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LOCUS OF CONTROL, DEATH ANXIETY AND TIME PERSPECTIVE
AMONG MEMBERS OF A RETIREE ASSOCIATION
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LOCUS OF CONTROL, DEATH ANXIETY AND TIME PERSPECTIVE
AMONG MEMBERS OF A RETIREE ASSOCIATION

By
Cheryl Steindel

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ABSTRACT

LOCUS OF CONTROL, DEATH ANXIETY AND TIME PERSPECTIVE AMONG MEMBERS OF A RETIREE ASSOCIATION

By

Cheryl Steindel

This study examined how an aged person's belief that events are contingent upon his activities, i.e. internally oriented, or upon other factors, i.e. externally oriented, related to his death anxiety and time perspective.

Volunteer subjects were elderly retirees residing in the community. Each participant was given a locus of control, death anxiety and temporal questionnaire.

There was a trend for internality to relate positively to (1) total extension and protension for the men, but not the women, and (2) to density for the entire sample. The relationship between death anxiety and protension was in the expected negative direction for women, but was positive for men. Only the hypothesized negative relationship between internality and death anxiety was statistically significant.

These results and future research directions were discussed.

DEDICATION

to Dad

in loving memory

with amazement and appreciation

of all the treasures you gave to me

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INTRODUCTION

The emergence of the field of gerontology reflects an expanding interest in developmental issues as they relate to the entire life cycle. Senescence is no longer regarded exclusively as an extension of, or a regression to, childhood and, thus, unworthy of special consideration. Research and theory formulation in this area have attempted to establish a continuity between experiences of early and later life as well as identify those factors which are central to this later phase of development.

The issue of personal control over one's environment is a particularly relevant concern for the aged individual. The elderly must cope with declining health and physical vigor, retirement and reduced income as well as loss of family and friends (Cavan, 1952; Frenkel-Brunswik, 1968; Wolk & Kurtz, 1975). Moreover, the aging individual must recognize that the greater portion of his limited life span has already passed and his own death approaches on the future horizon.

However, common experience suggests that not all individuals react to aging and old age in a similar manner. Although the elderly must adjust to increasing decline and the knowledge of a limited future, the ways in which the aged perceive and respond to these changes vary. Elderly persons who feel they can have impact on their environment might be expected to react to the passage of time and the awareness of their death differently than those individuals who do not feel

masterful or causally important.

The following study is an attempt to explore how the older person's locus of control orientation influences his experience of time and his adjustment to death and dying. More specifically, it examines the factors of personal time perspective and death anxiety as they relate to the aged individual's belief that most events, to a certain degree, are contingent upon forces such as fate, chance or powerful others.

REVIEW OF THE RELEVANT LITERATURE

Historical Perspective

Gerontology has been a comparatively neglected area when viewed within the historical framework of the social sciences, the notable absence of data representing a rather pessimistic attitude about old age (Birren, 1959). There was a tendency to link senescence almost exclusively with deterioration and pathology. This negative approach to aging was reflected in earlier studies which were conducted primarily on institutionalized samples and focused more on the maladaptive aspects of aging (Busse, 1970; Riegel, 1973).

Longitudinal studies involving later life shifted research orientations and objectives (Palmore, 1970). Theorists began to regard old age as a part of a normal growth process spanning the entire life course rather than treating it as an isolated pathological condition. Healthy, "successful" aging was now recognized as an important phenomenon to be examined. Consequently, researchers began to search for personality factors related to adaptive adjustment of elderly persons residing in the community (Mass & Kuypers, 1974; Neugarten, 1968; Palmore, 1970; Reichard, Livson & Peterson, 1962).

Perceived Control and Adjustment

The ability to integrate experiences, anticipate events, plan and direct activity has been identified as a crucial determinant of

personal and social adjustment (Abdo, Dills, Shectman & Yanish, 1973; Cavan, 1952; Kuhlen, 1968; Schulz, 1976). Theorists propose that this integrative and anticipatory capacity enables an individual of any age to mediate internal needs and the demands of the external environment more competently (Hartmann, 1958; Riegel, 1959; Wolk & Kurtz, 1975).

If the individual experiences "success" more frequently in his dealings with the world, he begins to acquire a feeling that his own efforts can produce change and that he is the active director of his life. As Kuypers (1971) explains

put rather simply, positively experienced consequences to one's actions lead to the feeling of being causally important, which in turn, leads to the active creation of more positive consequences (p. 169).

In other words, this growing belief in personal control contributes to a general expectancy about environmental contingencies, and the expectancy, in turn, influences the individual's patterns of interaction. The person's concern with contingencies, i.e. the likelihood that certain actions will be rewarded, is believed to enhance the individual's alertness to environmental cues (Rotter, 1966). Moreover, sensitivity to environmental events facilitates learning and enables the individual to more readily use past experiences to guide current and future actions.

Therefore, a picture is emerging of a person who demonstrates the capacity to effectively anticipate, and thus, predict certain events and apply that information to future goals. He is an active organizer who has developed a sense of competency and mastery. In this respect, Lefcourt (1976) proposes that if a person "believed

that he was able to effectively act in his own behalf, even aversive consequences would have a less debilitating effect upon him" (p. 81).

In comparison, some people are more familiar with the experience of failure than positive consequences. These individuals do not make the causal connections between their behavior and the results which occur, and instead, associate outcomes with random events. Rather than feeling the master of his fate, this person more likely believes that other people or forces determine the direction of his life course.

In this situation, past experience is not relied upon to plan for the future because events are considered to be unpredictable and unmanageable. Such an individual might be expected to have a more helpless or fatalistic attitude since he tends to feel that he is primarily the passive recipient of what destiny or perhaps luck has to offer. Kuypers (1971) adds that this person's reactions can be characterized by the statement, "Why act if it doesn't make any difference?" (p. 169)

Therefore, it is being proposed that individuals differ in the degree to which causality is attributed to their own behavior or to other forces. The readiness to perceive contingency between one's actions and outcomes is assumed to function as a more persistent attitude influencing the person's self concept and his interpretation of and reaction to events (Lefcourt, 1976; Rotter & Hochreich, 1975). Furthermore, those persons who feel causally important seem to be better adjusted than those individuals who do not feel masterful.

Rotter (1966) has conceptualized an internal versus external expectancy of control variable which addresses itself to the individual's tendency to attribute causality. This locus of control

dimension has received substantial verification in the literature and has been applied to gerontological research. A closer examination of Rotter's construct and relevant research in this area would be beneficial.

Internal Versus External Control

Rotter's (1966) internal-external (I-E) locus of control construct is derived from social learning theory and describes the degree to which a person believes reinforcements are contingent upon his own behavior. Rotter explains that

when a reinforcement is perceived by the subject as following some action of his own, but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control (p. 1).

This expectancy of reinforcement generalizes across situations resulting in a relatively consistent disposition toward a more internal or external locus of control.

Rotter's definitions of the "internal" and "external" person correspond to the distinction made earlier between individuals who (1) actively anticipate, initiate and organize their experiences and (2) those who are more passive, less directed and perhaps feel more vulnerable or victimized by life's circumstances, respectively. Indeed, research seems to support this dichotomous description of internally and externally oriented individuals.

Locus of Control in the Aged

Kuypers (1971), using a shortened version of Rotter's I-E scale, found an approximately equal representation of internals and externals in a non-institutionalized sample of elderly men and women. Internals tended to be consistently (1) higher on coping measures (more objective, intellectual, logical, tolerant of ambiguity, empathic, sublimated), (2) less defensive and (3) manifested less signs of ego dysfunction (confabulation, delusions, impulse preoccupation). Moreover, internals had greater cognitive sensitivity and insight into their own motives while being socially perceptive and responsive to others. They demonstrated cognitive complexity and the capacity to enjoy a wide range of interests. Internal subjects also positively evaluated their own skills and characteristics.

In comparison, externals (1) manifested less positive coping styles plus greater defensiveness, (2) typically reacted to anxiety and conflicts with repressive and dissociative responses, and (3) tended to feel uncomfortable and withdraw when confronted with uncertainty or complexity. The subjects also showed more negative self attitudes, in addition to extra-punitive behavior and a tendency to externalize responsibility. This negativism was further reflected in a distrustful attitude and pervasive feeling of having been cheated by life. Kuypers (1971) concluded that "internals and externals are different and that the difference relates to rather basic personality processes or mechanisms whereby a person relates to experiences and mediates between the self and the external world" (p. 172).

