables along with a synopsis of the instrumentation which was employed for their assessment. Each variable category is discussed in more detail in the sections which follow. However, before moving on to these sections some general comments regarding the selection of variables and instrumentation may be in order.

Most of the concepts addressed in the present research project have been operationalized in previous studies in the gerontological literature. Consequently, one could rely almost exclusively on this literature for the selection of assessment devices. However, many of these studies have employed crude, unstandardized measures developed solely for the purpose of a single experiment. Often times, these measures involved a single item on an inventory or one question in an interview. Rather than perpetuate this practice, it was decided that, if possible, a standardized measure would be employed to assess a concept or variable. This practice significantly increased the amount

TABLE I  
SUMMARY OF CRITERION AND PREDICTOR VARIABLES

Category Description	Variable Labels	Instrumentation and Source
Affective Adjustment	Total Mood Disturbance Anxiety Depression Hostility Vigor Fatigue Confusion	Profile of Mood States (McNair, Lorr, & Droppleman, 1971)
Life Satisfaction	Life Satisfaction	Life Satisfaction Index A (Neugarten, Havighurst, & Tobin, 1961)
Self-Effectance	Locus of Control	Internal-External Control Scale (Rotter, 1966)
Social Isolation	Loneliness	UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978)
Stressful Life Events	Life Stress	Social Readjustment Scale (Holmes & Rahe, 1967)
Attitudes and Self-Perceptions	Incapacity Health Personal Inadequacy Family Contacts Retirement Income Adequacy Religiousness	Likert-Type Scales Developed by Author (See Table II)

TABLE I (Continued)

Category Description	Variable Labels	Instrumentation and Source
Demographic and Background Information	Age Sex Education Marital Status Occupation Employment Status Medication Influence Doctor Contacts Visits from Friends Social Activity Family Visits General Activity Income	Questionnaire Developed by Author (See Appendix C)

of time required from subjects. However, the benefits accrued in terms of interpretability and subsequent replication of findings would seem to outweigh these additional time costs.

Since all of the standardized instruments referred to in Table I are readily available in the journals or from test publishers, they have not been reproduced herein. However, these instruments, along with any modifications in directions or form, are discussed in some detail in the sections which follow.

Obviously, not all concepts were amenable to assessment by standardized instrumentation. Thus, some measures needed to be constructed. The items and procedures employed to construct these measures are delineated in the appropriate sections below.

#### Affective Adjustment

Emotional adaptation to aging was operationalized by employing the Profile of Mood States (POMS) developed by McNair, Lorr, and Droppleman (1971). The POMS is composed of 65 adjective items. Subjects are asked to respond to each item on a 5-point rating scale characterizing the degree to which the item typifies their feelings.

Since the POMS is used most often in clinical settings where the emphasis is on acute or specific mood states, the time parameters in the directions on the published form of the test reflect this orientation. The present research sought a more general index of affective states. Consequently, the directions for the POMS were modified, as per suggestions in the test manual (McNair, Lorr, & Droppleman, 1971, p. 5), in order to make the test reflect a more general emotional adaptation index. The modified directions read as

follows:

Below is a list of words that describe feelings people have. Please read each one carefully. Then put an "X" covering the number associated with the response which best describes HOW YOU FEEL GENERALLY.

In addition, pilot work with a group of elderly widows revealed that there was a great deal of difficulty in reading the published form of the test because of print size and crowding of items. Hence, the scale was retyped using capital letters for rating scales and items.

The POMS was employed to assess affective states for the following six variables or dimensions: (1) anxiety, (2) depression, (3) vigor, (4) hostility, (5) fatigue, and (6) confusion. Raw scores for these six variables were converted to T-scores for the analysis. In addition, a Total Mood Disturbance (TMD) score was obtained for each subject by averaging T-scores, with vigor weighted negatively, across the six primary mood factors.

This TMD score represents a global estimate of mood (McNair, Lorr, & Droppleman, 1971, p. 9) and was employed as the primary criterion of overall affective adjustment to aging. Results from intercorrelations of the six mood scores reported by McNair, Lorr, and Droppleman (1971, p. 9) and those obtained from the present research sample (see Appendix A) would seem to justify the use of such a composite score. High positive correlations were obtained among all scales except vigor. This is consistent across both data sets.

### Life Satisfaction

The use of emotional adjustment as a criterion measure for successful aging represents a break with traditional gerontological



methodology. Thus for the sake of replication and interpretation of results, it is imperative that one have some understanding of the relationship between customary gerontological indices and scores on the Profile of Mood States. Since the concept of life satisfaction is most prominent among the gerontological indices, scores on the Life Satisfaction Index A (Neugarten, Havighurst, & Tobin, 1961) were obtained for all subjects as an ancillary criterion.

The Life Satisfaction Index A is a 20-item rating scale which reflects the degree to which an individual is satisfied with his or her present life situation and past accomplishments. If the individual's response to an item indicates satisfaction, the item is scored a "1"; otherwise it is scored a "0". The sum across all 20 items is then taken as an index of overall life satisfaction. The inventory was developed specifically for use with elderly samples and thus required no modification for the present study.

#### Self-Effectance

If one is to employ feelings of self-effectance or controllability as a central mediator in the emotional adjustment process for the elderly, it becomes necessary to find a suitable index of such feelings or attitudes. Rotter's (1966) Internal-External Control Scale (I-E) was selected for this purpose.

The I-E scale consists of 23 pairs of statements plus six filler pairs designed to evaluate an individual's "generalized expectancy for internal versus external control of reinforcement." Subjects are asked to make a forced-choice decision as to which member of each pair of items most closely reflects their attitude or opinion. The pairs

are constructed so that one of the items reflects internal locus of control (belief that one's own actions control outcomes) while the other member of the pair reflects external control (belief that fate, luck, chance, or conditions beyond one's control determine outcomes). A single locus of control index is obtained by summing across responses to the 23 pairs of statements. Scoring is done so that high scores reflect an external orientation while low scores convey an internal one. The possible range of scores is from 0 to 23.

The full 26-item I-E scale was administered to all subjects. Since some items on the scale seem far removed from the experience of most older people, some thought was given to deleting these items. For example, in one pair of items, a statement reads, "There is a direct connection between how hard I study and the grades I get". Many of the subjects had not received grades for 40 or 50 years, and consequently there was some confusion engendered by this statement. However, since normative data relating typical scores for other age groups are available only on the full scale, the practice of deleting items was not adopted.

### Social Isolation

Subjective feelings of social isolation were operationalized using the UCLA Loneliness Scale developed by Russell, Peplau, and Ferguson (1978). The scale is composed of 20 Likert-type items reflecting different feelings or perceptions associated with loneliness (e.g., "I feel isolated from others.", "No one really knows me well.", "I have nobody to talk to."). Subjects are asked to indicate on a 4-point rating scale how often each statement is descriptive of them. A single

index is derived by weighting the response to each item (often = 4, seldom = 3, rarely = 2, and never = 1) and summing across the 20 statements. Thus the possible range of scores is from 20 to 80, with higher scores indicating greater feelings of loneliness.

### Stressful Life Events

Retirement, loss of spouse, change in residence, personal illness, and change in financial status are but a few of the stressful life events which have been found to be significant predictors of successful aging. Usually these types of variables have been operationalized as individual dichotomous (absence or presence) indices with no scaling of the intensity of stress engendered by the event. Rather than attempt to evaluate the effects of each event separately, the total life stress experienced by an individual was indexed by employing a modified version of the Social Readjustment Scale (SRS) developed by Holmes and Rahe (1967).

The SRS is composed of 43 items describing common stressful events whose onset requires some type of change in an individual's ongoing life patterns. Each event has been scaled by Holmes and Rahe (1967) to reflect the magnitude of stress engendered by the change. For example, "Death of a Spouse" has a scaled weight of 100 whereas "Trouble with Inlaws" has a weight of 29. By summing the scaled weights for all events which an individual has experienced in the recent past, one can evolve a single index of life stress.

In the present research project, subjects were asked to complete a modified version of the SRS. The modified scale contained only 39 of the 43 events listed on the published instrument. Three items were

dropped because they had little or no relevance for the subject population. These items were: (1) "Pregnancy," (2) "Change in Schools," and (3) "Begin or End School." The fourth item ("Christmas") was omitted since its occurrence was common to all subjects.

How recent a particular event needs to be in order to affect adjustment is an open question. Research on physical health and stress has tended to use a 6-month time frame. Since it is possible that for psychological adjustment more distant life stress has an effect, subjects were asked to use two time references, 0 to 6 months and 7 months to 1 year, when completing the SRS.

