

REDUCTION IN DEATH THREAT  
AS A BASIS FOR OPTIMAL FUNCTIONING:  
THE TEST OF A CENTRAL EXISTENTIAL HYPOTHESIS

BY

MICHAEL A. RIGDON

A DISSERTATION PRESENTED TO THE GRADUATE COUNCIL OF  
THE UNIVERSITY OF FLORIDA  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1982

## ACKNOWLEDGEMENTS

From the beginning of this project to its completion, many people supported me. I could not have done it without their help.

I am grateful to Franz Epting for being my mentor during the past six years. I am grateful to Bill Froming, Scott Miller, Dave Suchman, and Hannelore Wass, each of whom made a unique contribution to my development as a psychological researcher/practitioner. I am grateful to Wayne Senfeld, Lisa Spear, and Mart Thurmond, who persistently and enthusiastically helped collect and code nearly one thousand data points for each participant. I am grateful to Imogene and Mary Lisa, my wife and daughter, who gave me the time and energy to continue and who withstood my disagreeable moods.

## TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS. . . . .	ii
LIST OF TABLES. . . . .	v
ABSTRACT. . . . .	vii
CHAPTER I: INTRODUCTION. . . . .	1
Death Orientation. . . . .	3
Optimal Functioning. . . . .	10
Maslow's Model of the Self-Actualizing Person . . . . .	12
Landsman's Beautiful and Noble Person . . . . .	14
Frankl's Model of a Meaningful Life . . . . .	15
Coan's Model of the Optimal Personality . . . . .	17
Kelly's Model of Optimal Functioning. . . . .	17
Empirical Studies on the Correlation of Death Attitudes and Psychological Health. . . . .	26
Tendencies toward Neurosis or Depression. . . . .	31
General Anxiety and Other Indicators of Maladjustment. . . . .	33
An Existential Hypothesis. . . . .	34
A Personal Construct View. . . . .	37
Rationale and Hypotheses . . . . .	41
The Complexity of Death Orientation and Optimal Functioning. . . . .	42
Two Experimental Hypotheses . . . . .	45
CHAPTER II: METHOD . . . . .	49
Subjects . . . . .	49
Instruments. . . . .	49
Threat Index (TI) . . . . .	49
The Collett-Lester Fear of Death Scale (FDS). . . . .	55
The Purpose in Life Test (PIL). . . . .	55
The Personal Data Questionnaire (PDQ) . . . . .	56
Procedure. . . . .	56
First Session . . . . .	56
Second Session. . . . .	58

	<u>Page</u>
CHAPTER III: RESULTS . . . . .	59
Instrument Reliability . . . . .	59
First Hypothesis . . . . .	62
Canonical Correlation Analyses. . . . .	63
Multivariate Analyses of Variance . . . . .	69
Multiple Regression Analyses. . . . .	71
Second Hypothesis. . . . .	75
Third Hypothesis . . . . .	84
Additional Analyses. . . . .	87
Religious Beliefs and Practices . . . . .	89
Previous Experience with Death and Dying. . . . .	91
Alternative Scores for the Threat Index . . . . .	93
CHAPTER IV: DISCUSSION . . . . .	97
Death Orientation and Optimal Functioning Relationship. . . . .	97
Effectiveness of the Death-related Experiences . . . . .	101
Strengths and Limitations of the Present Study . . . . .	103
Implications for Psychotherapy and for Future Research . . . . .	108
APPENDIX A: THE THREAT INDEX . . . . .	113
APPENDIX B: THE COLLETT-LESTER FEAR OF DEATH SCALE . . . . .	115
APPENDIX C: THE PERSONAL DATA QUESTIONNAIRE. . . . .	117
APPENDIX D: PARTICIPANT INFORMED CONSENT FORM. . . . .	119
APPENDIX E: OBITUARY/BIOGRAPHY EXPERIENCE. . . . .	120
APPENDIX F: FAREWELL LETTER EXPERIENCE . . . . .	122
APPENDIX G: STRESS MANAGEMENT EXPERIENCE . . . . .	123
REFERENCES. . . . .	124
BIOGRAPHICAL SKETCH . . . . .	135

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Intercorrelations of Pretest Scores on Four FDS Subscales for All Participants. . . . .	61
2	Post Hoc Tests of Differences between Pretest and Posttest Mean Scores on Differentiation and Integration Indices. . . . .	61
3	Pretest Intercorrelations between Indices of Differentiation and Integration . . . . .	64
4	Canonical Correlation Analyses of Pretest Death Orientation and Optimal Functioning Scores for All Participants. . . . .	66
5	Manova Summary Table for Pretest Death Orientation and Optimal Functioning Scores . . . . .	67
6	Analysis of Variance of Death Orientation and Optimal Functioning Scores for Sex Differences. . . . .	68
7	Canonical Correlation Analyses of Pretest Death Orientation and Optimal Functioning Scores for Females and for Males . . . . .	70
8	Manova Summary Table for Effects of High Versus Low FIC and Chi-square Scores on Death Orientation Scores . . . . .	72
9	Manova Summary Table for Effects of High Versus Low FIC and Ordination Scores on Death Orientation Scores . . . . .	73
10	Multiple Regressions of Death Threat Scores on Selected Optimal Functioning Variables. . . . .	74
11	Anovas for Treatment Differences in Pretest Death Orientation and Optimal Functioning Scores . . . . .	77

<u>Table</u>	<u>Page</u>
12	Mean Scores for Death Threat, Ordination, and Chi-square by Treatment Conditions for Pretest and Posttest . . . . . 78
13	Manova Summary Table for Posttest Death Orientation Scores . . . . . 79
14	Anovas for Sex Differences in Posttest Death Orientation Scores . . . . . 81
15	Anovas for Treatment Differences in Posttest Death Orientation Scores. . . . . 82
16	Multivariate Analysis of Covariance of Posttest Death Orientation Scores with Pre- test Death Threat Scores as Covariate. . . . . 83
17	Manova Summary Table for Posttest Optimal Functioning Scores . . . . . 85
18	Anovas for Treatment Effects on Posttest Optimal Functioning Scores . . . . . 86
19	Multivariate Analysis of Covariance of Posttest Optimal Functioning Scores with Pretest Ordination and Chi-square Scores as Covariates. . . . . 88
20	Canonical Correlation Analysis between Pretest Death Orientation Scores and Religious Beliefs/Practices. . . . . 90
21	Multiple Regression of Pretest Death Threat Scores on Religious Beliefs/Practices Variables. . . . . 92
22	Canonical Correlation Analyses for Pretest Death Orientation and Optimal Functioning Scores with WTI Scores . . . . . 95

Abstract of Dissertation Presented to the Graduate Council  
of the University of Florida in Partial Fulfillment of the  
Requirements for the Degree of Doctor of Philosophy

REDUCTION IN DEATH THREAT  
AS A BASIS FOR OPTIMAL FUNCTIONING:  
THE TEST OF A CENTRAL EXISTENTIAL HYPOTHESIS

By

Michael A. Rigdon

August 1982

Chairman: Franz R. Epting  
Major Department: Psychology

Based on a review of previous research, a significant relationship was predicted between death orientation and optimal functioning, both conceptualized in multidimensional terms. Hypotheses are drawn from existential philosophy and from personal construct psychology to suggest that resolving the issue of personal mortality enables a person to live a more intense, meaningful life. In operational terms, optimal functioning depends on one's positive orientation toward death. Selected components of death education courses, therefore, were predicted to result in more positive death orientation and more optimal functioning.

Participants in the study were 96 undergraduate psychology students. In the first experimental session, they completed four questionnaires and participated in the experimental condition to which each group was randomly assigned: completing

an obituary/biography, writing a farewell letter, or, for the control group, participating in a stress management experience. The questionnaires included a personal data questionnaire, a slightly modified form of the Threat Index (TI), the Purpose in Life Test (PIL), and the Collett-Lester Fear of Death Scale (FLDS). The TI was modified for scoring two differentiation and two integration indices. Using 13-point scales, participants rated self, my own death, and 10 death-related elements on 30 dimensions related to death. For the second session, 95 participants returned to complete again the final three questionnaires listed above.

The results indicated a significant relationship between positive death orientation and the optimal functioning variable with some differences in the pattern of this relationship for males and for females. Multivariate analyses of variance failed to support the impact of the death-related experiences on death orientation or optimal functioning, perhaps because the selected experiences were not strong enough to affect either complex, stable attitudes toward death or a person's overall optimal functioning level.

Results of post hoc analyses revealed significantly more negative death orientation for females, as well as the significant association of strong religious beliefs and practices with positive death orientation. Discussion focused on strengths and limitations of the investigation and presented implications for psychotherapy and for research in the areas of death orientation and optimal functioning.

## CHAPTER I INTRODUCTION

We Americans are an optimistic sort. We have long believed that any problem can be solved with a lot of hard work, the right technology, and a bit of luck. Our technology seems helpless in the face of death, however, which may be one reason our society has tended to deny the reality of death (Weisman, 1972). American psychologists similarly have focused primarily on positive experiences in their investigations of optimal functioning--the behavior and experience of those who are prime examples of the actualization of human potential. Maslow (1968), for instance, acknowledged that he "made no effort to explore . . . what may be called the 'nadir experience,' e.g., the (to some) painful and crushing insights into the inevitability of aging and death . . ." (p. 84).

Lester (1971a), on the other hand, presented evidence that suggested the death denial of earlier times has given way to more frequent thoughts of death. In 1970, students completed the identical death attitude questionnaire completed by students at the same college in 1935. Compared to the 1935 students, contemporary students reported being more preoccupied with and concerned about death. This widespread concern about the imminence of death may be responsible

for the movement presently spreading in Europe and the United States to freeze the number of nuclear weapons. Scholars also began to explore psychological and sociological aspects of the phenomena of death and dying, as is evident from Pearson's (1969) 100-page annotated bibliography, Santora's (1980, 1981) 17-page bibliography of dissertations centered on death and dying topics in the 1970's, and two volumes of annotated death education references by Wass and her colleagues (Wass, Corr, Pacholski, & Sanders, 1980; Wass, Corr, & Pacholski, with Forfar, in press). Although the issue of the relationship between death attitudes and optimal functioning has been investigated occasionally, the study presented here was designed to build a comprehensive framework for understanding death attitudes, optimal functioning, and their interrelationship in order to provide some answer to Murphy's (1959) question: "Under what conditions can the facing of death be constructed in mental health terms?" (p. 319).

The aim of this introduction is first to elaborate the conceptualization and operationalization of death orientation, second to review five models of optimal functioning, third to review the currently available data regarding the relationship between death attitudes and aspects of healthy functioning, fourth to present an existential approach to the relationship between healthy functioning and one's attitude about death, fifth to present a personal construct view of the same issue, and finally to state the rationale for the present study and the hypotheses to be investigated.

## Death Orientation

The 1970's saw a sudden explosion of research on death orientation, so much so that two successful journals are now in existence: Death Education and Omega. In studies reported in these journals, death orientation has been conceptualized in a variety of ways and assessed by means of a variety of instruments. This section will describe these conceptualizations and instruments used in research on death orientation.

Research on death orientation is concerned generally with a person's beliefs, feelings, attitudes, and behaviors regarding the concept of personal death or the death of others. Investigators initially focused on several negative aspects of death orientation which were loosely termed death anxiety, fear of death, or concern about death. With the exception of an occasional use of physiological measures, such as galvanic skin response and projective instruments such as the Thematic Apperception Test to assess the level of death anxiety or fear (Kurlychek, 1978a), research in this area involved the development of self-report measures, such as Templer's (1970) Death Anxiety Scale (DAS), Boyar's (1964) Fear of Death Scale, Lester's (1967a) Fear of Death Scale (FDS), and Dickstein's (1972) Death Concern Scale (DCS). More recently, Ray and Najman (1974) developed a self-report measure designated to assess death acceptance, conceptualizing death orientation in positive rather than negative terms.

The five self-report measures just described represent attempts to operationalize death orientation in unidimensional terms. For some time, however, thanatologists have recognized that death orientation is a complex phenomenon, requiring measures able to tap several aspects of a person's approach to death. The complexity and multidimensionality of death orientation have been explored in terms of one's orientation toward death at several levels of awareness and in terms of one's orientation toward several aspects of death itself. Let us examine these two ways of viewing the multidimensionality of death orientation.

Feifel and his colleagues (Feifel & Branscomb, 1973; Feifel, Freilich, & Hermann, 1973; Feifel & Hermann, 1973; Feifel & Jones, 1968) were the first to focus attention on the levels of awareness in relation to death orientation. They developed a set of measures designed to assess fear of death not only at the conscious level of awareness, but also at a level below awareness (unconscious level) and at a mid-level of awareness (fantasy level). Analysis of the results of this set of measures with a variety of populations has convinced Feifel of a consistent pattern of conscious denial of death fear and high fear of death at the below-awareness level, with frequently ambiguous responses at the fantasy level. This pattern would seem to support Feifel's insistence on assessing death fear at several levels. A person might deny any awareness of being afraid of death, but a comparatively high level of unconscious death fear might be essential

to an accurate assessment of the same person's death orientation. Furthermore, the death orientation of two individuals may be deceptively similar if one simply examines their relatively high unconscious fear of death. Their death orientation may differ in complex ways, however, if one of the two individuals is consciously aware of high death fear and is, perhaps, in the process of coming to terms with this fear, while the second individual denies any awareness of death fear as a problematic issue in life. The ability of Feifel's set of measures accurately to assess conscious, mid-level, and unconscious fear of death would open up such questions for systematic study. The little evidence available to date suggests that Feifel's measures do not, in fact, assess three levels of death fear. A factor analysis (Rigdon, in press) of the scores of 60 high school and college students on Feifel's measures indicated that the conscious and fantasy measures tap what might be called most accurately "conscious fear of death," while scores on the other five measures split into two or three factors. These five measures do not seem to tap a unitary unconscious fear of death. And, until research indicates the correlates of the various factors, it is unclear precisely what aspects of death orientation are being assessed by these seemingly heterogeneous measures. Feifel was a pioneer in devising a method for assessing the multidimensional meaning of death, but his work has not yet resulted in a satisfactory set of death orientation measures.

Gardner Murphy (1959) suggested an alternative line of assessing the complexity of death orientation in relation to a variety of aspects of death. He noted that a person could develop attitudes toward at least seven aspects of death. Death could be feared not only as the natural end and as the loss of consciousness and mastery, but also because of the associated fears of loneliness, of personal failure, and of what might happen to one's dependents. Vernon (1970) and Kastenbaum and Aisenberg (1972) similarly emphasized the importance of examining one's response to a variety of features of death. In addition to fear associated with aspects of the death and dying of others, they explored the basic fear of personal death as extinction, as the end of personal experience, and as separation from loved ones, as well as the fear of pain and indignity during the process of dying, and the fear of the possible consequences of death such as personal punishment and what might happen to the people and projects one is responsible for.

Researchers have used three approaches to tackle the issue of the multidimensionality of death orientation. The first approach to be examined is the determination of relevant aspects of death by experts during the process of test construction. At least two attempts have been made to develop measures that include subscales for more than one aspect of the concept and experience of death. Collett and Lester (1969) developed a reliable Fear of Death Scale (FDS) with four subscales to assess fear of one's own death or

dying and fear of the death or dying of others. Hooper and Spilka (1970) constructed nine 20-item scales for assessing the seven aspects of death fear indicated by Murphy, as well as the positive attitudes of death as an afterlife of reward and death as an expression of courage. The researchers who developed these more complex measures of death orientation agreed with Murphy, Vernon, and Kastenbaum and Aisenberg that one simple score could not estimate adequately a person's beliefs, feelings, and behaviors with respect to such a complex event as death.

Rather than developing a questionnaire to assess predetermined aspects of death orientation, several investigators used a factor analytic approach to determine empirically what aspects of death orientation emerge from a set of self-report items. This represents a second approach to the multidimensionality of death orientation. A factor analysis of Dickstein's DCS (Klug & Boss, 1976), for instance, revealed not the expected single death concern factor, but two factors for the conscious contemplation of death and the negative evaluation of death. Using factor analysis, Nelson and Nelson (1975) developed scales they identified as death fear, death avoidance, death denial, and reluctance to interact with the dying. Victor (1981) constructed a questionnaire with factors for existential death concern and helplessness of dying concern. Durlak and Kass (1981) used principal components analysis to determine what aspects of death orientation actually are assessed by a set of previously developed scales that are

frequently used in death orientation research. Their analysis determined the overlap between eight existing scales. Four of the instruments had single scores: the Threat Index (Rigdon, Epting, Neimeyer, & Krieger, 1979), Templer's DAS, Ray and Najman's Death Acceptance Scale, and Lester's FDS. Three of the instruments had multiple scores, as previously described: the Collett-Lester FDS, Nelson and Nelson's death anxiety measure, and Dickstein's DCS. The final scales involved the rating of the concepts of death and being in pain on semantic differential dimensions.

Two of the five factors in Durlak and Kass' analysis could be described as a general negative response to personal death and preoccupation with thoughts about death. A re-analysis of Durlak and Kass' data (Rigdon & Epting, 1981) indicated that two of the other factors identified as reluctance to interact with the dying and reaction to the reminder of death may be summarized better as a third factor of avoidance of the dying and of death reminders, while Durlak and Kass' fifth factor, negative reaction to pain, should be ignored as trivial. Although the analysis by Durlak and Kass and that by Rigdon and Epting produced results that differed in some important respects, both analyses indicated the importance of selecting more than one measure to assess various aspects of a person's attitudes and concepts about death.

The Threat Index (TI) (Krieger, Epting, & Leitner, 1974) is an instrument that represents a third way of assessing

death orientation with respect to several aspects of death. Unlike the Collett-Lester FDS, however, the relevant aspects of death are not predetermined when the test is constructed. Unlike Durlak and Kass' approach to the multidimensionality of death orientation, the relevant components of death attitudes are not determined by a process of comparing responses in a large sample of people. The TI, derived from personal construct theory (Kelly, 1955), begins with a person generating a set of dichotomous meaning dimensions (personal constructs) that are important to the person's view of death (e.g., violent-peaceful or meaningful-useless). The person next places the elements of self and my own death on each construct. The more dimensions on which the self and death are "split" (i.e., placed on opposite poles), the more the person is taken to be threatened by death, in that more change would be necessary for self and death to be compatible. Thus, the TI assesses death orientation with respect to those features of death that are most salient for each person. Yet the TI provides in the number of splits a single score which may be taken as a measure of one's level of threat or, judging by the TI's high loading on Durlak and Kass' first component, one's overall negative response to death.

The versatility of the TI is apparent in that one can use the number of splits as a simple index of threat and, at the same time, capitalize on the idiosyncratic multidimensionality of the TI by analyzing into principal components a person's ratings of self, death, and other death-related

events on the death-related personal constructs. Warren (1982) has indicated the usefulness of the principal components analysis in conjunction with the TI. The split score can provide an estimate of the individual's level of threat, while the principal components analysis can provide an indication of the possible directions in which the person might move in an attempt to reduce the threat of death and make self and death more compatible.

In conclusion, the three approaches to the multidimensional conceptualization and assessment of death orientation indicate the usefulness of assessing predetermined aspects of death attitudes (e.g., fear of one's own death and fear of the death of others) and the usefulness of having several measures to tap the relatively independent components of death as determined by Durlak and Kass' analysis. The flexibility of the TI suggests that one might, at the same time, examine the idiosyncratic multidimensionality of an individual's stance with respect to death. A combination of the three approaches to multidimensionality would seem to be most advantageous for capturing death orientation with some accuracy.

