

Fear of Death and Physical Illness:
A Personal Construct Approach



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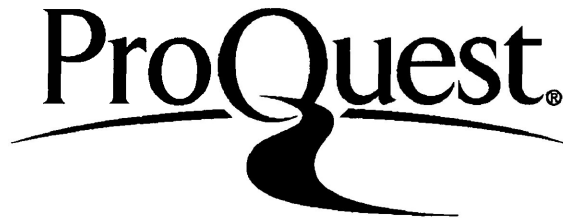
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TABLE OF CONTENTS

	PAGE
Acknowledgements.....	ii
Abstract.....	v
List of Tables.....	vii
Introduction.....	1
Methodological Approaches in Past Studies.....	4
Direct Approaches.....	4
Indirect Approaches.....	11
The Threat Index.....	15
Death Orientation in Seriously Ill Populations.....	27
Method.....	36
Respondents.....	36
Assessment Materials.....	37
Procedure.....	39
Results.....	42
Age.....	42
Medical Status.....	43
Actualization and Integration.....	45
Discussion.....	52
Age.....	52
Medical Status.....	53
Actualization and Integration.....	55
Conclusions.....	59

References.....	60
Appendices.....	60
A: The Threat Index.....	66
B: The Death Anxiety Scale.....	75
C: The Collett-Lester Fear of Death Scale..	75
D: Informed Consent Form.....	78
E: Heirarchical Multiple Regression For Medical Status Groups on Various Measures of Death Anxiety and Fear of Death.....	80
F: Product-Moment Correlations For Actualization and Integration With Various Measures of Death Anxiety and Fear of Death in Each Medical Status Group.....	83

ABSTRACT

Past literature that has investigated people's attitudes towards death and dying has experienced some difficulty in assessing the complex relationship among personality characteristics, fear of death, death anxiety, and physical well-being. The present study was an attempt to assess personal orientation toward death in groups of healthy and ill individuals. Depending upon their medical status, 69 females and 31 males were selected for one of five groups: Group 1 - Healthy people; Group 2 - Healthy people who were attending their family physician for a checkup; Group 3 - Rheumatoid arthritis patients; Group 4 - Diabetes patients; and Group 5 - Cancer patients. Death orientation was assessed using the Threat Index (Rigdon, Epting, Neimeyer, & Krieger, 1979), the Collett-Lester Fear of Death Scale (Lester, 1974), and Templer's Death Anxiety Scale (Templer, 1970). The Threat Index yields a score for actualization (a measurement that reflects the congruency between self and ideal self), and a score for integration (a measurement of the extent to which the constructs of death have been integrated with the constructs of self). It was hypothesized that those individuals who were both highly actualized and highly integrated would demonstrate the least fear of death and death anxiety, regardless of whether these individuals were healthy or ill, or what type of illness they had.

Heirarchical multiple regression analyses indicated that older respondents were significantly less death anxious, less fearful of their own death, and more integrated than younger respondents. In addition, there were no differences between the medical status groups, indicating that physical well-being was not related to fear of death or death anxiety. Instead, correlational and regression analyses suggested that anxiety and fear were much more likely to be influenced by the level of actualization achieved by an individual, and to a lesser degree, the level of integration. Surprisingly, and inconsistent with previous findings, the expected additive effects of actualization and integration did not emerge.

From the results of the present study it was concluded that it is what the individual brings to his or her illness (i.e., level of actualization, personality factors, etc.), rather than the illness itself, that will predict an individual's fear of death or death anxiety. The implication of this finding with regards to the management and understanding of seriously ill and dying patients was discussed.

LIST OF TABLES

- Table 1 - Heirarchical Multiple Regression Analyses For Medical Status Groups on Actualization (ACT), Integration (INT), Death Anxiety (DAS), and Overall Fear of Death and Dying (CL)
- Table 2 - Heirarchical Multiple Regression Analyses For Medical Status Groups on Fear of Death of Self (DS), Fear of Death of Other (DO), Fear of Dying of Self (DYS), Fear of Dying of Other (DYO)
- Table 3 - Means and Standard Deviations on All Measures for Each Group and the Entire Sample
- Table 4 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death in Well People (n=20)
- Table 5 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death in Worried Wells (n=20)
- Table 6 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death in Rheumatoid Arthritis Patients (n=20)
- Table 7 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death in Diabetes Patients (n=20)