Other researchers have documented the correlation between personal adjustment and internality in elderly samples. Wolk and Kurtz's

(1975) internal subjects, when compared to externals, manifested higher levels of involvement and interests, more positive resolutions of developmental tasks (adjustment to retirement, death, etc.) and a greater sense of life satisfactions.

In their attempt to delineate the correlates of life satisfaction, Palmore and Luikart (1972) also discovered that internal elderly subjects reported greater contentment with their lives than externals when locus of control orientation was measured by an instrument similar to Rotter's I-E scale. Agreeing with Kuypers (1971), the authors suggest that a belief in personal control facilitates exposure to more satisfactory experiences which, in turn, tends to reinforce an internal orientation.

Locus of Control in Younger Samples

The tendency for internality to correlate more highly than externality with a wide array of adaptive variables has also received substantial documentation from research conducted with younger samples (Hersch & Scheibe, 1967; Warehime & Foulds, 1971). For a more comprehensive presentation of the literature, the reader may refer to the reviews of Joe (1971) and Lefcourt (1966). The following discussion will focus on two variables which are relevant to this study, viz., anxiety and time perspective.

Several measures of anxiety have been associated with a more external control orientation (Joe, 1971). Watson (1967) found that externals reported greater anxiety on instruments assessing manifest and test anxiety. More specifically, he discovered externality was positively related to debilitating anxiety, but was inversely related

to "constructive" or facilitative anxiety. In an attempt to explain the greater reported anxiety of externally oriented persons, Watson hypothesized that externals tend to view the world as one in which actions and outcome sequences are noncontingent, and thus disconnected and unmanageable. Watson claims that the external individual's belief that organized responses will not be completed generates anxiety.

Feather (1967) also noted reports of greater disruptive anxiety among her externally oriented subjects. In addition, Tolor and Reznikoff (1967) discovered that internally scoring subjects had significantly greater insight, while externality related significantly to sensitization to failure and greater death anxiety.

Platt and Eisenman (1968) demonstrated that internally oriented individuals not only manifested less anxiety as measured by the Cornell Index, but also tended "to conceptualize greater segments of future personal and past and future impersonal time as well as future density" (p. 125). In other words, internals were more future oriented and capable of differentiating more segments of time than externally oriented subjects.

Brannigan and Tolor (1971) contend that a more extensive personal time perspective is based on maturity, differentiated world view and the ability to postpone gratification. Those persons perceiving themselves as having limited influence would be more prone to frustration and require immediate gratification. Thus, they were expected to have a more constricted future time perspective. As predicted, the authors found (1) greater externality among their female as opposed to their male subjects and (2) demonstrated that externality was related to a more restricted future time perspective than internality.

Rabin (1976) also obtained a positive correlation between internality, measures of time perspective and orientation, ability to delay gratification and an index of ego strength. Moreover, he found that internal control orientation was negatively related to impulsivity. Rabin asserts that more external persons do not perceive events as being predictable and thus do not plan for future events. Internals, on the other hand, believe in the predictability of events and consequently, anticipate and prepare for future goals. Doob (1971) claims that "anticipation must be acclaimed as a key variable in temporal patterning because it gives rise to another universal, inevitable activity, viz.; intervention" (p. 50).

Time Perspective

While investigation of future time perspective has been a popular endeavor (Kastenbaum, 1961; Pope, 1970), it is the assumption of this author that the relationship between the past and future is an important factor to consider, particularly when studying the elderly. An individual's awareness of the past, present and future develops from interactions with the environment and in turn is used to organize and guide the person's perceptions and experiences (Frank, 1939; Kastenbaum, 1964; Meerloo, 1954; Orme, 1969; Wallace & Rabin, 1960). This view of temporality is similar to Lewin's (1951) conceptualization of the psychological field or "life space" of the individual. Lewin contends that the life space, i.e. the "person and psychological environment as they exist at the present," encompasses the individual's perceptions of his past and future. In this respect, he defines time perspective as the "totality of the individual's views

of his psychological future and psychological past existing at a given time" (p. 75).

Lewin's notion of time perspective corresponds to Fraisse's (1963) "temporal horizon" and Frank's (1939) view of the relatedness of the past, present and future. These theorists seem to agree that time perspective is a complex phenomenon related to personality function. As Fraisse (1963) aptly describes,

The temporal horizon of each individual is the result of a true creation. We construct our past as well as our future. It is evident that adaptation is a characteristic of this activity. Man must somehow free himself from the state of change which carries him through life, by keeping the past available through memory and conquering the future in advance through anticipation. This control over time is essentially an individual achievement conditioned by everything which determines personality; age, environment, temperament, experience. Each individual has his own perspectives (p. 177).

For this current effort, personal time perspective will be defined as the individual's extension of personal feelings and thoughts from the present into the past and the future. Extension is the distance between temporal events and can be conceived as forming a continuum encompassing the individual's psychological life span. Using Wohlford's (1966) terminology, extension into the past and into the future will be referred to as retension (RET) and protension (PRO), respectively. Total extension (E-TOT) is the entire span of time experienced by the individual, i.e. RET plus PRO.

Density refers to the number of events or anchoring points an individual establishes along the length of his temporal extension (Kastenbaum, 1961; Pope, 1970). While one person can anticipate many future experiences and recall several past events, another individual expects few things to happen and imagines himself in a limited number

of situations. As Kastenbaum (1961) relates, "density could be regarded as the 'stuffings' contained within the framework that is limited by extension" (p. 206).

It would appear that density and locus of control might also be related. Since internals believe they control the consequences of their behavior, it is conceivable that they perceive themselves as participating in a greater number of reinforcement-contingent situations than externally oriented individuals who do not make the same causal connections. Therefore, one might expect internals to conceptualize more events than externals, that is, have more densely populated time perspectives.

Time Extension and Attitudes Toward Death

The eventuality of death is a reality which effects a person's organization of experience along a temporal dimension. Death, at least in a strictly physical sense, can be regarded as the final end point of time. Some theorists feel that death anxiety is effected by temporal awareness and anticipation (Orme, 1969).

Research focusing on the relationship between PRO, RET, E-TOT, density and the affective state of the individual has yielded conflicting results. Wohlford (1966) had college students visualize either a pleasant event, an unpleasant occurrence or their own death. A structured instrument, the Personal Associations Scale, and an indirect measure, the TAT, were used to assess PRO, RET and E-TOT before and after the experimental manipulation of affect. Only the data obtained from using the direct technique proved significant. Wohlford's findings indicated that when positive feelings were

experienced by the subjects (1) E-TOT lengthened, (2) PRO increased, and (3) RET remained the same. In the negative affect condition (anticipate an unpleasant event or death), (1) E-TOT did not change appreciably, (2) RET lengthened, and (3) PRO decreased.

Dickstein and Blatt (1966) evaluated undergraduates' preoccupation with death, time perspective and capacity for anticipation. Students who had a heightened concern about death seemed more oriented to the past. These subjects were also less able to anticipate events and had a foreshortened future time perspective when compared to those persons who were less preoccupied with death. The authors concluded that a constricted time perspective is characteristic of persons who do not adequately plan for the future.

Using institutionalized aged, Lynch (1971) examined the relationship of extent of future time perspective to impulsivity, activity, attitudes toward death and the experience of the passage of time. He predicted that elderly with greater future time perspective control impulsivity better, are more active, feel less negative about death and perceive time as a dynamic process. Only the relationship between futurity and impulsivity was demonstrated. Lynch speculated that activity level, attitude toward death and experience of time passage are not significantly related to future time perspective.

Fink (1953) did not corroborate Lynch's findings. Fink compared elderly persons residing in the community and nursing homes. In his sample, activity level related directly to greater concern and involvement with the future than the past. His less active and institutionalized subjects tended to be more oriented to the past.

Howell (1976) demonstrated that attitudes toward death influenced

time perspective. Howell compared retirees and college students on a variety of temporal and attitudinal measures. Elderly respondents had a more restricted future time perspective, but also more positive attitudes toward the future than the young adults tested. In addition, her aged subjects felt more positively about death and reported less death anxiety than the students. She discovered that reduced death anxiety, positive attitudes toward death and the future and a shorter future time perspective were positively correlated for the entire sample.