#### Attitudes and Self-Perceptions

Perceptions of incapacitation, health, personal inadequacy, familial contacts, retirement, and income adequacy are demonstrated predictors of successful aging in the life satisfaction literature. Since no established indices were available for these concepts, each was assessed by four items on a Likert scale developed by the author. Table II contains the items used for the seven concepts along with means and standard deviations from the research sample. Subjects were asked to respond to each item on a 5-point rating scale (1 = Completely False to 5 = Completely True) according to the following directions:

Below are a number of statements which characterize different feelings and experiences. Please read each statement carefully. Then put an "X" covering the number corresponding to the response category which best describes how true the statement is of you.

The sum of the ratings (reversing scales where necessary) across the four applicable items for a concept was employed as a composite index for that concept. Appendix B gives results for the interitem

TABLE II  
 MEANS AND STANDARD DEVIATIONS OF LIKERT ITEMS  
 FOR ATTITUDES AND SELF-PERCEPTIONS

Variable	Item	<u>M</u>	<u>s</u>
Incapacity		11.05	3.38
Item 1	I find it difficult to get around like I use to.	2.92	1.26
Item 2	Simple tasks such as washing the car, cooking, or shopping are becoming difficult for me to perform.	2.51	1.30
Item 3	It is difficult for me to get out and visit my friends.	2.23	1.20
Item 4	I can no longer participate in many of the physical sports I enjoyed when I was younger.	3.78	1.23
Health		14.99	3.36
Item 1	Compared to others my age, my health is good.	4.02	0.84
Item 2	My health is about as good as it has always been.	3.46	1.15
* Item 3	Health problems limit my enjoyment of life.	3.61	1.19
* Item 4	I often wake up in the morning feeling under the weather because of my health.	3.68	1.23
Personal Inadequacy		7.56	2.49
Item 1	I feel useless and unproductive much of the time.	2.03	1.13
* Item 2	Generally, I feel confident about my ability to care for myself.	1.52	0.69
Item 3	I sometimes feel inadequate about my ability to cope with the problems in my life.	2.30	1.08
* Item 4	Compared to others my age, I feel that I am a competent and useful person.	1.73	0.82

TABLE II (Continued)

Variable	Item	<u>M</u>	<u>s</u>
Family Contacts		15.04	2.84
* Item 1	My children don't really understand me.	4.13	1.05
Item 2	My interactions with my children are close and affectionate.	4.29	0.94
* Item 3	I often argue with my children.	4.17	1.09
* Item 4	I wish my family (i.e. children and grandchildren) would visit me more often.	2.42	1.22
Retirement		14.80	3.11
Item 1	Most of the time, I enjoy retirement.	4.21	0.76
* Item 2	Since retiring, I find it hard to fill my days.	4.09	1.15
* Item 3	If it was up to me, I would not be retired.	3.67	1.37
* Item 4	Forcing people to retire is unjust.	2.56	1.49
Income Adequacy		14.22	3.92
* Item 1	Financially, I find it hard to make ends meet.	3.61	1.34
* Item 2	The rising cost of living has forced me to reduce expenditures for entertainment.	2.78	1.43
Item 3	Generally, my income provides a comfortable living for me.	4.14	0.95
* Item 4	Lately, I have been worried about financial matters.	3.77	1.26
Religiousness		18.03	2.51
Item 1	My religious beliefs make it easier for me to bear life's many burdens.	4.40	0.94
Item 2	I consider myself a religious person.	4.42	0.78
Item 3	I believe in a life after death.	4.58	0.91
* Item 4	When trouble arises, I sometimes feel like there is no God.	4.48	1.04

Note. Scales are reversed on items with asterisks.

and item-total correlations for each concept. These intercorrelations support the notion that each set of four items might be considered as loosely representing a unitary concept, albeit probably not a uni-dimensional one.

#### Demographic and Background Information

The final set of concepts to be operationalized were assessed with the questionnaire presented in Appendix C. This set of concepts encompassed two sets of variables.

The first set of variables involved demographic indices of a subject's background such as age, sex, race, and education. The interpretation of these variables is straightforward (See Table I). Also included in this list is a variable termed "Medication Influence." Since scores on the Profile of Mood States are likely to be affected by medication, some means of control for such influence was necessary. This variable, coded as dichotomous (absence or presence) index, was employed for this purpose.

The second set of variables represent objective counterparts of the subjective indices in the sections titled "Social Isolation" and "Attitudes and Self-Perceptions." For example, "Doctor Contacts" is an objective frequency measure of health, whereas the four items on the Likert scale dealing with perception of health represent a subjective judgment from the subject's perspective. The variables included in this set were: doctor contacts, visits from friends, social activity, family visits, general activity, and income. The general activity variable (See Appendix B, item 20) was taken from research by Wolk and Kurtz (1975).

## Subjects

### Subject Recruitment

In order to obtain reasonable diversity in such subject characteristics as socio-economic status, age, education, health, and marital status, subjects were recruited from a variety of organizational and social settings having elderly participants. These included the following types of groups and settings: senior citizen centers, RSVP volunteer programs, nutrition programs for the elderly, church affiliated retirement communities, federally subsidized apartment complexes for the elderly, and selected university classes. One hundred individuals, over 60 years of age, were recruited on a voluntary basis from these groups and organizations.

In some cases a nominal monetary contribution was made to a program or organization to encourage participation by its members. This monetary incentive plan was not part of the original subject recruitment strategy. It was instituted during the course of research because previous researchers had used this plan in some groups; this led program administrators to "expect" this type of arrangement. Thus, in order to secure the cooperation of the program administrators and gain access to subjects, it was deemed advisable to adopt this strategy. However, no subjects received direct monetary compensation for their participation.

### Subject Characteristics

The resulting research sample was composed of individuals ranging in age from 60 to 97 with a mean age of 72.5 years. The average



education for this group was 12.1 years. In addition, annual incomes ranged from 1700 to 100,000 dollars with a mean level of 11,600 dollars.

Table III summarizes the sample characteristics for the categorical descriptor variables of sex, race, marital status, residence, occupational type, and employment status. The percentages in column four are expressed in terms of nonmissing cases rather than total sample size.

The percentage of males (27%) in this sample is slightly lower than what one might desire, since males constitute closer to 40% of the population over 60 years of age (Schwartz & Peterson, 1979, p. 40). Part of the reason for this lower rate of participation by males lies in the fact that males also tend to participate less than females in some of the types of groups used for subject recruitment (e.g., RSVP groups, senior citizen centers). It may also be that males of this age group tend to volunteer less than females.

The number of non-Caucasians in the sample is also less than desirable. This is in large part due to geographical location of the groups from which the sample was drawn.

It is noteworthy that the present sample consists primarily of ambulatory, relatively healthy individuals who live on their own with a minimum of outside assistance. This is atypical of gerontological research since the overwhelming trend is to employ nursing home residents. It is felt that, except for the race and sex variables, the present sample is probably more representative than institutionalized groups of the general population over 60 years of age.

TABLE III  
 SAMPLE CHARACTERISTICS FOR CATEGORICAL  
 DESCRIPTOR VARIABLES

Variable Description	Value Label	N	%
Sex of Subject	Female	73	73.0
	Male	27	27.0
Race of Subject	Caucasian	96	98.0
	Other	2	2.0
Marital Status	Never Married	3	3.1
	Separated or Divorced	5	5.1
	Widowed	34	34.7
	Married	56	57.1
Type of Residence	Retirement Community	28	28.0
	Live with Relatives	1	1.0
	Rent House or Apartment	9	9.0
	Own Home	62	62.0
Occupational Type	Homemaker	25	30.5
	Blue Collar	32	39.0
	White Collar	25	30.5
Employment Status	Never Employed Outside Home	25	25.5
	Retired	61	62.2
	Partially Retired	10	10.2
	Still Working Full-Time	2	2.0

Note. Percentages are expressed in terms of non-missing cases rather than total sample size.

## Procedure

The experimenter met with potential subjects in groups at the various locations which served as meeting places for the elderly social groups and organizations. After introducing himself and distributing packets containing the research instruments, the experimenter explained the purpose of the research with the following short paragraph:

The inventory you are being asked to complete was designed to answer some very important questions concerning human behavior and experience. Although some of the questions may seem quite personal, they are not an attempt to pry into your life or feelings. Instead, the responses to questions on the inventory will be grouped in order to assess important facts about people's behavior in general.