- Table 8 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death in Cancer Patients (n=20)
- Table 9 - Product-Moment Correlations for Actualization (ACT) and Integration (INT) With Various Measures of Death Anxiety and Fear of Death for the Entire Sample (n=100)
- Table 10 - Seperate Heirarchical Multiple Regression Analyses for Actualization (ACT) and Integration (INT) on Various Measures of Death Anxiety and Fear of Death
- Table 11 - Heirarchical Multiple Regression Analyses for Both Actualization (ACT) and Integration (INT) on Various Measures of Death Anxiety and Fear of Death

Investigation of people's attitudes toward death is one facet of a recent death awareness movement. It was not until the mid-fifties that the "taboo" of death was confronted and psychology began to see death as a problem worth consideration (Kastenbaum and Costa, 1977). Herman Feifel (1959), a prominent pioneer in the study of thanatology, edited one of the first books that discussed the meaning of death from a psychological point of view. It was not until 1972, however, that the first extensive evaluation and integration of scientific knowledge regarding the psychology of death was published by Kastenbaum and Aisenberg (1972). Moreover, these authors found that fear of death was the issue most often investigated in the literature.

Kastenbaum and Aisenberg (1972) went on to state that as far as fear of death is concerned "theory and research in this area has suffered more from ambiguity and shifting meanings than it has from over-precision" (p. 62). Terms such as anxiety, fear, concern, threat, and apprehension are often used interchangeably, which, in turn, leads to much confusion in the literature.

In an attempt to clarify these terms, Kastenbaum and Aisenberg (1972) describe anxiety as a vague, objectless, apprehension. Fear, on the other hand, is directed toward an object, and one is able to locate and describe the source of one's concern. Using a similar approach, Schulz (1978) differentiates fear and anxiety, suggesting that fear is related to specific, identifiable, environmental events or

objects, whereas, anxiety is a negative affective state that lacks a specific object. A different approach was offered by Kelly (1955) who employed his Personal Construct Theory of personality in order to differentiate between the constructs of anxiety, threat, and fear. Kelly argued that people anticipate events through the use of their own personal interpretations of the world. The individual's personal construct system is comprised of these various interpretations. In Kelly's terms, anxiety is an awareness that one's characteristic way of structuring the world is ineffective in understanding certain impending events. Threat, on the other hand, is related to the realization that one's basic approach to structuring the world (what Kelly calls the core structures) is about to undergo comprehensive change. Fear, by contrast, is similar to threat except that it is less completely disrupting of the core structures. Theoretical frameworks such as Kelly's point to the importance of distinguishing between terms such as anxiety, threat, and fear.

In addition to the problems of language, etc., much of the research investigating attitudes toward death has failed to distinguish between the various facets that might be involved in death attitudes (eg. fear of the process of dying, fear of not existing, etc.). For this reason, it is often difficult to identify which aspect is being assessed by the most commonly used measuring instruments. In turn, these instruments (eg. questionnaires) often have poor reliability and validity (Dickstein, 1972; Durlak, 1972;

Kastenbaum and Costa, 1977).

In a further criticism of the body of research, Krieger, Epting, and Leitner (1974) have indicated that the individual's personal meaning of death has rarely been examined in the literature. As Munnichs (1961) stated, "it is easy to investigate what is somebody's attitude toward, say, sports; but the attitude toward death is closely connected with whether or not death has some personal meaning" (p. 60). Similarly, Simpson (1979) argues that it is important to investigate personal conceptions of death because denying the reality of one's mortality may put a severe limitation on the extent to which one participates in living. This position was supported by Feifel (1977) who agreed that death will find us shocked and unprepared if we do not realize that it is personal and not just for others.

The present study utilizes Kelly's (1955) Personal Construct Theory to investigate personal meaning of death in those individuals who differ in their experience of death. Included in the study are people suffering from life-threatening illness, non-life-threatening illness, and no illness. The following review of the death attitudes literature not only points to the inadequacy of much of the research that has been done, but as well, it indicates the direction that future research should be going.

Methodological Approaches in Past Studies

Lester (1967) and Pollak (1979) have reviewed the death attitudes literature extensively. These authors indicated that there are many confusing, contradictory, and inconsistent results. Much of the blame for this ambiguity in the research may be attributed to the two most commonly utilized approaches to the measurement of death apprehension. The first strategy, commonly referred to as the direct approach, typically uses a questionnaire, an interview procedure, or a self-report scale to ascertain an individual's death orientation.