Howell's finding that less anxious subjects had a shorter future outlook contradicts the results obtained by Dickstein and Blatt (1966), Platt and Eisenman (1968) and Wohlford (1966). However, Bascue (1973) reasoned that avoidance of the future was a defense against confronting one's finality. His prediction of a positive linear relationship between future time perspective and death anxiety among residents of an old age home was supported.

Therefore, the relation between time perspective and anxiety, to use Doob's (1971) phrase, is "equivocal and confused." A more restricted future extension has been directly related to negative affect, impulsivity and reduced activity as well as to positive attitudes toward the future and less anxiety about death. In addition, a more extensive past perspective was found to relate to negative feelings, heightened concerns about death, the inability to anticipate, institutionalization and inactivity.

STATEMENT OF HYPOTHESES

Locus of control orientation is a personality factor which influences the person's interpretation of and reaction to the environment. Internally oriented individuals recognize the contingency between their own actions and their outcomes, utilizing information from past experiences to anticipate and plan future behavior. Cottle and Klineberg (1974) seem to refer to such a person when they write

If in his retrospections, he can find a sense of continuity and of orderly, predictable change which accounts for his current circumstances, he is likely to project into the future a sense of new possibilities that derives from these interpretations of the past and present experience (p. 12).

Such an individual develops a flexible and differentiated world view plus a sense of satisfaction in the way his life has unfolded. Consequently, these individuals feel confident in their ability to cope with stress and face the closure of life with less trepidation.

In comparison, externally oriented persons take a more passive stance, feeling they must accept what destiny, chance or others offer. Life has an uncertain and ambiguous quality. Since consequences are attributed to fate, luck or others, events are experienced as being unpredictable, and thus, beyond personal control. The past is not as readily used to direct future actions and the future is not looked to as an opportunity to correct past disappointments. Such a person probably approaches life's end with frustration and anxiety.

Given these considerations and the research which has been reviewed, the following predictions are being investigated in this study:

I. There is a positive relationship between internality and the entire time perspective (E-TOT).

II. There is a positive relationship between internality and future time perspective (PRO).

III. There is a positive relationship between internality and total time perspective density (D-TOT).

IV. There is a negative relationship between internality and death anxiety.

V. There is a negative relationship between death anxiety and future time perspective.

METHOD

Subjects

Subject selection was initially restricted to 25 females and 20 males, 65 to 75 years old, to control for the possible effect of age on the variables being investigated. However, 11 additional individuals, aged 76 to 88, were tested and the analyzed data for this extended age group were reported as additional findings.

All of the participants were Caucasians residing independently in the communities of Lansing and East Lansing, Michigan. The subjects were generally retirees who were college professors, public school teachers, administrators, social workers, etc. at the time of their retirement. Nine of the women identified themselves as homemakers. For females, the level of education ranged from 8 to 21 years and for males, 12 to 24 years. Table 1 summarizes the demographic characteristics of the females, males and combined sample in the target age (65 to 75) and extended age group (76 to 88).

Subjects were obtained by the author contacting the presidents of local chapters of the American Association of Retired Persons (AARP) and gaining permission to attend the monthly meeting, present a brief description of the research and recruit volunteers. All interested persons placed their name, address and telephone number on a sign up sheet. The researcher contacted volunteers by telephone and arranged an appointment for testing. In addition, volunteers

TABLE 1

Comparative Demographic Data for the Target
Age Group and the Extended Age Group

Class of Information	Groups*					
	Target			Extended		
	F	M	T	F	M	T
<u>N</u>	25	20	45	6	5	11
Mean age in years	69.9	70.9	70.3	79.5	79.8	79.6
Marital Status						
Married	40%	75%	56%	67%	100%	82%
Widowed	44%	20%	33%	33%	0	18%
Divorced	12%	5%	9%	0	0	0
Separated	4%	0	2%	0	0	0
Single	0	0	0	0	0	0
Mean level of education in years	14.6	17.1	15.7	14.8	17.2	15.9
Estimate of own health						
Poor	0	5%	2%	0	0	0
Fair	16%	5%	12%	0	0	0
Good	56%	50%	53%	67%	60%	55%
Very Good	28%	40%	33%	33%	40%	45%
Estimate own religiousness						
Very	32%	15%	24%	67%	60%	64%
Moderately	60%	65%	62%	33%	20%	27%
Slightly	8%	15%	11%	0	20%	9%
Not at All	0	5%	2%	0	0	0
Mean years in community	27.2	32.7	29.7	50.3	58.5	54.4
Mean years at current residence	15.9	17.8	16.8	25.7	29.3	27.3
Types of residence						
Own home/apartment	80%	85%	82%	85%	90%	87%
Rent home/apartment	20%	15%	18%	15%	10%	13%

*F represents females, M represents males, T represents total sample.

gave the author the names and telephone numbers of other AARP members who they thought might be interested in participating. When contacted by telephone, only two of the volunteers chose not to become involved in the research.

Assessment of Variables

Locus of Control. Orientation of control was determined by Rotter's (1966) Internal-External (I-E) scale (see Appendix A). This scale is a 29 item forced choice test that measures the subject's generalized expectancy about the causal relationship between his own behavior and reinforcement. An internally controlled individual believes that reward is contingent upon his own actions. While an externally oriented individual might recognize that reinforcement follows his own responses, he tends to attribute causality to luck, fate or other factors.

For each item of this scale, subjects chose one of two statements that they believe more strongly to be true. They were instructed not to select a statement they thought they should choose or would like to be true. Six filler items were included to obscure the purpose of the questionnaire. Following Wolk and Kurtz's (1975) suggestion, the wording on item 23 was changed to past tense to reflect a statement appropriate for an elderly group. Only responses indicating an external control expectancy were summed to comprise the total score. Therefore, scores could range from 0 to 23 with a higher score representing greater externality.

Rotter (1966) gives support for construct validity, reliability and relative freedom from influence by social desirability. Moreover,

this measure has already been established as a useful instrument in working with an aged population (Kuypers, 1971; Wolk & Kurtz, 1975).

Time Perspective. Time perspective was defined as the individual's extension of personal feelings and thoughts into the past and the future. The following factors were regarded as aspects of time perspective: (1) protension, (2) retrotension, (3) total extension, and (4) density.

An instrument combining scales devised by Eson (as presented in Fink, 1953) and Wohlford (1966) was used to assess these temporal concepts. This instrument will be referred to as the Personal Associations (PA) measure (Appendix B).

The procedure entailed each subject being asked to "List as many ideas or events you can remember thinking or talking about in the past week or two." After the list was generated, the respondent indicated (1) whether the item was related to the past, present or future, and (2) estimated the amount of time involved between the occurrence of that past, present or future event and the immediate testing situation. If subjects felt an event spanned more than one time category (i.e. past, present or future), they were instructed to select the time category most closely related to that item. Using Fink's (1953) procedure, respondents also rated the items listed as being important, very important, or not very important to the individual. This enabled the researcher to better assess if a rating set was influencing the subject's responses.

Anticipated events were scored for the average extent of protension (PRO) and past events for the average extent of retrotension

(RET). The two scores were summed to get a value for total extension (E-TOT). Both Wohlford (1966) and Pope (1970) used a 7 point scale to determine the distance of events listed from the immediate present. However, the time intervals they used were formulated for a college sample, and thus, may not be valid for an elderly population. For the present effort, a 10 point scale was devised as follows: 0= under 2 hours; 1= 2 hours to under 1 week; 2= 1 week to under 1 month; 3= 1 month to under 6 months; 4= 6 months to under 2 years; 5= 2 years to under 10 years; 6= 10 years to under 15 years; 7= 15 years to under 30 years; 8= 30 years to under 50 years; 9= over 50 years.

Density of the past (D-Ps), the present (D-Pr) and the future (D-F) was calculated by counting the number of events connected with each time category. These scores were then summed to compute total density (D-TOT).

Death Anxiety. The 15 item Death Anxiety Questionnaire (DAQ) devised by Conte, Bakur-Weiner, Plutchik and Bennett (1975) is a forced choice task requiring subjects to indicate the amount of worry they experience about certain thoughts concerning death and dying (Appendix C). The individual indicated whether each item bothered him "Not at All" (scored 0). "Somewhat" (scored 1), or "Very Much" (scored 2). The scores can range from 0 (no death anxiety) to 30 (highest death anxiety).