#### Optimal Functioning

Upon meeting a psychologist, people often remark, "I had better be careful what I say." As if the psychologist would catch them in a "Freudian slip" or some indication of

psychological abnormality. Psychologists' apparent reputation of being on the lookout for the abnormal may be due in part to psychology's focus on the assessment, treatment, and theoretical understanding of mental illness. Within this framework, mental health would be simply the opposite of mental illness and would be thought of as the absence of any noticeable indications of psychological disorders. Jahoda (1958) extended the concept of mental health to include various positive features of behavior and experience, such as self-expressiveness, open-mindedness, the ability to deal effectively with daily stress, realistic self-awareness about one's strengths and weaknesses, and genuine concern for others and the ability to establish meaningful relationships.

Other investigators developed alternative models to circumvent the illness-health dichotomy and to present healthy functioning in a positive framework on its own terms. Just as there would seem to be important physiological differences between a normally healthy (i.e., "unsick") person and a champion athlete, so there may be important differences between a mentally healthy person who has escaped serious psychological disorders and a person who is an exceptional example of the possibilities of human growth and development. Jung (1968) focused on a life-long process he termed individuation. Allport (1961) developed the concepts of proprieate functioning and mature personality. Jourard (1968) emphasized self-disclosure. Rogers (1961) developed his notion of the fully

functioning person. These approaches share a focus on optimal functioning, a term which can be used to describe the level of growth attained by exceptional people or the experience and performance level of most people at those exceptional moments when we are "at our best." Investigators in this area of psychology are interested in what a person can become when human potentials are realized. The remainder of this section will examine briefly five models of optimal functioning and several methods for assessing this phenomenon.

### Maslow's Model of the Self-Actualizing Person

Maslow (1968), in his study of exemplars of what he termed full humanness, noticed that, in the process of growth certain basic needs were fulfilled first to maintain minimal functioning. These are physiological needs, as well as security needs and a person's need to be loved and respected. Maslow called these deficiency needs because a person pursues objectives that will fill the void which comprises each need. A second set of needs relates to a person's full development. These are aesthetic needs and the need to self-actualize--to realize one's potential more completely. Unlike the deficiency needs, a person engages in the self-expressiveness of self-actualization or in the pursuit of truth and beauty for the sheer joy of the pursuit. The experience itself is the reward not the reduction of some deficit. Maslow referred to this as meta-motivation, and he used the term peak experiences for those joyful moments in which one surpasses deficit motivation.

to actualize self or to attain truth and beauty. Among other characteristics, Maslow described the exceptional people he studied as having 1. clear, efficient perceptions of reality, 2. openness to experience, 3. spontaneity and self-expressiveness, 4. creativity, 5. self-acceptance, and 6. a sense of autonomy and independence.

In order to assess the level to which people have developed the characteristics presented by Maslow and other investigators of optimal functioning, Shostrom (1962) developed the Personality Orientation Inventory (POI). This 150-item self-report questionnaire has two major scales for time competence and inner support, as well as 10 overlapping minor scales for characteristics such as spontaneity, self-acceptance, and capacity for intimacy. Some of the hundreds of POI studies have provided moderate validity support in its ability to discriminate clinical populations from more normal, mentally healthy groups and in the predicted correlations of some POI subscales with other characteristics related to self-actualization. On the other hand, the POI has been criticized on several grounds (Amerikaner, 1978; Oakland, Freed, Lovekin, Davis, & Camilleri, 1978). First of all, the test construction has been questioned because some items are not clearly based on Maslow's theory or any other. Other items are vaguely worded. Many items are scored on one of the major scales and two of the minor scales. Secondly, test-retest reliability coefficients for the subscales are lower than one might wish, with a median of .59

in one study (Ilardi & May, 1968). Third, the POI profiles of a large number of people fall within the self-actualized range, although Maslow believed less than 1 percent of the population could be called self-actualized. Finally, there is evidence (Braun & LaFaro, 1969) that students can artificially raise their POI scores if they are taught self-actualization concepts and terminology. Their ability to give the impression of being self-actualized raises the question of whether psychotherapy may sometimes result in higher POI scores simply by giving clients information about self-actualization rather than by producing it. The POI is an interesting first attempt to operationalize the complex notion of self-actualization, but some basic re-construction needs to correct the problems just outlined to produce a psychometrically adequate instrument.

#### Landsman's Beautiful and Noble Person

Rather than studying exceptional individuals, Landsman (1974; Jourard & Landsman, 1980) studied exceptional experiences to develop his model of optimal functioning. His investigation of positive personal and interpersonal experiences remembered by a variety of people and of tragic experiences which were later viewed as positive led him to propose three general stages in the development of the basically normal person into a beautiful and noble person. These stages are 1. the self-loving, self-expressive passionate self, 2. the environment-loving self who appreciates the beauty of the

physical world and is concerned with its preservation, and 3. the compassionate self involved with and caring for other people. Rather than developing a measure of these stages, Landsman has concentrated on ways in which prosocial, compassionate behavior develops, especially in children.

### Frankl's Model of a Meaningful Life

Following his concentration camp experiences during World War II, Frankl (1963) presented a model of optimal functioning which emphasized a person's ability to create a meaningful, purposeful life. Experiences such as the successful achievement of a goal, the sense of being one with nature or some other valued object, and interpersonal intimacy promote the discovery of meaning and purpose. But Frankl focused on suffering as a special opportunity for the person to create meaning. Even under extremely desperate circumstances, each person remains free to determine the attitude with which to approach the situation. According to Frankl, the discovery of this freedom forms the basis of a meaningful life.

Crumbaugh and Maholick (1969) designed a 20-item Purpose in Life Test (PIL) to assess the extent to which a person has effectively created a meaningful, purposeful life. Initial results supported the reliability of the PIL and indicated, for example, that it does distinguish between depressed individuals and those who report a sense of well-being. High PIL scores are also associated with positive self-concept and self esteem (Reker, 1977). Several studies have investigated

the relationship between the PIL and variables with which one could predict an association in light of Frankl's theory. Sharpe and Viney (1973) analyzed college students' written descriptions of their world view, finding that the world views of the students with low PIL scores were judged negative, lacking in purpose, and lacking in transcendent goals. Students with positive, purposeful world views and transcendent goals had high PIL scores. Similarly, persons with high Purpose in Life scores endorsed values such as responsibility and salvation, but de-valued pleasure (Crandall & Rasmussen, 1975; Simmons, 1980). They seemed to have learned that, as Frankl maintained, happiness or pleasure are achieved indirectly by striving for personal values which directly make life meaningful. The results of these studies support the contention that the PIL is a good measure of meaning and purpose in life, as conceptualized by Frankl, although a significant relationship with social desirability ( $\underline{r} = .59$ ) indicates that PIL scores may be influenced by the desire to give a good impression. A group of subjects did not, however, raise their PIL scores after being told their first scores were unacceptably low (Snavelly, cited in Crumbaugh & Maholick, 1969). Furthermore, Durlak (1972, 1978) has failed to find a significant correlation between PIL scores and social desirability in three samples ( $\underline{r} = .00, .01, -.10$ , respectively).

### Coan's Model of the Optimal Personality

Coan (1974, 1977) has developed an empirical model of optimal functioning, based in part on a factor analysis of college students' responses to a variety of questionnaires designed to assess characteristics of the optimal personality. Rather than indicating one general trait of optimal functioning, Coan's analysis resulted in 19 factors, which he encapsulated in five basic features of efficiency, creativity and openness to new experiences, harmony with self, the ability to relate to others, and the ability to transcend self in unity with a larger whole. Amerikaner (1978) criticized the lack of validity support for Coan's questionnaires. He also observed that a general optimal functioning factor might be found in a sample of optimally functioning individuals. Coan's failure to find a general trait may reflect on the college sample rather than on the nature of optimal functioning. On the other hand, his approach could represent eventually the most comprehensive, empirical model for the investigation and understanding of optimal functioning.

### Kelly's Model of Optimal Functioning

Like the other investigators briefly reviewed, Kelly (1955, 1980) developed his own unique approach to optimal functioning, an approach elaborated by Epting and Amerikaner (1980; see also Epting & Suchman, in press). Kelly was concerned with the process according to which people change their personally constructed meaning units (personal constructs)

and thus their overall construct system in order more effectively to interpret a complex, ever-changing world. According to Kelly, growthful change occurs through the five-stage experience cycle. Most of us, unfortunately, tend to get stuck at one stage or another, or we try to skip one of them. Optimal functioning is characteristic of people who generally complete the experience cycle. And most of us function optimally at those exceptional moments when our experience cycle is complete. The first step is active anticipation. When an acquaintance asks to borrow your car, do you anticipate that she is trustworthy and dependable or not? The second stage is involvement: If you expect your acquaintance is dependable, what are the implications of this expectation? Will she also drive carefully? Will she clean the car before she returns it? How important is it that you view her as dependable? In the next step, encounter, you act as if your acquaintance is dependable: You loan her your car and are vulnerable and open to the results. The results of the encounter will either confirm and validate your anticipation or not (step 4). The invalidation of having your car returned with a large dent in the left fender would require some activity at stage 5, constructive revision, where you might reconstrue your acquaintance as being accident-prone or a problem drinker. Anticipation is essential to this entire process, but growth cannot occur without taking some action in terms of what one anticipates.

Optimal functioning can be understood in construct terms also relative to the appropriate, effective completion of two other cycles which Kelly related to creativity and activity, respectively. The creativity cycle refers to the process by which a person alternately loosens and tightens the boundaries of constructs in order to invent new construct dimensions to interpret events. The activity cycle (or C-P-C cycle) is similar to the experience cycle, but reflects the special experience of making decisions. A full activity cycle has three stages: 1. a circumspect consideration of a variety of constructs which might describe the issues in this situation, 2. a preemptive selection of a single issue as most salient and crucial (e.g., exercise is good for my health; sitting to watch another football game is not), and 3. the choice of one of the alternatives to carry into action. No method has been developed, unfortunately, to assess directly and quantitatively the extent to which the three cycles just described are fully and efficiently operating in a person's life.

An alternative approach to optimal functioning within the personal construct framework relates to the extent to which the person is engaged in the process of developing a more complex construct system for effectively anticipating life events. Following Werner's (1957) orthogenetic principle of cognitive development, personal construct theorists (Adams-Webber, 1979; Crockett, 1965; Crum, 1978) have viewed the development of complexity as a two-fold process of

differentiation and hierarchical integration. Differentiation is the process of creating new construct dimensions with which to interpret one's experience. This implies the progressive elaboration of construct subsystems with which to make sense of a variety of events. Interpersonal experience, career events, and the realm of death might each have an associated construct subsystem. Integration, on the other hand, refers to the process of drawing out the implications between constructs so that the various constructs and subsystems fit together in a unified framework.

There is a relationship between the two-fold process of complexity and the creativity and activity cycles described above. The level of differentiation would be an index of the efficiency of the creativity cycle for generating constructs in response to new experiences, while the level of integration would indirectly indicate the efficiency with which a person could sort through a variety of constructs to preemptively select one that best represents the issue on which to make a choice for action. This preemptive selection would be more efficient in an integrated network with its clear lines of implication.

Fransella and Bannister (1977) and Adams-Webber (1979) described and evaluated about 20 indices to use repest ratings of elements in terms of a set of personal constructs for assessing complexity or one of its aspects. The results provide some support for differentiation and integration indices. Smith and Leach (1972), for instance, found a relationship

between scores on their hierarchical organization measure and abstractness as assessed by Harvey's (1966) This I Believe Test, designed to assess cognitive development from a child's focus on the concrete to the mature adult's ability to deal with the world in a more abstract way. More integrated subjects were also higher in abstractness. Using Adams-Webber's (1969) differentiation index, Olson and Partington (1977) found that highly differentiated subjects, as a result of having a variety of their own personal perspectives, were more able to take the perspective of others when re-telling a story from the viewpoint of different characters. Relative to optimal functioning, Thomas and Seeman (1971) reported that individuals identified by other group members as matching Jahoda's (1958) characteristics of mental health were more differentiated in their interpersonal constructs, in that they generated a greater number of constructs to describe people. Wexler (1974) used the POI to identify optimally functioning members in a group, whose descriptions of emotional experience were judged more differentiated and integrated than the descriptions of less optimally functioning group members. Besides providing some support for the validity of the differentiation and integration indices, the research to date also supports the optimal functioning of more differentiated and integrated subjects.

Landfield (1971) and his colleagues (Landfield & Barr, 1975; Leitner, Landfield, & Barr, 1976; Landfield & Schmittdiel, 1981) recently developed a new procedure to operationalize

differentiation, and two to operationalize integration. The differentiation index is called FIC, for Functionally Independent Constructions (the name is a definition of differentiation), and represents the degree to which the person applies constructs in a similar way to the elements. If everyone who is friendly is also warm, the two constructs are functionally equivalent. If there is little overlap, so that knowing a woman is friendly does not help the person decide whether or not she is also emotionally stable, for instance, then the two constructs are functionally independent. A person who uses constructs in a nonoverlapping, independent manner is considered more differentiated than a person with more overlapping constructions.

Landfield operationalized integration in two ways. Both ordination and the chi-square statistic measure the extent to which a person uses the same rating point to describe various people on a construct dimension or, on the other hand, spreads the descriptions across all the points on the scale. The rationale for these two indices is that the process of making fine discriminations along a construct dimension would seem to require the use of superordinate constructs. A person with a poorly integrated interpersonal system, for example, might tend to view Barb, Bill, and Wayne as equally friendly, whereas a more integrated person might view Barb as friendlier than Bill because she is also affectionate, but less friendly than Wayne, who is not only affectionate, but also trustworthy. The fine discriminations along the friendly-unfriendly dimension

are made possible because of the implications of the superordinate constructs affectionate-not affectionate and trustworthy-untrustworthy.

Crum (1978) demonstrated the usefulness of conceptualizing complexity in terms of the two processes of differentiation and integration, especially as operationalized by FIC and ordination. Although ordination was the best predictor of performance in his study, FIC scores clarified the relationship between ordination and such variables as intuitive reasoning and performance on an embedded figures task. Wilkins (1978) found that subjects who were high in both FIC and ordination were less likely than other subjects to change their first impression about a person after being presented conflicting information. As predicted, these subjects were better able to see at the same time more than one aspect of other people. Using his FIC, ordination, and chi-square indices, Landfield (1979; Landfield & Schmittiel, 1981) found that highly integrated group members (according to their ordination and chi-square scores) could more easily predict the way that other group members use their constructs. Not only are they able to understand others, but others in the group are also able to understand those who are more integrated. The group had a hard time predicting the more differentiated members, especially if they were also low in integration. Highly differentiated, poorly integrated people are confusing to others and hard to understand, and they do not understand others very effectively.

While these results support the validity of FIC, ordination, and chi-square as indices of differentiation and integration, Amerikaner's (1979) investigation failed to find a relationship between either differentiation (assessed by FIC) or integration (assessed by ordination) and optimal functioning. Although optimally functioning persons have been more differentiated and integrated in several studies described earlier, this association has not resulted from research using FIC and ordination. Amerikaner indicated that his failure to find support for this relationship may be due either to his determination of the differentiation and integration scores from provided constructs rather than the more usual elicited constructs or to the lack of truly extreme groups.

Maslow, Landsman, Frankl, Coan, and Kelly developed models of optimal functioning that differ in many ways in the conceptualization and assessment of this phenomenon. Amerikaner (1979) suggested a comparison of optimal functioning models in terms of three aspects: process, structure, and content. Let us explore how these three aspects can help summarize models of optimal functioning, particularly the five approaches described here.

The process aspects relate to how the person changes and progresses toward the goal of optimal functioning. Optimal functioning theories generally focus attention on this aspect. Jung, for example, described the life-long process by which the person becomes more individuated, and Rogers emphasized

the internal organismic valuing process which the person gradually learns to trust on the way to full functioning. Maslow frequently stressed the process of actualizing oneself. Self-actualization is an end-state toward which we progress without ever fully attaining it. Frankl's approach points to the key process of creating personal meaning. The personal construct model describes the process by which a person completes the cycles of experience, creativity, and activity. The complementary processes of differentiation and integration are also important for the development of a richly varied personality which operates as a unified whole.

The structural aspects of the optimally functioning person refer less to the person's flexibility and more to the arrangement of the personality components in a hierarchical order, with some more important than others. Maslow, for example, spoke of a need hierarchy, with the basic deficiency needs eventually subordinated to the meta-needs of self-actualization and aesthetic experience. The compassionate self in Landsman's model is the highest stage in the hierarchy of becoming the beautiful and noble person. Kelly frequently referred to a person's core constructs--those upon which one establishes and maintains self-identity. Integration refers to the extent to which the implications of these superordinate core constructs for the more incidental subordinate constructs have been elaborated. The connections between the core and incidental constructs ensure the system's smooth, coordinated operation.

In Kelly's model, the constructs could be called the content--the components which comprise the person's system. The content aspect is important in several optimal functioning models. Maslow, Coan, and Landsman, for instance, investigated traits they considered constitutive of the optimal functioning person. The POI was designed to measure such optimal functioning qualities. And the PIL, designed to tap into the person's process of creating a meaningful life, directly measures the content of a person's beliefs about the relative meaningfulness of a number of aspects of life. A comprehensive approach to optimal functioning might profitably attempt assessment in all three aspects of process, structure, and content.

#### Empirical Studies on the Correlation of Death Attitudes and Psychological Health

Proceeding from a variety of theoretical perspectives, a considerable number of researchers have searched for a relationship between attitudes toward death and a variety of personality characteristics. Reasoning that a healthy approach to life goes hand-in-hand with a positive, accepting orientation toward death, these researchers have attempted to associate positive death orientation (low death anxiety or fear, for instance) with a positive life orientation or, at least, with the absence of negative life orientation. After reviewing the evidence regarding death orientation and both

specific and general indicators of healthy functioning, this section will conclude with an examination of the data regarding the association between death orientation and aspects of inadequate, maladaptive behavior.

First of all, the expectation generally has been that those who accept death will also be living a more meaningful life, with higher self-esteem and a greater sense of competence than those who are anxious, fearful, or threatened by death. Individuals who have a positive death orientation have been predicted also to be lower in certain indicators of inadequate functioning, such as general anxiety and scores on MMPI scales, while those with a negative death orientation were expected to be functioning less adequately, i.e., to be more anxious and to score higher on the MMPI scales.

Contrary to this general line of thought, Diggory (1966) and his colleague (Diggory & Rothman, 1961) developed a rationale for a rival hypothesis. They reasoned that people who value and esteem themselves will have "more to lose" at death and, therefore, be more fearful of death than people with low self-esteem. Accordingly, Diggory predicted that persons who pride themselves on their accomplishments and view life as a time for achieving goals will have a special difficulty facing death, which represents, after all, the end of goal-directed behavior and which "will permanently frustrate us by removing the possibility of any purposive activity" (p. 415). In support of their hypothesis, Diggory and Rothman presented the results of a survey indicating that people

generally rank "the end of the opportunity to achieve goals" high on their list of why death is a frightening event. This result, while interesting, does not bear directly on their hypothesis. Three studies that have more directly tested Diggory and Rothman's hypothesis produced surprising results. Nogas, Schweitzer, and Grumet (1974) failed to find a positive correlation between need for achievement and death anxiety scores in their sample of 80 female college students ( $r = -.13$ ,  $p > .05$ ). Their evidence did not support Diggory and Rothman's hypothesis. Secondly, Alcorn (1977) found a significant negative association between DAS scores and self-esteem. People who value self are not more anxious about death because of what they have to lose. The evidence indicates that they have a more relaxed, accepting attitude than those who have a less adequate level of self-esteem. Alcorn's test of Diggory and Rothman's hypothesis resulted in support for the competing notion of the positive relationship between healthy life and death orientations. A third study (Aronow, Rauchway, Peller, & DeVito, 1980) similarly reported significant negative correlations between death anxiety and sense of well-being ( $-.28$ ) and the similarity between self and ideal-self ratings ( $-.19$ ). Individuals who value self tend to have lower death anxiety, contrary to Diggory and Rothman's expectation.

