

AN ABSTRACT OF THE THESIS OF

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in Clinical Psychology presented

Title: MEASUREMENT OF THE FEAR OF DEATH: A Comparative

Study

Abstract approved: Casper B. Holmes

This study was conducted in an effort to establish any statistical superiority, of the instruments considered, as a measurement of fear of death and to discover any significant inter-test correlation between these instruments. A series of "repeated measures" chi squares was used to establish testing accuracy. A series of Pearson  $r$ 's were used to discover inter-test correlation. The major conclusions drawn were that all instruments considered were significantly accurate and high inter-test correlation was present.

The subjects consisted of one hundred and sixty-one university students between the ages of nineteen and fifty, who were enrolled in Introductory Psychology. All subjects were volunteers. The subjects were initially administered a form indicating their willingness to visit a funeral home. From this data, each subject's level of death anxiety was established. At a later time, these subjects were administered the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS, and a single statement inquiry to be responded to on a seven-point

Likert-type scale. The results were compared to the operationally defined levels of high and low death anxiety previously determined.

## ACKNOWLEDGMENTS

I wish to thank Dr. Cooper Holmes, Dr. Christopher Joseph, and Dr. Harlan Bowman, my committee members, whose advice and assistance were invaluable. I would also like to thank Dr. Joseph Barto for his contributions.

Thanks must also be extended to my mother who gave me her strength, my friends who gave me their time, and to Dale, who gave me support through each last minute crises. A very special thanks must go to my daughter, Heather, whose patience and understanding made the completion of this thesis possible.

MEASUREMENT OF THE FEAR OF DEATH:

A Comparative Study

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A Thesis

Presented to

the Faculty of the Department of Psychology

Emporia State University

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In Partial Fulfillment

of the Requirements of the Degree

Master of Science

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by

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August 1979

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DATA PROCESSING

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## CHAPTER 1

### INTRODUCTION

The development of the theoretical background for the measurement of death anxiety is discussed in this chapter. The statement of the problems, statement of the hypotheses, purpose of the study and its significance, definition of terms, and limitations of the study are also included.

### THEORETICAL FORMULATION

Death is a universally recognized source of fear which requires realistic treatment as a major psychological component in the life stages of an individual. The emotional aura surrounding the concept of death needs to be put into perspective in order that it might be studied as a vital part of personality structure. After dealing with it objectively, the study of attitudes toward death could have far-reaching application. Many researchers in the area recognize that accurately measuring death fear is a prerequisite to any understanding and consequent practical use of the dynamics of these attitudes.

Many attempts have been made to establish an accurate measurement of death anxiety through various methods. Indirect methods (Alexander, Colby, and Alderstein, 1957; Feifel, 1973; Lester and Lester, 1970), projective techniques (Rhudick and Dibner, 1961; Shrut, 1958; Caprio, 1950), and direct methods (Anthony, 1940; Swenson, 1961;

Bernada, 1949), have been used. The earliest and one of the major direct-technique methods is the self-report questionnaire (Tolor, 1969; Sarnoff and Corwin, 1959; Boyar, 1964; Lester, 1967; Collet and Lester, 1969; Templer, 1970; and Nelson and Nelson, 1975), the focus of the present study. Questionnaires have the advantage of being easily administered as well as having easily accessible, inexpensive testing equipment.

Durlak (1972) and Dickstein (1978) compared various fear of death scales in an effort to investigate concurrent validity and explore other aspects of the scales. Neither the more recent Nelson and Nelson (1975) Death Fear Scale nor a single statement test has been compared to the more widely used scales (Boyar, 1964; Templer, 1970) for test-measurement superiority. Research also indicates a lack of information concerning inter-test correlations.

#### THE PROBLEM

The need for accurately measuring death-anxiety levels has been widely recognized (Geizhals, 1975; Lester, 1969; Durlak, 1972; Dickstein, 1972). Are any of the instruments in the present study superior tools for measuring fear of death? How do the results obtained with these different instruments compare? The present study attempted to answer these questions.

#### Statement of the Problem

Is there statistical evidence indicating either the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS, or self-placement on a Likert-type scale to be a superior instrument for measuring death anxiety?

Is there a significant correlation among the scores of the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS, and self-placement on a Likert-type scale?

#### Statement of the Hypotheses

There is no statistical evidence indicating either the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS, or self-placement on a Likert-type scale to be a superior instrument for measuring death anxiety.

There is no significant correlation obtained on the scores of the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS and self-placement on a Likert-type scale.