The DAQ was selected because of its brevity, ease of administration and its validation across different age ranges including the elderly. Conte, et al. (1975) provide evidence for reliability, content validity and lack of significant sex difference.

Personal Inventory. The personal inventory (PI) questionnaire asked for demographic variables such as age, education, marital status, etc. (Appendix D). It also included the respondent's estimate of his/her own health and religious conviction.

Procedure

Pretesting. A pilot study was conducted on five randomly selected elderly individuals so that ease and clarity of administration of the test materials could be evaluated and corrections made when needed. Those persons involved with preliminary testing were not included in data analysis for this study.

Procedure with each subject. The purpose of the study was briefly explained to each subject at the time of recruitment and actual initiation of the testing. The measures were administered individually to eligible subjects by the author or her research assistant, and testing was conducted in the subject's residence.

All materials were combined in a booklet and presented in the following order: I-E, PA, DAQ, PI. The measures selected were relatively clear and concise, requiring minimum effort on the part of the respondent. Testing was completed in a single session approximately an hour in length, minimizing the effects of inattentiveness and fatigue.

At the end of each session, subjects were thanked for their participation in the study.

Statistical Analysis

Pearson product-moment correlation coefficients were determined for each pair of variables including internal-external locus of control, death anxiety, the extension and the density measures. Separate correlations were calculated for males, females and the total sample.

In addition, t-tests of the difference between means were computed for each variable in order to assess for possible sex differences.

RESULTS¹

The correlations between internal-external control and the time extension and density measures were not statistically significant ($p < .05$). Hypothesis I states that a more internally oriented individual would tend to have a more extensive time perspective (E-TOT) than an externally controlled individual. Examination of Table 2 reveals that the positive relationship between internality (IE) and E-TOT was in the predicted direction for the men and for the total sample, but not for the women. However, these correlations are low and not statistically significant.

TABLE 2
Correlations Between Internality and Extension (Hypotheses I and II)

	N	PRO	E-TOT
Men	20	.28	.30
Women	25	-.13	-.17
Total	45	.08	.15

Hypothesis II, postulating that internals have a longer future time perspective, that is, protension (PRO), was not supported (see

¹Complete correlation matrices of all variables for subjects in the 65 to 75 age group may be found in Tables 8, 9 and 10 in Appendix E.

Table 2). Protension was associated with externality for the women and with internality for the men, although these relationships are not statistically significant.

The prediction of Hypothesis III that internality is related to greater time perspective density (D-TOT) was also not confirmed. As Table 3 demonstrates, there was a positive, but statistically non-significant correlation between internality and total density for the men, women and total sample.

TABLE 3

Correlations between Internality and Density (Hypothesis III)

	N	D-Past	D-Present	D-Future	D-Total
Men	20	-.39*	.32	.42*	.28
Women	25	.07	-.01	.09	.07
Total	45	.14	.13	.28	.15

*.05 < p < .10

Table 3 also contains data on the component scores of total density. Analysis of these findings indicate that for men, internality was negatively related to density of the past and positively related to density of the future near the .05 level of confidence. This suggests that men with internal orientations tend to report more future events while those with external orientations more often list events that occurred in the past. For the women, the correlations were negligible and did not significantly effect the total findings.

Hypothesis IV stating that internally oriented persons report

less death anxiety (DA) than more externally oriented individuals was confirmed. The relationship between internality and death anxiety scores was in the predicted negative direction, although it reached statistical significance ($.05 < p < .10$) for the women ($r = .37$) and the total sample ($r = -.29$), but not for the men ($r = .09$).

It is interesting to note that when the scores of the subjects in the extended (over 75) age group are included, these correlations become significant at the .05 level of confidence. The coefficients for the men were low in both samples. These relationships are summarized in Table 4.

TABLE 4
Correlations Between Internality and Death Anxiety
for the 65-75 and 65-88 Age Groups

	N	65 to 75	N	65 to 88
Men	20	-.09	25	-.08
Women	25	-.37*	31	-.40**
Total	45	-.29*	56	-.31**

*.05 < p < .10

** .05 < p

The prediction of Hypothesis V that persons with greater concern about death have less extended future time perspectives was not supported. The expected inverse relationship between death anxiety and protension was found only among the women, but this finding was not statistically significant ($r = -.20$, $p > .05$). For the men, the

correlation was against prediction ($r = .24$, $p > .05$), resulting in a .00 relationship when the data were combined for the total sample.

Additional Findings

During the course of this investigation, certain additional results emerged which are worth examining. They are presented below.

Intercorrelations between time measures. Table 5 shows the intercorrelations between measures of extension and density for the total sample ($N = 45$). Separate intercorrelations for men and women can be found on Tables 7 and 8 (Appendix E).

TABLE 5

Intercorrelations Between Extension and Density ($N = 45$)

	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
PRO		.33*	.80***	-.36*	.33*	.19	.12
RET			.82***	.13	.26+	.13	.26+
E-TOT				-.13	.35*	.18	.23
D-Ps					.04	-.05	.41**
D-Pr						.50***	.81***
D-F							.76***
D-TOT							

+ < .10

* $p < .05$

** $p < .01$

*** $p < .001$

The total extension and density variables are composite scores, and thus, E-TOT correlates highly with PRO and RET, and D-TOT with D-Ps, D-Pr and D-F. It is also interesting to note the significant positive relationships between density of the present and all the extension measures (PRO, RET and E-TOT).

Sex differences. A t-test comparison of the means of the IE, DA and time measures revealed no significant differences between the men and women. This finding is consonant with the literature regarding the lack of sex differences with locus of control (Rotter, 1966) and temporal variables (Rabin, 1976).

However, examination of the means and standard deviations of relevant variables presented in Table 17 (Appendix H) does indicate that the women in this sample tended to be more external and report greater concern about death than the men. Furthermore, women had greater density scores, except for the future, where the men had a higher mean D-F. The men also exceeded women on all the extension measures (E-TOT, PRO, RET). Therefore, when compared to the men, women tended to have shorter time perspectives, but generally more temporal anchoring points, i.e. greater density, along that time perspective.

Extended age group. Since data were collected on individuals over the age of 75, Pearson product moment correlations were computed between all the variables for persons in the extended age group, 76 to 88 years, (see Tables 11, 12 and 13 in Appendix F) and the combined sample of subjects, ages 65 to 88 (see Tables 14, 15 and 16 in Appendix G).

No significant differences were found with t-test comparisons for the means for the men and women in the extended age group. In addition, there were no significant differences between the extended and target groups according to sex except that women 65 to 75 years of age had significantly greater RET scores ($t = 2.49$, $p < .05$) than women over 75.

To evaluate the effect of introducing age as a variable, correlation coefficients were calculated to determine the relationship between age and the other measures. These findings are presented in Table 6.

TABLE 6
Correlations Between Age and Variables for
Combined Sample (Ages 65-88)

	N	IE	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
Men	25	.07	-.16	.00	-.11	-.08	.12	.19	-.15	.09
Women	31	-.08	.14	-.17	-.41*	-.14	-.42*	-.40*	.18	-.68***
Total	56	-.04	.00	-.06	-.21	-.18	-.23	-.10	.05	-.43**

* $p < .02$

** $p < .01$

*** $p < .001$

For the women, age is negatively related to RET, D-Ps, D-Pr and D-TOT at the .02 level of significance or better. This signifies that the older women tended to have shorter extensions into the past and time perspectives that were generally less dense. This decrease in density with increasing age was also confirmed for the total sample ($p < .01$).

As Table 6 indicates, age did not correlate significantly with any of the variables for the men.

DISCUSSION

A striking feature of this study is that the temporal extension and density measures failed to correlate significantly with either locus of control or death anxiety. Only Hypothesis IV, predicting that internals have less death anxiety than externals, was confirmed. In addition, the data reveal that men and women responded in opposite directions on three of the five major relationships being investigated. However, before analyzing the results and their relation to the individual hypotheses, it would be worthwhile to examine how general characteristics of the sample might pertain to the current findings.