Further research has produced rather consistent evidence for the association between positive death orientation and specific aspects of healthy functioning, such as meaning in

life, sense of competence, and self-esteem. For high school students, college students, and the elderly, Durlak (1972, 1973, 1978), Blazer (1973), Sullivan (1977), and Bolt (1978) reported consistent evidence that individuals who are living a meaningful, purposeful life as assessed by the Purpose of Life Test (PIL) tend to be less afraid and less anxious about death. It should be noted, however, that these correlations might be inflated by the presence on the PIL of two items that relate specifically to one's orientation toward death. Furthermore, Duke (1978) was unable to find support for a relationship between the PIL scores of dying patients in a private, religious-affiliated hospital and the staff's rating of the patients' acceptance of death.

People who have a good sense of their own competence are less fearful and anxious about death, whether sense of competence is assessed by a structured interview (Farley, 1971) or by several subscales of the California Personality Inventory (Nogas et al., 1974). In other words, people who feel capable of coping with their own death also tend to feel capable of coping with life. Moses (1973) likewise found a significant relationship between high self-esteem and low fear of death, using Boyar's (1964) Fear of Death Scale, a result not replicated, however, by Casciani (1979), who used several scales to assess death orientation. Lester and Collett (1970) and Neimeyer and Chapman (1980) both found support for a similar notion that individuals who are rather satisfied with the progress of their life project (little

discrepancy between their views of self and ideal self) are able to face death with a more accepting, less fearful orientation than are those who are less satisfied with who they are and see the need for many changes (large discrepancy between their views of self and ideal self).

Several studies have examined the relationship between death orientation and a general index of healthy functioning --Shostrom's (1962) Personality Orientation Inventory (POI) to assess self-actualization. On the one hand, Wesch (1971) and Wexler (1978) reported that individuals with less death fear, anxiety, and threat had significantly higher scores on several of the POI subscales. In Pollak's (1979) sample of graduate students, low DAS scores were associated with high scores on the POI scale for time competence ( $r = -.25$ ). The correlations with the other major scale and the 10 minor subscales, however, were not significant.

In summary, no evidence has supported Diggory and Rothman's hypothesis that individuals with high self-esteem and high need for achievement have more to lose by death and will be more apprehensive about death. The data indicate, instead, a consistent, moderate association of positive death orientation with specific features of optimal functioning, such as meaning in life, sense of competence, and high self-esteem. And, although positive death orientation has been related to one or another aspect of self-actualization as assessed by the POI, the pattern of this relationship has not been consistent. The overall evidence supports a moderate, positive

relationship between positive death orientation and various aspects of optimal functioning.

The relationship between death orientation and the presence or absence of certain aspects of inadequate functioning, including neurotic tendencies and general anxiety, has also been explored. Let us now review the evidence from these investigations. Almost 50 years ago, Schilder (1936) interviewed 31 imprisoned murderers to determine their attitudes about death. Psychopathic and psychotic killers reported high fear of death and preoccupation with thoughts of death as punishment, whereas killers with no particular psychopathic trends were less afraid of death and viewed death as remote. Lester (1967b) and Pollak (1979) reviewed more recent studies which attempted to extend Schilder's finding to other indicators of inadequate functioning, including neurotic tendencies and high general anxiety. The evidence from these studies will be presented next.

#### Tendencies toward Neurosis or Depression

Several early studies on the relationship between death attitudes and unhealthy, inadequate functioning involved aged participants. According to Rhudick and Dibner (1961), high death concerns among the aged are related to so-called neurotic trends (high scores on the MMPI scales for hypochondriasis, depression, and hysteria) and to high scores on the Cornell Medical Index (CMI) of physical and psychiatric symptoms. Templer (1971) likewise found in normal elderly subjects a

significant relationship of death anxiety to MMPI depression scores ( $\underline{r} = .28$ ) and to the psychiatric section of the CMI ( $\underline{r} = .54$ ). Jeffers, Nichols, and Eisdorfer (1961) found that elderly people with higher death fear more frequently reported feelings of depression and rejection. Maladjusted elderly people, especially those who are depressed, generally are more fearful and anxious regarding death.

In young adults, Templer (1970) found that death anxiety is related to high MMPI depression scores and also to the MMPI scales for schizophrenia and psychasthenia. Like the elderly, college students who are more anxious and fearful concerning death also have more neurotic tendencies, with elevated scores on the neurosis scales of the Eysenck Personality Inventory (Templer, 1972) ( $\underline{r} = .36$ ) and of the Maudsley Personality Inventory (Moses, 1973). Templer and Ruff (1971) reported that mean scores on the Death Anxiety Scale (DAS) are generally higher for adult psychiatric patients than for normal adults. Feifel and Hermann (1973), on the other hand, found similar patterns in the death attitudes of neurotic and normal subjects.

A study by Lester and Schumacher (1969) failed to find the predicted elevation in the level of death fear of schizophrenic patients compared to nonschizophrenics, perhaps because the nonschizophrenic comparison group was comprised of many depressed patients (Fast & Pawl, 1970). It would have been surprising if these depressed control subjects had reduced death fear scores in light of the previously cited indications that depression is linked with high death fear.

To summarize, in most empirical investigations, negative death attitudes such as high death fear or high death anxiety, have been associated, both in the aged and in younger adults, with negative indicators of physical and psychological health, particularly with the presence of depressed feelings and other neurotic behaviors.

### General Anxiety and Other Indicators of Maladjustment

Research consistently indicates a positive association between death anxiety (DAS scores) or death fear (scores on the Collett-Lester FDS) and general anxiety, as measured by a variety of standard scales (Dickstein, 1972; Farley, 1971; Handal, 1969; Handal & Rychlak, 1971; Lucas, 1974; Nogas et al., 1974; Templer, 1970, 1971, 1972). Researchers have also expected a relationship between death fear/anxiety and several other negative indicators of psychological health. The Repression-Sensitization Scale, for instance, identifies the extent to which a person is aware of and actively responds to arousing stimuli. The sensitized individuals are thought of as tending toward anxiety, and prove to have more negative attitudes toward death, whether these attitudes are assessed by the DAS (Handal & Rychlak, 1971; Tolor & Reznikoff, 1967), DCS (Dickstein, 1972), TI (Tobacyk & Eckstein, 1980), or a combination of items from a number of instruments (Farley, 1971). When presented with death-related material to read, however, sensitizers did not report more anxiety than repressors (Paris & Goodstein, 1966).

Feldman and Hersen (1967) reported a significant relationship between conscious death fear and frequency of nightmares, a result not replicated by Lester (1968). Lester (1967a) did find that those individuals who had attempted suicide in a sample of adolescents were less afraid of death than their nonsuicidal counterparts, but found no relationship in a normal, adult population between one's attitudes regarding suicide and those regarding death (Lester, 1971b).

In summary, investigators have generally reported that people with higher death fear or death anxiety score higher, as well, on a variety of indices that may be thought of broadly as indicators of maladjustment. Let us now turn to several theories which try to account for the relationship between positive death orientation and positive life orientation.

### An Existential Hypothesis

Personal death is an important topic in the writing of the existentialists. And, although there is variation in the amount of attention they give to death and in the precise manner in which death fits into their overall scheme, there is a fundamental similarity in the way in which they deal with the issue (Carse, 1980; Nagley, 1978; Olson, 1971). As a group, Kierkegaard, Heidegger, Jaspers, and Sartre focused their energies on understanding and resolving the general malaise they observed in modern societies. Science and

technology have contributed to a higher standard of living in which basic needs are satisfied. Rather than producing happiness, this situation has resulted in the continual craving for more that is characteristic of the materialistic, consumer-oriented Western countries. Underneath the smiling surface, the existentialists perceived a yawning gulf of emptiness and boredom. What went wrong? After examining the existentialists' analysis of the root of this emptiness, we will explore their notion of the awareness of personal death and how this awareness is supposed to result in a more intense, meaningful life.

The existentialist diagnosis is that people have lost track of their individuality and have been swallowed up in the attitudes and behavior of the herd. This happens in a variety of ways. For one thing, we easily fall into the trap of focusing on what we do rather than trying to discover who we are. Our conversation frequently betrays the importance we give to the roles we play: "I am a counselor; what do you do? What is your major? What do you teach? Are you married? What does your husband do?" Because of the complexity of modern life, people have come to believe that truly worthwhile goals are accomplished by team play, with everybody working together and contributing to the whole through their own small role. The problem is, according to the existentialists, we cannot follow group guidelines without losing the self-consciousness which makes us uniquely human. If I register for a course "because they say it is a good

course," I am basing my behavior on something other than my own experience and my own intentionality. An alternative way of losing ourselves is to develop the belief that "I will be happy and alive as soon as . . ." No matter how we finish that sentence, we betray an attitude of de-valuing our present experience. There seems to be little reason, therefore, to be intent on the present. And if we find a new "as soon as . . ." tomorrow, intentionality and human self-consciousness may never begin (Slote, 1978). Small wonder, thought the existentialists, that people experience an emptiness. People have lost their individuality and ceased to live in a specifically human mode by fading into the crowd or in some other way failing to be intent and self-aware in the present.

The cause of the emptiness perceived by the existentialists seems to run to the very core of what it means to be human. What sort of solution can they offer? Each person, they believed, can re-discover the important aspects of human existence through an encounter with death, not death in general, but personal death, "my death." This encounter is an awareness of my essential, absolute limitation: my personal mortality, an awareness with intellectual, emotional, and behavioral implications (Choron, 1963). According to existentialist thinking, bringing my future death into the present reveals the present for what it is: all that a person has. A person could turn away from this awareness. People do, after all, fade back into the crowd. They pretend to be making a contribution to some significant cause,

or they continue to live "as soon as . . ."--any method to avoid the awareness of who they really are. On the other hand, a person who resolutely faces personal death learns that, while the escape routes preclude anxiety, they also preclude genuine human existence. For the person who accepts personal death and its implications for living a truly human existence, the present acquires an urgency and intensity because it is all the person has (Koestenbaum, 1971). The individual who is aware of personal mortality will focus on the most important and meaningful possibilities of the moment and will be aware of personal freedom rather than being pressured by the opinions or behaviors of the group.

To summarize, the existentialists believed that without the awareness of personal death, life remains artificial. A uniquely human mode of living is possible only for the individual who learns to face the necessity of personal mortality. Personal death, in a certain sense, does not threaten my existence. Instead, it is one of the essential features of my existence (Gray, 1967). An intense, free, vigorously human life is characteristic of the person with this view of personal death. To live life well, a person must face death.

#### A Personal Construct View

Like other humanistic psychologists, Kelly focuses his attention on the living, active person-in-process. At first

glance, a personal construct view of optimal functioning seems to have less to do with death and more to do with completing the cycle of experience and with the process of developing a differentiated and integrated personal construct system with which to approach life. Kelly (1965) did, it is true, extend his theory to the phenomenon of suicidal behavior, proposing the intriguing notion that suicide may be thought of as a way of preventing further invalidation and the total collapse of a person's system for interpreting life. Rather than face a future of total chaos without a system which can accurately anticipate the on-rushing events of life (except the certainty of still further invalidation!), the person may opt to preserve the remnants of his/her system of meaning by suicide. Landfield (1976) and Lester (1968, 1969, 1971b) pursued this hypothesis about suicidal behavior with generally positive results. This application of personal construct psychology speaks less to the meaning of death, however, than to the lack of meaning in one's life. Death as a possibility enters the picture only when life is identified with chaos and a meaningful life seems impossible.

Three aspects of personal construct psychology reflect more directly the relationship predicted by the existentialists between a person's approach to death and optimal functioning. First of all, Kelly frequently referred to death as an example of an event which generally threatens the person. As Kelly (1955) stated:

Threat is the awareness of imminent comprehensive change in one's core structures. In order for the threat to be significant, the prospective change must be substantial. Death is an example. Death is threatening to most people. We describe it as threatening to them because they perceive it both as likely to happen to them and as likely to bring about drastic changes in their core constructs. (pp. 489-490)

According to Kelly, the process of significant personal change is thwarted under threatening conditions, which allow only superficial change as the person runs for cover to escape the threatening event or strikes out wildly to fend off the threat. Coming to terms with death--finding a way to reduce death's threatening nature by making the fundamental meaning of one's life compatible with death, is one way to ensure an ongoing process of growth in one's life.

On the other hand, must every person resolve an incompatibility between personal death and one's core meaning? Might not a person, after all, construct the fundamental meaning of his/her life without reference to death, then discover later on that this core meaning is, fortunately, compatible with death? The nature of psychological meaning in personal construct psychology is a second aspect which leads one to think that a person must confront death directly in order to construct a set of core beliefs and values in life that are compatible with death. Central to Kelly's theory is his belief that psychological meaning is essentially dialectical. In other words, a person comes to know a series of events in terms of the ways in which some events are similar to each other and different from other events. To understand what

a person means by "playful," for example, we need to know the opposite. One person may use the contrast "boring." Playfulness means something quite different to another person who thinks of people as "playful vs. hard-working." The former person will relate to a playful person as a spontaneous, joyful, exciting person; the latter might consider the playful person to be lazy, childish, and irresponsible. The same is true of a person's understanding of life. An exploration of a person's understanding of death will provide information essential to understanding what the person considers important in life. Operating within a personal construct perspective, Rowe (1982) reported on her attempts to explore her clients' "metaphor" about death in order to determine the questions their life was meant to answer. Rowe believes that one of the most significant questions a therapist can ask clients is: "What comes after death?" Another is: "Do you want to be buried or cremated?" Rowe's clinical evidence supports her notion that clients who find an optimistic answer to their questions about death will be able to live a fuller, more meaningful life than are those clients who arrive at a negative answer. Because of the dialectical nature of psychological meaning, a person cannot construe adequately the meaning of life without construing the meaning of its opposite--death.

A third aspect of Kelly's theory also suggests that a positive death orientation will result in more optimal functioning. According to Kelly, the resolution of a conflict

requires the development of more abstract, superordinate constructs, resulting in a more integrated construct system, which may be considered a feature of optimal functioning. A person who views life and death as falling on opposite poles of a variety of personal constructs (high death threat) will avoid behaviors which would imply that death is a real possibility, compatible with his/her definition of core self. In the process of resolving the incompatibility between self-definition and death, the person will actively engage in death-related behaviors, which will require and support the development of a more structured, integrated construct system through the creation of superordinate, linkage constructs. In several ways, therefore, construct theory supports the notion that coming to terms with death by reducing death threat is a basis for optimal functioning.

### Rationale and Hypotheses

Previous research has indicated a moderate relationship between positive orientation toward death and aspects of optimal functioning. People with less anxiety or fear about personal death tend to have higher scores on measures that tap self-esteem, for instance, and lower scores on general anxiety and depression indices. Two weaknesses of these previous investigations will be examined in this section. After each is examined, a rationale for the present study will be presented, together with the hypotheses to be tested.

The Complexity of Death Orientation and  
Optimal Functioning

The first limitation noted in previous research is that death orientation and optimal functioning have been conceptualized frequently in unidimensional terms, with single scale questionnaires to assess death anxiety or death fear and single scale questionnaires to assess self-esteem, purpose in life, or general anxiety. Studies which have operationalized death orientation or optimal functioning in a more complex manner have, nonetheless, examined individual correlations between subscales rather than the overall pattern of the relationships. Results which support a relationship between low death fear, for instance, and high scores on two or three Personality Orientation Inventory (POI) subscales are more suggestive than conclusive. One might wonder whether death orientation is related to optimal functioning overall, or merely to the specific aspects measured by the two or three POI subscales. The present study represents an attempt to conceptualize multidimensionally both death orientation and optimal functioning.

The multidimensional nature of death orientation has been reflected through the use of the Collett-Lester Fear of Death Scale (FDS) and the Threat Index (TI), each of which represents a multidimensional approach to death orientation. The FDS was constructed to assess the four predetermined aspects of death previously described, and the TI reflects the idiosyncratic dimensions each person constructs to

understand and anticipate the phenomenon of death. Furthermore, the TI and the FDS represent a combination of the two empirically derived (Rigdon & Epting, 1981) factors of negative evaluation of death (TI scores and scores on the FDS subscales for fear of death and dying of self and death of others) and avoidance of the dying and of death reminders (scores on the FDS subscales for fear of death and dying of others). From several perspectives, therefore, the FDS and the TI represent a multidimensional approach to death orientation. The third empirically derived factor (the frequency of thoughts about death) was not assessed in the present study for two reasons. First of all, previous research more frequently has explored the relationship of aspects of optimal functioning with death attitude measures that load highly on the first two factors of negative evaluation and avoidance. Secondly, there seems to be no compelling reason to believe that optimally functioning persons think about death more frequently or less frequently than other people.

An additional advantage of using the TI arises from the attempt to conceptualize death orientation in theoretical terms. Whereas other conceptualizations are in general terms of fear, anxiety, concern, or acceptance, personal construct theory, on which the TI is based, provides a conceptualization of death orientation in terms of threat, i.e., the awareness, at the prospect of imminent death, of comprehensive change in the constructs used to clarify and maintain one's identity. Furthermore, construct theory focuses on therapy and suggests

how to reduce threat so that significant personality change and growth can continue.

A multidimensional conceptualization of optimal functioning is reflected in this study through the use of differentiation, integration, and purpose in life. Differentiation represents an important process in optimal functioning--the development of independent perspectives regarding a set of events such as personal death and dying. Differentiation was operationalized in two ways. The first was Landfield's procedure for calculating the number of Functionally Independent Constructions (FIC) each person uses for interpreting the phenomenon of death. The second was the number of times a person indicated that neither pole of a construct applied or a lack of certainty about which pole applied. This index of the applicability of the constructs is referred to as the range of convenience (ROC). Crum (1978) reported a significant correlation between FIC and ROC ( $r = .80$ ), and he found that ROC scores, like FIC scores, predicted performance on several variables. The FIC effect, however, was more frequently significant, whereas the effect of ROC was often only marginally significant. Both process and structural aspects of optimal functioning are reflected in integration --the development of hierarchically arranged constructs which permit the system to function as a coordinated network. Landfield's ordination and chi-squared indices served as operations of integration in the person's death-related construct system. Finally, the content aspect of optimal functioning is reflected

in a person's set of beliefs relative to life's purpose and meaning, assessed by the Purpose in Life Test (PIL).

The first hypothesis for this investigation arose from the multidimensional conceptualization of death orientation and optimal functioning and from previous research supporting an inverse relationship between death anxiety or fear of death and aspects of optimal functioning. A significant inverse relationship is predicted between death orientation and optimal functioning. Specifically, low fear of death and dying of self, low fear of the death and dying of others, and low death threat are related to high purpose in life and highly differentiated (as assessed by FIC and ROC) and highly integrated (as assessed by ordination and chi-squared) construct systems for anticipating death.