#### Purpose of the Study

The present study was conducted in an effort to discover if one of the instruments considered was statistically superior to the others for measurement of death anxiety. If the considered tests are valid, their results should agree, not only with the operationally defined levels of high and low death anxiety determined for this study, but also with each other.

#### Significance of the Study

The establishment of an accurate instrument for measuring death anxiety has many practical applications. Prospective employers, when hiring people to work with the dying, might consider level of death anxiety and whether or not that anxiety might prevent the applicant from working effectively with those needing their services. Psychotherapists working with the aging, might find the measurement of fear of death a useful diagnostic tool in evaluating motivational

factors in a therapy situation. Any additional information that may broaden the psychologists understanding of the personality and its elements is useful. Finally, the major significance of this study would be the stimulation of further research on the measurement of death anxiety.

#### DEFINITIONS OF TERMS

##### Death

The United Nations' Vital Statistics definition of the word will be used: "The permanent disappearance of every sign of life," (Tolor, 1966).

##### Fear of Death

Fear of death is the apprehension and anxiety surrounding the subject of death. For the purpose of this paper the term "fear of death" will be regarded as synonymous with "death anxiety" and the two terms will be used interchangeably.

##### High Fear of Death

High fear of death will be defined as the subject's unwillingness to tour a funeral home.

##### Low Fear of Death

Low fear of death will be defined as the subject's willingness to tour a funeral home.

## LIMITATIONS OF THE STUDY

The study was made with a sample of college students enrolled in Introductory Psychology classes at Emporia State University. There was no attempt to control for number of years in college or age, although most of the students who participated were freshman of eighteen or nineteen years of age. Since the sample was drawn from a college population, it is assumed that it is limited to subjects having at least average intelligence. It should be noted that the measurement for high and low levels of death anxiety, i.e. the subject's willingness to tour a funeral home, was arbitrarily decided. The accuracy of this measure has not been proven.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

The purpose of this chapter is to review and examine the literature relating to the measurement of the fear of death. Included in this chapter are sections on techniques of measurement of death anxiety, the Boyar Fear of Death Scale (FODS), the Templer Death Anxiety Scale (DAS), and the Nelson and Nelson Death Fear Scale (DFS). Previous studies comparing various death surveys are also included.

### TECHNIQUES FOR MEASURING THE FEAR OF DEATH

Over the past several years, interest in the psychology of death has shown a slow but steady increase. In reference to work done by Becker and Bruner in 1931, Lester (1967) reported that, "A fear of death can have several objects: fear of one's own death, fear of the death of others, and fear of the effects of death." Collectively, these objects are called fear of death. One psychological aspect that has attracted considerable attention is the measurement of this fear. There are three basic types of death anxiety measurement.

#### Direct Methods

Although the term "direct method" may be questionable in this specific application, those researchers using these methods consider it direct. The direct method of measuring the fear of death has been manifested by the development of a number of self-report scales to

measure individual differences in concern about death. The questionnaire was the earliest direct technique used in this evaluation. Researchers interested in testing large groups of people simultaneously, favor this method. Anonymity may be a consideration, or the results of the questionnaire may be used as a basis for individual interviews. This interview may be used to check the possibility that the replies may be unrepresentative of the actual beliefs of the subject. The interview makes it possible to add any additional questions that might be desirable. Anthony (1940) and Nagy (1948) made extensive use of the interview when investigating the views of children concerning death.

Such direct methods as forced-choice rating scales and checklists concerning death attitudes have also been used. Swenson (1961) used items such as "happiness," "don't think of it," and "it disturbs me a great deal," when questioning people about their attitudes toward death. Lester (1967) cited Bernada's 1949 examination of the diaries of young girls, and Anthony's 1940 examination of the answers to specific questions of the Terman-Merrill revision of the Binet test, as two other direct sources of information concerning death-anxiety.

### Projective Techniques

The Thematic Apperception Test (TAT) was used by Rhudick and Dibner (1961). Those themes involving death were considered indications of preoccupation with death. A sentence completion test was used by Shrut (1958), and Caprio (1950) used free association focused on ideation surrounding death in the subject's youth. In each of these studies, the researchers were successful in identifying elevated levels of death anxiety.

## Indirect Methods

Several different indirect methods of measuring both high and low levels of death anxiety have found some degree of success. Major indirect methods which have been used successfully include the galvanic skin response (GSR) to death-related words (Alexander, Colby, and Alderstein, 1957; Feifel, 1973), and the use of latency measures from word association and tachistoscopic recognition tasks (Golding, Atwood, and Goodman, 1966; Lester and Lester, 1970). Other successful indirect measures of unconscious death anxiety have made use of recalled dream content (Handal and Rychalk, 1971), self-rating of mood after exposure to neutral, erotic, and death-related reading matter (Paris and Goldstein, 1966), semantic differential scores in sentence completion tasks (Shrut, 1958), and word recognition tasks (Christ, 1961; Lester and Lester, 1970; Meisner, 1958).