Sample Characteristics

The elderly sample in this study appears to be a relatively advantaged one (see Table 1). A majority of the subjects are married, well-educated professional people who have been living independently in privately owned residences for an average of 16 years. Furthermore, these individuals regarded themselves as being in good health and indicated, in conversations, that they were involved in a variety of social, religious and political groups. Since the factors of self-rated health and organizational activity have been identified as major predictors of life satisfaction among the elderly (Palmore & Luikart, 1972), it seems likely that this sample has encountered rewarding life

experiences and might be predisposed toward a more internal locus of control orientation than other samples.

Felton and Kahana (1974) stress the need for accounting for the "potential for real control over the environment" (p. 295) when studying locus of control in specific populations. Settings vary in the degree to which a potential for personal autonomy exists (Wolk, 1976). Given the demographic characteristics and living situations of the subjects used in the present study, a belief in internal locus of control appears to be congruent with the environmental contingencies that are available. Unlike institutionalized aged who, in fact, must depend upon others for many of their needs, these retirees have a greater opportunity to exercise personal control over their immediate life situations. In this respect, Table 7 indicates that the present sample was more internally oriented than college students (Warehime & Foulds, 1971) and a comparable group of aged individuals (Wolk & Kurtz, 1975).

TABLE 7

Comparison of Sample IE Characteristics in Different Studies

Author	Mean Age of Subjects	Mean	S.D.	% of Sample with IE Scores	
				below 10	over 13
Present Study	70.3	6.98	3.21	73	2
Wolk & Kurtz (1975) ^a	68.0	8.22	4.32	53	14
Warehime & Foulds (1971)	19.0 ^b	12.04	3.76	c	

^a subjects were uninstitutionalized elderly

^b estimated age of college students

^c percentage figures not known

The lack of sufficient variation in locus of control orientation among the volunteers in this study might have attenuated the magnitude of the correlations which were obtained. Rotter (1966) maintains that the locus of control scale was devised as a wide gauge instrument evaluating a generalized characteristic over a broad number of situations. Consequently, he expected to obtain primarily low linear correlations between IE and other variables. With a relatively homogeneous sample, the discriminative ability of the instrument is reduced even further. The small sample size also restricts the opportunity for systematic relations to appear that differentiate internally and externally oriented individuals.

Given these considerations about the homogeneity of the sample and the corresponding limitations of the IE scale, the specific hypotheses regarding locus of control will be discussed.

Internality and Time Extension

The literature demonstrates that externals, in comparison to internals, rely less upon past learning experiences (Rotter, 1966) and anticipate fewer events within a more constricted future time extension (Brannigan & Tolor, 1971). Since they believe events are controlled by other people or forces, it is conceivable that externals become frustrated and seek more immediate gratification of their needs. Indeed, Rabin (1976) reported greater impulsivity among the externally oriented college students he tested.

Internals, on the other hand, perceive reinforcements as the result of their own initiative and use the knowledge of these past experiences to anticipate potentially rewarding events. Therefore, it

was predicted that internally oriented individuals would have longer total time (Hypothesis I) and future time (Hypothesis II) perspectives than externally oriented persons.

A curious finding of this study is that the hypothesized relationships between internality and the extension measures (E-TOT and PRO) approached, but did not reach significance for the men and were against prediction for the women. Since it can be argued that time extension encompasses the most distant boundaries of one's personal past and/or future (Lewin, 1951), a post hoc evaluation of these relationships was conducted by using the largest individual protension and retrotension scores as the unit of analysis (see Table 18, Appendix I). However, this procedure did not reveal any significant differences, requiring alternative interpretations to explain the opposing trend between the sexes.

A realistic occurrence at this stage of life is that men, according to actuarial expectancies, are nearer to death than women, who are more likely to survive their spouses. In this sample, approximately twice as many women than men were widowed (Table 1). Therefore, the women in this group had to deal with two losses. Retirement reduced their personal status and widowhood disrupted their affectional relationships (Cavan, 1949). Being cognizant of environmental events, the internally oriented women might actively prepare for or adjust to these life changes, concentrating their efforts on the pressing demands of the more immediate future. This could result in a general constriction of temporal horizons.

In contrast, externally oriented females could visualize the immediate past and/or future as a somewhat unsettled, transitional

period where the probability of receiving rewards from outside sources is restricted. If this is the case, distant times might be perceived as more gratifying. This interpretation would account for the positive relationship obtained between externality and total or future extension among the women.

Men are less likely to be widowers and thus, their futures might look different to them. Internal men could conceive their retirement years as a time to reap the benefits of accomplishments accrued during their younger days. Such an individual could look back in life with a sense of satisfaction and forward with a conviction to live the remainder of his years fully.

How might this argument relate to externally oriented men? For this group, retirement might be experienced as a loss of a potential source of external rewards, generating feelings of frustration and a "live for the moment" attitude. Leisure time lies heavily upon their hands since they do not feel they can be instrumental in securing gratification. In this respect, Platt and Eisenman (1968) found that time seemed to pass more slowly for external college students, while for internals, time moved swiftly.

Temporal Density

The finding that internal subjects favor a faster view of time is relevant to Hypothesis III and the expectation that internals will not only conceptualize greater segments of time, but also have more densely populated temporal extensions. Platt and Eisenman (1968) reasoned that internals have a greater emphasis on "movement to the future" since they regard themselves as participating in a greater

number of reinforcement-contingent situations than externally oriented persons. The trend for internality to be positively related to protension among the men has already been discussed. However, as internals accumulate rewarding experiences, these events could also act as "markers" along their temporal extensions, increasing the density of their future as well as past outlooks.

It is intriguing to note that there was a significant, positive association between density of the present, protension, retrotension and total extension. Apparently, perceiving oneself in a greater number of here and now experiences is related to visualizing events in one's distant past and future. While the connection between this finding and locus of control has not been established, the interrelationship of these temporal measures might reflect the process described by Frank (1939),

It is as if the remote past were focussed upon the present, whereas it is as if the immediate present and its perplexities that are focussed upon the past, giving the past the dimensions of our present needs and values, which in turn are constituted by our future time perspective and aspirations (pp. 302-303).

Death Anxiety

Given the previous discussion regarding the correlates of locus of control, it seems theoretically consistent that internally oriented individuals report significantly less death anxiety than externals (Hypothesis IV). The description of individuals with internal orientations that is presented in the literature and is gaining some support from the current findings seems to correspond to Erikson's (1950, 1964) conceptualization of the elderly individual who has successfully resolved developmental ego crises and in senescence, becomes the

possessor of "ego integrity." According to Erikson, the aged person who achieves integrity has acquired a sense of perspective, realizing his place in the world order by integrating personal strivings with the more global needs of mankind. These achievements facilitate the person's acceptance of his life as an inevitable consequence of the way in which he has lived.

When life is perceived as satisfying and meaningful, death becomes less ominous. Erikson (1950) declares, "in such final consolidation, death loses its sting." Death is accepted because it is regarded in the context of the experiences of the past enabling the individual to accept the consequences of the future.

In comparison, individuals who are more externally oriented might be likened to persons who have failed to attain ego integration and are in a state of "despair." These individuals do not fully recognize their participation in their present as well as in past life situations. Under these conditions, time could be an enemy, depriving these individuals of an opportunity to begin life anew. These people confront the closure of life with denial, trepidation or remorse.

Death Anxiety and Protension

The results concerning death anxiety and protension are more difficult to interpret. Once again, correlations are in opposite directions with men going against prediction by having a positive relationship between future time perspective length and death anxiety. For the women, the ability to perceive oneself in more distant future events was associated with reduced concerns about death.

Movement forward in time brings the aged individual closer to

the reality of his own death. Perhaps, when men visualize their distant futures, they realize there is a greater probability that their wife will have died. Thus, they are faced with the possibility of increased infirmity and confrontation of their own end, alone, without their mate by their side.

Although the data does not enable causal interpretations to be made, the very uncertainty of the extended future might be unsettling, while the more immediate future is not such an unknown and anxiety arousing experience. Bascue (1973) offered the explanation that elderly turn away from the future, that is, have less protension, as a means of denying their own mortality. Howell (1976) had an alternative interpretation for the similar findings she obtained. She felt that the relationship between a shorter protension and less death anxiety reflected the aged's realistic appraisal that death is near and the future is brief.