### Two Experimental Hypotheses

A second weakness of previous studies, in addition to the frequently unidimensional conceptualization of death orientation and optimal functioning, has been a lack of an experimental test for two rival hypotheses that may explain the correlation between positive death orientation and optimal functioning. It may be that a person's ability to cope with stressful life events determines the efficiency of one's strategies for coping with death. On the other hand, a person's ability to come to terms with death in a positive, accepting way may determine one's ability to live a healthy, productive life.

Investigators may hesitate to test these competing hypotheses because of the difficulty in changing death-related attitudes. A variety of studies have investigated ways to improve death attitudes. Preexisting groups such as Zen meditators and Buddhists (Garfield, 1975), meditators (Curtis, 1980), and creative artists (Goodman, 1975) have been found to have lower death anxiety than control subjects. Other studies have used a quasi-experimental design, comparing the death orientation of groups who completed death education experiences to the orientation of control group subjects. Some studies have not found the expected changes in death attitudes. Bell (1975), for instance, reported no differences in fear of death, although participants in the death education course thought about death more frequently than control subjects and were more interested in discussing death. And Rainey and Epting (1977) found lower death threat in death education students not only after the course, but also before it began, indicating that positive death orientation may be a selection factor for death education courses. In a similar study by Tobacyk and Eckstein (1980), however, death education students, compared to another group of students, had lower TI scores, when pretreatment differences in threat were statistically controlled. Several other studies have also supported the effectiveness of death education experiences. Murray (1974) and Whelan and Warren (1980) found reduction in death anxiety when the post-test was delayed for four and eight weeks, respectively, after

the death-related experience had ended, suggesting that it may take some time for changes in death attitudes to be consolidated. Durlak (1978) found that an eight-hour didactic, information-oriented workshop on death reduced death anxiety (DAS scores) more than an experiential, feeling-oriented workshop, while the experiential workshop resulted in lower death fear (scores on Lester's FDS). In a similar experiment (Kurlychek, 1978b), participants randomly assigned to an experiential death education course had lower fear of the death of others than participants assigned to an information-discussion course on death and a waiting list control group. But the information-discussion course produced lower fear of death of self, compared to the waiting list controls. Interestingly, Durlak and Kurlychek also investigated the effect of the death-related experiences on purpose in life, one aspect of optimal functioning as conceptualized in the present study. Durlak reported no impact of either workshop on PIL scores, while Kurlychek found that the experiential death education course, compared to the information course and the waiting list group, produced higher PIL scores.

In light of the perspective previously presented from existential philosophy and personal construct psychology, the present study was an experimental test of the impact of positive death orientation on optimal functioning. In addition to the previous correlational hypothesis, two experimental hypotheses were generated. First, it was hypothesized that the treatment groups, compared to the control group,

will have more positive death orientation, i.e., lower fear of death and dying of self and of others and lower death threat. This is a check on the effectiveness of the treatments. Second, the treatment groups, compared to the control group, will be functioning at a more optimal level at post-test. In other words, they will have more purpose in life and will be more differentiated and integrated in their constructed anticipations of death.

The importance of resolving this issue can be seen in the implications for therapy, counseling for personal growth, and death education. Death should be a central issue in therapy and counseling, as Rowe (1982) believed, if a change to a more positive death orientation results in healthier functioning. Death education courses would acquire an importance not only for their potential to change attitudes about death and dying, but also for their potential to produce a higher level of functioning in life. Should evidence support the impact of general life coping strategies on one's approach to death and dying, then counseling for personal growth might profitably focus on life coping skills, and death education would lose some of its importance as a personal growth experience.

## CHAPTER II METHOD

### Subjects

Participants in the study were undergraduate students in general psychology, who received course credit for their participation. Of the 96 who participated, 79 were freshmen or sophomores. Their ages ranged from 17 to 32, with a median age of 18.8. All but ten were in the 18 to 20 age range. An equal number of 48 females and 48 males participated. Four of the subjects were black; the others were white.

### Instruments

The four questionnaires for this experiment were the Threat Index (TI), the Collett-Lester Fear of Death Scale (FDS), the Purpose in Life Test (PIL), and a Personal Data Questionnaire (PDQ). Appendices A, B, and C contain a copy of the questionnaires, except for the copyrighted PIL.

#### Threat Index (TI)

Because the process of eliciting death-related constructs from each person is time-consuming, the present investigation

used a provided form of the TI, consisting of 30 of the most frequently elicited death-related constructs. Krieger, Epting, and Hays (1979) initially developed the 40-construct provided form, the TIp40. The number of constructs was reduced later to 30 (Neimeyer, Dingemans, & Epting, 1977). For the present study, a new TIp30 was introduced. Like the former TIp30, it used 30 constructs appearing on the TIp40. An examination of five of those constructs suggested that they were elicited not by death as an event, but by the concrete stimulus "death" which was an element subjects used to generate the initial constructs in the elicited version of the TI. These five constructs were: relating to others-not relating to others, specific-general, concrete-abstract, personal-impersonal, and subjective-objective. Compared to the other death elements, this vague "death" element could reasonably be described by the right pole in each of the five constructs. Accordingly, these five constructs were replaced with five others from the TIp40 which were more clearly related to death as a personal event: pleasure-pain, helping others-being selfish, insecure-secure, useful-useless, and stagnation-growth.

The scalar form of the TI was used. According to this form, the elements are rated along 13-point scales, with the construct poles as the end points. Furthermore, in order to score the TI for the differentiation and integration indices, one slight modification was initiated. In addition to rating the standard elements self and my own death, each person rated

a series of 10 death-related elements adapted, with minor changes, from previous TI research (Krieger et al., 1974; Rainey & Epting, 1977). To control for an order effect, these 10 elements (listed in Appendix A) were presented to each participant in random order after the self and personal death elements. The 30 constructs also were presented to each participant in three different random orderings.

The TI was scored for the number of splits between the way self and my own death were rated. A person, for instance, who rated self as useful and death as useless received a score of one split. The total score was the number of splits for the 30 constructs. Because the ratings allowed for a neutral zero rating, each participant was requested to make a second choice for those constructs on which the zero point was used to rate self or personal death.

Various forms of the TI have produced acceptable estimates of reliability, with a median test-retest coefficient of .86 for a 4-week period and a median split-half coefficient of .93 (Rigdon et al., 1979). Research has also supported the validity of the TI as a measure of death orientation (Rigdon et al., 1979). Threat Index scores correlate moderately with scores on a variety of other death orientation instruments, for instance, and those who had planned their funeral or provided for body disposal at death had, as expected, lower TI scores than nonplanners.

In addition to the number of splits, the Threat Index was also scored for the total difference between the way that

self and personal death were rated (WTI), an index used by Warren (1982) in place of the split score. A person, for example, who rated self as extremely useful (+6) and death as slightly useful (+2) would receive a score of 4 on that construct. The WTI score was the total for the 30 constructs. The number of zeros the participant initially used to rate personal death was also calculated because meaning depolarization (i.e., the tendency to rate elements toward the neutral midpoint) is considered in construct theory as an indicator of possible anxiety (Rigdon et al., 1979)--an event the person is unable to make any sense of. Although the hypotheses for the experiment were not phrased in terms of the difference score (WTI) or the number of zeros, post hoc analysis would include these potentially useful variables.

The ratings of the 10 death-related elements were scored for range of convenience (ROC) simply by counting the number of zero ratings. The scoring for the Landfield FIC, ordination, and chi-square indices was more complex (Landfield & Schmittiel, 1981; Leitner et al., 1976). For FIC, each construct dimension was matched with each other construct dimension, and it was noted when there was agreement in the application of the two constructs to the death-related events. The fewer the instances of overlap, the more functional independence of the two constructs; the more overlap, the more functional similarity. Using the standard 30% overlap criterion, two constructs were considered functionally identical when the participant used the same construct pole

to describe eight of the ten death-related elements. The same procedure was applied to the 10 death-related elements. Two elements were considered functionally identical if the participant used the same pole of 24 of the 30 constructs to describe the two events. The number of functionally independent constructs and the number of functionally independent elements were summed for a total FIC score.

To calculate the ordination score for a construct, the 10 element ratings on that construct were examined. If a participant used only three different rating points (e.g., 2, 5, and 6), a score of 3 was multiplied by the difference between the highest and lowest ratings ( $6 - 2 = 4$ ) for a score of 12. This calculation was made for all 30 of the 30 scores. Similarly, ordination scores were calculated for each of the elements. The number of different rating points used in describing an element with the 30 constructs was multiplied by the difference between the high and low ratings. The ordination score for the elements was the average of the 10 element scores, which was then combined with the average ordination score for constructs for a total ordination score.

To calculate the chi-square index for a construct, it was necessary to count the number of times that each rating point was used to describe the 10 death-related elements. From these frequencies, the chi-square statistic was calculated as a measure of the difference from a rectangular distribution in which all ratings are used with equal frequency. After the chi-square statistic was calculated for

the 30 constructs, an average was taken as the chi-square score for constructs. An average chi-square score for elements was also calculated and added to the average chi-square score for constructs to create a total chi-square score.

The Landfield indices for differentiation and integration (including ROC) were calculated from the TI ratings by computer (Landfield, Page, Barrows, Willis, Lavelle, & Schmittdiel, 1981). To ensure that threat scores be mathematically independent of the differentiation and integration indices, no ratings were scored for both threat and the latter indices. Differentiation and integration scores were calculated on the ratings of the 10 death-related elements only, while the ratings of self and personal death were used to derive death threat scores.

For clients in therapy, Landfield (1971) reported test-retest reliability coefficients of FIC scores of approximately .50. These low correlations are not so surprising, in that therapy should produce change in the clients' construct systems. In this population, one would expect change in FIC scores rather than stability. The stability of FIC scores needs to be examined with participants for whom no intervention occurs from pretest to posttest. Crum (1978) reported a test-retest reliability coefficient of .71 for ROC scores and a low .48 for ordination scores. These coefficients may have been artificially reduced by the fatigue of the participants, who completed the retest after a two-hour

experimental session. Crum reported that many subjects seemed bored and completed the retest in a hurried manner. Reliability estimates for chi-squared have not been reported.

#### The Collett-Lester Fear of Death Scale (FDS)

This questionnaire consists of 36 items to which a person responds on a 6-point scale to indicate slight, moderate, or extreme agreement or slight, moderate, or extreme disagreement with each statement. The FDS is scored for four aspects of death orientation: fear of the death or dying of self and fear of the death or dying of others. As summarized by Lester (1974) and by Wass (in press), the evidence supports the test-retest reliability and internal consistency of the FDS. The validity also has been supported by moderate correlations between FDS subscale scores and scores on several other death attitude scales.

#### The Purpose in Life Test (PIL)

Participants respond to the 20 PIL items on a 7-point scale to indicate little meaning in life (score of 1) or significant meaning in life (score of 7). Investigations of the reliability of the PIL have resulted in a median split-half reliability coefficient of .91 (Crumbaugh & Maholick, 1969; Reker & Cousins, 1979). Test-retest reliability ranged from .83 for one week to .68 for 12 weeks (Reker, 1977). Evidence supporting the validity of the PIL as a measure of meaning in life was presented earlier.

## The Personal Data Questionnaire (PDQ)

Items were constructed to assess demographic variables, participants' religious beliefs and practices, and their previous experience of near-death or the death of significant others. Analyses involving the variables assessed by the PDQ are regarded as post hoc, in that no a priori hypotheses were generated.

### Procedure

To carry out the experimental design required two sessions. The first session involved the completion of the pretest questionnaires and participation in a death-related experience for the treatment groups or an alternative experience for the control group. In the second session, participants completed the posttest questionnaires.

#### First Session

Participation in the experiment was in groups, ranging in size from 9 to 12 members. The session began with a description of the purpose of the study and of the procedures as stated on the informed consent form (Appendix D). After an opportunity to ask questions, the participants signed the informed consent form. Each participant next received a

packet of four questionnaires in random order: the TI, the FDS, the PIL, and the PDQ. When every member of the group had completed the questionnaires (45 minutes to an hour), the group members participated in the experience to which they were randomly assigned: the death-related experience of writing an obituary/biography (Appendix E) or of writing a farewell letter (Appendix F) or the stress management experience (Appendix G) not related to death (control group).

The two death-related experiences were selected as commonly used components of death education courses that are likely to reduce threat, in that both involve the playful, imaginative realization of one's personal mortality. Writing the farewell letter invites the person to behave "as if" he/she were dying, and writing an obituary/biography invites the person to act "as if" he/she were dead. Just as the playful enactment of a new role in fixed role therapy (Kelly, 1955) provides for the development of new constructs to support the new behavior as "my own," so the enactment of oneself as dying or dead would provide the opportunity to resolve the split between self and death through the development of superordinate construct dimensions which resolve the split. The use of these two experiences to reduce death threat permits the determination of whether these components of death education courses are the ones that are generally responsible for the change in death attitudes reported as the result of death education courses, which are comprised of a multitude of components, both informational and experiential.

The stress management experience (Apgar & Callahan, 1980) was selected as a treatment which was not related to death, but one that would be interesting and useful to the participants in the study.

Each experience began with a brief introduction and a period of time for the participants to complete their written response, followed by an opportunity to share with others what they had written and to discuss the meaning of the experience and their reaction to it. The discussion phase of the stress management experience was more structured, involving the presentation of information about stress and its control, as well as an opportunity to practice a relaxation exercise. Each experience lasted for about an hour, after which participants selected a time to return for the second session seven weeks later.

### Second Session

A reminder of the second appointment was mailed to all participants. When they arrived for the second session, they completed the TI, the FDS, and the PIL, once again in groups of 9 to 12. This session ended with an opportunity to request feedback about the results of the investigation.

## CHAPTER III RESULTS

This chapter will present the results of the analyses of data provided by the participants in this study. After data regarding instrument reliability are presented, the results pertaining to each hypothesis will be presented in order, followed by a presentation of analyses for variables about which no a priori hypotheses were generated.

### Instrument Reliability

The provided form of the TI used in this study involved minor changes from previous TI research. Evidence regarding the reliability of this TI form was, therefore, important. The data supported both the internal consistency of the TI (split-half  $\underline{r} = .90$ , corrected by the Spearman-Brown formula) and the test-retest stability for the 31 control participants over seven weeks ( $\underline{r} = .73$ ). These reliability estimates are comparable to those previously reported for other TI forms (Rigdon et al., 1979).

While the stability of the overall FDS scores (summing the four subscale scores) was acceptable ( $\underline{r} = .76$ ), only the DyS (fear of dying of self) subscale scores matched that level of relationship ( $\underline{r} = .73$ ). Pre-post correlations for the DS

(fear of death of self; .59), DO (fear of death of others; .42), and DyO (fear of dying of others; .46) subscales, though significant, are lower than one might wish, perhaps due to the small number of items for some of the subscales. Furthermore, the FDS subscale intercorrelations (Table 1) were surprisingly high, some apparently higher than the estimates of individual subscale stability. One would expect greater independence between supposedly orthogonal aspects of death orientation.

PIL scores, on the other hand, were quite stable ( $\underline{r} = .85$ ). The other optimal functioning indices, unfortunately, did not seem to have the same level of stability as PIL scores. Pretest-posttest correlations for FIC (functionally independent constructions; .52), ROC (range of convenience; .60), and chi-square (.65) scores indicated significant, though moderate stability. There was no relationship, however, between ordination scores derived from the two testing sessions ( $\underline{r} = .18$ , n.s.). Furthermore, there was post hoc evidence that the scores of the 31 control group members significantly decreased on the three most stable retest indices, although not on ordination scores (Table 2).

In summary, the results supported the reliability of the TI, the PIL, and the FDS subscale for fear of the dying of self (DyS). The moderate support for the stability of three FDS subscales (DS, DO, and DyO) and of FIC, ROC, and chi-square scores was less than one might expect. The results simply failed to support the reliability of ordination scores.

Table 1  
Intercorrelations of Pretest Scores on  
Four FDS Subscales for All Participants

	DS	DyS	DO	DyO
DS	--	.63	.63	.28
DyS		--	.61	.55
DO			--	.34
DyO				--

Note. For all correlations,  $p < .003$ . DS = Fear of the death of self. DyS = Fear of the dying of self. DO = Fear of the death of others. DyO = Fear of the dying of others.

Table 2  
Post Hoc Tests of Differences between  
Pretest and Posttest Mean Scores on  
Differentiation and Integration Indices

Index	Pretest Mean	Posttest Mean	$t(30)$	$p$
ROC	43.6 (36.2)	20.5 (20.7)	4.42	<.001
FIC	14.1 (6.5)	9.6 (5.3)	4.22	<.001
CHI	55.1 (28.7)	48.9 (20.8)	2.34	<.026
ORD	37.7 (7.0)	39.1 (7.5)	-.85	n.s.

Note. Standard deviations are in parentheses. ROC = Range of convenience. FIC = Functionally independent constructions. CHI = Chi-square. ORD = Ordination.

### First Hypothesis

The first hypothesis predicted a significant inverse relationship between death orientation and optimal functioning. More specifically, low fear of death and dying of self, low fear of the death and dying of others, and low death threat were predicted to be related to high purpose in life and to highly differentiated and highly integrated construct systems for anticipating death.

This hypothesis was tested using the pretest scores of the 96 participants on the FDS, the PIL, and the TI (including scores for the differentiation and integration indices). As stated before, two scores were derived from the PIL: a total score on all 20 items and a second score excluding items 10 and 15, which appear to assess a person's attitudes about personal death. To prevent participants' responses on these two items from artificially inflating the relationship between purpose in life and the death orientation variables, the plan was to perform the analyses with and without these two items. For the whole sample, the two scores were practically identical ( $r = .99$ ). In order to have results that are comparable to others using the PIL therefore, the analyses which involved purpose in life used the participants' total PIL scores. Pretest death orientation and optimal functioning scores were analyzed by three multivariate procedures: canonical correlation, analysis of variance, and multiple regression.

## Canonical Correlation Analyses

The primary strategy for testing the first hypothesis called for a multivariate canonical correlation analysis of the pretest scores to estimate the amount of overlap between the death orientation variables, on the one hand, and the optimal functioning variables, on the other. An examination of the correlation between the differentiation and integration indices, however, revealed strong relationships between several of the optimal functioning variables (Table 3). Entering all four variables in the same canonical analysis would contradict the assumption of the relative independence of the variables in each set in a canonical correlation. One solution for this problem of multicollinearity (Green, 1978) is to drop from the analysis one highly overlapping variable, retaining those that have the most theoretical importance. For that reason, analysis of the pretest scores initially used the FIC index because, as a differentiation index, it is rooted more directly in construct theory than ROC scores. As an integration index, the first analysis used chi-square scores which were developed as an improvement over ordination. Analyses were also performed using the less highly related FIC and ordination scores as differentiation and integration indices and, finally, the ROC and ordination scores. Because of the potential multicollinearity, scores which had a correlation greater than  $.70$  were not included together in any analysis: FIC and ROC ( $r = .74$ ), ROC

Table 3  
 Pretest Intercorrelations between  
 Indices of Differentiation and Integration

	Chi-square	Ordination	ROC
FIC	.35*	-.26	.74*
Chi-square	--	-.82*	.76*
Ordination		--	-.51*
ROC			--

Note. Scores were based on responses of all 96 participants.

\* $p < .001$ .

and chi-square ( $r = .76$ ), and ordination and chi-square ( $r = -.82$ ). The analyses (Table 4) supported a consistent relationship between positive death orientation and the optimal functioning variables. Using a standard .30 value to gauge the importance of each variable's contribution to the overall relationship indicates that low death threat, low fear of one's own dying, and of the death and dying of others is related to high purpose in life, high FIC and ROC scores (highly differentiated views of death), and low ordination and high chi-square scores (low integration in viewing death). This relationship is evident in similar analyses that used FIC, ordination, and chi-square scores for constructs only (Table 4), instead of the total scores described earlier, which were calculated for both constructs and elements. The relationship between death orientation and optimal functioning was as predicted, except that positive death orientation unexpectedly was related to low integration in viewing death (low ordination and high chi-square scores).