The experimenter then went on to explain that the subjects' responses would at all times remain confidential, that no names were required on the inventory, and that responses would be seen only by Ph.D. psychologists or graduate students working with these psychologists. The following statements governing safeguards for participation were then read to the subjects:

The American Psychological Association guidelines for ethical practices specifically prohibits the misuse of any type of personal information collected during experimentation.

Your participation at all times remains voluntary. You do not have to participate. Although we would like for you to answer all questions, you may omit any item that you would prefer not answer.

Subjects were told that the inventory would take between one and two hours to complete and were asked for their cooperation. They were informed that part of the inventory would be completed during the present meeting, while the rest could be completed at their own convenience at a later time. Those individuals wishing not to participate were excused from the group.

All participants were asked to follow along in their materials while the experimenter explained each instrument and their applicable directions. These directions were printed at the head of each instrument in the subjects' research packets. Any questions which arose were dealt with immediately during the course of this discussion. At the conclusion of the discussion, subjects were asked to keep the following general directions in mind:

Please answer each item as directly and honestly as possible. We would prefer that you not answer a question rather than to have you answer it dishonestly. Also, please respond to each item as it applies to you without regard to how other people may be responding.

The experimenter explained that he would remain with the group for about an hour to answer questions or aid in the completion of the inventory. Subjects with visual or motor impairments were offered assistance in completing the inventory. None of these individuals accepted this offer. They preferred to have peers assist them or wait until a later time when a member of their family could provide help. Subjects were then encouraged to begin working on the inventory.

At the conclusion of this first meeting, subjects were thanked for their cooperation and given the experimenter's phone number. Subjects were told that the experimenter would return in a few days to check on their progress.

Since most of the subjects were recruited from groups which met on a regular basis, it was possible for the experimenter to return to each group within a period of three to five days. At this time, the experimenter collected completed research packets and answered any questions arising from participation. A final trip to each group was

usually made 10 to 14 days after the initial contact to collect all remaining questionnaires.

## CHAPTER III

### RESULTS

#### The Self-Effectance Model

As predicted from the effectance model, perceptions of control over one's environment were found to be positively related to overall emotional adjustment to aging. The Pearson product-moment correlation coefficient for the association of locus of control and the Total Mood Disturbance (TMD) Score on the Profile of Mood States (POMS) was .41 ( $p < .0002$ ). This indicates that elderly individuals manifesting internal control are indeed less likely to report emotional disturbances than are those individuals exhibiting external control.

The correlations of locus of control with each of the six mood states assessed by the POMS were examined as a further means of evaluating the adequacy of the effectance model. The results of this examination are summarized in Table IV. As the reader will note, the sample size ( $N$ ) varies for each subscale of the POMS. This is a result of missing values for either the Internal-External Control Scale or the POMS' subscale. Since omission of a single item on either measure results in invalidation of an observation, the number of missing values is not alarmingly high.

The results presented in Table IV generally provide further support for the effectance model. Locus of control is significantly

TABLE IV  
 CORRELATIONS OF LOCUS OF CONTROL WITH TOTAL MOOD AND  
 EACH SUBSCALE OF THE PROFILE OF MOOD STATES

Scale	<u>N</u>	Pearson <u>r</u>	Level of Significance*
Anxiety	81	0.431	0.0001
Depression	76	0.348	0.002
Hostility	76	0.494	0.0001
Vigor	81	-0.149	n.s.
Fatigue	79	0.244	0.02
Confusion	78	0.302	0.005
Total Mood	73	0.408	0.0002

\* Levels are for one-tailed t-tests. The n.s. indicates p > .05.

correlated with five of the six mood states assessed by the POMS. All five correlations reveal relationships which are in the direction predicted by the model. Again, internals show more positive adjustment than externals as evidenced by the tendency of internals to exhibit lower levels of anxiety, depression, hostility, fatigue, and confusion.

The only subscale of the POMS failing to show a significant association with locus of control was vigor ( $r = -0.15$ ,  $p > .05$ ). This subscale is presumed to represent a mood of vigorousness or high activity. Evaluation of subjects' profiles on the POMS revealed that many individuals tended to report fairly high levels of vigor regardless of their scores on other subscales. This is borne out by the fact that the correlations of vigor with the other subscales of the POMS are relatively low (See Appendix A). Thus, whether this finding reflects some inadequacy in the effectance model or simply an inability of the vigor subscale to discriminate within the sample group remains an open question.

The relationship between self-effectance and adjustment to age-related change holds even when applied to more traditional measures of successful aging. The correlation of locus of control with life satisfaction was also statistically significant ( $r = -0.30$ ,  $p < .01$ ). This indicates that internals tend to report higher levels of life satisfaction than externals. Thus, irrespective of the adequacy of emotional adjustment as a criterion of successful aging, the effectance model received support.

In any event, the preponderance of evidence is in favor of the effectance model. It would seem that the manner in which elderly individuals conceptualize themselves in relation to their environment



is of pivotal importance to age-related emotional adaptation. ~~X~~

### Emotional Adjustment as a Criterion of Successful Aging

Since the use of emotional adjustment as a criterion of successful aging represents a break with customary gerontological methodology, a comparison of scores on the POMS with Neugarten's Life Satisfaction Index (LSI) was undertaken. This comparison process involved two steps.

The first step in the process examined the association of life satisfaction with overall emotional adjustment as indexed by the TMD scores of the POMS. Results of this comparison revealed that the Pearson product-moment correlation of TMD scores with life satisfaction was .52. A two-tailed  $t$ -test indicates that this relational index is significantly greater than zero,  $t(76) = 5.31$ ,  $p < .001$ . This suggests a fair degree of overlap between the two concepts and is a crude index of the concurrent validity of POMS as applied to age-related adjustment.

The second step in the comparison process involved examination of the first-order correlations of both TMD and life satisfaction scores with those research indices employed as predictor variables in previous gerontological investigations. Table V presents a summary of the results of this analysis for nonmissing cases. First-order correlations, rather than partial or multiple correlations, were used since the results of many published works on successful aging tend to report this form. This allows comparison of the present findings with the results of these published works.

TABLE V

COMPARISONS OF CORRELATIONS OF PREDICTOR VARIABLES WITH NEUGARTEN'S  
LIFE SATISFACTION INDEX AND THE POMS TOTAL MOOD STATE

Variable	Total Mood Correlation	<u>N</u>	<u>p</u> -level	Life Satisfaction Correlation	<u>N</u>	<u>p</u> -level
Locus of Control	0.408	73	0.001	-0.296	85	0.01
Age	0.166	80	n.s.	-0.265	93	0.01
Sex	-0.027	81	n.s.	-0.004	95	n.s.
Education	-0.341	76	0.005	0.159	90	n.s.
Income	-0.140	41	n.s.	0.032	43	n.s.
Medication Influence	0.054	79	n.s.	-0.013	93	n.s.
Doctor Contacts	-0.034	78	n.s.	0.144	90	n.s.
Life Stress	0.064	65	n.s.	-0.014	72	n.s.
Family Visits	0.165	70	n.s.	0.021	67	n.s.
Visits from Friends	-0.228	68	n.s.	0.109	82	n.s.
Social Activity	-0.392	76	0.001	0.243	87	0.05
General Activity	-0.323	77	0.005	0.264	89	0.05

TABLE V (Continued)

Variable	Total Mood			Life Satisfaction		
	Correlation	<u>N</u>	<u>p</u> -level	Correlation	<u>N</u>	<u>p</u> -level
Loneliness	0.557	80	0.001	-0.527	89	0.001
Incapacity	0.611	69	0.001	-0.442	76	0.001
Health	-0.589	78	0.001	0.428	88	0.001
Personal Inadequacy	0.596	77	0.001	-0.472	89	0.001
Quality Family Contacts	-0.291	60	0.05	0.098	69	n.s.
Retirement Attitude	-0.323	64	0.01	0.415	73	0.001
Income Adequacy	-0.523	71	0.001	0.420	79	0.001
Religiousness	0.035	74	n.s.	0.099	85	n.s.

Note. p-levels are for two-tailed t-tests. The n.s. indicates  $p > .05$ .

Life stress appears as a single predictor variable in Table V even though the modified form of the Social Readjustment Scale employed two time parameters (0 to 6 months and 7 months to 1 year). So few stressful events were reported by subjects that these two time frames were combined into one (0 months to 1 year) for the analysis. This applies to all subsequent analyses involving life stress as well. Parenthetically, the race variable was also dropped from all analyses because of the low proportion of non-Caucasians in the sample (See Table II).

The first thing that should be noted about the findings in Table V is that, in general, they reveal a good deal of consistency between life satisfaction and TMD scores. Of the 20 predictor variables examined, only three show contradictions across the two measures. Two of these predictors are demographic (Age and Education) while the other is perceptual (Quality Family Contacts).