In comparison, it was proposed that the immediate future could be more traumatic for women due to the combined effects of retirement and widowhood. Gubrium (1973) suggested that "for those aged persons who have suffered sudden and relatively irreversible declines in personal resources (e.g. health, social support), a formerly competent ability to cope with everyday life diminishes. This sudden decline in competence is fear-inducing, which in turn may lead to further reductions in competence" (p. 124). Although conjecture, women might feel that if they make it through this troublesome period, life will become more manageable, enabling their own death to be approached with less anxiety.

Methodological Considerations

While interpretations have been posited to explain the tendency for men and women to respond differently, they are highly speculative, indicating a clear need for further research to be done in this area. It is uncertain how the selection of a larger more differentiated sample might affect the divergent trend between the sexes. However, a closer examination of the measures used in this study might provide some clarification of the results.

Lester (1967) warned that the tendency for investigators to treat death anxiety as a unidimensional construct has limited comparability of findings across studies since the multidimensional nature of the variable has been ignored. An examination of the Death Anxiety Questionnaire used in this study indicates it covers various aspects of death such as the reactions of others, the painfulness of death, belief in afterlife, etc. (see Appendix C). It is conceivable that these items might have different significance depending upon the age and sex of the respondent. When the originators of the Death Anxiety Questionnaire performed an item analysis of the scale, they found that different questions had the greatest potential for discriminating the elderly from the student group of subjects (Conte, Bakur-Weiner, Plutchik & Bennett, 1975). Along this line, men and women might also fear different aspects of death and dying, and thus would endorse items differently. Since death anxiety was evaluated by comparing composite scores, the existence of divergent response patterns for men and women was not determined.

Furthermore, low intercorrelations have been reported among temporal instruments purportedly assessing the same concept (Lessing,

1968; Ruiz, Reivich & Krauss, 1967). Therefore, generalizing from investigations which employ a single measure of time perspective must be done cautiously. In addition, extenuating circumstances during the period of testing might have influenced the subject's responses on the Personal Associations measure. The volunteers were tested in late November and early December when the holidays of Thanksgiving, Christmas and New Year's are prominent events. It is possible that these external occurrences focused subjects' attention on the more immediate present, reducing the ability to discriminate the respondents on the temporal as well as the locus of control measure.

Age Factors

The failure of the present study to consistently corroborate results achieved with college students (Brannigan & Tolor, 1971; Platt & Eisenman, 1968; Rabin, 1976) warns against predicting the behavior of elderly individuals on the basis of research conducted with young adults. Erikson (195) describes senescence as that phase of life where "time is now short, too short for the attempt to start another life and to try out alternate roads" (p. 269). This differs from younger people who feel they have the majority of their life remaining (Bortner & Hultsch, 1972).

Indeed, the literature indicates that age is a significant factor when considering future time perspective (Kastenbaum, 1963) and attitudes toward death (Howell, 1976). Perhaps, age affects locus of control. Common sense suggests that the elderly have been exposed to a wide range of experiences by virtue of the fact that they have lived longer. Consequently, older people probably have more specific

expectancies available to them regarding anticipated outcomes in a variety of situations. This would have a direct bearing on locus of control since Rotter (1966) maintains that locus of control orientation has less influence on behavior in situations perceived distinctly as luck or skill determined or under the control of others. As Duke, Shaheen and Nowicki (1974) elaborate,

the younger the individual, the earlier he is in his lifelong learning sequence and the fewer the specific expectancies he would have upon which to base his behaviors in specific situations. Therefore, one would theoretically expect the younger persons to rely more on generalized expectancies than older persons. . . . If the above reasoning is correct, one would expect fewer correlates of locus of control, the older the subject population (p. 284).

Implications for Future Research

If an internal orientation is associated with positive adjustment as the literature suggests (Kuypers, 1971; Wolk & Kurtz, 1975), development of programs aimed at increasing internality among the elderly would be beneficial in facilitating "successful" aging. However, given the inconclusive findings of the present study, further research needs to be conducted with larger and perhaps more representative samples of older people that are not biased toward an internal locus of control. This might entail studying individuals who are minorities with lower educational and socioeconomic backgrounds, since for this population, external factors might actually control reinforcements (Rotter, 1966). In addition, a more detailed analysis is required to determine possible trends which differentiate men and women in later life.

To achieve these objectives, it might be useful to devise a locus of control measure that relates specifically to the issues of

the aged (e.g. retirement, widowhood, anticipation of own death) since the control construct might have a different meaning for older individuals. As was mentioned, the results of this study question the advisability of using a scale constructed for younger populations on older subjects. An item analysis of the elderly's responses on the locus of control scale and the death anxiety questionnaire would also enable researchers to determine if significant differences exist between aged men and women.

While considerable attention has been given to future time perspective (Kastenbaum, 1961; Lessing, 1968; Spence, 1968; Wallace & Rabin, 1960), our understanding of total time perspective and the interrelatedness of the past, present and future is primarily on a theoretical level (Frank, 1948). Further work in this area is indicated. Moreover, the meaningfulness of time perspective and density in regards to the elderly can be enhanced if we also know how the elderly occupy their time. A content analysis of the Personal Associations measure would be helpful in this regard.

Finally, interpretative comments regarding the elderly must be made cautiously since adequate norms regarding locus of control, time perspective extension, density and death anxiety are conspicuously lacking for this age group. This present investigation represents an initial attempt to remedy this situation.

SUMMARY

The issue of personal control over the environment is a salient one for the aged individual who must cope with physical, economic and social decline as he approaches the end of his life. The following study was an attempt to determine how the older person's belief that events are, to a certain degree, contingent upon his own activities or upon fate, chance and powerful others, influences his time perspective and his anxiety about death.

If an individual is internally oriented, he feels instrumental in securing positive experiences, and uses past events as a means of anticipating future occurrences. Death is less ominous since these people have a sense of satisfaction in having lived a rewarding life. Externally oriented persons do not recognize the causal connections between their own behavior and its consequences. Since they rely on what luck or perhaps others offer, these individuals do not use the past to guide their future behavior and are more likely to approach the closure of life frustrated and anxious.

Therefore, it was hypothesized that internally oriented individuals would have more extensive total and future time perspectives with a greater density of events as well as less death anxiety than externally oriented persons. It was also predicted that individuals who had longer future time perspectives would be less anxious about death.

The subjects were 25 female and 20 male volunteers, 65 to 75

years old, who were members of local chapters of the American Association of Retired Persons. A majority of the sample were married, college educated people. All participants were residing independently in the community. Rotter's Locus of Control Scale, the Personal Associations Scale, the Death Anxiety Questionnaire (Conte, et al., 1975) and a Personal Inventory form were individually administered to subjects in their homes.

The results indicated that internality was positively related to total extension and protension, as expected, but for the men only, with a negative relationship obtained for the women. However, all these correlations were low and statistically nonsignificant. The hypothesized positive relationship between internality and total time perspective density approached, but did not reach statistical significance for the men or for the women. The relationship between internality and death anxiety was in the predicted negative direction, although it reached statistical significance for the women, but not the men. In addition, the expected inverse relationship between death anxiety and protension was found only among the women, with death anxiety positively related to future time perspective for the men. However, these correlations are also statistically nonsignificant.

The limited range of scores on the locus of control and temporal measures was considered as a possible explanation for the low correlations obtained. Moreover, issues surrounding retirement, widowhood and death in later maturity were discussed in relation to the variables.

From these discussions, some proposals for future research with the elderly were made.

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APPENDICES

APPENDIX A

INTERNAL-EXTERNAL LOCUS OF CONTROL SCALE

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives letter a or b. Please select the one statement of each pair (and only one) which you more strongly BELIEVE to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously, there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. For each numbered question make an X on the line beside either the a or b, whichever you choose as the statement most true.

In some instances, you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also, try to respond to each item independently when making your choice; do not be influenced by your previous choices.

Items begin on the next page. Remember, select an alternative you PERSONALLY BELIEVE TO BE MORE TRUE.