A multivariate analysis of participants' scores on all variables revealed evidence of initial sex differences (Table 5), due to differences in scores on four of the five death orientation scales (Table 6). Female participants scored significantly higher than males on fear of the death of self (10.5 and 1.3), fear of dying of self (5.8 and 0.9), fear of the death of others (10.6 and 3.7), and death threat (17.7 and 13.5).

Table 4  
 Canonical Correlation Analyses of Pretest Death Orientation and  
 Optimal Functioning Scores for All Participants

Correlation of variables with death orientation composite variable				Correlation of variables with optimal functioning composite variable				Statistics				
DS	DYS	DO	DYO	TI	PIL	FIC	ROC	CHI	ORD	R	R <sup>2</sup>	F
19	72	69	47	63	-82	-58		-38		42	18	2.00**
12	68	66	44	60	-82	-56			35	42	18	2.30†
-03	65	47	51	56	-93		-35		36	40	16	1.99**
13	69	63	52	63	-86	-58		-52		42	18	1.80*
-01	58	60	47	52	-81	-58			59	43	18	2.26†
-21	48	44	48	40	-84		-33		65	41	17	2.22†

Note. The first three analyses used the total scores for FIC, chi-square, and ordination. The last three analyses used the scores for constructs only. The degrees of freedom for each F test were 15 and 243.33, using the Wilks Lambda approximation. In all six analyses, the tests of the second and third canonical roots were not significant. Analysis was based on the scores of 96 participants. Decimals were omitted from the correlation.

\*p <.05.

\*\*p <.02.

†p <.01.

Table 5  
 Manova Summary Table for Pretest  
 Death Orientation and Optimal Functioning Scores

Source of variation	<u>df</u>	<u>F</u>
Sex of participant	10,81	2.81*
Treatment condition		
Contrast between control and average of two treatments	10,81	1.00
Contrast between two treatments	10,81	<1
Treatment by sex, roots 1 and 2	20,162	<1
Treatment by sex, root 2	9,81.5	<1

Note. The effect of treatment condition was tested by the two a priori orthogonal comparisons. Tests of significance used the Wilks Lambda criterion.

\*p <.005.

Table 6  
 Analysis of Variance of Death Orientation  
 and Optimal Functioning Scores  
 for Sex Differences

Dependent variable	<u>MS</u>	<u>F(1,90)</u>	<u>p</u>
Fear of death of self (DS)	1932.89	16.96	<.001
Fear of dying of self (DyS)	532.02	16.21	<.001
Fear of death of others (DO)	1066.17	14.16	<.001
Fear of dying of others (DyO)	17.35	<1	
Death threat (TI)	422.14	7.80	<.006
Purpose in life (PIL)	26.30	<1	
Functionally independent constructions (FIC)	101.62	2.41	<.124
Range of convenience (ROC)	1050.90	<1	
Chi-square	188.02	<1	
Ordination	4.38	<1	

Because of the initial sex differences in death orientation, canonical analyses were performed separately on scores of the female and the male participants (Table 7). For the females, the results were similar to those of the whole group, with low death threat and low fear of the dying of self and of the death of others significantly associated with high purpose in life, high differentiation (FIC), and low integration (high chi-square and low ordination). For the males, low fear of the dying of self and others was related significantly to high purpose in life, with the other variables not making an important contribution to the relationship between death orientation and optimal functioning.

#### Multivariate Analyses of Variance

In addition to exploring the linear relationship between optimal functioning and death orientation variables, a second method was used to explore the additive effects of some variable sets. Previous investigations (Crum, 1978; Landfield, 1979; Landfield & Schmittiel, 1981; Wilkins, 1978) have explored, for instance, the interaction between FIC and ordination indices by analysis of variance, using a median split on both indices. In order to examine the Landfield indices in a manner comparable to previous studies, similar analyses that categorized participants by high versus low scores were performed to explore potential interactive effects, although no a priori hypotheses were generated for the present study. These multivariate analyses failed to find any significant

Table 7  
 Canonical Correlation Analyses of Pretest Death Orientation and  
 Optimal Functioning Scores for Females and for Males

Correlation of variables with death orientation composite variable				Correlation of variables with optimal functioning composite variable				Statistics				
DS	DYS	DO	DYO	TI	PIL	FIC	ROC	CHI	ORD	R	R <sup>2</sup>	F
22	43	91	15	52	-72	-66	-42			53	28	1.77**
25	46	93	18	53	-70	-67		30		53	28	1.58*
07	30	82	-09	45	-83		-54	43		47	22	1.25
				<u>Females</u>								
-08	61	-02	82	24	-95	28	08			63	40	1.84†
-12	59	04	78	22	-94	26		-08		63	40	2.09†
-16	59	-01	75	21	-98		05	-02		61	38	2.15†
				<u>Males</u>								

Note. The degrees of freedom for each F test were 15 and 110.82, using the Wilks Lambda F approximation. In all six analyses, tests of the second and third canonical roots were not significant. Analysis was based on the scores of 48 females and 48 males. Decimals were omitted from the correlations.

\* $p < .10$ .

\*\* $p < .05$ .

† $p < .02$ .

interaction between FIC and chi-square (Table 8) or between FIC and ordination (Table 9). Nor was there evidence from these analyses of any significant main effects on death orientation scores for FIC, chi-square, or ordination.

### Multiple Regression Analyses

A final method for studying the relationship between death orientation and optimal functioning was to examine the ability of the optimal functioning variables to predict scores on the TI as a single criterion, because the TI can be considered by itself to be a multidimensional measure of death attitudes. Due to the multicollinearity problem mentioned before, the multiple regression analyses once again used the differentiation and integration indices in pairs that were not highly correlated. Although the overall regression equations approached significance (Table 10), there was no evidence that the optimal functioning variables accurately predicted TI scores.

In summary, the results of the canonical correlation analyses support the hypothesized association between positive death orientation and the optimal functioning variables. The relationship was as predicted, except that participants with positive death orientation tended to have lower, rather than higher integration in their views of death. Although females generally had higher scores on the death orientation scales, the relationship between positive death orientation and optimal functioning held for both females and males. There was a difference, however, in the pattern of this relationship.

Table 8  
 Manova Summary Table for Effects of  
 High Versus Low FIC and Chi-square Scores  
 on Death Orientation Scores

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
FIC	5,88	1.12	n.s.
Chi-square	5,88	1.87	<.11
FIC by chi-square	5,88	<1	

Note. Tests of significance used the Wilks Lambda criterion.

Table 9  
 Manova Summary Table for Effects of  
 High Versus Low FIC and Ordination Scores  
 on Death Orientation Scores

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
FIC	5,88	1.13	n.s.
Ordination	5,88	1.64	<.16
FIC by ordination	5,88	<1	

Note. Tests of significance used the Wilks Lambda criterion.

Table 10  
 Multiple Regressions of Death Threat Scores  
 on Selected Optimal Functioning Variables

Predictor variables	$R^2$	$F(3,92)$	$p$
PIL, FIC, and ordination	.07	2.35	<.08
PIL, FIC, and chi-square	.07	2.32	<.08
PIL, ROC, and ordination	.06	2.07	<.11

For the females, the pattern was similar to that of the whole group, in that low threat and low fear of the dying of self and of the death of others were associated with high purpose in life, high differentiation, and low integration. For the males, low fear of the dying of self and of others was associated with high purpose in life. For the males, neither the differentiation and integration scores nor the other death orientation scores contributed to the relationship. There was no evidence from the multivariate analyses of variance of an interactive effect of differentiation and integration indices on death orientation scores. Nor did the optimal functioning variables, according to the multiple regression analyses, accurately predict TI scores taken as a single estimate of death orientation.

### Second Hypothesis

The second hypothesis represents a check on the effectiveness of the two treatments which were predicted to increase the positive death orientation of the participants. Compared to the control group participants, those who participated in the death-related experiences were expected to have, at post-test, lower fear of the death and dying of self and others and lower death threat. To ensure an initial similarity in death orientation and optimal functioning between the treatment groups, a multivariate analysis of the pretest scores on the five death orientation and the five optimal functioning

variables was performed, with sex and treatment level as the two independent factors (Table 5). There was no evidence for any interaction between treatment condition and participant sex. As previously noted, the analysis did indicate higher scores for female participants on four of the five death orientation scales. There was no evidence, however, of any overall difference between the two treatment groups, or between the treatment groups and the control group on the death orientation and optimal functioning variables. Even a post hoc examination of the univariate tests associated with each dependent variable (Table 11) indicated little evidence for any differences, with only the apparent differences in TI scores, ordination scores, and chi-square scores approaching significance (Table 12). The results indicate relative similarity between participants in the three treatment conditions in their initial level of death orientation and optimal functioning.

A multivariate analysis of variance of the death orientation scores of the 95 participants who returned for posttest (Table 13) produced results similar to the results from the pretest scores. Once again, there was no evidence for a significant interaction between participant sex and treatment condition. The sex differences remained stable, with the females continuing to exhibit a more negative death orientation as at pretest. Specifically, they had higher mean scores for the same death orientation scales: TI (19.1 for females and 16.3 for males), DS (6.7 and 1.9), DyS (7.1 and 2.1), and

Table 11  
 Anovas for Treatment Differences in Pretest  
 Death Orientation and Optimal Functioning Scores

Variable	<u>MS</u>	<u>F</u> (1,90)	<u>p</u>	<u>MS</u>	<u>F</u> (1,90)	<u>p</u>
DS	25.45	<1		152.25	1.34	<.25
DyS	1.22	<1		23.84	<1	
DO	99.68	1.32	<.25	86.73	1.15	<.29
DyO	3.23	<1		3.90	<1	
TI	132.31	2.45	<.12	39.46	<1	
PIL	20.25	<1		65.57	<1	
FIC	.38	<1		97.35	2.31	<.13
ROC	4058.65	1.88	<.17	3330.37	1.54	<.22
CHI	8728.50	3.56	<.063	137.54	<1	
ORD	332.66	3.52	<.064	9.45	<1	

Table 12  
 Mean Scores for Death Threat, Ordination, and  
 Chi-square by Treatment Conditions for  
 Pretest and Posttest

Treatment	Variable		
	TI	Ordination	Chi-square
	<u>Pretest</u>		
Obituary/biography	14.0	34.4	76.1
Farewell letter	15.5	33.2	74.6
Stress management control	17.3	37.8	54.7
	<u>Posttest</u>		
Obituary/biography	16.3	36.4	62.5
Farewell letter	17.5	33.5	64.3
Stress management control	19.2	39.0	45.2

Note. For each group,  $n = 31$ , except for the farewell letter treatment group at pretest ( $n = 34$ ) and at posttest ( $n = 33$ ).

Table 13  
 Manova Summary Table for Posttest  
 Death Orientation Scores

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
Sex of participant	5,85	3.25	<.01
Treatment condition			
Contrast between control and average of two treatments	5,85	<1	
Contrast between two treatments	5,85	1.06	<.39
Treatment by sex			
Roots 1 and 2	10,170	1.30	<.235
Root 2	4,85.5	<1	

Note. Tests of significance used the Wilks Lambda criterion.

DO (7.8 and 4.2). Support for a difference in the mean scores on the DyO subscale (-2.0 and -5.0) was marginal (Table 14). There was no evidence that the two death-related treatments, compared to each other or compared to the stress management control condition, produced any difference in death orientation. A post hoc examination of the univariate tests of the five death orientation variables (Table 15) also revealed no evidence of differences. The only  $F$  test larger than 1 was associated with mean TI scores (Table 12), but even this apparent difference was not significant. Overall, the results did not support the effectiveness of either death-related experience for producing a more positive death orientation.

In order to prevent an interpretation of the apparently lower TI scores for the treatment groups compared to the control group (Table 12) as an effect of the treatment conditions, a multivariate analysis of covariance was conducted on the posttest death orientation scores adjusted for possible pretest differences in TI scores (Table 16). This analysis also failed to support a treatment effect or an effect for the interaction of treatment and sex of participant. Of the post hoc univariate  $F$  tests comparing the effect of the two treatments to the control condition on the five death orientation scores, only the  $F$  statistic for DO scores was greater than 1 [ $F(1,88) = 1.05, p < .31$ ]. As indicated by the previous analysis, sex differences remained in the posttest death orientation scores. Neither the multivariate analysis

Table 14  
 Anovas for Sex Differences in Posttest  
 Death Orientation Scores

Variable	<u>MS</u>	<u>F</u> (1,89)	<u>p</u>
Fear of death of self (DS)	457.64	5.18	<.025
Fear of dying of self (DyS)	540.35	13.77	<.001
Fear of death of others (DO)	255.32	5.26	<.024
Fear of dying of others (DyO)	207.20	2.28	<.135
Death threat (TI)	164.10	2.77	<.100

Table 15  
 Anovas for Treatment Differences in  
 Posttest Death Orientation Scores

Variable	Contrast between control and average of two treatments			Contrast between two treatments		
	<u>MS</u>	<u>F</u> (1,89)	<u>p</u>	<u>MS</u>	<u>F</u> (1,89)	<u>p</u>
DS	6.19	<1		6.80	<1	
DyS	.44	<1		1.99	<1	
DO	26.45	<1		116.38	2.40	<.125
DyO	.22	<1		150.79	1.66	<.200
TI	126.38	2.13	<.15	47.95	<1	

Table 16  
 Multivariate Analysis of Covariance of  
 Posttest Death Orientation Scores with  
 Pretest Death Threat Scores as Covariate

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
Covariate (TI)	5,84	13.10	<.001
Sex of participant	5,84	2.42	<.043
Treatment condition			
Contrast between control and average of two treatments	5,84	<1	
Contrast between two treatments	5,84	<1	
Treatment by sex			
Roots 1 and 2	10,168	1.48	<.15
Root 2	4,84.5	<1	

of variance nor the multivariate analysis of covariance revealed any evidence that the two death-related experiences, compared to the stress management experience, reduced the participants' level of death threat and fear. The results failed to support the second hypothesis.

### Third Hypothesis

A higher level of optimal functioning for participants in the death-related treatments compared to the control group members was predicted in the third hypothesis. As indicated above, analysis of the pretest scores did not provide evidence of pretest differences in optimal functioning. A multivariate analysis of variance of the posttest scores on the optimal functioning variables similarly failed to support either a significant interaction between participants' sex and treatment condition, or a significant difference due to sex (Table 17). Contrary to expectation, however, there was no indication of the increased optimal functioning of participants in the death-related experiences. A post hoc examination of the univariate tests of each of the five optimal functioning variables revealed the same support found in the pretest scores for lower integration in the treatment groups, with higher chi-square scores and marginally lower ordination scores (Tables 18 and 12).

In order to prevent an interpretation of the post hoc indication of lower integration as an effect of the death-related

Table 17  
 Manova Summary Table for Posttest  
 Optimal Functioning Scores

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
Sex of participant	5,85	1.50	<.20
Treatment condition			
Contrast between control and average of two treatments	5,85	1.16	<.33
Contrast between two treatments	5,85	1.14	<.35
Treatment by sex			
Roots 1 and 2	10,170	1.16	<.32
Root 2	4,85.5	<1	

Note. Tests of significance used the Wilks Lambda criterion.

Table 18  
 Anovas for Treatment Effects on  
 Posttest Optimal Functioning Scores

Variable	Contrast between control and average of two treatments			Contrast between two treatments		
	MS	F(1,89)	p	MS	F(1,89)	p
PIL	28.03	<1		2.61	<1	
FIC	14.46	<1		45.64	1.59	<.21
ROC	590.04	<1		2903.79	2.25	<.14
CHI	7099.95	4.52	<.036	11.05	<1	
ORD	351.62	3.57	<.062	129.65	1.32	<.25

experiences, a multivariate analysis of covariance was conducted on the posttest optimal functioning scores adjusted for possible pretest differences in ordination and chi-square scores (Table 19). As in the previous analysis of the posttest optimal functioning scores, neither the treatment effect nor the interaction between treatment and sex was significant. Even the univariate  $F$  tests for the five optimal functioning variables failed to indicate any post hoc evidence for treatment differences in optimal functioning scores. Finally, although the multivariate test indicated a significant sex difference in the adjusted optimal functioning scores, the follow-up univariate tests did not reveal the nature of this difference. Only the test for the adjusted chi-square scores approached significance [ $F(1,87) = 3.81, p < .054$ ].

To summarize, neither the multivariate analysis of posttest optimal functioning scores nor the multivariate analysis of covariance supported the significant effect of the death-related treatment experiences predicted in the third hypothesis.

### Additional Analyses

Besides the analyses linked to the three central hypotheses, further analyses were performed regarding relationships about which no specific hypotheses were generated. After briefly reporting the results of these analyses, this section will conclude with an overall summary of the results.

Table 19  
 Multivariate Analysis of Covariance of Posttest  
 Optimal Functioning Scores with Pretest  
 Ordination and Chi-square Scores as Covariates

Source of variation	<u>df</u>	<u>F</u>	<u>p</u>
Covariates			
Roots 1 and 2	10,166	21.27	<.001
Root 2	4,83.5	9.57	<.001
Sex of participant	5,83	2.60	<.031
Treatment condition			
Contrast between control and average of two treatments	5,83	<1	
Contrast between two treatments	5,83	1.09	<.37
Treatment by sex			
Roots 1 and 2	10,166	1.72	<.08
Root 2	4,83.5	<1	

Note. Tests of significance used the Wilks Lambda criterion.

## Religious Beliefs and Practices

Previous research (Rigdon et al., 1979) indicated the potential usefulness of the TI for determining the relationship between religious beliefs and death orientation. Although no a priori hypotheses were established for the present study, relevant data were available to examine this relationship. One-half of the participants reported they were Protestant, 28 were Catholic, and 10 were Jewish. The other 10 claimed other religious affiliations, including agnosticism and atheism. In addition to indicating their religious affiliation, participants responded to two items regarding their overall level of religious devotion and their belief in life after death. Three other items assessed the frequency of attending church, saying grace, and reading the Bible or other religious literature. When an examination of the intercorrelations between these five items revealed a high association between devotion and church attendance (.82), the latter was retained in the analyses because it appeared to be a more behavioral indication of religious devotion. The first analysis, a canonical correlation of death orientation variables and religious practice variables, revealed a significant, moderate relationship ( $\underline{R} = .45$ ,  $\underline{R}^2 = .20$ ,  $\underline{p} < .04$ ) between death orientation and religious belief, with more devout participants having more positive death orientation (Table 20). High scores on the TI, the DyS and DyO subscales were related to a tendency not to believe in an afterlife and to less frequent church attendance, religious

Table 20  
 Canonical Correlation Analysis between Pretest  
 Death Orientation Scores and Religious Beliefs/Practices

Correlation of variables with death orientation composite variable				Correlation of variables with religious beliefs composite variable				Statistics			
DS	DYS	DO	DYO	TI	LAD	ChAtt	Grace	Bible	R	R <sup>2</sup>	F
-04	44	-14	30	78	89	46	29	62	.45	.20	1.67*

Note. LAD = Belief in life after death. ChAtt = Frequency of church attendance. Grace = Frequency of saying grace at meals. Bible = Frequency of biblical and religious literature reading. The degrees of freedom for the significance test were 20 and 289.5. N = 96.