Direct Approaches

The use of a multiple choice questionnaire allows for easy administration and simple scoring procedures. Middleton (1936) administered a questionnaire about death attitudes to 825 college students in the midwestern United States. The questionnaire included inquiries about frequency of death thoughts, fear of death, reaction to visiting a cemetery, and belief in an afterlife. The results were presented in percentages and it was found that the students rarely thought of death. In a much later

study, Shneidman (1970, 1971) received a considerable response to his questionnaire distributed to the readers of *Psychology Today*. His project explored childhood experiences of and attitudes toward death, influences of past and present attitudes, beliefs in afterlife, thoughts about one's own death, feelings about the disposal of one's body after death, attitudes toward suicide, and reactions to wills, funerals, and other rituals. From his many findings, Shneidman concluded that within the last 25 years there has been a public acknowledgement and a heightened awareness of death. Unfortunately, questionnaires only yield information regarding general trends, and nothing can be concluded about the individual's personal conception of death. Moreover, Kurlychek (1978) states that problems of standardization and interpretation are additional difficulties associated with the questionnaire approach.

In an attempt to overcome many of these shortcomings, Templer (1970) attempted to develop a valid psychometric scale that adequately assessed death anxiety. He designed the Death Anxiety Scale (DAS) which requires the respondent to answer true or false to 15 statements dealing with emotional reactions to death and dying. The higher the score, the more death anxiety assumed to be present. Although the DAS has some major shortcomings (eg. its unidimensional approach), it has been used repeatedly in the literature since its original construction and validation (Templer, 1970).

Such work was undertaken by Templer and Ruff (1971) who

reported DAS means and standard deviations for 23 categories of subjects involving over 3600 adults and adolescents. Various studies have investigated the relationship between the DAS and age, sex, and parental resemblance (Templer, Ruff, and Franks, 1971), with extraversion, neuroticism, and cigarette smoking (Templer, 1972a), with religion (Templer, 1972b), with suicide attempts (Tarter, Templer, and Perley, 1974), with femininity (Templer, Lester, and Ruff, 1974), with helping behaviour and vocational interests (Salter and Templer, 1979), and with mental ability (Templer and Salter, 1979). Although the DAS clearly demonstrates substantial normative data, it has not escaped some major criticisms.

One such criticism was raised by Warren and Chopra (1979) who found that the DAS was not factorially pure, and that at least three subscales (pure death anxiety, general concern, and fear of pain and operations) could be identified. Similarly, Devins (1979) used a principal-components procedure and found that five principal components accounted for over half of the variance in DAS responses. These five sources of death anxiety included fear of personal death, concerns about suffering and lingering death, subjective proximity to death, death-related fears, and disturbing death thoughts. Lonetto, Fleming, and Mercer (1979) used a principal axes factor analysis technique and found that the number of factors involved in death anxiety (as measured by the DAS) was related to the nature of the sampled population. For example, these authors found that an undergraduate student

population demonstrated more anxiety related to having a heart attack and life-after-death, while a group of graduate nursing students were more concerned about viewing a corpse. From the foregoing it is clear that Templer's DAS (1970) taps into any number of variables, and it is difficult to know what is being measured with any one population.

An alternate scale, the Death Concern Scale, was developed by Dickstein (1972) in an attempt to establish a more reliable and valid method for the measurement of concern about death. This scale is comprised of 30 statements about death and dying to which respondents must indicate their agreement or disagreement. On each of four administrations of the scale, the split-half reliabilities were impressive, but, unfortunately, a significant social desirability factor was also found to be present. Another major problem with this particular instrument was that death concern was treated as a unidimensional phenomenon, a difficulty similar to that observed with Templer's DAS (1970).