The second characteristic which should be noted about these findings is that the magnitudes of the correlations between TMD scores and the predictor variables are, as a rule, equal to or higher than the corresponding correlations for life satisfaction. The only exception to this is for the "Retirement Attitude" variable. The association between this variable and TMD scores ( $r = -0.32$ ,  $p < .01$ ) is slightly less than the association for life satisfaction ( $r = 0.42$ ,  $p < .001$ ), although both coefficients are significantly greater than zero. Since satisfaction with retirement is an integral part of satisfaction with one's life as conceptualized on the Life Satisfaction Index, this exception is not surprising.

In view of these findings on the magnitudes of the correlations,

one might conclude that overall emotional adjustment is a somewhat "cleaner" index of successful aging. At the very least, TMD scores should provide a more efficient criterion than life satisfaction for establishing prediction systems of successful aging according to these results.

### Predictors of Successful Aging

The results supporting the effectance model and those favoring the use of emotional adjustment as a criterion of successful aging leads one to the next logical consideration. This consideration can be formulated as follows: Which combination of the predictor variables in Table V, taken as a group, provide the "best" prediction system for emotional adaptation to aging?

Stepwise multiple regression analysis using TMD scores as the criterion, with forced inclusion of locus of control as the first step, was undertaken to assess the relative merits of the predictor variables. "Income," "Retirement Attitude," and "Quality Family Contacts" were excluded from this analysis because of missing values. The results of this analysis are presented in Table VI. Only those variables yielding significant partial correlations ( $F$ -to-enter) with TMD scores are included in the table.

The sample size ( $N$ ) used in the calculation of degrees of freedom for significance tests is 64. This reflects the use of a pairwise deletion rule (Nie, Brent, & Hull, 1970) in the analysis. The degrees of freedom, thus calculated, are probably a conservative estimate.

The results in Table VI reveal that there are five other variables which, taken together with locus of control, prove to be significant

TABLE VI

SUMMARY OF STEPWISE MULTIPLE REGRESSION ON TOTAL MOOD  
SCORES OF THE PROFILE OF MOOD STATES

Variable Entered	Partial Correlation Coefficient	Significance of the Partial <sup>1</sup>	MS Regression	MS Residual	F-Value Regression Relation <sup>2</sup>	Significance of Regression	Multiple R
Locus of Control	0.408	0.001	594.36	48.86	12.17	0.001	0.408
Incapacity	0.576	0.001	790.95	33.21	23.81	0.0001	0.665
Loneliness	0.381	0.005	623.66	28.88	21.60	0.0001	0.723
Social Activity	0.403	0.001	536.86	24.61	21.82	0.0001	0.775
Personal Inadequacy	0.339	0.01	462.24	22.17	20.85	0.0001	0.804
Education	0.320	0.05	406.80	20.24	20.09	0.0001	0.826

<sup>1</sup>Partials are adjusted for all previously entered variables. Significance levels are for  $F$ -tests with degrees of freedom (1,  $N-(K+1)$ ) where  $K$  equals number of variables entered in regression.

<sup>2</sup>Degrees of freedom ( $K$ ,  $N-(K+1)$ )

Note. Sample size used for calculation of degrees of freedom in the analysis is  $N=64$ .

predictors of emotional adjustment. These include perceptions of incapacity, personal inadequacy, and loneliness as well as the objective indices of education and social activity. This set of six variables accounts for approximately 65% of the variance in the affective adjustment scores.

What is noteworthy about these results is that four of the six predictor variables reflect subjective perceptions of one's present life situation. This would seem to imply that the objective nature of one's environment may be less important to adjustment than are the subjective perceptions of one's circumstances.

#### Correlates of Locus of Control

One final question remains concerning the results of the study. How does locus of control relate to the other 19 predictor variables listed in Table V? To answer this question, the first-order correlations between locus of control and these predictor variables were examined.

Table VII is a summary of those predictor variables which were found to be significantly correlated with locus of control. All variables omitted from the table revealed nonsignificant correlations with locus of control. These results indicate that internals tend to be more educated, less lonely, and perceive their incomes as more adequate for their needs than do elderly individuals manifesting external locus of control. Internals also tend to perceive themselves as less personally inadequate and less incapacitated than externals.

What is most striking about the results of this analysis is that all of the variables listed in Table VII were also found to be

significant correlates of TMD scores (See Table V). In other words, all variables significantly associated with locus of control orientation are significantly associated with emotional adjustment as well. What these latter results might imply precisely in terms of a common underlying process, is, as yet, unclear.

TABLE VII  
SIGNIFICANT CORRELATES OF LOCUS  
OF CONTROL

Variable	<u>N</u>	Pearson <u>r</u>	Level of Significance*
Education	84	-0.236	0.05
Loneliness	81	0.313	0.005
Incapacity	69	0.251	0.05
Personal Inadequacy	81	0.330	0.005
Income Adequacy	73	-0.247	0.05

\*Levels are for two-tailed t-tests.



## CHAPTER IV

### DISCUSSION

#### The Self-Effectance Model

Findings of the present study clearly indicate a linkage between perceptions of self-effectance, relative to one's environmental outcomes, and overall emotional adaptation to age-related change. Elderly individuals manifesting an internal locus of control orientation tended to report significantly fewer emotional disturbances than those individuals exhibiting external control. These findings are consonant with other studies (e.g., Kuypers, 1972; Wolk & Kurtz, 1975) relating locus of control to general measures of adaptation such as coping or self-reported adjustment. Parenthetically, results also indicate that internals tend to report significantly higher levels of life satisfaction than externals. Hence, the effectance model received support even when applied to this more traditional index of successful aging.

As indicated by the data, perceptions of self-effectance also relate positively to specific mood states. Internals were less likely than externals to exhibit depression, hostility, anxiety, confusion, and fatigue. The relationship between locus of control and depression among the elderly augments earlier findings by Hanes and Wild (1977), further supporting the effectance model. Results linking locus of

control to the other four mood states are unique. Although Gatchel, Paulus, and Maples (1975) found that learned helplessness was related to anxiety and hostility, as well as depression, the present findings extend these results to additional mood states and to the context of age-related adaptation. In addition, locus of control was employed in this study to operationalize the perceptions of "uncontrollability" attendant to learned helplessness, rather than experimentally inducing such percepts.

An argument might be made that failure to observe a significant relationship between locus of control and the vigor subscale of the Profile of Mood States (POMS) reflects some inadequacy of the effectance model. It seems unlikely that this argument is tenable for the present results. Individuals tended to report fairly high levels of vigor independent of their scores on the other subscales of the POMS. One possible reason for this may involve the general social desirability of items on this subscale. Also, given that most subjects were ambulatory and in good physical and emotional health, it may be that the vigor subscale's ability to discriminate for this type of group is fairly low. These observations agree with findings by McNair, Lorr, and Droppleman (1971, pp. 10-12) that, even among psychiatric populations, the discriminant ability of this subscale is appreciably lower than the other mood subscales.

Thus, taken as a whole, results relating locus of control to emotional adaptation to age-related change provide a good deal of support for the effectance model. It would appear that maintenance of feelings of causal effectiveness relative to one's outcomes is important to positive emotional adjustment in old age.

## Emotional Adjustment as a Criterion of Successful Aging

Whether or not emotional adaptation reflects constructs similar to those encompassed by other gerontological indices of successful aging (e.g., life satisfaction, morale, contentment) is also addressed in the present results. The high degree of association between Neugarten's Life Satisfaction Index and Total Mood Disturbance (TMD) scores of the POMS indicates an overlap between constructs. However, this overlap is far from complete. Only about 27% of the variance in TMD scores could be accounted for by life satisfaction. Accordingly, emotional adjustment does contribute a substantial amount of unique information about the process of adaptation to age-related change. It is not simply an alternate form or subset of the more traditional measures of successful aging.

Comparison of the relationships between both TMD and life satisfaction scores with those research indices employed as predictors of successful aging in previous gerontological studies, also supported the use of emotional adaptation as a criterion of successful aging. Of the 20 predictor variables examined, only three (Age, Education, and Quality Family Contacts) failed to show consistency across the two criterion measures. Some further discussion of these three variables may be in order.

Two of the variables, "Age" and "Education," reflect demographic characteristics of subjects' backgrounds. Chronological age is not consistently related to successful aging in previous research (e.g., Edwards & Klemmack, 1973; Pincus & Mueller, 1963; Larson, Note 2), nor

is education, which is tied to socio-economic status (Edwards & Klemmack, 1973; Hansen & Yoshioka, 1962; Palmore & Luikart, 1972; Streib, 1968). Hence, these two variables might be expected to show mixed results.