1. ____ a. Children get into trouble because their parents punish them too much.
____ b. The trouble with most children nowadays is that their parents are too easy with them.
2. ____ a. Many of the unhappy things in people's lives are partly due to bad luck.
____ b. People's misfortunes result from the mistakes they make.
3. ____ a. One of the major reasons why we have wars is because people don't take enough interest in politics.
____ b. There will always be wars, no matter how hard people try to prevent them.
4. ____ a. In the long run people get the respect they deserve in this world.
____ b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. ____ a. The idea that teachers are unfair to students is nonsense.
____ b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. ____ a. Without the right breaks one cannot be an effective leader.
____ b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. ____ a. No matter how hard you try some people just don't like you.
____ b. People who can't get others to like them don't understand how to get along with others.
8. ____ a. Heredity plays the major role in determining one's personality.
____ b. It is one's experiences in life which determine what they're like.
9. ____ a. I have often found that what is going to happen will happen.
____ b. Trusting to fate have never turned out as well for me as making a decision to take a definite course of action.
10. ____ a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
____ b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. ____ a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
- ____ b. Getting a good job depends mainly on being in the right place at the right time.
12. ____ a. The average citizen can have an influence in government decisions.
- ____ b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. ____ a. When I make plans, I am almost certain that I can make them work.
- ____ b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. ____ a. There are certain people who are just no good.
- ____ b. There is some good in everybody.
15. ____ a. In my case getting what I want has little or nothing to do with luck.
- ____ b. Many times we might just as well decide what to do by flipping a coin.
16. ____ a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
- ____ b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.
17. ____ a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
- ____ b. By taking an active part in political and social affairs the people can control world events.
18. ____ a. Most people can't realize the extent to which their lives are controlled by accidental happenings.
- ____ b. There is really no such thing as "luck."
19. ____ a. One should always be willing to admit his mistakes.
- ____ b. It is usually best to cover up one's mistakes.
20. ____ a. It is hard to know whether or not a person really likes you.
- ____ b. How many friends you have depends upon how nice a person you are.

21. ____ a. In the long run the bad things that happen to us are balanced by the good ones.
- ____ b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. ____ a. With enough effort we can wipe out political corruption.
- ____ b. It is difficult for people to have much control over the things politicians do in office.
23. ____ a. Sometimes I can't understand how teachers arrive at the grades they give.
- ____ b. There was a direct connection between how hard I studied and the grades I got.
24. ____ a. A good leader expects people to decide for themselves what they should do.
- ____ b. A good leader makes it clear to everybody what their jobs are.
25. ____ a. Many times I feel that I have little influence over the things that happen to me.
- ____ b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. ____ a. People are lonely because they don't try to be friendly.
- ____ b. There's not much use in trying too hard to please people, if they like you, they like you.
27. ____ a. There is too much emphasis on athletics in high school.
- ____ b. Team sports are an excellent way to build character.
28. ____ a. What happens to me is my own doing.
- ____ b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. ____ a. Most of the time I can't understand why politicians behave the way they do.
- ____ b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX B

PERSONAL ASSOCIATIONS MEASURE

PERSONAL ASSOCIATIONS

List below AS MANY ideas or events you can remember thinking or talking about in the past week or two.

IDEAS or EVENTS

- ____ 1. _____ / _____
- ____ 2. _____ / _____
- ____ 3. _____ / _____
- ____ 4. _____ / _____
- ____ 5. _____ / _____
- ____ 6. _____ / _____
- ____ 7. _____ / _____
- ____ 8. _____ / _____
- ____ 9. _____ / _____
- ____ 10. _____ / _____
- ____ 11. _____ / _____
- ____ 12. _____ / _____
- ____ 13. _____ / _____
- ____ 14. _____ / _____
- ____ 15. _____ / _____
- ____ 16. _____ / _____
- ____ 17. _____ / _____
- ____ 18. _____ / _____
- ____ 19. _____ / _____

- ____ 20. _____ / _____
- ____ 21. _____ / _____
- ____ 22. _____ / _____
- ____ 23. _____ / _____
- ____ 24. _____ / _____
- ____ 25. _____ / _____
- ____ 26. _____ / _____
- ____ 27. _____ / _____
- ____ 28. _____ / _____
- ____ 29. _____ / _____
- ____ 30. _____ / _____
- ____ 31. _____ / _____
- ____ 32. _____ / _____
- ____ 33. _____ / _____
- ____ 34. _____ / _____
- ____ 35. _____ / _____
- ____ 36. _____ / _____
- ____ 37. _____ / _____
- ____ 38. _____ / _____
- ____ 39. _____ / _____
- ____ 40. _____ / _____

TIME OF OCCURRENCE
OF PERSONAL ASSOCIATIONS

Now, go back over your list of PERSONAL ASSOCIATIONS written on the previous page(s).

Each of the ideas or events listed is related specifically to a past, present or future occurrence.

In the space provided AFTER each item listed, please write

(1) whether that idea or event is connected more to the PAST,

PRESENT or FUTURE

AND

(2) how much TIME has passed since that idea or event has occurred or will pass till that idea or event happens.

Give your estimate of time in YEARS, MONTHS, WEEKS, DAYS, HOURS or MINUTES.

Do this for every association you listed. If you feel the item listed belongs to more than one time category, indicate whether it is most closely related to the past, present or future.

IMPORTANCE OF PERSONAL EVENTS

Go back over the list of your PERSONAL ASSOCIATIONS a final time.

In the space provided to the LEFT of the idea or event please indicate the personal importance of that item for you.

Please write

VI if the idea or event is VERY IMPORTANT to you.

I if the idea or event is IMPORTANT to you.

NI if the idea or event is NOT VERY IMPORTANT to you.

Do this for every item listed.

APPENDIX C

DEATH ANXIETY QUESTIONNAIRE

ATTITUDES TOWARDS DEATH AND DYING

Listed below are a number of questions concerning thoughts that people sometimes have about death and dying. Please indicate how much you worry about the things described by each of the questions by placing an "X" in the appropriate category.

	<u>Not at All</u>	<u>Some- times</u>	<u>Very Much</u>
1. Do you worry about dying?	_____	_____	_____
2. Does it bother you that you may die before you have done everything you wanted to?	_____	_____	_____
3. Do you worry that you may be very ill for a long time before you die?	_____	_____	_____
4. Does it upset you to think that others may see you suffering when you die? . . .	_____	_____	_____
5. Do you worry that dying may be very painful?	_____	_____	_____
6. Do you worry that the persons most close to you won't be with you when you are dying?	_____	_____	_____
7. Do you worry that you may be alone when you are dying?	_____	_____	_____
8. Does the thought bother you that you might lose control of your mind before death?	_____	_____	_____
9. Do you worry that expenses connected with your dying will be a burden for other people?	_____	_____	_____

	<u>Not at</u> <u>All</u>	<u>Some-</u> <u>times</u>	<u>Very</u> <u>Much</u>
10. Does it worry you that your instructions or will about your belongings may not be carried out after you die?	_____	_____	_____
11. Are you afraid that you may be buried before you are really dead?	_____	_____	_____
12. Does the thought of leaving loved ones behind when you die disturb you?	_____	_____	_____
13. Do you worry that those you care about may not remember you after your death? . .	_____	_____	_____
14. Does the thought worry you that with death you may be gone forever?	_____	_____	_____
15. Are you worried about not knowing what to expect after death?	_____	_____	_____

APPENDIX D

PERSONAL INVENTORY QUESTIONNAIRE

PERSONAL INVENTORY

NAME: _____ AGE: _____

DATE OF BIRTH: _____ SEX: MALE _____ FEMALE _____

PLEASE PLACE AN X NEXT TO THE APPROPRIATE WORD

WHAT RACE ARE YOU? CAUCASIAN _____ NEGRO _____ OTHER _____

MARITAL STATUS: SINGLE _____ MARRIED _____ WIDOWED _____

SEPARATED _____ DIVORCED _____

MAIN OCCUPATION: _____

ANY OTHERS? _____

RETIRED? _____ IF YES, HOW LONG? _____

YEARS OF EDUCATION COMPLETED: _____

SPECIALIZED TRAINING: _____

PRESENT SOURCE OF INCOME: _____

LIVING QUARTERS: OWN HOME/APARTMENT _____

RENT HOME/APARTMENT _____

LIVE WITH RELATIVES _____

OTHER _____

HOW LONG HAVE YOU LIVED IN THIS COMMUNITY? _____

HOW LONG HAVE YOU LIVED IN PRESENT RESIDENCE? _____

HOW RELIGIOUS ARE YOU? VERY _____ MODERATELY _____ SLIGHTLY _____

NOT AT ALL _____

HOW IS YOUR HEALTH? POOR _____ FAIR _____ GOOD _____ VERY GOOD _____

DISABILITIES: _____

APPENDIX E

CORRELATION MATRICES FOR 65 TO 75 AGE GROUP

TABLE 8

Correlations of the Variables--Females (Ages 65-75)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E	1.00	.37	.14	.13	.17	-.07	.01	-.09	-.07
DA			-.20	.13	-.10	-.01	-.04	.01	-.02
PRO				.12	.84***	-.41*	.09	-.07	-.18
RET					.62***	.23	-.01	-.14	.03
E-TOT						-.17	.04	-.17	-.14
D-Ps							.15	-.02	.55**
D-Pr								.39*	.79***
D-F									.67***
D-TOT									1.00