\* $p < .04$ .

reading, and saying grace. Because of the theoretical importance of the TI for the present study, the relationship between death threat and religious practice was analyzed in particular. A multiple regression analysis revealed a significant, moderate relationship [ $R = .39$ ,  $R^2 = .15$ ,  $F(4,91) = 4.02$ ,  $p < .005$ ]. Because church attendance [ $F(1,91) = .02$ ] and saying grace [ $F(1,92) = .08$ ] did not make a significant contribution to the amount of explained variance, they were eliminated from the analysis, resulting in a significant relationship of low death threat to more frequent religious reading and a stronger belief in a life after death (Table 21).

#### Previous Experience with Death and Dying

Of the 96 participants, 22 responded that there was a time when they genuinely believed they were going to die, whether from an accident (16), an illness (4), or a suicide attempt (2). One might predict that such individuals, as a result of their "close brush" with death, would develop a more positive death orientation. A multivariate analysis of variance of the death orientation scores failed to support such a hypothesis, although the overall test approached significance [ $F(5,90) = 2.17$ ,  $p < .064$ ] and the follow-up univariate test of the TI scores indicated marginally lower death threat [ $F(1,94) = 2.70$ ,  $p < .10$ ] for those who experienced a near-death experience (mean = 13.23) compared to those who had not had such an experience (mean = 16.26).

Table 21  
 Multiple Regression of Pretest Death Threat  
 Scores on Religious Beliefs/Practices Variables

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Regression	2,93	416.30	8.15	<.0005
LAD	1,93	243.72	4.77	<.03
Bible	1,93	354.06	6.93	<.01

Note. LAD = Belief in life after death. Bible = Frequency of reading bible or religious literature.

Only 19 of the participants reported no recollection of the death of a family member or close friend. Almost half (44) recalled one such experience. One might expect people who have more frequently experienced the death of significant others to have come to terms with death and dying and to have a more positive death orientation. Multiple regression failed to find a relationship between the frequency of the death of a relative or friend and scores on the death orientation scales for the males [ $F(7,40) = 1.00, p < .45; R^2 = .15$ ] or for the females [ $F(7,40) = 1.19, p < .33; R^2 = .17$ ] in the study.

#### Alternative Scores for the Threat Index

In addition to scoring the TI for the number of splits, scores were also derived for the number of zeroes initially used to rate my own death (as a measure of possible anxiety about death) and for how the person's overall views of self and personal death differ from each other. This latter score (WTI) is the index Warren (1982) used to assess death threat. The plan was to replace the standard TI scores with these two scores to compare their relationship to the other death orientation and optimal functioning variables.

An examination of the intercorrelations of the pretest scores revealed that, while death anxiety scores were not significantly related to TI scores ( $r = -.10, n.s.$ ) or any other death orientation variables, there was a significant relationship between death anxiety and ROC ( $r = .60, p < .001$ ),

which was the number of zeroes the person used to rate the 10 death-related elements. This suggested a methodological confounding between death anxiety scores and ROC, one of the optimal functioning variables. Because of this suspected methodological overlap, no analysis of the death anxiety scores was performed.

For the WTI scores, canonical correlations were performed on the scores of the 96 participants, replacing TI scores with WTI scores (Table 22). As in the case of the TI, the three WTI canonical analyses indicated a significant relationship between death orientation and the optimal functioning variables, although the relationship between WTI and the newly created death orientation variable ( $|r| < .10$ ) indicated that WTI did not make an important contribution to the relationship in any of the three analyses. Although WTI and TI are highly correlated ( $\underline{r} = .84$ ) and WTI scores were relatively stable from pre- to posttest ( $\underline{r} = .76$ ), the WTI scores, compared to TI scores, appear to make no unique contribution to death orientation or to the relationship between death orientation and optimal functioning, at least as these were assessed in the present study. TI split scores appear to be a more useful index of death orientation than WTI scores.

In conclusion, the results supported the reliability of the TI and the PIL. Moderate support was found for the reliability of the FDS scales and for FIC, ROC, and chi-square scores. No support was found for the stability of ordination scores. The results supported the relationship

Table 22  
 Canonical Correlation Analyses for Pretest Death Orientation  
 and Optimal Functioning Scores with WTI Scores

DS	Correlation between variables and death orientation composite variable				Correlation between variables and optimal functioning composite variable				Statistics			
	DYS	DO	DYO	WTI	PIL	FIC	ROC	CHI	ORD	R	R <sup>2</sup>	F
21	79	71	54	09	-88	-51	-28	-28		.40	.16	1.83*
16	76	69	52	07	-87	-51		26		.40	.16	2.14**
02	73	49	59	-04	-97		-28	24		.38	.15	1.86*

Note. The degrees of freedom for each test of significance were 15 and 243.33. The second and third canonical correlations in each analysis were not significant.

\* $p < .05$ .

\*\* $p < .01$ .

predicted in the first hypothesis between positive death orientation and optimal functioning, except that low integration scores were associated with positive death orientation, rather than with negative death orientation, as predicted. The results failed to support the second and third hypotheses. There was no evidence that the death-orientation experiences, compared to the stress management experience, had any effect on either death orientation or optimal functioning. There were sex differences in death orientation, with females reporting a more negative death orientation than males both at pretest and at posttest. Furthermore, there was post hoc evidence for a moderate association between positive death orientation and religious beliefs and practices, whether death orientation was assessed by the FDS subscales and the TI or by the TI alone. There was marginal indication, again post hoc, for lower death threat in participants who had experienced a near-death experience. The frequency with which participants had experienced the death of relatives or close friends was not, however, associated with death orientation. Finally, there was some indication that TI split scores provide a better measure of death threat than do WTI difference scores.

## CHAPTER IV DISCUSSION

This discussion will focus on the nature of the support for the hypotheses tested and on the aspects of the hypotheses that were not supported by the results. Strengths and limitations of the study will be examined next, and the discussion will conclude by drawing implications for future research.

### Death Orientation and Optimal Functioning Relationship

There was evidence, as expected, for a significant, moderate relationship between death orientation and optimal functioning. Judging by the variables that were most important in determining this relationship, one can conclude that individuals who have a positive orientation toward death, with low death threat and low fear of one's own dying or the death and dying of others, also live a more meaningful life and have a more differentiated, less integrated understanding of death than do individuals with more negative death orientation. In terms of the aspects of death orientation and optimal functioning investigated here, a more negative response to personal death and a more active avoidance of the dying and of death reminders are linked to lower purpose in life (content aspect

of optimal functioning), a less differentiated view of death (process aspect), and a more integrated view of death (reflecting both process and structural aspects). As predicted, people who have come to terms with the issue of death live a more meaningful life and have a wider variety of alternative ways to make sense of death as a personal event. The link between positive death orientation and low integration was the one unexpected feature of this overall relationship. Two possible explanations may be offered for this finding. First of all, low integration, at least in the realm of death orientation, might provide for greater adaptability. Secondly, the low integration might be related to the participants' level of development with respect to the issue of personal death. Let us examine these two possible interpretations.

Within construct theory, low integration, especially when accompanied by high differentiation, is referred to as fragmentation and has been linked to obsessive-compulsive behavior (Kelly, 1955), suicidal tendencies (Landfield, 1971), and thought disorder (Adams-Webber, 1979; Fransella & Bannister, 1977). Landfield (1982) focused on reducing fragmentation in clients' personal construct systems by increasing integration and unity as a means to resolve a variety of client dilemmas. Construct theory does not, on the other hand, demand absolute consistency as a requirement for adaptable living. Some degree of logical incompatibility (low integration) can be tolerated, provided the system is held together by a few superordinate constructs. A college student could,

for example, focus her energy on becoming a world class gymnast and, at the same time, on completing a difficult academic program with a perfect 4.0 average, provided both emphases are linked by an overriding desire to excel and "make something" of herself. The logical inconsistency associated with low integration may even be advantageous in some instances. Landfield (1982) noted that, in a tightly integrated system, even small changes have implications for change throughout the system. Gradual, step-by-step personal change more readily occurs in the context of a loosely integrated system because minor changes do not imply the overthrow of the entire system.

The idea of gradual change relates to the possible interpretation of low integration in terms of the participants' developmental level regarding the issue of personal mortality. As young adults, many will not have arrived at a satisfactory resolution of this issue. Although the death-related construct system of a more mature adult might be more integrated once a satisfactory resolution has been reached regarding the issues surrounding personal death, premature integration in the young adult would preclude the gradual development and testing of new attempts to understand death. Prematurely integrating one's death-related constructs would also make evident the threatening implications of personal death before the person is adequately prepared to cope with these implications. The relationship between positive death orientation and a loosely integrated death-related construct subsystem is understandable,

therefore, in terms of the adaptability of moderate logical incompatibility and the need to continue the process of developing a more adequate system for anticipating personal mortality.

The relationship between death orientation and optimal functioning was significant for the female participants, considered as a separate group, and for the males. In fact, an apparently greater proportion of the variance was explained when this relationship was examined separately for each sex, but different subsets of variables were important in determining the relationship. For the females, the important components of the relationship were similar to those discovered for the whole group, in that low death threat and low fear of the dying of self or the death of others were associated with high purpose in life and highly differentiated, but loosely integrated perspectives on death. For the males, low fear of the process of one's own dying and of the dying of others were linked to high purpose in life. The process and structural aspects of optimal functioning were not so important in this relationship. For young adult males, it appears that the salient aspects of death orientation, relative to optimal functioning, are the pain, weakness, vulnerability, and dependency that may be a part of the process of dying. To the extent that they feel able to deal with these aspects of the dying process in their own lives and in the lives of significant others, males may create for themselves a sense of living a meaningful life.

Effectiveness of the  
Death-related Experiences

There was no evidence that the two death-related experiences had any impact on the death orientation or optimal functioning of the participants. Compared to the control group members, those who participated in the death-related treatments did not, first of all, experience a reduction in death threat, fear of personal death and dying, or fear of the death and dying of others.

A number of explanations could be offered for the lack of support of this hypothesis. One might wonder, for instance, about the sensitivity of the questionnaires to detect changes in death orientation. This does not seem to be the most likely explanation, however, given previous evidence that death education experiences result in changes in threat scores or at least one or two FDS subscale scores. Secondly, a posttest immediately following the death-related experiences may have detected significant changes in death orientation. One would hope, however, that truly meaningful changes would last over a period much longer than seven weeks. Thirdly, previous studies on the effectiveness of death education experiences employed subjects who had registered for a death education workshop or course. Those subjects may be more prepared to change their death attitudes than were the participants in the present study, who volunteered in order to complete a course requirement. Another possibility is that other components of

death education courses are more effective than the two experiences selected for this study. Perhaps the most reasonable explanation is that, while the obituary/biography and farewell letter experiences may be important components of death education workshops or courses, meaningful changes in attitudes as complex and stable as death orientation may require a more powerful intervention that extends over a longer period of time. A combination of components from death education workshops or courses may effectively produce changes in death orientation that cannot be achieved in an experience that lasts for only an hour. Participants could more easily ignore a brief experience than a workshop that lasts all day or, especially, a course that extends over a period of several months.

In order to test the effectiveness of any component of more complex death education interventions, it might be necessary to ensure that the experience extend into the participants' daily lives after the treatment has ended. One could, for example, request each participant to spend a small amount of time every week revising the obituary or farewell letter and to turn in a copy of the revised form at posttest. Participants could also monitor their fulfillment of such a request, although it would be difficult to control an extension of the death-related experience into their daily lives.

The results of the study also failed to support the existential hypothesis concerning the effect of the two death-related experiences on optimal functioning. There was no evidence that those who participated in the death-related

experiences, compared to the members of the control group, experienced an increase in purpose in life or any change in their level of differentiation and integration with respect to death. The apparent reduction in integration was not due to the treatments, but to initial differences in ordination and chi-square scores. The existential hypothesis may, in fact, be incorrect. Reduction in death threat and fear of death may have no impact on a person's overall level of psychological functioning. Or the differentiation and integration indices may have been more sensitive to change if they had been based on death-related personal constructs generated by each participant. A more reasonable alternative, however, is that the death-related experiences had no measurable impact on optimal functioning because they failed to reduce death threat and death fear. A test of the existential hypothesis depended on the effectiveness of the death-related experiences. In the absence of such effectiveness, it is difficult to draw any conclusions about the merits of the hypothesis regarding the impact on optimal functioning or improved death orientation.

#### Strengths and Limitations of the Present Study

This section will examine three strengths and three limitations of this investigation. One strength is the multidimensional conceptualization and operationalization of both death orientation and optimal functioning. Previous research identified a significant relationship between isolated death

attitudes and several isolated features of healthy functioning. The present study, however, is the first demonstration of the usefulness of investigating the relationship between a set of death orientation variables and a set of optimal functioning variables.

A second contribution of this study is the attempt to evaluate through an experimental design the effectiveness of selected components of more complex death education programs. With the exception of Kurlychek's study (1978b), evaluations of death education programs have studied the impact of a death education workshop or course on intact groups who registered for the program, compared to individuals who did not register. Those who register for such a program, however, may differ in their attitudes from those who do not. Rainey and Epting (1977) and Tobacyk and Eckstein (1980), for instance, discovered that registrants for death education courses had lower death threat before the course began. To determine with validity the effectiveness of death education experiences, it is important to control such selection factors, perhaps through an experimental design. This experiment and Kurlychek's are unique in their attempt to evaluate death education using an experimental design. The present experiment is also unique in its attempt to identify the effectiveness of specific components of death education programs rather than the impact of a program as a whole. This approach is important if death educators are to learn precisely which interventions and experiences produce what sort of change in death attitudes. This approach will

enable the selection of effective death-related experiences and the elimination of experiences which have a negative impact or no impact at all.

A third strength of the study is the support for extending the Landfield indices and range of convenience scores to the realm of death and for the usefulness of these indices with provided constructs. Previous research with the Landfield indices exclusively used personal constructs in the interpersonal realm. The present study supported the extension of these differentiation and integration indices to other important areas. Furthermore, contrary to a previous investigation of the Landfield indices with provided constructs (Amerikaner, 1979), the present study supported the use of these indices to assess the differentiation and integration processes when the participants are using provided dimensions. This success may be the result of the construction of the provided forms of the TI from the death-related constructs most frequently generated by a large number of college-age adults similar to the population sampled in the present study.

In addition to these strengths, the study also had some limitations. The most apparent limitation was the selection of two death-related experiences that apparently were not strong enough to affect death orientation in a measurable way. As suggested previously, some way should have been found to extend the impact of the death-related experiences beyond the one hour in the lab room.

A second limitation was the use of 30 provided constructs rather than allowing each participant to generate death-related dimensions that could be more meaningful. The use of provided constructs resulted in changes in the differentiation and integration indices from pretest to posttest, perhaps due to a process of personalizing the unfamiliar dimensions.

A final limitation was the use of the Fear of Death subscales and the Landfield indices, which received only moderate reliability support from the data. The average pretest-posttest correlation for the four FDS subscales, first of all, was moderate (.55), apparently no higher than the average subscale intercorrelation (.51). Although one might expect a moderate interrelationship between these four aspects of orientation to death and dying, one would also hope for greater stability of the subscale scores. The Collett-Lester FDS would be a more useful multidimensional measure of death orientation if the reliability of the subscales were improved, perhaps by increasing the number of subscale items.

The results of the study also provided moderate support for the stability of both differentiation indices (for ROC,  $\underline{r} = .60$ ; for FIC,  $\underline{r} = .52$ ) and for one of the two integration indices (for chi-square,  $\underline{r} = .65$ ), but no support for the stability of total ordination scores. There was evidence that ordination scores were more stable when calculated for constructs only ( $\underline{r} = .46$ ,  $\underline{p} < .01$ ), without including the ordination scores for the death-related elements. One might anticipate that the Landfield indices would have stronger

reliability support than that indicated here and in previous studies (Crum, 1978; Landfield, 1971). Fransella and Bannister (1977), on the other hand, maintained that index sensitivity to change is more important than stability. Personal construct theorists, they noted, are interested in ongoing processes such as differentiation and integration, rather than the trait-like, structural results of such processes. In the present study, there was evidence that the indices were sensitive to changes in both differentiation and integration. The FIC and ROC posttest scores of the control group participants were lower than their pretest scores (reduced differentiation), while their posttest chi-square scores were lower (increased integration). Although there was no indication of change in total ordination scores, there was evidence for an increase in ordination (elevated integration) using the ordination scores calculated for constructs only [ $t(30) = -2.21, p < .04$ ]. A possible interpretation is that the participants were initially uncertain about how to use the unfamiliar provided dimensions to describe the death elements. The result was a series of isolated, independent constructs which tended to be applicable to only a few of the death-related elements. The process of completing the first set of ratings, however, resulted in some systematic changes. As the constructs became more familiar, they seem to have been applied in a more comprehensive manner, resulting in fewer independent constructs. Furthermore, the implications of the participants' own superordinate constructs apparently became more evident, resulting in a more integrated death-related subsystem at posttest. While this argument offers

a possible explanation for the changes from pretest to post-test in differentiation and integration scores, it leaves unresolved the larger issue of the stability of the Landfield indices.

On the other hand, the results provided strong support for the reliability of the TI and PIL. The Threat Index has proven to be a relatively reliable death orientation measure in previous studies (Rigdon et al., 1979). The present study is no exception, with strong support for the internal consistency ( $\underline{r} = .90$ ) and temporal stability ( $\underline{r} = .73$ ) of TI scores. Investigators in the area of death orientation can employ the TI, anticipating a reasonable level of reliability.

The present investigation also supported the stability over at least seven weeks of scores on the Purpose in Life Test ( $\underline{r} = .85$ ). Together with the results of previous studies, the present results indicate that researchers in the area of optimal human functioning can employ the PIL with a fair degree of confidence in the questionnaire's reliability in assessing this content aspect of optimal functioning.

#### Implications for Psychotherapy and for Future Research

The three limitations of the study just described have implications for future research. In evaluating components of death education programs, future research should ensure that more powerful experiences are selected that extend into

the participants' lives. Fear of Death subscales should be designed to produce more stable scores. One would hope for a higher correlation between scores for fear of the death of others on two occasions, for instance, and lower correlations between scores on subscales that assess different aspects of death orientation. Further research also is needed to improve the reliability of differentiation and integration measures like the Landfield indices and to investigate systematically the possible effects of rating a set of elements in terms of provided or personally generated constructs. In the case of provided constructs, for instance, exposure to the constructs prior to the time for making the ratings might allow the participants to personalize the constructs and fit them into their own idiosyncratic systems before they make the initial ratings.

Other implications can be drawn from the results of the study that were not predicted a priori. The more negative death orientation for females indicates the need to explore more systematically the basis for these differences. Are women genuinely more threatened and fearful regarding death, or is it merely more acceptable for them to be aware of and report these aspects of their approach to death? Further research is needed to explore this issue.

Another post hoc analysis supported the relationship of stronger religious beliefs and practices with more positive death orientation. Although previous explorations of this relationship have resulted in conflicting conclusions (Lester,

1967b; Pollak, 1979), the present study and others using the Threat Index (Rigdon et al., 1979) have suggested the usefulness of the TI for a more systematic exploration of religiosity and death orientation.

A third post hoc analysis indicated marginal support for a more positive death orientation and, more specifically, lower death threat in individuals who had experienced a near-death experience when they genuinely believed they would die. As might be expected, those who have come close to an experience of personal mortality are more likely to view self and death as compatible (i.e., low death threat). This finding suggests that further research might profitably explore the impact of near-death experiences on death attitudes, whereas there was no evidence that the frequency with which one has experienced the death of relatives and friends is related to death attitudes.