In an attempt to avoid the problems of unidimensionality, Collett and Lester (1969) measured fear of one's own death, fear of other's death, fear of one's own dying, and fear of other's dying. The Collett-Lester Fear of Death Scale (Lester, 1974) is composed of 36 statements to which the respondent must indicate agreement or disagreement according to a six-point scale. Each item is designed to tap into one of the four separate aspects of the fear of death. Collett and Lester (1969) found that the

intercorrelations of the subscales were low, especially when the type of fear (death vs. dying) and the referent of fear (self vs. other) differed. These authors concluded that it was useful to differentiate between these four separate aspects of death fear rather than group them together as one dimension. Other studies, such as Dickstein (1977-78) and Durlak (1972), examined the most commonly used scales and concluded that distinguishing between the various aspects of the fear of death, as measured by the Collett-Lester Fear of Death Scale (Lester, 1974), was justified. Moreover, Dickstein (1977-78) and Durlak (1972) also found that the Collett-Lester (CL) was not related to social desirability, as many of the scales tend to be. One criticism encountered with the CL, however, is that it was originally constructed so as to contain four factors, without any factor analysis to determine if any other factors existed.

A third attempt to construct a death attitudes questionnaire was undertaken by Nelson and Nelson (1975). These authors were able to identify four dimensions, contained in 20 Likert-type items that dealt with various facets of death attitudes through a factor analysis procedure. The four factors identified were death avoidance, death fear, death denial, and reluctance to interact with the dying. In a check of the internal consistency reliability of these four factors, Nelson (1978) found them to be quite low. As a consequence she developed a 15-item instrument which resulted in three factors including death avoidance, disengagement from death, and

death fear. Further psychometric analyses indicated that the three dimensions were internally consistent and distinct from one another, suggesting that the scale was more useful and meaningful than the one developed by Nelson and Nelson (1975). While Nelson's (1978) scale has potential, its use has not been reported in the literature, and its true utility can only be assessed with further use by researchers in the area.

In addition to those criticisms already discussed, a number of other methodological issues are apparent in the direct self-report type of approach to the measurement of death attitudes. First, Lester (1967) and Kastenbaum and Costa (1977) argue that there is rarely any conscious expression of death concern. That is, most people claim to be indifferent to thoughts about death. Feifel and his colleagues (Feifel, 1974; Feifel and Branscomb, 1973; Feifel and Hermann, 1973; Feifel, Freilich, and Hermann, 1973) have also found this to be true in their work. Second, Fulton (1961) and Schulz (1978) argue that only superficial, surface-level attitudes toward death are uncovered by the use of direct self-report techniques. Third, Kastenbaum and Costa (1977) and Littlefield and Fleming (1980) suggest that we do not know what is meant by a low score on a scale such as Templer's DAS (1970). One cannot be certain whether the low-scoring respondent is repressing an underlying death anxiety (as many researchers assume) or whether he/she is simply not concerned with death at all. A fourth difficulty found in this portion of the

research stems from the fact that many of the available scales treat attitudes toward death as a single type of fear or anxiety, when it is probably a more complex issue than that. For example, Bell (1975) suggests that much of the confusion in the literature might disappear if investigators addressed themselves to the separate components of the attitude construct. Specifically, Bell refers to the cognitive, affective, and conative dimensions. A fifth criticism pertains to the lack of reliability and validity found with many of the measurements utilized.

A final criticism of this area of study is that we know nothing about an individual's personal conception of death by using a direct self-report technique. Dickstein (1972) argues that most current death concern scales contain items that are not readily conceptualized as indicators of individual concern about the personal reality of death. Several researchers have attempted to tap into personal concern about death, and into the supposedly repressed fear of death, by using more indirect measures of death attitudes.

Indirect Approaches

Alexander, Colley, and Alderstein (1957) attempted to indirectly assess the amount of affect associated with the

concept of death by determining the degree of autonomic arousal elicited by a word association task. These authors estimated what they believed to be emotional intensity by measuring the galvanic skin response (GSR) and the latency of response to death-related words. It was found that male undergraduates responded with greater emotional intensity to words logically related to the concept of death than to other words similar in length, frequency of usage, etc. (basal words).

Using a similar procedure in a later study, Alexander and Alderstein (1958) investigated children's affective responses to the idea of death. There were wide individual differences among age groups, although it was found that all groups responded with more emotional intensity to death-related words than to basal words.

Meissner (1958) also employed a word association task in an effort to ascertain the relationship between unconscious emotionality and the concept of death. He found that psychoanalytically symbolic death-related words (i.e., those words thought to be related to death in traditional psychoanalytic theory - journey, statue, black, etc.) elicited greater unconscious emotional responses (as measured by GSR) than non-death-related words in a sample of Roman Catholic seminarians.