^aN = 25

* p < .05

** p < .01

*** p < .001

TABLE 9

Correlations of the Variables--Males (Ages 65-75)^b

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E	1.00	.09	-.22	-.28	-.30	.39	-.32	-.42+	-.28
DA			.24	-.04	.10	-.32	-.09	-.06	-.08
PRO				.42	.80***	-.30	.58**	.40+	.42+
RET					.90***	.16	.44*	.24	.42
E-TOT						-.05	.60**	.35	.50*
D-Ps							-.19	-.03	.19
D-Pr								.63**	.83***
D-F									.89***
D-TOT									

^bN = 20

+p < .10

*p < .5

**p < .1

***p < .01

APPENDIX F

CORRELATION MATRICES FOR 76 TO 88 AGE GROUP

TABLE 10
Correlations of the Variables--Total Sample (Ages 65-75)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.29*	-.08	-.16	-.15	.14	-.13	-.28+	-.15
DA			.00	-.01	-.02	-.05	-.02	-.05	-.04
PRO				.33*	.80***	-.36*	.33*	.19	.12
RET					.82***	.13	.26+	.13	.26+
E-TOT						-.13	.35*	.18	.23
D-Ps							.04	-.05	.41**
D-Pr								.50***	.81***
D-F									.76***
D-TOT									

^a_N = 45
 +_p < .10
 *_p < .05
 **_p < .01
 ***_p < .001

TABLE 11
Correlations for Females (Ages 76-88)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.61	.32	-.57	-.37	-.13	-.49	.06	-.28
DA			-.04	-.09	-.13	-.01	.10	.21	.16
PRO				-.43	.28	-.06	.30	-.72	-.49
RET					.74	.81	.48	-.04	.77
E-TOT						.81	.73	-.58	.46
D-Ps							.26	-.21	.68
D-Pr								-.44	.30
D-F									.46
D-TOT									

^aN = 6

TABLE 12
Correlations for Males (Ages 78-83)^b

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.19	-.37	-.10	-.26	.29	.14	.03	.21
DA			-.21	-.26	-.25	-.43	.19	.91*	.01
PRO				.72	.92*	.14	-.37	-.11	-.19
RET					.94*	.75	.31	.04	.52
E-TOT						.50	-.01	-.03	.20
D-Ps							.62	-.13	.79
D-Pr								.51	.96**
D-F									.41
D-TOT									

^bN = 5

*p < .05

**p < .01

TABLE 13

Correlations for Total Sample (Ages 76-88)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.43	-.07	-.30	-.22	.00	-.12	.09	-.04
DA			-.30	-.33	-.36	-.35	-.15	.53	-.01
PRO				.57	.86***	.17	-.01	-.44	-.10
RET					.91***	.78**	.46	-.19	.61*
E-TOT						.57	.27	-.34	.33
D-Ps							.56	-.26	.76**
D-Pr								-.24	.86***
D-F									.11
D-TOT									

^aN = 11

*p < .05

**p < .01

***p < .001

APPENDIX G

CORRELATIONS MATRICES FOR 65 TO 88 AGE GROUP

TABLE 14
Correlations for Females (Ages 65-88)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.40*	.17	.00	.13	-.01	-.01	-.01	-.01
DA			-.18	.08	-.01	-.01	-.22	.03	.00
PRO				.20	.78***	-.34	.12	-.15	-.18
RET					.66***	.40*	.16	-.18	.20
E-TOT						.02	.17	-.25	-.03
D-Ps							-.01	-.09	.58***
D-Pr								.08	.77***
D-F									.58***
D-TOT									

^aN = 31
*p < .05
**p < .01
***p < .001

TABLE 15
Correlations for Males (Ages 65-83)^b

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.08	-.22	-.25	-.28	.34	-.27	-.40*	-.20
DA			.12	-.06	-.17	-.36	-.07	-.06	-.06
PRO				.48*	.83***	-.13	.22	.25	.27
RET					.89***	.33	.39*	.21	.44*
E-TOT						.14	.41*	.27	.42*
D-Ps							.15	-.07	.40*
D-Pr								.46*	.86***
D-F									.72***
D-TOT									

^bN = 25
*p < .05
**p < .01
***p < .001

TABLE 16

Correlations for the Total Sample (Ages 65-88)^a

	I-E	DA	PRO	RET	E-TOT	D-Ps	D-Pr	D-F	D-TOT
I-E		.31*	-.01	-.17	-.16	.12	-.14	-.23	-.13
DA			-.08	-.06	-.18	-.10	-.15	.00	.08
PRO				.37**	.81***	-.25	.25	.09	.08
RET					.84***	.30*	.31	.08	.34*
E-TOT						.05	.33	.09	.25
D-Ps							.06	-.08	.49***
D-Pr								.27	.81***
D-F									.65***
D-TOT									

^aN = 56

*p < .05

**p < .01

***p < .001

APPENDIX H

MEANS AND STANDARD DEVIATIONS

TABLE 17
Means and Standard Deviations

Variable	Age Group			
	65-75 (N = 45)		76-88 (N = 11)	
	Women	Men	Women	Men
<u>I-E</u>				
Mean	7.64	6.15	7.00	6.60
S.D.	3.07	3.27	3.16	1.67
<u>Death Anxiety</u>				
Mean	7.92	5.95	7.83	3.80
S.D.	5.02	4.36	3.97	4.32
<u>Extension</u>				
PRO				
Mean	2.47	2.84	2.29	3.28
S.D.	1.10	1.43	.71	1.82
RET				
Mean	1.78	2.08	.86	2.02
S.D.	.75	1.81	1.02	2.08
E-TOT				
Mean	4.21	4.92	3.15	5.30
S.D.	1.44	2.74	.96	3.62
<u>Density</u>				
D-Ps				
Mean	6.62	4.05	3.17	5.40
S.D.	5.47	2.30	3.82	5.50
D-Pr				
Mean	5.72	5.30	2.00	8.80
S.D.	5.00	5.24	2.45	8.23
D-F				
Mean	5.04	6.35	6.83	3.20
S.D.	4.37	5.32	4.26	1.92
D-TOT				
Mean	16.60	15.70	12.00	17.40
S.D.	9.32	9.67	5.25	13.09

APPENDIX I

POST HOC ANALYSES

TABLE 18

Comparison of Correlations Between Internality and
Extension Using Mean Length and
Greatest Extension

Unit of Analysis	E-TOT			PRO		
	M	F	T*	M	F	T
Mean Length	.30	-.17	.15	.22	-.14	.08
Greatest Extension	.15	-.33	-.02	.29	-.20	.08

*Subjects were 20 Males, 25 Females, 45 Total sample.

APPENDIX J

ABBREVIATIONS

ABBREVIATIONS

DA	Death Anxiety
DAQ	Death Anxiety Questionnaire
D-F	Density of the future refers to the number of events an individual estimates along the length of his future temporal extension.
D-Pr	Density of the present refers to the number of events an individual associates with the present.
D-Ps	Density of the past refers to the number of events an individual establishes along the length of his temporal extension into the past.
D-TOT	Total density refers to the number of events an individual establishes along the length of his temporal extension into the past, present and future.
E-TOT	Total time extension is the entire span of time experienced by the individual reaching into the past and the future from the present.
I-E	Rotter's Internal-External Scale assessing locus of control orientation.
PA	Personal Associations scale measuring time extension and density.
PI	Personal Inventory form requesting demographic information.
PRO	Protension refers to the projection of personal feelings and thoughts into the future, i.e. future time perspective.
RET	Retrotension refers to the projection of personal feelings and thoughts into the past, i.e. past time perspective.