## MEASUREMENT INSTRUMENTS

### The Boyar Fear of Death Scale (FODS)

In an effort ". . .to make an original contribution to the research methodology in the area of the fear of death," Boyar (1964) developed and partially validated his Fear of Death Scale (FODS). Individual interviews were used as the source for the initial pool of scale items. Initially thirty items were gathered and submitted to a panel of judges for their evaluation as to clarity and relevance to a specific definition of fear of death. Twenty-two of the original thirty items received ratings sufficiently high to warrant inclusion in the original form of the fear of death scale.



The twenty-two items were embedded in a total of seventy-eight masking items. The masking items dealt predominately with child-rearing attitudes. The scale was basically a six-point Likert-type form, with a series of statements with which the subject may or may not agree. The intensity of fear of death was defined as ". . .the extent of the subject's agreement or disagreement (slightly, moderately, strongly)."

One hundred subjects were given the questionnaires. Fear of Death Survey data were analyzed by means of a split-half estimate of reliability, and item-item and item-test correlations. Data gathered for purpose-of-experiment analysis indicated that the subjects accepted the experiment as one dealing with the relationship of death and child-rearing attitudes. Minnesota Multiphasic Personality Inventory (MMPI) data were available for all subjects and indicated a slight relationship between FODS scores and the Psychasthenia (Pt) and Correctional (K) scales.

For the validating experiment the FODS items were embedded in masking items pertaining to highway safety. The subjects were arbitrarily divided into experimental and control groups, each group receiving identical treatment except for the stimulus. The experimental group saw a film containing scenes of fatal automobile accidents. The film viewed by the control group discussed urban traffic problems. Each subject was administered the FODS, a pre-post administration of a Mood Adjective Check List (ACL) and purpose-of-experiment and demographic questionnaires.

A significant increase in scores of the experimental group was measured, while only slight increases were scored by the control

group. Test-retest reliability was .79 (10 day interval). Boyar concluded that the FODS was ". . .internally consistent only on single administration, and that further factor analytic research was required, as well as further steps in the construction validation process."

Lester has made extensive use of Boyar's FODS, often in comparison with his own death-anxiety measurement instrument, the Fear of Death Scale. Lester (1967) administered his own instrument and Boyar's FODS to a group of 43 student volunteers in an effort to determine whether suicidal students feared death more or less than less suicidal students. Each subject was given a questionnaire in which he (a) checked whether or not he had ever considered, threatened or attempted suicide; (b) ranked 7 metaphors adapted from McClelland (1963) for their appropriateness as descriptors of death; (c) ranked the 7 values destroyed by death (from Diggory and Rothman, 1961), for their importance in determining his fear of death; (d) noted the advantages of death; and (e) completed the fear of death scales of Boyar (1964) and Lester (1967). The results indicated that suicidal adolescents have less fear of death than non-suicidal adolescent students.

In a study designed to investigate the work of Feldman and Hersen (1967) (which indicated that students who manifest conscious concern about death report a greater frequency of nightmares than students who manifest less concern), Lester (1968) again made use of Boyar's FODS. Each of the 304 female college students was given a questionnaire to complete anonymously, consisting of three parts: (a) estimates of dream and nightmare frequency; (b) estimate of how well the subject remembered her dream; and (c) the fear of death scales of Lester and of Boyar. The results of the study indicated that Feldman

and Hersen's failure to consider the fact that there is an association between dream frequency and nightmare frequency, weaken their conclusions. Also, no association was found between dream or nightmare frequency and death fear.

Only a weak association between inconsistency in death attitudes and the fear of death was discovered by Lester (1969) when he analyzed the results of questionnaires given to 199 female introductory psychology students. Each subject completed a sibling-position questionnaire and the death scales of both Lester and Boyar.

Lester (1970) administered both Boyar's FODS and his own fear of death scale in a study designed to test the work of Spilka and Pellegrini (1967) who took the position that those who have a high need to achieve will also have a greater fear of death than those with less need. The response to the fear of death scales as well as the four stories written in response to four pictures were considered. The scores made by the 199 female introductory psychology students, indicated no association between the fear of death and need for achievement.