The other variable, "Quality Family Contacts," is presumed to measure perceptions of the quality of social interactions with one's own family members. It may be that the emotional support derived from friends and peer groups compensates for losses reflected in negative perceptions of familial relations. This compensation may be evidenced in criteria assessing emotional adaptation but not in measures simply reflecting satisfaction with one's past and present life situation.

In any event, the preponderance of evidence is in support of the validity of emotional adjustment as a criterion of successful aging. Its overlap with traditional indices is sufficient so as not to represent a radical break with customary conceptualizations of successful aging. Yet, its divergence from these measures opens up the possibility of its contributing unique insights into the process of adaptation to age-related change. This is evidenced by the tendency of emotional adjustment to show associations with predictor variables of equal or greater magnitude than those found for life satisfaction.

#### Predictors of Successful Aging

Results of the stepwise regression analysis using TMD scores as the criterion variable revealed additional support for the adequacy of emotional adjustment as an index of successful aging. Locus of control, along with perceptions of incapacity, personal inadequacy, loneliness, and the objective indices of education and social activity account for

approximately 65% of the variance in emotional adjustment scores. Considering the nature of the variables under study, this is a highly respectable proportion.

What is also interesting about the results of the regression analysis is that four of the six "best" predictors (Locus of Control, Incapacity, Loneliness, and Personal Inadequacy) involve subjective perceptions. As should be recalled, "Incapacity" is an index of perceptions of physical incapacitation, whereas "Personal Inadequacy" reflects feelings of incompetence or uselessness. The meaning of the other two variables is self-evident.

These findings are in accord with Thomae's (1970) cognitive theory of aging. Perceptions of change may indeed be more important to age-related adjustment than actual change.

All predictor variables significantly related to locus of control orientation also exhibited significant first-order correlations with emotional adjustment. However, the converse of this statement did not hold true. Not all significant correlates of successful aging were also associated with locus of control. This might imply that self-effectance is not the only mediator of successful adjustment to age-related change.

Examination of the results of the stepwise regression analysis revealed that four of the six "best" predictor variables of emotional adjustment (Locus of Control, Incapacity, Loneliness, and Personal Inadequacy) were significantly related to perceptions of self-effectance. Thus, if not the only mediator, perceptions of self-effectance are, at least, a key mediator in the process of emotional adjustment to age-related change. Obviously, additional research is

needed before one can specify precisely the degree to which these perceptions operate in the emotional adjustment process.

### Epilogue

The results of all analyses, taken together, do lend a good deal of support to the hypothesis that self-efficacy plays a key mediating role in emotional adaptation to aging. The use of emotional adjustment as a criterion of successful aging is also upheld. Although the research has obvious limitations because of its correlational nature, the magnitudes of the relationships and the fitting together logically of all the results would tend to support optimistic conclusions.

The results have direct relevance for clinicians and social planners. It would seem that the adjustment crisis for the elderly revolves around concerns of maintaining efficacy in an environment where changing health and social status dramatically affect one's ability to fulfill personal needs. Conditions which engender changes in the individual's perceptions of self-efficacy should in turn bring about changes in emotional adjustment.

It is important to note that the manner in which elderly individuals conceptualize themselves in relation to their environment may be of greater importance to emotional adjustment than the objective nature of the environment. Hence, programs or intervention schema which change only the elderly's physical surroundings may effect no significant increase in their adjustment. It is likely that immunization techniques similar to those reported in the learned helplessness literature (e.g., Seligman, 1975b, pp. 45-74) would yield more positive outcomes. Allowing sufficient self-determination by the

elderly on policies and programs which affect them might serve to facilitate development of internal locus of control. This, in turn, should promote positive emotional adjustment to age-related change.

#### REFERENCE NOTES

1. Kivett, V. The aged in North Carolina: Physical, social and environmental characteristics and sources of assistance (Tech. Bul. 237). North Carolina: North Carolina Agricultural Experiment Station, 1976.
2. Larson, R. Is satisfaction with life the same in different sub-cultures? Unpublished manuscript, 1975.
3. Marshall, D., & Eteng, W. Retirement and migration in the north central states: A comparative analysis; Wisconsin, Florida, Arizona (Population Series #22). WI.: University of Wisconsin, Dept. of Rural Sociology, 1970.
4. Lopata, H. Z. Social relations of widows in urbanizing countries. Paper presented at the Meeting of the International Sociological Association in Varna, Bulgaria, 1970.
5. Lieberman, M. A. Initial attitudes to institutional life among the aged. Paper presented at the International Research Seminar on the Social and Psychological Aspects of Aging, 1960.
6. Jones, W. H. The persistence of loneliness. Paper presented at the 86th Annual Convention of the American Psychological Association, Toronto, Ontario, Canada, August, 1978.
7. Jones, W. H. Personal communication, April, 1980.
8. Jones, W. H., Smith, T. G., & Hansson, R. O. Loneliness among widows. Manuscript submitted for publication, 1982.



## REFERENCES

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 87, 49-74.
- Achenbaum, W. A. Old age in the new land: The American experience since 1790. Baltimore: John Hopkins University Press, 1978.
- Adams, D. L. Analysis of a life satisfaction index. Journal of Gerontology, 1969, 24, 470-474.
- Adams, D. L. Correlates of satisfaction among the elderly. The Gerontologist, 1971, 11, 64-67.
- Aloia, A. J. Relationships between perceived privacy options, self-esteem, and internal control among aged people (Doctoral dissertation, California School of Professional Psychology, 1973). Dissertation Abstracts International, 1973, 34, 5180B. (University Microfilms No. 74-7922).
- Atchley, R. C. The social forces in later life. Belmont, CA.: Wadsworth, 1977.
- Baltes, P. Longitudinal and cross-sectional sequences in the study of age and generational effects. Human Development, 1968, 11, 145-171.
- Berkman, P. L. Life stress and psychological well-being. A replication of Langner's analysis in the midtown Manhattan study. Journal of Health and Social Behavior, 1971, 12, 35-45.
- Birren, J. E. Handbook of aging and the individual. Chicago: University of Chicago Press, 1959.
- Blenkner, M., Bloom, M., & Weber, R. Protective services for older people: Final report on the planning stage of a research and demonstration project. Cleveland: Benjamin Rose Institute, Research Department, 1964.
- Buhler, C. The curve of life as studied in biographies. Journal of Applied Psychology, 1935, 19, 405-409.
- Burgess, E. W. Aging in western societies. Chicago: University of Chicago Press, 1960.

- Butler, R. N. Age-ism: Another form of bigotry. The Gerontologist, 1969, 9, 243.
- Butler, R. N. Why survive? Being old in America. New York: Harper & Row, 1975.
- Butler, R. N., & Lewis, M. I. Aging and mental health: Positive psychosocial approaches. St. Louis: C. Y. Mosby, 1973.
- Carp, F. M. Compound criteria in gerontological research. Journal of Gerontology, 1969, 24, 341-347.
- Cavin, R. S., Burgess, E. W., Havighurst, R. J., & Goldhamer, H. Personal adjustment in old age. Chicago: Science Research Associates, 1949.
- Clemente, F., & Sauer, W. Race and morale of the urban aged. The Gerontologist, 1974, 14, 342-344.
- Comfort, A. Age prejudice in America. Social Policy, 1976, 17, 3-8.
- Cumming, E., & Henry, W. E. Growing old: The process of disengagement. New York: Basic Books, 1961.
- Curtis, H. Biological mechanisms of aging. Springfield, IL.: Charles C. Thomas, 1966.
- Denes, Z. Old-age emotions. Journal of the American Geriatrics Society, 1976, 14, 465-467.
- Draper, N. R., & Smith, H. Applied regression analysis. New York: John Wiley, 1981.
- Edwards, J., & Klemmack, D. Correlates of life satisfaction: A reexamination. Journal of Gerontology, 1973, 28, 497-502.
- Erikson, E. H. Childhood and society. New York: W. W. Norton, 1963.
- Erikson, E. H. Identity and the life cycle. New York: W. W. Norton, 1980.
- Foote, N. M., & Cottrell, L. S. Identity and interpersonal competence: A new direction in family research. Chicago: University of Chicago Press, 1965.
- Freud, S. Morning and melancholia. In P. Rieff (Ed.), General psychology theory. New York: Collier Books, 1963.
- Gatchel, R. J., Paulus, P. B., & Maples, C. W. Learned helplessness and self-reported affect. Journal of Abnormal Psychology, 1975, 84, 732-734.