More recent work with the word association task has been carried out by Feifel (1974), Feifel and Branscomb (1973), Feifel and Hermann (1973), and Feifel, Freilich, and Hermann (1973). These researchers measured

below-the-level-of-awareness fear of death by calculating the mean differential reaction time between death-related and neutral words on a word association test. They found that death-related words consistently produced longer reaction times than other neutral words.

In addition, Feifel and his associates often accompany the word association task with a Colour Word Interference Test where the individual is required to respond to the colour of the word and to disregard its content. Feifel and Branscomb (1973) found that there was slowed response to reading its colour if the word was death-related. The authors interpreted this as being indicative of a "nonconscious fear of death" although little support was offered for this interpretation.

Templer (1971a) and Williams and Cole (1968) assessed nonverbalized death concern by measuring people's GSR to tachistoscopically presented death-related and neutral words in a word recognition task. Both authors found that GSR reactivity was greater for the death-related than for the neutral words. Templer (1971a), however, found no significant relationship between GSR and scores on Byrne's Repression-Sensitization Scale (1961), and concluded that there was no basis to maintain that GSR was a measure of death anxiety.

In a somewhat different approach, Golding, Atwood, and Goodman (1966) also utilized a word recognition task, but instead of investigating GSR amplitude, they calculated the mean number of tachistoscope flashes that were necessary for

respondents to recognize death-related and neutral words. These authors concluded that death-related words were significantly more difficult to recognize than neutral words.

Regarding the use of the GSR in the word association and word recognition tasks, Kastenbaum and Costa (1977) and Kurlychek (1978) have argued that it is simply a measure of autonomic arousal, and that nothing can be concluded about the nature of this response. The same physical response, as measured by the GSR, could be labelled "fear" or "joy" depending upon the cognitive elements of the situation. Kastenbaum and Costa (1977) also state that the GSR may be accompanied by a conscious awareness, thereby putting in question the claim that it is strictly a measure of un verbalized anxiety or fear.

In addition to the word association and word recognition tasks, the Thematic Apperception Test (TAT) has been utilized by several researchers in an effort to identify nonconscious concerns about death (Kimsey, Roberts, and Logan, 1972; Lieberman and Coplan, 1970; Rhudick and Dibner, 1961; Shrut, 1958). In the TAT, the respondent is presented with a series of moderately ambiguous pictures and is asked to make up a story about each picture. The degree of death concern is determined by the frequency with which the respondent makes references to death in each story. At the present time, however, the use of the TAT has typically been limited to investigation of death anxiety in elderly populations. Such studies (Kimsey, et.al., 1972; Lieberman

and Coplan, 1970; and Rhudick and Dibner, 1961) have found that (at least for these elderly groups) greater concern about death, as measured by the TAT, was related to poor physical health. Shrut (1958), however, found no relationship between physical health and the number of death references on the TAT. Several authors have suggested that the contentious findings may be a result of the TAT's psychometric inadequacies.

In discussing the ambiguous findings, Kurlychek (1978) and Schulz (1978) suggest that projective techniques such as the TAT lose their strength due to difficulties in administration and scoring, lack of reliability and validity, and their overall subjectivity. Kastenbaum and Costa (1977) feel that the use of indirect measures of death attitudes suffers from problems of inappropriate criteria (in validation procedures) and from lack of convergent and discriminant validity evidence.

While the indirect measurements of death attitudes have typically involved one of the above mentioned techniques, an example of a less commonly utilized method is offered by Handal and Rychlak (1971). These authors found that those people who scored either high or low on Templer's DAS (1970), tended to report more unpleasant and/or death-related dream content. Although the curvilinearity of the relationship is interesting, the recall of dream content also suffers from problems of subjectivity and validity.

In summary, both the direct self-report and indirect techniques that have been used for the measurement of

attitudes toward death have suffered from a number of inadequacies. In addition to the shortcomings already discussed, the research has not been able to adequately assess the personal meaning of death. Neimeyer, Dingemans, and Epting (1977) suggested that a cognitive approach, and more specifically, a Personal Construct approach (Kelly, 1955), was the most effective method of assessing an individual's personal orientation toward death. Kastenbaum and Costa (1977) felt that the cognitive dimensions of death concern appeared to be more amenable to present methodology, and cited the work of Krieger, Epting, and Leitner (1974) as a model for future research in the area of death attitudes. Krieger, et.al. (1974) introduced a method of assessing an individual's orientation toward death based on a personal construct approach. This Threat Index (TI) has now emerged as the best validated measurement of death orientation in the literature today.