In an effort to provide an objective description of Erickson's (1963) statements regarding the ego integrity vs. despair stage of personality development and at the same time clarify some of the conflicting relationships regarding correlates of death, a study was conducted by Nehrke, Bellucci and Gabriel (1978). One hundred-twenty persons over the age of 60, residing in nursing homes, public housing units and the general community completed locus of control, life satisfaction and death anxiety surveys. The questionnaires to be completed consisted of a locus of control scale, a life satisfaction

scale, Boyar's FODS and Templer's DAS. The results of the questionnaires indicated support for Erickson's description of the ego integrity solution of the final stage, only from the public housing residents. No significant effects for Boyar's scale were indicated. However, for the life satisfaction, locus of control, and the Templer scales, the main effect of residence was significant and the simple effects were analyzed using the Newman-Kuels test. The results indicated that: (a) the public housing sample was most internally controlled, while the nursing home sample was most externally controlled; (b) the community sample showed significantly more death anxiety than either the public housing or nursing home samples; and (c) the nursing home sample was significantly lower in life satisfaction than either the community or public housing.

#### The Templer Death Anxiety Scale (DAS)

After considering the work of Boyar (1964), Templer (1970) viewed the lack of construct validity as the scale's only major drawback. In developing his own Death Anxiety Scale, construct validity was given major attention by Templer.

Initially forty items were selected for the scale. Twenty-three keyed "true" and 17 "false." These items were submitted to a panel of seven judges to be rated as indications of death anxiety. Those items with an overall rating of less than 3.0 were discarded, leaving 31 remaining items. Those items were then embedded in the last 200 items of the MMPI. To determine internal consistency, item-total score point biserial correlation coefficients for three independent groups of subjects were used. The groups consisted of 45

college students in a sophomore undergraduate psychology class at the University of Kentucky; 50 college students from age 25 to 57 in a number of different classes in several colleges in Kentucky and Tennessee; and 46 students in an introductory psychology class at Western Kentucky University. Fifteen of the items were retained, having had point biserial coefficients significant at the .01 level in two out of three analyses.

In an attempt to establish reliability, 31 of 37 community college subjects who participated in the agreement-response set research, completed the DAS a second time, three weeks after the first administration. The product-moment correlation coefficient of .83 between the two sets of scores demonstrated acceptable test-retest reliability, and a coefficient of .76 (Kuder-Richardson) demonstrated reasonable internal consistency with the subjects.

Two separate projects were undertaken to establish construct validity of the DAS. In the first project, the DAS scores of 21 presumably high death anxiety psychiatric patients were compared with those of control patients. The high death anxiety subjects had a mean DAS score of 11.62 while the mean of the control group scores was 6.77. A t-test result of 5.79 was significant at the .01 level, thus leading to Templer's conclusion that ". . .psychiatric patients who spontaneously verbalize death anxiety concern have a higher DAS score than other psychiatric patients."

In the second project the DAS, Boyar's FODS, a sequential word association task, and the MMPI were administered to 77 undergraduates at Murray State University. The results of this project indicated that subjects who obtained high DAS scores also tended to give words

that described emotion on the word association task. A product-moment correlation coefficient of .44 ( $p < .01$ ) between the DAS score and the number of words considered descriptive of emotion was obtained. A correlation coefficient of .74 between the DAS and the FODS was discovered.

Templer and Dotson (1970) conducted research to determine ". . .the relationship between death anxiety and religious affiliation, belief and activity." The subjects consisted of 213 junior and senior students in psychology classes at Western Kentucky University. They each completed both the DAS and a questionnaire concerning their religious practices and beliefs. The results showed no significant relationship between DAS scores and religious variables. The subjects obtained a mean DAS score of 6.37. The analysis of variance was not significant on any item on the religious survey.

Templer and Ruff (1974) conducted a study to determine if the embedding of the items had an effect upon DAS scores. The DAS was administered to 158 students in Hopkinsville Community College in Kentucky. The DAS items were embedded in the last 200 items of the MMPI for 78 students, and for the remaining 80 students, were not embedded, but were presented before the final 200 MMPI items. The results indicated that the embedding of the DAS items had little or no effect upon scores. The DAS mean for the embedded administration was 7.08 and the mean for the non-embedded administration was 7.30.

Again using the Templer DAS, Templer, Ruff and Franks (1971) conducted research to ". . .evaluate degree of death anxiety as a function of age and sex in diverse populations, and to determine the extent to which the death anxiety of adolescents resembled that of

their parents." Four sources were used to obtain subjects to complete the DAS: (a) 283 residents of an upper-middle-class apartment building (mean age 48.8 years); (b) 125 low-income aids in a state hospital (mean age 33.2 years); (c) 137 heterogenous psychiatric patients at Western State Hospital, Hopkinsville, Kentucky (mean age 38.1 years); and (d) 743 students in three high schools near Hopkinsville (mean age 15.8 years). The students' parents (mean age 44.0 years) were also given the DAS, so that scores of the adolescents could be compared with those of middle-aged persons and the presence of any significant parent-adolescent DAS correlation determined.