The broadest implications of the present study are the final two. The first concerns the implications for psychotherapy. An initial hope for this study was that it would provide empirical support for the hypothesis developed by Rowe (1982) and supported by her clinical evidence. She reasoned that it is of central importance in psychotherapy to enable clients to come to terms with the issues surrounding personal death and mortality in order to enable them to live a fuller, more meaningful life. No empirical support was found for this hypothesis, because the death-related experiences failed to affect either death orientation or optimal

functioning. Given the significant relationship between positive death orientation and optimal functioning, however, one might still hypothesize with Rowe and the existentialists that the basis for this relationship lies in coming to terms with personal mortality which, in turn, enables one to function at a more optimal level. In view of this possible interpretation of the significant relationship found in the present study, it is interesting to note that, whereas psychotherapy with females might profitably focus on a variety of aspects of death and dying, therapy with males might be more effective in helping to create a meaningful life if the focus were on coping with features often present in the process of one's own dying and the dying of others, such as the vulnerability and dependency mentioned earlier.

A final broad implication of the present study concerns the importance of a multivariate approach to the study of both death orientation and optimal functioning. The significant relationship between the two appeared only when all the multi-dimensional operations for both death orientation and optimal functioning were considered. A multiple regression analysis, for instance, did not find evidence for a significant relationship between the optimal functioning variables and death threat, taken as a single measure of death orientation. Nor did a multivariate analysis of the death orientation scores (TI scores and FDS subscale scores) find any effect for differentiation, integration, or the interaction between the two, considered apart from purpose in life. Furthermore, a multivariate

analysis is needed to determine the effectiveness of death education experiences without capitalizing on chance. In the present situation, for instance, separate univariate analyses of covariance of the five death orientation and the five optimal functioning variables would have resulted in a significant interaction between treatment and participant sex for fear of the death of self, for FIC, and for ROC. The multivariate analyses of covariance, however, failed to find any consistent effects for the set of death orientation scores or for the set of optimal functioning scores. It would be questionable, therefore, to interpret the results of the univariate tests. The present study indicates the importance of a multidimensional conceptualization of death orientation and optimal functioning and the importance of using multivariate analytical procedures that consider the set of variables as a whole.

APPENDIX A  
THE THREAT INDEX

Identification Number \_\_\_\_\_

On the following pages (front and back) is a list of dimensions, each made up of a pair of opposites. For each dimension, please circle the number which best describes how you view the event or object at the top of the page. Use the zero rating if neither description seems to apply or if you are not sure which description applies. On this first page, the element to rate is:

Myself

caring	6 5 4 3 2 1 0 1 2 3 4 5 6	not caring
purposeful	6 5 4 3 2 1 0 1 2 3 4 5 6	not purposeful
sick	6 5 4 3 2 1 0 1 2 3 4 5 6	healthy
static	6 5 4 3 2 1 0 1 2 3 4 5 6	changing
random	6 5 4 3 2 1 0 1 2 3 4 5 6	predictable
bad	6 5 4 3 2 1 0 1 2 3 4 5 6	good
feels good	6 5 4 3 2 1 0 1 2 3 4 5 6	feels bad
stagnation	6 5 4 3 2 1 0 1 2 3 4 5 6	growth
peaceful	6 5 4 3 2 1 0 1 2 3 4 5 6	violent
not understanding	6 5 4 3 2 1 0 1 2 3 4 5 6	understanding
calm	6 5 4 3 2 1 0 1 2 3 4 5 6	anxious
kind	6 5 4 3 2 1 0 1 2 3 4 5 6	cruel
meaningful	6 5 4 3 2 1 0 1 2 3 4 5 6	empty
open	6 5 4 3 2 1 0 1 2 3 4 5 6	closed
hope	6 5 4 3 2 1 0 1 2 3 4 5 6	no hope

restriction	6 5 4 3 2 1 0 1 2 3 4 5 6	freedom
useful	6 5 4 3 2 1 0 1 2 3 4 5 6	useless
unnatural	6 5 4 3 2 1 0 1 2 3 4 5 6	natural
hard	6 5 4 3 2 1 0 1 2 3 4 5 6	easy
secure	6 5 4 3 2 1 0 1 2 3 4 5 6	insecure
sad	6 5 4 3 2 1 0 1 2 3 4 5 6	happy
not responsible	6 5 4 3 2 1 0 1 2 3 4 5 6	responsible
weak	6 5 4 3 2 1 0 1 2 3 4 5 6	strong
not learning	6 5 4 3 2 1 0 1 2 3 4 5 6	learning
helping others	6 5 4 3 2 1 0 1 2 3 4 5 6	being selfish
existence	6 5 4 3 2 1 0 1 2 3 4 5 6	non-existence
animate	6 5 4 3 2 1 0 1 2 3 4 5 6	inanimate
satisfied	6 5 4 3 2 1 0 1 2 3 4 5 6	dissatisfied
pleasure	6 5 4 3 2 1 0 1 2 3 4 5 6	pain
lack of control	6 5 4 3 2 1 0 1 2 3 4 5 6	control

Participants also rated the following elements on the same 30 dimensions:

My own death. (Think of your death as if it were to occur at this time in your life.)

A terminal patient dies after months of unrelievable pain.

Your grandmother dies in her sleep.

✓ Your father dies while trying to save another person from drowning.

Your closest friend is killed in a plane crash.

A member of the Polish Solidarity union is shot for refusing to obey martial law.

Three children die when a tornado hits their elementary school.

✗ You run over and kill a young child.

A convicted murderer is executed in the electric chair.

President Reagan is assassinated.

A divorced mother of two dies from a drug overdose.

Final instructions after rating the 12 elements:

On the first two pages, you rated myself and my own death. Please return to those two pages only, and see if you used any zero ratings. If you had to make a rating on these dimensions and could not use the neutral zero rating, what would your second choice be? Please circle this second rating choice without erasing your zero rating. Please note: This second choice is requested only for the zero ratings you made on the first two pages.

Note. The format for the Threat Index is presented by Rigdon et al., 1979.

APPENDIX B  
THE COLLETT-LESTER FEAR OF DEATH SCALE

Identification Number \_\_\_\_\_

Here is a series of general statements. You are to indicate how much you agree or disagree with them. Record your opinion in the blank space in front of each item according to the following scale:

- |                       |                          |
|-----------------------|--------------------------|
| +1 slight agreement   | -1 slight disagreement   |
| +2 moderate agreement | -2 moderate disagreement |
| +3 strong agreement   | -3 strong disagreement   |

Read each item and decide quickly how you feel about it; then record the extent of your agreement or disagreement. Put down your first impression. Please answer every item.

- \_\_\_ 1 I would avoid death at all costs.
- \_\_\_ 2 I would experience a great loss if someone close to me died.
- \_\_\_ 3 I would not feel anxious in the presence of someone I knew was dying.
- \_\_\_ 4 The total isolation of death frightens me.
- \_\_\_ 5 I am disturbed by the physical degeneration involved in a slow death.
- \_\_\_ 6 I would not mind dying young.
- \_\_\_ 7 I accept the death of others as the end of their life on earth.
- \_\_\_ 8 I would not mind visiting a senile friend.
- \_\_\_ 9 I would easily adjust after the death of someone close to me.
- \_\_\_ 10 If I had a choice as to whether or not a friend should be informed he/she is dying, I would tell him/her.
- \_\_\_ 11 I would avoid a friend who was dying.
- \_\_\_ 12 Dying might be an interesting experience.
- \_\_\_ 13 I would like to be able to communicate with the spirit of a friend who has died.
- \_\_\_ 14 I view death as a release from earthly suffering.
- \_\_\_ 15 The pain involved in dying frightens me.

(Please turn to the other side.)

- \_\_\_ 16 I would want to know if a friend were dying.
- \_\_\_ 17 I am disturbed by the shortness of life.
- \_\_\_ 18 I would not mind having to identify the corpse of someone I knew.
- \_\_\_ 19 I would never get over the death of someone close to me.
- \_\_\_ 20 The feeling that I might be missing out on so much after I die bothers me.
- \_\_\_ 21 I do not think of dead people as having an existence of some kind.
- \_\_\_ 22 I would feel uneasy if someone talked to me about the approaching death of a common friend.
- \_\_\_ 23 Not knowing what it feels like to be dead does not bother me.
- \_\_\_ 24 If I had a fatal disease, I would like to be told.
- \_\_\_ 25 I would visit a friend on his/her deathbed.
- \_\_\_ 26 The idea of never thinking or experiencing again after I die does not bother me.
- \_\_\_ 27 If someone close to me died I would miss him/her very much.
- \_\_\_ 28 I am not disturbed by death being the end of life as I know it.
- \_\_\_ 29 I would feel anxious if someone who was dying talked to me about it.
- \_\_\_ 30 The intellectual degeneration of old age disturbs me.
- \_\_\_ 31 If a friend were dying I would not want to be told.
- \_\_\_ 32 I could not accept the finality of the death of a friend.
- \_\_\_ 33 It would upset me to have to see someone who was dead.
- \_\_\_ 34 If I knew a friend were dying, I would not know what to say to him/her.
- \_\_\_ 35 I would not like to see the physical degeneration of a friend who was dying.
- \_\_\_ 36 I am disturbed by the thought that my abilities will be limited while I lie dying.

Note. The items are listed by Lester, 1974.



Have you ever experienced the death of a friend/relative you were close to, such as (check as many as apply to you):

	Cause of Death						
	Yes	Year	Illness	Accident	Suicide	Crime	Other
mother							
father							
spouse/lover							
child							
sibling							
friend							
other relative (How related? _____)							

Note. This questionnaire was constructed for the present study by the author.

APPENDIX D  
PARTICIPANT INFORMED CONSENT FORM

Participant Informed Consent

Project Title: Attitudes toward Life and Death

I agree to participate in the study described to me as follows:

Each group of participants will spend about an hour completing three questionnaires designed to examine various thoughts and attitudes about life and death. Then the groups will participate in an experience (about one hour) designed to enable the participants to explore their attitudes either about death or about day-to-day stressful events. After two months, participants will take an hour to complete again the three questionnaires. The purpose of the study is to determine more precisely the relationship between beliefs about death and beliefs about life. Anonymity of the participants will be protected.

Participation in a study about death attitudes could result in some discomfort. It is possible, for instance, that completing the death-related questionnaires and participating in the death-related experiences might act as a reminder of the recent death of a friend or relative. Those who experience distress as a result of the study may contact the Crisis Center or the principal investigator (numbers below) for any help they might need. Furthermore, each participant is free to withdraw consent and to discontinue participation in the project at any time without prejudice.

Potential benefits, on the other hand, include the opportunity to explore one's personal views and opinions about death and to participate in an experience frequently used to improve one's attitudes either about death or about generally stressful events. Also, any group that participates will have an opportunity to learn from a presentation of the results of this study and related research.

Questions about any aspect of the study will be answered now or at any time they arise.

I have read and I understand the procedure described above. I agree to participate in the procedure and I have received a copy of this description.

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

Principal Investigator: Michael Rigdon  
2901-238 S. W. 13th St.  
Gainesville, FL  
Home phone: 352-7321

Crisis Center: 376-4444 (24-hour number)

APPENDIX E  
OBITUARY/BIOGRAPHY EXPERIENCE

Obituary/Biography

We can now move into an exercise centering around the theme of death. This is a topic with which many of us feel uncomfortable and one that we often deal with in passing in our life. We are each going to die, and whether that event comes soon or is very distant, the fact that it is always there in our futures profoundly affects us, though usually subtly and even unconsciously.

The exercise which I propose we now begin will take about one hour of our time. During this period we will be guided in making our own individual explorations of what the phrase "my death" means to each of us personally, and we will have an opportunity to talk over what we discover--although no one will be forced to say anything he or she does not wish to, of course.

Now I want to take a minute to give you a chance to raise any questions or express any feelings you may have about undertaking what we hope will be a genuinely involving and emotionally affecting experience.

Let us now begin our experience of examining our lives in light of their eventual endings. You have been given paper and a pencil, and will now have a period of about 20 minutes. Imagine yourself as someone close to you, someone who knows you quite well. Imagine that it is your task to write the obituary of the person who has just died, that person being you, your true self.

Prepare about a one-page obituary. Say a bit about the life of the person, yourself, but mostly try to say something about the meaning of his or her life. What did he or she do with the fact of having been alive? What did it all add up to, as best you can say in a few words?

After about 20 minutes, we will talk over what you discover. No one will be forced to share anything, and the obituary will be yours to keep; they will not be collected or read by anyone else.

Are there any questions? . . . Alright, give it a try.

(after about 20 minutes) Discussion, and a concluding suggestion to revise the obituary occasionally and perhaps to share it with someone to whom they are close.

Note. Adapted from Bugental, 1973.

## My Obituary/Biography

\_\_\_\_\_ died today at the age of \_\_\_\_.  
 Your full name

A native of \_\_\_\_\_, he/she died \_\_\_\_\_.  
 Your birthplace How?

\_\_\_\_\_.

He/She is survived by \_\_\_\_\_.  
 Who in your family will survive you?

Regarding his/her accomplishments and the real meaning of his/her

life, it can be said: \_\_\_\_\_  
 Please continue here and on the back, if

\_\_\_\_\_.

necessary.

APPENDIX F  
FAREWELL LETTER EXPERIENCE

Farewell Letter

We can now move into an exercise centering around the theme of death. This is a topic with which many of us feel uncomfortable and one that we often deal with in passing in our life. We are each going to die, and whether that event comes soon or is very distant, the fact that it is always there in our futures profoundly affects us, though usually subtly and even unconsciously.

The exercise which I propose we now begin will take about one hour of our time. During this period we will be guided in making our own individual explorations of what the phrase "my death" means to each of us personally, and we will have an opportunity to talk over what we discover--although no one will be forced to say anything he or she does not wish to, of course.

Now I want to take a minute to give you a chance to raise any questions or express any feelings you may have about undertaking what we hope will be a genuinely involving and emotionally affecting experience.

Let us begin now our experience of examining our lives in light of their eventual endings. You have been given paper and a pencil, and will now have a period of about 20 minutes. I would like to invite you to spend that time writing what you might call a "farewell letter," a letter which says to someone you love the things you would like to say before you die. You might, for instance, write one of your parents or a close friend, or maybe your spouse or one of your children if you are married. Suppose you knew you did not have much time to live, and try to write down the things you would want to say. After about 20 minutes we will have time to share and discuss what you discover. No one will be forced to say anything, and the letter will be yours to keep; they will not be collected or read by anyone else.

Are there any questions? . . . Alright, give it a try.

(after about 20 minutes) Discussion, and concluding suggestion to revise the letter occasionally and perhaps to share it with the person(s) to whom it is addressed.

Note. Adapted from Bugental, 1973.

APPENDIX G  
STRESS MANAGEMENT EXPERIENCE

To make the stress management experience comparable to the two death-related experiences, participants began by taking about 10 minutes to write their response to two questions:

1. What are some signs that tell you when you or someone else is under stress?
2. How do you cope with stress? List some ways you manage to control your stress and prevent it from getting out of control.

Participants' responses to these questions were used to identify the essential features of stress and the human response to stress. Handouts derived from Apgar and Callahan (1980) were used to identify a wide range of stressful situations, both positive and negative, and a variety of observable indicators of stress. Next, the participants discussed and briefly practiced deep muscle relaxation. The experience concluded with a discussion of a number of other stress management principles and techniques, following an outline suggested by Apgar and Callahan.

## REFERENCES

- Adams-Webber, J. Cognitive complexity and sociality. British Journal of Social and Clinical Psychology, 1969, 8, 211-216.
- Adams-Webber, J. Personal construct theory: Concepts and applications. New York: John Wiley & Sons, 1979.
- Alcorn, H. G. The relationship between death anxiety and self-esteem. (Doctoral dissertation, United States International University, 1976). Dissertation Abstracts International 1977, 38, 1391B. (University Microfilms No. 77-16,403)
- Allport, G. Pattern and growth in personality. New York: Holt, Rinehart, & Winston, 1961.
- Amerikaner, M. J. Personality integration and the theory of open systems: A cross subcultural approach. (Doctoral dissertation, University of Florida, 1978). Dissertation Abstracts International, 1979, 39, 6187B. (University Microfilms No. 7913246)
- Apgar, K., & Callahan, B. N. Four one-day workshops. Boston: Resource Communications, Inc., 1980.
- Aronow, E., Rauchway, A., Peller, M., & DeVito, A. The value of the self in relation to fear of death. Omega, 1980, 11, 37-44.
- Bell, B. D. The experimental manipulation of death attitudes: A preliminary investigation. Omega, 1975, 6, 199-205.
- Blazer, J. A. The relationship between meaning in life and fear of death. Psychology, 1973, 10, 72-73.
- Bolt, M. Purpose in life and death concern. Journal of Genetic Psychology, 1978, 132, 159-160.
- Boyar, J. I. The construction and partial validation of a scale for the measurement of the fear of death. (Doctoral dissertation, The University of Rochester, 1964). Dissertation Abstracts, 1964, 25, 2041. (University Microfilms No. 64-9228).

- Braun, J., & LaFaro, D. A further study of the fakability of the personal orientation inventory. Journal of Clinical Psychology, 1969, 25, 296-299.
- Bugental, J. F. T. Confronting the existential meaning of "my death" through group exercises. Interpersonal Development, 1973, 4, 148-163.
- Carse, J. P. Death and existence: A conceptual history of human mortality. New York: John Wiley & Sons, 1980.
- Casciani, J. M. The relationship between self concept and experimentally induced death anxiety. (Doctoral dissertation, United States International University, 1976). Dissertation Abstracts International, 1979, 39, 5540B. (University Microfilms No. 7909525)
- Choron, J. Death and western thought. New York: Collier Books, 1963.
- Coan, R. W. The optimal personality: An empirical and theoretical analysis. New York: Columbia University Press, 1974.
- Coan, R. W. Hero, artist, sage, or saint. New York: Columbia University Press, 1977.
- Collett, L., & Lester, D. The fear of death and the fear of dying. Journal of Psychology, 1969, 72, 179-181.
- Crandall, J. E., & Rasmussen, R. D. Purpose in life as related to specific values. Journal of Clinical Psychology, 1975, 31, 483-485.
- Crockett, W. Cognitive complexity and impression formation. In B. Maher (Ed.), Progress in experimental personality research (Vol. 2). New York: Academic Press, 1965.
- Crum, J. L. A two process approach to cognitive complexity. (Doctoral dissertation, University of Florida, 1977). Dissertation Abstracts International, 1978, 39, 356B. (University Microfilms No. 7810938)
- Crumbaugh, J. C., & Maholick, L. T. Manual of instructions for the Purpose in Life Test. Munster, Indiana: Psychometric Affiliates, 1969.
- Curtis, M. J. The relationship between bimodal consciousness, meditation and two levels of death anxiety. (Doctoral dissertation, California School of Professional Psychology, 1980). Dissertation Abstracts International, 1980, 41, 2314B. (University Microfilms No. 8027395)

- Dickstein, L. S. Death concern: Measurement and correlates. Psychological Reports, 1972, 30, 563-571.
- Diggory, J. C. Self-evaluation: Concepts and studies. New York: John Wiley & Sons, 1966.
- Diggory, J. C., & Rothman, D. Z. Values destroyed by death. Journal of Abnormal and Social Psychology, 1961, 63, 205-210.
- Duke, E. H. Meaning in life and acceptance of death in terminally ill patients. (Doctoral dissertation, Northwestern University, 1977). Dissertation Abstracts International, 1978, 38, 3874B. (University Microfilms No. 7732297)
- Durlak, J. A. Relationship between individual attitudes toward life and death. Journal of Consulting and Clinical Psychology, 1972, 39, 463.
- Durlak, J. A. Relationship between attitudes toward life and death among elderly women. Developmental Psychology, 1973, 8, 146.
- Durlak, J. A. Comparison between experiential and didactic methods of death education. Omega, 1978, 9, 57-66.
- Durlak, J. A., & Kass, R. A. Clarifying the measurement of death attitudes: A factor analytic evaluation of fifteen self-report death scales. Omega, 1981, 12, 129-141.
- Epting, F. R., & Amerikaner, M. Optimal functioning: A personal construct approach. In A. W. Landfield & L. M. Leitner (Eds.), Personal construct psychology: Psychotherapy and personality. New York: John Wiley & Sons, 1980.
- Epting, F. R., & Suchman, D. I. Optimal functioning. In R. Corsini (Ed.), Wiley encyclopedia of psychology. New York: John Wiley & Sons, in press.
- Farley, G. An investigation of death and the sense of competence. (Doctoral dissertation, Duke University, 1970). Dissertation Abstracts International, 1971, 31, 7595B. (University Microfilms No. 71-10,371)
- Fast, I., & Pawl, J. H. The sense of being dead and of dying: Some perspectives. Journal of Projective Techniques and Personality Assessment, 1970, 34, 190-193.
- Feifel, H., & Branscomb, A. B. Who's afraid of death? Journal of Abnormal Psychology, 1973, 81, 282-288.
- Feifel, H., Freilich, J., & Hermann, L. J. Death fear in dying heart and cancer patients. Journal of Psychosomatic Research, 1973, 17, 161-166.