- Gordon, S. K. The phenomena of depression in old age. The Gerontologist, 1973, 13, 100-105.
- Gore, P., & Rotter, J. B. A personality correlate of social action. Journal of Personality, 1963, 31, 58-64.
- Gubrium, J. F. Environmental effects on morale in old age and the resources of health and solvency. The Gerontologist, 1970, 10, 294-297.
- Gubrium, J. F. Toward a socio-environmental theory of aging. The Gerontologist, 1972, 12, 281-284.
- Hamsher, J. H., Gellon, J. D., & Rotter, J. B. Interpersonal trust, internal-external control and the Warren Commission Report. Journal of Personality and Social Psychology, 1968, 9, 210-215.
- Hanes, C. R., & Wild, B. S. Locus of control and depression among noninstitutionalized elderly persons. Psychological Reports, 1977, 41, 581-582.
- Hansen, G., & Yoshioka, A. Aging in the upper midwest: A profile of 6,300 senior citizens. Kansas City, MO.: Community Studies, 1962.
- Harris, L. & Associates. The myth and reality of aging in America. Washington, DC.: National Council on Aging, 1975.
- Hartog, J., Audy, J. R., & Cohen, Y. A. The anatomy of loneliness. New York: International Universities Press, 1980.
- Havighurst, R. J. The social competence of middle-aged people. Genetic Psychology Monograph, 1957, 56, 297-375.
- Havighurst, R. J. Successful aging. The Gerontologist, 1961, 1, 8-13.
- Havighurst, R. J., & Albrecht, R. Older people. New York: Longmans-Green, 1953.
- Havighurst, R. J., Neugarten, B. L., & Tobin, S. S. Disengagement and patterns of aging. In B. L. Neugarten (Ed.), Middle age and aging. Chicago: University of Chicago Press, 1968.
- Henley, B., & Davis, M. S. Satisfaction and dissatisfaction: A study of the chronically-ill aged patient. Journal of Health and Social Behavior, 1972, 13, 68-80.
- Hiroto, D. S. Locus of control and learned helplessness. Journal of Experimental Psychology, 1974, 102, 187-193.
- Hiroto, D. S., & Seligman, M. E. P. Generality of learned helplessness in man. Journal of Personality and Social Psychology, 1975, 31, 311-327.

- Holmes, T. H., & Rahe, R. H. The social readjustment scale. Journal of Psychosomatic Research, 1967, 11, 213-218.
- Izard, C. E. Human emotions. New York: Plenum Press, 1977.
- Jeffers, F., & Nichols, C. The relationship of activities and attitudes to physical well-being in older people. Journal of Gerontology, 1961, 16, 67-70.
- Joreskog, K. G. A general method for estimating a linear structural equation system. In A. S. Goldberger & O. D. Duncan (Eds.), Structural equation models in the social sciences. New York: Seminar Press, 1973.
- Jung, C. G. Modern man in search of a soul. New York: Harcourt, Brace & World, 1933.
- Kalish, R. A. Late adulthood: Perspectives on human development. Monterey, CA.: Brooks Cole, 1975.
- Kiritz, S., & Moos, R. H. Physiological affects of social environments. Psychosomatic Medicine, 1974, 36, 96-114.
- Kivett, V. R., Watson, J. A., & Busch, J. C. The relative importance of physical, psychological, and social variables to locus of control orientation in middle age. Journal of Gerontology, 1977, 32, 203-210.
- Kogan, N., & Shelton, F. C. Beliefs about old people: A comparative study of older and younger samples. Journal of Genetic Psychology, 1962, 100, 93-111.
- Kogan, N., & Wallach, M. Age changes in values and attitudes. Journal of Gerontology, 1961, 16, 272-280.
- Kutner, B., Fanshel, D., Togo, A. M., & Langner, T. S. Five hundred over sixty. New York: Russell Sage Foundation, 1956.
- Kuypers, J. A. Internal-external locus of control, ego functioning, and personality characteristics in old age. The Gerontologist, 1972, 12, 168-173.
- Kuypers, J. A. Ego functioning in old age: Early adult life antecedents. International Journal of Aging and Human Development, 1974, 5, 157-179.
- Kuypers, J. A., & Bengtson, V. L. Social breakdown and competence: A model of normal aging. Human Development, 1973, 16, 181-201.
- Larson, R. Thirty years of research on the subjective well-being of older Americans. Journal of Gerontology, 1978, 33, 109-125.

- Lawton, M. P. The dimensions of morale. In D. P. Kent, R. Kastenbaum, & S. Sherwood (Eds.), Research planning and action for the elderly. New York: Behavioral Publications, 1972.
- Lawton, M. P. Coping behavior and the environment of older people. In A. N. Schwartz & I. Mensh (Eds.), Professional obligations and approaches to the aged. Springfield, IL.: Charles C. Thomas, 1974.
- Lawton, M. P., & Cohen, J. The generality of housing impact on the well-being of older people. Journal of Gerontology, 1974, 29, 194-204.
- Lazarus, R. S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.
- Lemon, B. W., Bengtson, V. L., & Peterson, J. A. Activity types and life satisfaction in a retirement community. Journal of Gerontology, 1972, 27, 511-523.
- Loeb, M., Pincus, A., & Mueller, J. Growing old in rural Wisconsin. WI.: University of Wisconsin, School of Social Work, 1963.
- Lopata, H. Z. Loneliness: Forms and components. Social Problems, 1969, 17, 248-261.
- Lopata, H. Z. Widows as a minority group. The Gerontologist, 1971, 11, 67-77.
- Lowenthal, M. F. Intentionality: Toward a framework for the study of adaptation in adulthood. Aging and Human Development, 1971, 2, 79-95.
- Lowenthal, M. F., & Boler, D. Voluntary vs. involuntary social withdrawal. Journal of Gerontology, 1965, 20, 363-371.
- Lowenthal, M. F., & Haven, C. Interaction and adaptation: Intimacy as a critical variable. In B. L. Neugarten (Ed.), Middle age and aging. Chicago: University of Chicago Press, 1968.
- Maddox, G. Activity and morale: A longitudinal study of selected elderly subjects. Social Forces, 1963, 42, 195-204.
- Maddox, G., & Eisdorfer, C. Some correlates of activity and morale among the aged. Social Forces, 1962, 4, 254-260.
- Maier, S. F., & Testa, T. J. Failure to learn to escape by rats previously exposed to inescapable shock is partly produced by associative interference. Journal of Comparative and Physiological Psychology, 1975, 88, 554-564.
- Mandler, G. Mind and emotion. New York: John Wiley, 1975.

- Masserman, J. H. The principle of uncertainty in neurogenesis. In H. D. Kimmel (Ed.), Experimental Psychopathology. New York: Academic Press, 1971.
- McNair, D. M., Lorr, M., & Droppleman, L. F. Manual: Profile of mood states. San Diego: Educational and Industrial Testing Service, 1971.
- Messer, M. The possibility of an age-concentrated environment becoming a normative system. The Gerontologist, 1967, 7, 247-250.
- Miller, W. R., & Seligman, M. E. P. Depression and learned helplessness in man. Journal of Abnormal Psychology, 1975, 84, 228-238.
- Mischel, W. Personality and assessment. New York: John Wiley, 1968.
- Mischel, W. Continuity and change in personality. American Psychologist, 1969, 24, 1012-1018.
- Moos, R. H. The human context: Environmental determinants of behavior. New York: Wiley-Interscience, 1976.
- Namboodiri, N. K., Carter, L. E., & Blalock, H. M. Applied multivariate analysis and experimental designs. New York: McGraw-Hill, 1975.
- Neugarten, B. L. Middle age and aging. Chicago: University of Chicago Press, 1968.
- Neugarten, B. L. Continuities and discontinuities of psychological issues into adult life. Human Development, 1969, 12, 121-130.
- Neugarten, B. L. Personality and the aging process. The Gerontologist, 1972, 12, 9-15.
- Neugarten, B. L., Havighurst, R. J., & Tobin, S. S. The measurement of life satisfaction. Journal of Gerontology, 1961, 16, 134-143.
- Nie, N. H., Brent, D. H., & Hull, C. H. SPSS: Statistical package for the social sciences. New York: McGraw-Hill, 1970.
- Overmier, J. B., & Seligman, M. E. P. Effects of inescapable shock upon subsequent escape and avoidance responding. Journal of Comparative and Physiological Psychology, 1967, 63, 28-33.
- Padilla, A. M., Padilla, C., Ketterer, T., & Giacalone, D. Inescapable shocks and subsequent avoidance conditioning in goldfish (*Carrasius auratus*). Psychonomic Science, 1970, 20, 295-296.
- Palmore, E. The effects of aging on activities and attitudes. The Gerontologist, 1968, 8, 259-263.