No significant correlation coefficient between Death Anxiety Scale scores and age for any group studied was established. The DAS scores of both male and female adolescents correlated most highly with scores of parents of the same sex, indicating to the examiner that ". . . explanations based upon principles of learning account better for the observed parent-child correlation than explanations invoking genetic similarities." It then appears that death anxiety is more a state sensitive to environmental events in general and to the impact of intimate interpersonal relationships specifically, rather than a fixed entity.

Berman and Hays (1973) conducted an experiment to test a ". . . theoretically presumed relationship. . ." between attitudes toward life, death, and afterlife, and to replicate prior research. The subjects for this study, 300 college students, were each administered a four-part questionnaire, consisting of the following scales: (a) an internal-external locus of control scale; (b) belief in after-life scale; (c) Templer's DAS, and (d) Lester's Fear of Death Scale

(Lester, 1967). The results failed to support the hypothesized relationship between belief in an external locus of control and death anxiety. Significant, but small correlations were found between belief in afterlife and fear of death ( $\underline{r} = .24, p < .01$ ), and between the two measures of death attitudes ( $\underline{r} = .17, p < .01$ ). However, the correlation between the death anxiety and belief in afterlife scales was not significant ( $\underline{r} = .02$ ).

In conjunction with Lester, Templer (1974) conducted research in an effort to construct an MMPI scale for measuring death anxiety. Seventy-six undergraduates at Murray University at Kentucky completed both the DAS and the MMPI. Thirty-eight MMPI items correlated with the DAS ( $p < .01$ ). But when, in an effort to cross validate, these items were given to 32 psychiatric patients at a state hospital, the point biserial coefficients were significant ( $p < .05$ ) for only 3 of the 38 items.

Attributing this difference to the substantial differences in the subjects, Templer and Lester administered the MMPI items and the DAS to 76 undergraduates at Stockton State College. Nine items were significant ( $p < .05$ ). Because of the small number of items, the reliability of such a scale is doubtful; furthermore, the items appeared to reflect general anxiety at least as much as death anxiety.

Bascue and Lawrence (1977) conducted a study to explore the meaning of death for elderly people. The basic theme followed was the relationship between death anxiety and future time orientation. Two basic questions were raised: (a) is death anxiety greater in elderly people who are more involved and interested in the future than in those involved in the past or present in their lives? and (b) does



death anxiety vary in accordance with the attitudes these same people have about time itself?

The subjects consisted of 88 women over the age of 62. Each subject completed a biographical questionnaire, the Templer DAS, a scale of religious development, a time reference inventory and a time anxiety scale. An analysis of the data indicated that death anxiety did increase in the women as time orientation decreased and the women who had high scores on the time-anxiety scale also had high death-anxiety scores.

In an attempt to discover correlations between self-reported death anxiety and reactions and preference in regard to funerals, Selby (1977) conducted research using 116 subjects, half of whom were enrolled in a midwestern university, with the remaining subjects being members of local church congregations. Each subject completed booklets consisting of four basic parts: (a) the first section consisted of personal and demographic information questions; (b) another section was the Templer DAS; (c) the third portion represented a series of 25 items involving the individuals' reactions to, or preference concerning funerals; (d) the final part contained a help-seeking scale.

Pearson product moment correlation coefficients were calculated between death anxiety scale scores and each of several demographic and personal variables. None of the correlations obtained statistical significance, with the highest observed correlations between death anxiety scores and reported physical health ( $r = .13$ ,  $p > .01$ ).

### The Nelson and Nelson Death Fear Scale (DFS)

In preparation for a subsequent effort to ". . . identify fundamental dimensions of death anxiety through a controlled factor analytic technique," Nelson and Nelson (1975) developed their Death Fear Scale (DFS). They viewed it as an instrument useful for "social psychological research" in the area of death anxiety.

The subsequent study of the DFS made use of two sets of respondents. Set (A) consisted of 135 sociology students who responded to a pool of 55 death-related Likert-type items. An item-to-scale correlation analysis was then performed to insure a minimum level of conceptual commonality among the items. All items correlated with the total index at less than the .25 level were excluded, thus reducing the pool to 24 items. Set (B), a state-wide probability sample of male Virginia residents, received a copy of the 24 item questionnaire through the mail. Further item-to-scale correlation analysis among the study sample and with the same cutoff resulted in the elimination of four items, thus ending up with the final 20 item scale.