The Threat Index

Unlike most of the measuring instruments utilized in the area of death concern, the Threat Index (TI), originally developed by Krieger, Epting, and Leitner (1974), is based on a theoretical foundation, i.e., George Kelly's Psychology of Personal Constructs (1955).

Kelly (1955) argues that any individual's interaction with the world is characterized by his desire to anticipate and understand events in his world. Kelly suggests that people organize and understand these events by employing a complex, but finite system of personal bipolar dimensions (eg., good-bad, kind-cruel, etc.). These dichotomized dimensions help an individual locate, understand, and anticipate events (i.e., anything from a concrete object to an abstract concept). For example, a person can describe his "self" according to a number of bipolar dimensions which, in turn, allows the individual to have an integrated sense of who he is and to anticipate the structure of self in the future. These basic constructs of self and identity are what Kelly calls the core constructs. Bannister and Mair (1968) attempt to define core constructs as those which "govern a person's maintenance processes; they enable him to maintain his identity and sense of continuing existence" (p. 30). Kelly argues that when the core constructs are challenged (i.e., the person realizes that he is unable to correctly predict events), then threat is experienced.

In a further discussion of threat, Kelly suggests that death is threatening to most people because their construct systems (specifically, their constructs of self) usually do not include constructs of their own death and, therefore, there is a realization that the core structures are about to undergo comprehensive change. Krieger, Epting, and Leitner (1974) disagree with this notion of Kelly's and suggest that for the person whose system is structured to anticipate it,

death would not be threatening. For such a person, death would be consistent with the existing core or personal identity, and, therefore, their system of constructs would not be challenged. Krieger, et.al. go on to explain that for the person whose system is such that personal mortality could not be anticipated, a confrontation with death would be extremely threatening. These authors hypothesized that death would be threatening to an individual in relation to the amount of systemic change that would be necessary for him to understand death as a personal reality.

Krieger, et.al. (1974) stated, "operationalized, threat can be evaluated by determining the reluctance of a person to subsume his present view of himself, the way he prefers to see himself, and the concept of death together as elements under the same poles of a sample of his constructs" (p. 301). Based on personal construct theory, the authors assumed that the placement of self and death on the same pole of a single bipolar dimension was indicative of a construct system capable of anticipating death as personal reality. The person who placed self and death on opposite poles of a construct would not be able to anticipate personal mortality. In an attempt to test these hypotheses, Krieger, et.al. developed the TI.

The original form of the TI was an individual interview in which interviewers elicited death relevant constructs from respondents and then asked them to place their perception of self, preferred self, and their own death on one pole of each of the elicited constructs. On this

elicited form of the TI (referred to as the TIE) a score of death threat was calculated by counting the number of times self and preferred self were described in the same manner and opposite to the description of own death. Although the TIE certainly measured death orientation in terms of an individual's own death-related constructs, it was a lengthy, individual measurement which severely limited its use as a research instrument.

In an attempt to overcome this problem, Krieger, Epting, and Hays (1979) selected 40 of the most commonly elicited constructs associated with the original TIE and developed a self-administered form of the Threat Index. On this form of the TI (TIp40) respondents were required to place self, preferred self, and their own death on the 40 dimensions provided. A score of death threat was calculated by counting the number of times the respondents placed self and preferred self on the same pole of a construct and their own death on the opposite pole. A revised scoring procedure was reported by Rigdon, Epting, Neimeyer, and Krieger (1979) who stated that it is only necessary to calculate the number of discrepancies between self and death (S/D splits), and that the number of discrepancies between preferred self and death can be ignored. These authors feel that administration and scoring is easier with this procedure, and that death threat is theoretically simpler to operationalize.

In addition to these changes in scoring procedures, a short form of the TIp40 was reported by Neimeyer and his

colleagues (Neimeyer and Chapman, 1978; Neimeyer and Dingemans, 1980-81; Neimeyer, Dingemans, and Epting, 1977), and extensive investigations of the reliability and validity of all forms of the TI were undertaken. Krieger, et.al. (1979) and Rainey and Epting (1977) reported excellent test-retest reliability for the TIP40 and the TIE. The split-half internal consistency reliability was found to be excellent for both the TIP40 and the TIE, as evidenced by the work of Krieger, et.al. (1979) and Krieger, et.al. (1974).