- Palmore, E. Normal aging: Reports from the Duke longitudinal study, 1955-1969. Durham, NC.: Duke University Press, 1970.
- Palmore, E., & Luikart, C. Health and social factors related to life satisfaction. Journal of Health and Social Behavior, 1972, 13, 134-143.
- Palmore, E., & Manton, K. Ageism compared to racism and sexism. Journal of Gerontology, 1973, 28, 363-369.
- Paykel, E. S., Meyers, J. K., Dienelt, M. N., Kleinman, G. L., Lindenthal, J. J., & Pepper, M. P. Life events and depression, a controlled study. Archives of General Psychiatry, 1969, 21, 753-760.
- Perlmutter, L. C., & Monty, R. A. The importance of perceived control: Fact or fantasy? American Scientist, 1977, 65, 759-765.
- Phares, E. J. Locus of control in personality. Morristown, NJ.: General Learning Press, 1976.
- Phillips, B. Role change, subjective age, and adjustment: A correlational analysis. Journal of Gerontology, 1961, 16, 347-352.
- Pihlbald, C., & Adams, D. Widowhood, social participation and life satisfaction. Aging and Human Development, 1972, 3, 323-330.
- Prasad, S. B. The retirement postulate of the disengagement theory. The Gerontologist, 1964, 4, 20-23.
- Rahe, R. H., & Lind, E. Psychosocial factors and sudden cardiac death: A pilot study. Journal of Psychosomatic Research, 1971, 15, 19-24.
- Reichard, S., Livson, R., & Peterson, P. G. Aging and Personality. New York: John Wiley, 1962.
- Rose, A. M. A current theoretical issue in social gerontology. The Gerontologist, 1964, 4, 46-50.
- Rosow, I. Old age: One moral dilemma of an affluent society. The Gerontologist, 1962, 2, 182-191.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, (1, Whole No. 609).
- Russell, D., Peplau, A., & Ferguson, M. Developing a measure of loneliness. Journal of Personality Assessment, 1978, 42, 290-294.
- Schaie, K. W. A general model for the study of developmental problems. Psychological Bulletin, 1965, 64, 92-107.

- Schaie, K. W. Theory and methods of research on aging. Morgantown, WV.: Virginia University Library, 1968.
- Schaie, K. W. Handbook of the psychology of aging. New York: Van Nostrand Reinhold, 1979.
- Schaie, K. W., & Strother, C. R. A cross-sequential study of age changes in cognitive behavior. Psychological Bulletin, 1968, 70, 671-680.
- Schwartz, A. N. A transactional view of the aging process. In A. N. Schwartz & I. Mensh (Eds.), Professional obligations and approaches to the aged. Springfield, IL.: Charles C. Thomas, 1974.
- Schwartz, A. N. An observation on self-esteem as the linchpin of quality of life for the aged. The Gerontologist, 1975, 15, 470-472.
- Schwartz, A. N., & Peterson, J. A. Introduction to gerontology. New York: Holt, Rinehart, & Winston, 1979.
- Seeman, M. On the meaning of alienation. American Sociological Review, 1959, 24, 782-791.
- Seeman, M., & Evans, J. W. Alienation and learning in a hospital setting. American Sociological Review, 1962, 27, 772-783.
- Seligman, M. E. P. Fall into helplessness. Psychology Today, 1973, 7, 43-48.
- Seligman, M. E. P. Depression and learned helplessness. In R. J. Friedman & M. M. Katz (Eds.), The psychology of depression: Contemporary theory and research. Washington, DC.: Winston-Wiley, 1975. (a)
- Seligman, M. E. P. Helplessness: On depression, development, and death. San Francisco: Freeman, 1975. (b)
- Seligman, M. E. P., & Maier, S. F. Failure to escape traumatic shock. Journal of Experimental Psychology, 1967, 74, 1-9.
- Seligman, M. E. P., Maier, S. F., & Geer, J. The alleviation of learned helplessness in the dog. Journal of Abnormal and Social Psychology, 1968, 73, 256-262.
- Seward, J. P., & Humphrey, G. L. Avoidance learning as a function of pretraining in the cat. Journal of Comparative and Physiological Psychology, 1967, 63, 338-341.
- Smith, M. B. Competence and socialization. In J. A. Clausen (Ed.), Socialization and society. Boston: Little, Brown, 1968.



- Spreitzer, E., & Synder, E. E. Correlates of life satisfaction among the aged. Journal of Gerontology, 1974, 29, 454-458.
- Streib, G. F. Old age in Ireland: Demographic and sociological aspects. The Gerontologist, 1968, 8, 227-235.
- Tallmer, M., & Kutner, B. Disengagement and morale. The Gerontologist, 1970, 10, 317-320.
- Thomae, H. Theory of aging and cognitive theory of personality. Human Development, 1970, 13, 1-16.
- Thompson, G. B. Work versus leisure roles: An investigation of morale among employed and retired men. Journal of Gerontology, 1973, 28, 339-344.
- Thompson, W. Pre-retirement anticipation and adjustment in retirement. Journal of Social Issues, 1958, 14, 35-45.
- Timm, N. H. Multivariate analysis with applications in education and psychology. Belmont, CA.: Brooks Cole, 1975.
- Tobin, S., & Neugarten, B. L. Life satisfaction and social interaction in the aging. Journal of Gerontology, 1961, 16, 344-346.
- Tunstall, J. Old and alone: A sociological study of old people. London: Routledge and Kegan Paul, 1966.
- Usdin, G., & Hofling, C. J. Aging: The process and the people. New York: Brunner Mazel, 1978.
- Wildman, R. C. Life change and college grades as a role-performance variable. Journal of Social Psychology, 1978, 41, 34-46.
- Williams, R. H., & Wirths, C. G. Lives through the years. New York: Atherton Press, 1965.
- Wolk, S., & Kurtz, J. Positive adjustment and involvement during aging and expectancy for internal control. Journal of Consulting and Clinical Psychology, 1975, 43, 173-178.
- Wylie, M. Life satisfaction as a program impact criterion. Journal of Gerontology, 1970, 25, 36-40.
- Zusman, J. Some explanations of the changing appearance of psychotic patients: Antecedents of the social breakdown syndrome concept. The Milbank Memorial Fund Quarterly, 1966, 64, 363-394.

APPENDIX A

INTERCORRELATIONS AMONG SUBSCALES ON THE  
PROFILE OF MOOD STATES

TABLE VIII  
 INTERCORRELATIONS AMONG SUBSCALES AND WITH TOTAL MOOD  
 DISTURBANCE SCORE ON THE PROFILE OF MOOD STATES

	Anxiety	Depression	Hostility	Vigor	Fatigue	Confusion	Total Mood
Anxiety	-----	0.001 (85)	0.001 (86)	0.02 (90)	0.001 (89)	0.001 (88)	0.001 (82)
Depression	0.766	-----	0.001 (84)	n.s. (85)	0.001 (84)	0.001 (84)	0.001 (82)
Hostility	0.571	0.602	-----	n.s. (85)	0.001 (85)	0.001 (85)	0.001 (82)
Vigor	-0.261	-0.196	-0.100	-----	0.001 (89)	0.01 (88)	0.001 (82)
Fatigue	0.554	0.552	0.447	-0.387	-----	0.001 (88)	0.001 (82)
Confusion	0.710	0.696	0.470	-0.280	0.580	-----	0.001 (82)
Total Mood	0.851	0.848	0.720	-0.475	0.782	0.844	-----

Note. The upper triangle of the matrix reflects the significance levels for two-tailed t-tests and the number of valid observations. The n.s. indicates  $p > .05$ .