Four dimensions of death anxiety were identified:

Factor one: Death avoidance is indicated by unwillingness to be near or to touch the dead and by the reluctance to experience situations reminiscent of death.

Factor two: Death fear is highly reflected in such statements as "I am very much afraid to die" and "Everyone in his right mind is afraid to die."

Factor three: The Death denial factor seems to reflect reluctance to confront the reality of death in society and its consequences for the individual.

Factor four: Reluctance to interact with the dying is reflected in a relatively straightforward manner with the statements such as "I would not mind working with dying persons" and "I would willingly talk to a dying person about his coming death if he wished to discuss it."

Nelson and Nelson felt that the ". . . finding tht unfactored scores on our index are primarily indicators of death avoidance while being only weakly affected by the other dimensions."

#### PREVIOUS COMPARATIVE STUDIES

In an attempt to investigate the concurrent validity of four different psychometric scales that assess fears and anxieties about death, Durlak (1972) studied the scales developed by Lester (1967), Boyar (1964), Sarnoff and Corwin (1959), Tolor (1969) and Collet and Lester (1969). Also under investigation was whether those scales were relatively stronger measures of concern about death itself or the process of dying, and whether the concern manifested in scale scores was personalized (death/dying of self) or generalized (death/dying of others) in nature.

Ninety-four undergraduate psychology students volunteered to participate in the study. Each subject completed each of the scales being considered, as well as completing a social desirability indicator. The results of the study showed that the death scale correlations were all significant at the .01 level and were moderate in magnitude. No general association between scale scores on the death measures and the social desirability indicator was discovered. The results indicated that the scales appeared to measure attitudes toward personal death and dying rather than generalized fears and feelings about death.

Dickstein (1978) wanted to further explore the relationship between death scales that Durlak had studied, by including the Templer DAS and the Death Concern Scale. Although Durlak included the Fear of

Death and Dying Scale, he actually scored only four of the subscales. His research also examined information about the relationship between the death scales, measurement of anxiety and social desirability.

The subjects consisted of 34 male and 34 female undergraduates at Harvard University. Each subject completed six scales. In general, the scales were significantly correlated with each other for both men and women. The median correlation indicated, on the average, approximately 35% common variance among the scales.

It was also indicated that scales measuring attitudes toward death appeared to contain an element of social desirability. Dickstein observed:

In general, the pattern of significant relationships appears to support the contention that concern about death is not a socially desirable stance in American culture. Thus, people who are concerned about the social desirability of their responses report less concern about death than people who are less influenced by social desirability.

#### SUMMARY

The measurement of the fear of death has become a focal point for researchers interested in the psychological aspects of death concern. Measurement procedures can be categorized in three ways: (a) direct methods; (b) projective methods; and (c) indirect methods. However, within each category, a wide range of techniques have been tested, with varying degrees of success.

Two comparisons of various fear-of-death questionnaires have been made. The literature indicates that only inter-test correlations were considered and no attempt was made to test for statistical superiority of any of the testing instruments. The literature also

fails to note any comparisons of the results of questionnaires with a direct, one-statement test.

## CHAPTER 3

### METHODS AND PROCEDURES

The following chapter describes the experimental procedures which were used in the present study. Information about the population and sampling procedures, materials and instrumentation, design of the study and data analysis are also included.

### POPULATION AND SAMPLING

The population for this experiment was all students enrolled in Introductory Psychology at Emporia State University for the spring semester of the 1978-79 academic year. The sample consisted of the first eleven classes, available for testing, of those students responding to a written inquiry concerning their willingness to tour a funeral home. There were 161 subjects in the sample. Seventy-four were operationally defined as having a high level of death anxiety, while the other 87 were defined as having a low level of death anxiety. The age range for the subjects was from eighteen to fifty years. The expected intelligence level was average or above.

### DATA COLLECTION

Data collection commenced with the administration of a written inquiry concerning the subject's willingness to tour a funeral home. These forms were passed out to each of the Introductory Psychology

classes, with the request that each student read and respond to the form. The form included the student's name, I.D. number, and columns marked yes and no. After reading the question, "If a convenient time and transportation can be arranged, will you go on a field trip to a funeral home and all of its facilities?", the students indicated whether they would go on the tour or not. The response "yes" was assumed to indicate a low level of death anxiety. The response "no" was assumed to be indicative of a high level of death anxiety.