- Feifel, H., & Hermann, L. J. Fear of death in the mentally ill. Psychological Reports, 1973, 33, 931-938.
- Feifel, H., & Jones, R. B. Perception of death as related to nearness to death. Proceedings of the 76th Annual Convention of the American Psychological Association, 1968, 3, 545-546.
- Feldman, M., & Hersen, M. Attitudes toward death in nightmare subjects. Journal of Abnormal Psychology, 1967, 72, 421-425.
- Frankl, V. E. Man's search for meaning. New York: Washington Square Press, 1963.
- Fransella, F., & Bannister, D. A manual for repertory grid technique. London: Academic Press, 1977.
- Garfield, C. A. Consciousness alterations and fear of death. Journal of Transpersonal Psychology, 1975, 7, 147-175.
- Goodman, L. M. Attitudes towards death in creative artists. Omega, 1975, 6, 345-356.
- Gray, J. G. The problem of death in modern philosophy. In N. A. Scott, Jr. (Ed.), The modern vision of death. Richmond, Va.: John Knox Press, 1967.
- Green, P. E. Analyzing multivariate data. Hinsdale, Ill.: The Dryden Press, 1978.
- Handal, P. The relationship between subjective life expectancy, death anxiety and general anxiety. Journal of Clinical Psychology, 1969, 25, 39-42.
- Handal, P., & Rychlak, J. Curvilinearity between dream content and death anxiety and the relationship of death anxiety to repression-sensitization. Journal of Abnormal Psychology, 1971, 77, 11-16.
- Harvey, O. J. System structure, flexibility and creativity. In O. J. Harvey (Ed.), Experience, structure, and adaptability. New York: Springer Publishing Co., 1966.
- Hooper, T., & Spilka, B. Some meanings and correlates of future time and death among college students. Omega, 1970, 1, 49-56.
- Ilardi, R. L., & May, W. T. A reliability study of Shostrom's Personal Orientation Inventory. Journal of Humanistic Psychology, 1968, 8, 68-72.
- Jahoda, M. Current concepts of positive mental health. New York: Basic Books, 1958.

- Jeffers, F. C., Nichols, C. R., & Eisdorfer, C. Attitudes of older persons to death. Journal of Gerontology, 1961, 16, 53-56.
- Jourard, S. M. Disclosing man to himself. New York: Van Nostrand Reinhold Co., 1968.
- Jourard, S. M., & Landsman, T. Healthy personality: An approach from the viewpoint of humanistic psychology (4th Ed.). New York: Macmillan Publishing Co., 1980.
- Jung, C. Man and his symbols. New York: Dell Publishing Co., 1968.
- Kastenbaum, R., & Aisenberg, R. The psychology of death. New York: Springer Publishing Co., 1972.
- Kelly, G. A. The psychology of personal constructs (2 vols). New York: Norton Publishing Co., 1955.
- Kelly, G. A. Suicide: The personal construct point of view. In N. L. Farberow & E. S. Shneidman (Eds.), The cry for help. New York: McGraw-Hill, 1965.
- Kelly, G. A. A psychology of the optimal man. In A. W. Landfield & L. M. Leitner (Eds.), Personal construct psychology: Psychotherapy and personality. New York: John Wiley & Sons, 1980.
- Klug, L., & Boss, M. Factorial structure of the Death Concern Scale. Psychological Reports, 1976, 38, 107-112.
- Koestenbaum, P. The vitality of death. Omega, 1971, 2, 253-271.
- Krieger, S. R., Epting, F. R., & Hays, C. H. Validity and reliability of provided constructs in assessing death threat: A self-administered form. Omega, 1979, 10, 87-95.
- Krieger, S. R., Epting, F. R., & Leitner, L. M. Personal constructs, threat, and attitudes toward death. Omega, 1974, 5, 299-310.
- Kurlychek, R. T. Assessment of attitudes toward death and dying: A critical review of some available methods. Omega, 1978a, 9, 34-47.
- Kurlychek, R. T. The evaluation and comparison of the effects of two methods of death education on participants' attitudes toward life and death. (Doctoral dissertation, University of Oregon, 1977). Dissertation Abstracts International, 1978b, 38, 3368B. (University Microfilms No. 77-26,501)

- Landfield, A. W. Personal construct systems in psychotherapy. Chicago: Rand McNally, 1971.
- Landfield, A. W. A personal construct approach to suicidal behavior. In P. Slater (Ed.), Explorations of Intra-personal Space (Vol. 1). New York: John Wiley & Sons, 1976.
- Landfield, A. W. Exploring socialization through the interpersonal transaction group. In P. Stringer & D. Bannister (Eds.), Constructs of sociality and individuality. New York: Academic Press, 1979.
- Landfield, A. W. A construction of fragmentation and unity. In J. C. Mancuso & J. R. Adams-Webber (Eds.), The constructing person. New York: Praeger Publishing Co., 1982.
- Landfield, A. W., & Barr, M. Ordination: A new measure of concept organization. Unpublished manuscript, University of Nebraska, 1975.
- Landfield, A. W., Page, M., Barrows, D., Willis, W., Lavelle, D., & Schmittdiel, C. Landfield-Page trichotomous overlap ratio and new ordination program. Unpublished computer program, 1981. (Available from A. W. Landfield, Department of Psychology, University of Nebraska, Lincoln, NE.)
- Landfield, A. W., & Schmittdiel, C. The chi-square analysis: A continuing search for ordination. Paper presented at the 4th International Congress on Personal Construct Psychology, Brock University, Ontario, Canada, August 1981.
- Landsman, T. The humanizer. American Journal of Orthopsychiatry, 1974, 44, 345-352.
- Leitner, L., Landfield, A. W., & Barr, M. Cognitive complexity: A review and elaboration within personal construct theory. Unpublished manuscript, University of Nebraska, 1976.
- Lester, D. Fear of death in suicidal persons. Psychological Reports, 1967a, 20, 1077-1078.
- Lester, D. Experimental and correlational studies of the fear of death. Psychological Bulletin, 1967b, 67, 27-36.
- Lester, D. The fear of death of those who have nightmares. Journal of Psychology, 1968, 69, 245-247.
- Lester, D. Resentment and dependency in the suicidal individual. Journal of General Psychology, 1969, 81, 137-145.
- Lester, D. Attitudes toward death today and thirty-five years ago. Omega, 1971a, 2, 168-173.

- Lester, D. Attitudes toward death and suicide in a non-disturbed population. Psychological Reports, 1971b, 29, 386.
- Lester, D. The Collett-Lester Fear of Death Scale: A manual. Richard Stockton State College, 1974. (Mimeo)
- Lester, D., & Collett, L. Fear of death and self-ideal discrepancy. Archives of the Foundation of Thanatology, 1970, 21, 130.
- Lester, D., & Schumacher, J. Schizophrenia and death concern. Journal of Projective Techniques and Personality Assessment, 1969, 33, 403-405.
- Lucas, A. A comparative study of measures of general anxiety and death anxiety among three medical groups including patient and wife. Omega, 1974, 5, 233-243.
- Maslow, A. H. Toward a psychology of being (2nd Ed.). New York: Van Nostrand Reinhold Co., 1968.
- Moses, M. Considering death and dying: Affective correlates. (Doctoral dissertation, State University of New York at Buffalo, 1973). Dissertation Abstracts International, 1973, 34, 877-878B. (University Microfilms No. 73-19,221)
- Murphy, G. Discussion. In H. Feifel, The meaning of death. New York: McGraw-Hill, 1959.
- Murray, P. Death education and its effects on the death anxiety level of nurses. Psychological Reports, 1974, 35, 1250.
- Nagley, W. E. "Yet today," four existential interpretations concerning death. In F. M. Hetzler & A. H. Kutscher (Eds.), Philosophical aspects of thanatology. New York: MMS Information Corp., 1978.
- Neimeyer, R. A., & Chapman, K. M. Self-ideal discrepancy and fear of death: The test of an existential hypothesis. Omega, 1980, 11, 233-240.
- Neimeyer, R. A., Dingemans, P. M., & Epting, F. R. Convergent validity, situational stability and meaningfulness of the Threat Index. Omega, 1977, 8, 251-265.
- Nelson, L. D., & Nelson, C. C. A factor analytic inquiry into the multidimensionality of death anxiety. Omega, 1975, 6, 171-178.
- Nogas, C., Schweitzer, K., & Grumet, J. An investigation of death anxiety, sense of competence, and need for achievement. Omega, 1974, 5, 245-255.

- Oakland, J., Freed, F., Lovekin, A., Davis, J., & Camilleri, R. A critique of Shostrom's personality orientation inventory. Journal of Humanistic Psychology, 1978, 18, 75-85.
- Olson, J. M., & Partington, J. T. An integrative analysis of two cognitive models of interpersonal effectiveness. British Journal of Social and Clinical Psychology, 1977, 16, 13-14.
- Olson, R. G. Death. Omega, 1971, 2, 273-286.
- Paris, J., & Goodstein, C. Responses to death and sex stimulus materials as a function of repression-sensitization. Psychological Reports, 1966, 19, 1283-1291.
- Pearson, L. Selected bibliography on death and dying. In L. Pearson (Ed.), Death and dying. Cleveland: Case Western Reserve University Press, 1969.
- Pollak, J. M. Correlates of death anxiety: A review of empirical studies. Omega, 1979, 10, 97-121.
- Rainey, L. C., & Epting, F. R. Death threat constructions in the student and the prudent. Omega, 1977, 8, 19-28.
- Ray, J. J., & Najman, J. Death anxiety and death acceptance: A preliminary approach. Omega, 1974, 5, 311-315.
- Reker, G. T. The Purpose-in-Life Test in an inmate population: An empirical investigation. Journal of Clinical Psychology, 1977, 33, 688-693.
- Reker, G. T., & Cousins, J. B. Factor structure, construct validity and reliability of the Seeking of Noetic Goals (SONG) and Purpose in Life (PIL) tests. Journal of Clinical Psychology, 1979, 35, 85-91.
- Rhudick, P. J., & Dibner, A. S. Age, personality, and health correlates of death concern in normal aged individuals. Journal of Gerontology, 1961, 16, 44-49.
- Rigdon, M. A. Levels of death fear: A factor analysis. Death Education, in press.
- Rigdon, M. A., & Epting, F. R. Re-clarifying the measurement of death attitudes. Omega, 1981, 12, 143-146.
- Rigdon, M. A., Epting, F. R., Neimeyer, R. A., & Krieger, S. R. The Threat Index: A research report. Death Education, 1979, 3, 245-270.
- Rogers, C. On becoming a person. Boston: Houghton-Mifflin Co., 1961.

- Rowe, D. The construction of life and death. New York: John Wiley & Sons, 1982.
- Santora, J. C. Bibliography of death and dying: A guide to doctoral dissertations of the 1970s (A-I). Death Education, 1980, 3, 415-423.
- Santora, J. C. Bibliography of death and dying: A guide to doctoral dissertations of the 1970s (J-Z). Death Education, 1981, 4, 100-109.
- Schilder, P. The attitudes of murderers toward death. Journal of Abnormal Psychology, 1936, 31, 348-363.
- Sharpe, D., & Viney, L. L. Weltanschauung and the Purpose-in-Life Test. Journal of Clinical Psychology, 1973, 29, 489-491.
- Shostrom, E. Manual for the personality orientation inventory. San Diego: Educational and Industrial Testing Services, 1962.
- Simmons, D. D. Purpose-in-Life and the three aspects of valuing. Journal of Clinical Psychology, 1980, 36, 921-922.
- Slote, M. A. Existentialism and the fear of dying. In J. Donnelly (Ed.), Language, metaphysics, and death. New York: Fordham University Press, 1978.
- Smith, S., & Leach, C. A hierarchical measure of cognitive complexity. British Journal of Psychology, 1972, 63, 561-568.
- Sullivan, W. J. Effect of religious orientation, purpose in life, and locus of control on the death anxiety of college students. (Doctoral dissertation, Fordham University, 1977). Dissertation Abstracts International, 1977, 38, 382B. (University Microfilms No. 77-14,912)
- Templer, D. The construction and validation of a death anxiety scale. Journal of General Psychology, 1970, 82, 165-177.
- Templer, D. Death anxiety as related to depression and health of retired persons. Journal of Gerontology, 1971, 26, 521-523.
- Templer, D. Death anxiety: Extraversion, neuroticism, and cigarette smoking. Omega, 1972, 3, 53-56.
- Templer, D., & Ruff, C. Death anxiety: Scale means, standard deviations, and embedding. Psychological Reports, 1971, 29, 173-174.

- Thomas, M., & Seeman, J. Criterion measures for therapy outcome: A study in personality integration. Psychotherapy: Theory, Research and Practice, 1971, 8, 26-30.
- Tobacyk, J., & Eckstein, D. Death threat and death concerns in the college student. Omega, 1980, 11, 139-155.
- Tolor, A., & Reznikoff, M. Relation between insights, repression-sensitization, internal-external control, and death anxiety. Journal of Abnormal Psychology, 1967, 72, 426-430.
- Vernon, G. M. Sociology of death: An analysis of death-related behavior. New York: The Ronald Press, 1970.
- Victor, H. R. Choice of the living will: Personality characteristics, death/dying attitudes, and locus of control orientation of signers and nonsigners; and the effects of the choice on death/dying attitudes. (Doctoral dissertation, Temple University, 1981). Dissertation Abstracts International, 1981, 42, 792B. (University Microfilms No. 8115916)
- Warren, W. G. Personal construction of death and death education. Death Education, 1982, 6, 17-28.
- Wass, H. Research and assessment of death attitudes. In H. Wass, C. A. Corr, & R. A. Pacholski, with C. S. Forfar, Death education: An annotated resource guide (Vol. 2). New York: Hemisphere Publishing Co. & McGraw-Hill International, in press.
- Wass, H., Corr, C. A., & Pacholski, R. A., with Forfar, C. S. Death education: An annotated resource guide (Vol. 2). New York: Hemisphere Publishing Co. & McGraw-Hill International, in press.
- Wass, H., Corr, C. A., Pacholski, R. A., & Sanders, C. M. Death education: An annotated resource guide. New York: McGraw-Hill International, 1980.
- Weisman, A. D. On dying and denying. New York: Behavioral Publications, 1972.
- Werner, H. Comparative psychology of mental development. New York: International Universities Press, 1957.
- Wesch, J. Self-actualization and fear of death. (Doctoral dissertation, University of Tennessee, 1970). Dissertation Abstracts International, 1971, 31, 6270-6271B. (University Microfilms No. 71-7692)
- Wexler, D. Self-actualization and cognitive processes. Journal of Consulting and Clinical Psychology, 1974, 42, 47-53.

- Wexler, J. R. Death threat, self-actualization and future-time orientation. (Doctoral dissertation, Memphis State University, 1978). Dissertation Abstracts International, 1978, 39, 1507B. (University Microfilms No. 7815992)
- Whelan, W. M., & Warren, W. M. A death awareness workshop: Theory, application and results. Omega, 1980, 11, 61-71.
- Wilkins, G. G. Cognitive differentiation and integration processes: A dual application to a standard person perception task. (Doctoral dissertation, University of Florida, 1977). Dissertation Abstracts International, 1978, 39, 405B. (University Microfilms No. 7811082)

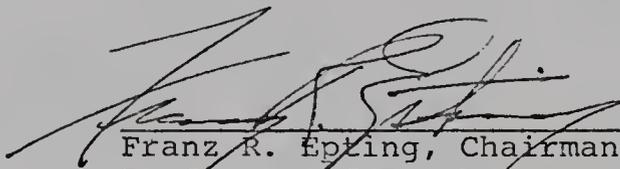
## BIOGRAPHICAL SKETCH

Michael A. Rigdon was born on June 7, 1944, in St. Louis, Missouri. In 1962, he graduated from St. Vincent's College, a private high school in Cape Girardeau, Missouri. He received his Bachelor of Arts degree in philosophy in 1967 from St. Mary's Seminary in Perryville, Missouri. In 1971, Michael received his master's degree in divinity from DeAndreis Seminary in Lemont, Illinois. He then studied in Europe for two years, receiving his License in Sacred Theology from St. Thomas University in Rome, Italy, in 1973.

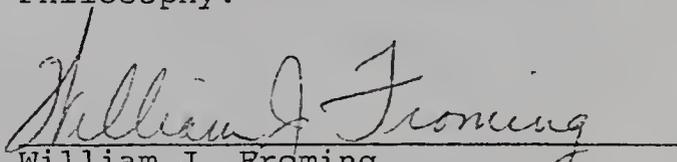
On November 1, 1973, Michael married Imogene Stewart Rigdon, a psychiatric nurse who is currently an assistant professor with the College of Nursing at the University of Florida.

In September, 1976, Michael entered the graduate program in psychology at the University of Florida, where he is specializing in personality and counseling psychology. He received his Master of Arts degree in 1979.

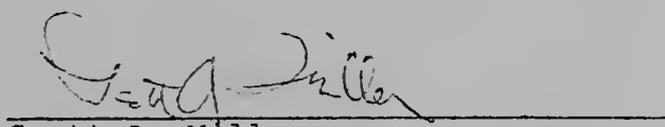
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
\_\_\_\_\_  
Franz R. Epling, Chairman  
Professor of Psychology

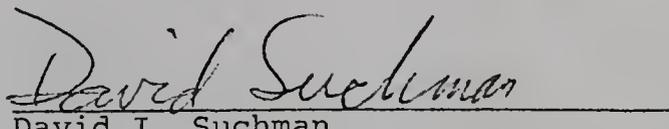
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
\_\_\_\_\_  
William J. Froming  
Assistant Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
\_\_\_\_\_  
Scott A. Miller  
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
\_\_\_\_\_  
David I. Suchman  
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



---

Hannelore L. Wass  
Professor of Foundations of  
Education

This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Aug. 1982

---

Dean for Graduate Studies and  
Research