APPENDIX B

INTERCORRELATIONS AMONG SCALE ITEMS FOR  
ATTITUDES AND SELF-PERCEPTIONS

TABLE IX  
 INTERITEM AND ITEM-TOTAL PRODUCT-MOMENT CORRELATIONS  
 FOR ATTITUDES AND SELF-PERCEPTIONS

	Item 1	Item 2	Item 3	Item 4	Total
<u>INCAPACITY</u>					
Item 1	-----	0.001 (86)	0.001 (92)	0.002 (89)	0.001 (78)
Item 2	0.462	-----	0.005 (85)	0.02 (84)	0.001 (78)
Item 3	0.336	0.304	-----	n.s. (86)	0.001 (78)
Item 4	0.331	0.258	0.173	-----	0.001 (78)
Total	0.737	0.772	0.562	0.646	-----
<u>HEALTH</u>					
Item 1	-----	0.001 (96)	0.001 (95)	0.002 (94)	0.001 (91)
Item 2	0.546	-----	0.001 (94)	0.001 (94)	0.001 (91)
Item 3	0.419	0.526	-----	0.001 (93)	0.001 (91)
Item 4	0.315	0.387	0.512	-----	0.001 (91)
Total	0.762	0.811	0.805	0.745	-----
<u>INADEQUACY</u>					
Item 1	-----	n.s. (95)	0.001 (92)	0.01 (94)	0.001 (92)
Item 2	0.046	-----	0.03 (92)	0.03 (98)	0.001 (92)
Item 3	0.461	0.236	-----	n.s. (93)	0.001 (92)
Item 4	0.270	0.224	0.163	-----	0.001 (92)
Total	0.755	0.500	0.755	0.590	-----
<u>FAMILY CONTACTS</u>					
Item 1	-----	0.001 (75)	0.005 (74)	n.s. (74)	0.001 (72)
Item 2	0.573	-----	n.s. (76)	n.s. (75)	0.001 (72)
Item 3	0.328	0.221	-----	n.s. (73)	0.001 (72)
Item 4	0.124	0.132	0.214	-----	0.001 (72)
Total	0.728	0.689	0.673	0.613	-----

TABLE IX (Continued)

	Item 1	Item 2	Item 3	Item 4	Total
<u>RETIREMENT</u>					
Item 1	-----	0.002 (92)	0.002 (81)	n.s. (85)	0.001 (75)
Item 2	0.316	-----	0.002 (79)	n.s. (84)	0.001 (75)
Item 3	0.346	0.346	-----	0.001 (76)	0.001 (75)
Item 4	0.090	0.098	0.370	-----	0.001 (75)
Total	0.510	0.600	0.786	0.670	-----
<u>INCOME ADEQUACY</u>					
Item 1	-----	0.001 (84)	0.001 (88)	0.001 (88)	0.001 (82)
Item 2	0.543	-----	0.01 (88)	0.001 (87)	0.001 (82)
Item 3	0.437	0.281	-----	0.001 (90)	0.001 (82)
Item 4	0.691	0.601	0.426	-----	0.001 (82)
Total	0.849	0.804	0.613	0.850	-----
<u>RELIGIOUSNESS</u>					
Item 1	-----	0.001 (93)	0.001 (92)	0.02 (92)	0.001 (89)
Item 2	0.707	-----	0.001 (91)	n.s. (92)	0.001 (89)
Item 3	0.598	0.529	-----	0.05 (91)	0.001 (89)
Item 4	0.256	0.146	0.209	-----	0.001 (89)
Total	0.815	0.753	0.750	0.645	-----

Note. The upper triangles of the matrices reflect the significance levels for two-tailed  $t$ -tests and the number of valid observations. The n.s. indicates  $p > .05$ .

APPENDIX C

BACKGROUND INFORMATION INVENTORY

## DEMOGRAPHIC AND BACKGROUND INFORMATION

DIRECTIONS: Given below are a series of questions about your unique history and present life situation. Some of the items are presented in a multiple-choice format. For these items, please put an "X" in the space provided in front of the appropriate response category. For open-ended items, please indicate your response by writing your answer in the space provided next to the question.

1. Your Age in Years on Your Last Birthday: \_\_\_\_\_
2. Date of Birth (Day, Month, & Year): \_\_\_\_\_
3. Your Gender or Sex (Check One):
  - A. Female
  - B. Male
4. Education (Give Highest Grade Completed): \_\_\_\_\_
5. Marital Status (Check One and Give Time Period if Applicable):
  - A. Never Married
  - B. Separated or Divorced (How Long? \_\_\_\_\_)
  - C. Widowed (How Long? \_\_\_\_\_)
  - D. Married
6. Present Employment (Check One and Give Time Period if Applicable):
  - A. Never Employed Outside Home (e.g., Housewife)
  - B. Retired (How Long? \_\_\_\_\_)
  - C. Partially Retired (How Long? \_\_\_\_\_)
  - D. Still Working Full-Time
7. What is or was your primary occupation?: \_\_\_\_\_
8. Current Living Arrangement or Residence (Check One):
  - A. Retirement Community or Retirement Home
  - B. Live with Relative (e.g., Children)
  - C. Rent Apartment or House
  - D. Own Current House or Property
9. Approximately, what is your yearly family income in dollars?  
\_\_\_\_\_
10. Approximately, what are your yearly family expenses in dollars?  
\_\_\_\_\_



11. Often people experience a relatively sharp drop in income as a result of retirement. If you are retired, please indicate the approximate percentage change in your income as a result of retirement. If your income increased after retirement or you are not retired, please check the "Not Applicable" category:
- A. 0 - 10%
  - B. 11 - 20%
  - C. 21 - 30%
  - D. 31 - 40%
  - E. Over 40%
  - F. Not Applicable
12. Race or Ethnic Background (Check One):
- A. Caucasian (White)
  - B. Black
  - C. Native American
  - D. Asian American
  - E. Other (Please Specify \_\_\_\_\_)
13. In the past 2-3 months, how frequently have you seen a doctor because of medical or health problems (Check One):
- A. More than once a week
  - B. About every other week
  - C. About once a month
  - D. Less than once a month
  - E. Not at all
14. Are you currently taking any type of prescribed medication?:
- A. No
  - B. Yes
15. If you answered "Yes" to Question 14, would you please tell us the name of your medication or if you don't know the name, the reason you take the medication: \_\_\_\_\_
16. How many children do you have?: \_\_\_\_\_
17. About how often do members of your family come to visit you (Check One):
- A. More than once a week
  - B. About once a week
  - C. About twice a month
  - D. About once a month
  - E. Less than once a month
  - F. Not Applicable

18. About how often do you entertain friends in your home?:
- A. More than once a week
  - B. About once a week
  - C. About twice a month
  - D. About once a month
  - E. Less than once a month
19. How often do you go out for some type of entertainment such as a movie, play, dinner, or concert?:
- A. More than once a week
  - B. About once a week
  - C. About twice a month
  - D. About once a month
  - E. Less than once a month
20. Given below are a number of activities that we all commonly participate in. Please place an "X" in front of each activity that you have engaged in within the last month or so (Check as many activities as applicable):
- A. Made one or more new friends
  - B. Made a purchase for your home
  - C. Done a favor for a friend or family
  - D. Engage in physical exercise somewhat regularly
  - E. Admitted some foolish or regrettable error
  - F. Solved a personal problem to your satisfaction
  - G. Attend a club or social meeting
  - H. Enjoy a concert or play
  - I. Entertain family or friends at home or elsewhere
  - J. Helped another person with a problem
  - K. Repaired some item in your home
  - L. Followed happenings in government or politics

## VITA

Thomas George Smith

Candidate for the Degree of

Doctor of Philosophy

Thesis: A SELF-EFFECTANCE VIEW OF EMOTIONAL ADJUSTMENT TO AGING

Major Field: Psychology

### Biographical:

Personal Data: Born in Milwaukee, Wisconsin on May 25, 1950, the son of Edward J. and Geraldine A. Smith. Married Cathey A. Conroy, December 28, 1974.

Education: Graduated from Milwaukee Lutheran High School, Milwaukee, Wisconsin in 1968; received the Bachelor of Science degree in Psychology from the University of Missouri, Rolla, Missouri in May, 1973; received the Master of Science degree from Oklahoma State University, Stillwater, Oklahoma in December, 1977 with a major in Psychology; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in December, 1982.

Professional Experience: Undergraduate Research Assistant in the Department of Psychology, University of Missouri, Rolla, 1972-1973; Graduate Research Assistant in the Department of Psychology, Oklahoma State University, Fall, 1973; Graduate Teaching Assistant in the Department of Psychology, Oklahoma State University, 1974-1978; Visiting Instructor in the Psychology Program, The University of Tulsa, 1978-1979; Teaching Associate in the Department of Mathematical Sciences, Oklahoma State University, 1979-1980; Lecturer, Department of Mathematical Sciences, Oklahoma State University, 1980-1981; Fellow in Behavioral Statistics Program, Department of Psychology, Baylor University, 1981-1982.

Professional Organizations: American Psychological Association, Southwestern Psychological Association, Midwestern Psychological Association, Gerontological Society of America, Phi Kappa Phi, Sigma Xi.