After several weeks, the participating classes were attended by the examiner, who at that time asked that the students fill out four questionnaires. They were told that the information would be used in writing a master's thesis. Those willing to participate then completed the Templer Death Anxiety Scale (DAS), the Boyar Fear of Death Scale (FODS), the Nelson and Nelson Death Fear Scale (DFS) and self-placement on a seven-point Likert-type scale, in a single sitting. Each of the questionnaires was accompanied by written instructions for completion.

Time and days of the data collection were not considered significant. The tests were scored manually by the examiner.

#### MATERIALS AND INSTRUMENTATION

Four test instruments were used in the present study: (a) the Templer (1970) Death Anxiety Scale (DAS); (b) the Boyar (1964) Fear of Death Scale (FODS); (c) the Nelson and Nelson (1975) Death Fear Scale (DFS); and (d) self-placement on a Likert-type, seven-point scale, in response to the single statement, "I am afraid of death." According to Guy and Norvell (1977), the Likert-type scale is a procedure for

quantitatively evaluating social attitudes. It is an ordinal scale consisting of points representing varying degrees of agreement and disagreement with a given statement.

The Templer DAS consists of fifteen true or false statements concerning death both directly and indirectly. The Boyar FODS includes twenty-two death-related items answered on a six-point, Likert-type scale. The Nelson and Nelson DFS consists of sixteen statements that refer to death both directly and indirectly. Scoring for this test was done on a six-point Likert-type scale. The fourth test was a single statement, "I am afraid of death", with which the subjects' degree of agreement was self-plotted on a seven-point Likert-type scale. The points on the scale were: (1) Strongly Disagree; (2) Moderately Disagree; (3) Mildly Disagree; (4) Neutral; (5) Mildly Agree; (6) Moderately Agree; and (7) Strongly Agree.

On the single statement test, those subjects obtaining scores of one or two were considered to have low death anxiety and those subjects that obtained scores of six or seven were considered to have a high level of death anxiety. On the remaining three tests, scores in the upper 25 percent of the points possible on each test were considered high levels of death anxiety. Those scores falling in the lowest 25 percent of the points possible were considered low levels of death anxiety.

#### STUDY DESIGN AND DATA ANALYSIS

The data were analyzed using first a series of "repeated measures" chi squares. This test of association is basically a two-by-two chi square ( $2 \times 2 \chi^2$ ) that has been modified in such a way as to allow for



its usage in a within-subjects design. The results of each test administered (the DAS, FODS, DFS, and self-placement on a seven-point Likert-type scale) were analyzed and compared to the operationally defined levels of high and low death anxiety, determined by the previously circulated "field trip" form (see DATA COLLECTION). These comparisons were made in an effort to discover any statistically significant measurement superiority of any of the testing instruments. It was assumed that those subjects being operationally defined as having high death anxiety should obtain high scores on the tests and those defined as having low death anxiety should obtain low scores on the tests if the testing instruments are valid.

The second type of analysis, the Pearson  $r$ , was used in an effort to discover any significant inter-test correlations among the four instruments considered. The Pearson  $r$ , or the product-moment correlation coefficient, indicates the degree of linear relationship between two variables. According to Hardyck and Petrinovich (1969), this statistic is best considered to be a ratio which indicates the degree to which variations in one variable is associated with variations in another variable.

## CHAPTER 4

### ANALYSIS OF DATA

This study was designed to discover possible statistical superiority of the testing instruments considered, and any inter-test correlations. This chapter includes how the data were analyzed, summary tables for the results of the "repeated measures" chi square, and a summary table for the results of the Pearson  $r$ .

#### STATISTICAL ANALYSIS

Table 1 presents the mean score and standard deviation for each of the four tests considered.

Table 1

Means and Standard Deviations of High and Low Death-Fear Subjects

Source	Mean		S.D.	
	High Fear Group	Low Fear Group	High Fear Group	Low Fear Group
Likert	4.378	3.598	1.728	1.77
Templer	7.487	4.908	3.290	3.201
Boyar	78.514	63.92	20.765	22.575
Nelson and Nelson	56.351	47.989	13.196	15.04

Table 2 illustrates the strength of association between the results of the individual tests and the operationally defined level of death anxiety. These data, along with the information obtained from a series of inter-test correlations were used to examine the following two null hypotheses:

There is no statistical evidence from the analysis indicating either the Templer DAS, the Boyar FODS, the Nelson and Nelson, or self-placement on a Likert-type scale to be a superior instrument for measuring death anxiety.

There was no significant correlation obtained on the scores of the Templer DAS, the Boyar FODS, the Nelson and Nelson DFS or self-placement on a Likert-type scale.

Table 2  
Strength of Association Between Test  
Results and Operational Definition

Source	$\chi^2$	Level of Significance
Nelson and Nelson	22.555	.01
Likert	22.212	.01
Templer	14.730	.01
Boyar	7.668	.01

The statistical analysis for the series of "repeated measure" chi squares indicates as seen in Table 2, that there is a significant association between each of the tests considered and the operationally defined levels of death anxiety at the .01 level of probability. A chi square of 6.635 was necessary for significance. The accuracy of each test considered is statistically significant. Statistically

there is no significant difference between the levels of accuracy of the Likert and the Nelson and Nelson scales. The chi squares for these tests were 22.212 and 22.555 respectively.

Table 3 presents the correlation values between scores obtained on the four testing instruments. Subjects who obtained high scores on one instrument tended to attain high scores on all other instruments. Also, those attaining low scores on one test attained low scores on the others as well.

Table 3  
Inter-Test Correlation Coefficients

Source	<u>r</u>	Level of Significance
Templer-Boyar	.8143	.01
Boyar-Nelson and Nelson	.7869	.01
Likert-Boyar	.6182	.01
Templer-Nelson and Nelson	.6050	.01
Likert-Templer	.5660	.01
Likert-Nelson and Nelson	.5537	.01

The results of this experiment indicate that all tests considered are significantly accurate when compared to the operationally defined high and low death anxiety levels. The results also indicated a high inter-test correlation between all four of the instruments used in the present study. Consequently, both of the null hypotheses were rejected.

## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The results of the present study are discussed in this chapter. An exploration of the experimental results is presented along with suggestions for future researchers of measurements of death anxiety. The following sections are included in this chapter: Summary, Conclusions, and Recommendations.

#### SUMMARY

In the present study, four instruments for measuring levels of death anxiety were considered. The purpose of this research was to determine any superiority in measurement of the tests considered, and to discover any inter-test correlations. One hundred and sixty-one subjects from the original population completed the four questionnaires. The results of each of the subject's questionnaires were compared to the operationally defined level of death anxiety for each subject, i.e., willingness to tour a funeral home assumed to indicate a low level of death anxiety and unwillingness to participate in the tour assumed to be indicative of a high level of death anxiety. Statistical significance was determined through the use of a series of "repeated measure" chi squares, as a test of association, and by use of the Pearson  $r$  as a measurement for inter-test correlation. Participation in the study was voluntary. Subjects were used on an availability basis.

## CONCLUSIONS

Analysis of the data indicated that all instruments not only correlated significantly with each other, but appeared to be highly accurate at the .01 level of probability. Since the results indicate that all tests considered appear to be valid, other criteria may be considered when determining which death anxiety scale to use. Such test characteristics as length of test, indirect or directness of the subject matter, and instrument availability might be checked for appropriateness to a specific situation.

Again, all tests appear to be valid. However, there is a wide variation between the strength of association levels of the tests. Logically, if validity is the only characteristic being considered the high scores of the Likert, and the Nelson and Nelson scales, should qualify them for first consideration.

Self-placement on the Likert-type scale in response to a single statement appeared to be as statistically accurate a test for death anxiety measurement as the scale with the highest score, i.e. Nelson and Nelson, and statistically superior to the other tests studied. For some subjects, the length and indirectness of the multi-question scales, may prove to be problematic. The Likert scale eliminates these problems.

An accurate instrument for measuring levels of death anxiety may be useful in various professional settings. Employers screening applicants for work with the dead and dying, i.e. funeral directors, nurses, etc., might consider the applicants level of death anxiety and whether the anxiety will lessen their effectiveness in fulfilling

their job responsibilities. Psychotherapists may consider the person's level of death anxiety when evaluating a client's motivation.

Researchers considering personality structure may use the results of death anxiety tests as part of that structure. Both sociologists and psychologists interested in attitudinal trends may use this as still another exploratory tool.

#### RECOMMENDATIONS

Although significant results were obtained in all areas considered by the present study, several variables might be considered in further research. First, if this experiment were repeated the researcher might consider using a wider range of age and educational levels. Other variables such as religion, sex, socio-economic level, and geographic residence could be considerations. A new criteria for operationally defining high and low levels of death anxiety, such as actually taking the subjects to a funeral home, might be explored. The administration of the questionnaires themselves might be altered. Varying the order in which the tests were administered, as well as administering the questionnaires in four separate sittings, might alter the results obtained. Finally, other questionnaires measuring death anxiety might be included for comparison.

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