If the various versions of the TI theoretically measure the same construct of death threat, one would expect the intercorrelations of the various forms of the scale to be high. Hays (1975) and Neimeyer, Dingemans, and Epting (1977) intercorrelated various forms of the TIE and the TIP, and found evidence to support the predicted relationship ($r = .77$, $r = .45$, $p < .005$ respectively).

In addition to the studies which have demonstrated the reliability of the TI, other work has been undertaken to evaluate the validity of these measures.

Although there is no absolute criterion of death threat against which TI scores can be compared (Rigdon, et.al., 1979), one would expect that there would be a significant relationship between TI scores and scores on other established scales that have been designed to measure death anxiety or death fear. Krieger, et.al. (1974), Neimeyer and Dingemans (1980-81), and Neimeyer, et.al. (1977) have all found a moderate but significant relationship between

the TI and Lester's (1967) Fear of Death Scale (FDS). Generally speaking less strong, but still statistically significant relationships have also been found between the TI and Templer's (1970) Death Anxiety Scale (Krieger, 1977; Neimeyer and Chapman, 1978; Neimeyer and Dingemans, 1980-81; Wood and Robinson, 1981b). Krieger, et.al. (1974) suggest that this weaker relationship with the Death Anxiety Scale (DAS) may be due to the fact that the DAS is specifically a measure of general affective arousal and anxiety, whereas, Lester's (1967) FDS, the TI, and the Collett-Lester Fear of Death Scale (1974), are instruments that deal with a more cognitive facet of the orientation toward death. With regards to the Collett-Lester (CL) Fear of Death Scale (1974), Neimeyer and Chapman (1978) investigated populations of crisis center workers, high school teachers, and church death-study group members, and found a significant correlation between the TI and the CL. These authors also found strong correlations between the TI and the subscales of the CL that dealt with fear of death of self, and fear of death of other. Neimeyer and Dingemans (1980-81) used a population of crisis center workers and found a significant correlation between the TI and the CL, and between the TI and the CL subscales that pertained to fear of death of self, and the fear of dying of self. In another recent study, Wood and Robinson (1981b) investigated a sample of physicians and found significant correlations between the TI and the CL, and the subscales of the CL that dealt with fear of death of self, and fear of dying of self.

In summary, the moderate and significant correlations of the TI with the FDS (Lester, 1967), the DAS (Templer, 1970), and the CL (Collett and Lester, 1969), support the interpretation of the TI as a measure of death orientation. Moreover, the fact that only moderate relationships were found suggests that the TI is tapping into a different facet of death orientation than the other scales.

Another method of determining validity of the TI was utilized by Epting, Rainey, and Weiss (1979), Krieger, et.al. (1979), and Krieger, et.al. (1974) when they attempted to demonstrate a relationship between the TI and death-relevant behaviour. In each case the authors all reported a significant positive relationship between the TI and self-reported fear of death. In addition, Krieger, et.al. (1974) hypothesized that if the TI is a valid measurement of an individual's acceptance of his own mortality, then there should be a significant relationship between that person's ability to conceive of his own mortality and his scores on the TI. This hypothesis was supported. Krieger, et.al. (1974) also found that conceivability of personal mortality was not as highly related to Lester's FDS (1967) or to Templer's DAS (1970) as it was to the TI, indicating that the TI is a more adequate assessment of this facet of death concern.

As already mentioned, it is difficult to find an absolute criterion of death threat against which scores on the TI could be compared. Rainey and Epting (1977), however, compared the TI scores of the members of a memorial

society to a demographically similar control group of non-members. The authors hypothesized that a relevant criterion group for investigating whether the TI actually measures what it purports to measure, would be a group of people who demonstrate behaviourally that they recognize death as a personal reality. Persons who have taken overt steps, such as preplanning their own funerals, or making arrangements for disposal of their own bodies after they die, should be more aware of their own mortality, and score lower on the TI, than a group of comparable individuals who have not taken such action. This idea was supported by the findings, with the authors concluding that the criterion behaviour (preplanning for personal death) was well suited and relevant to the construct under investigation.

In another attempt to evaluate the TI in relation to a criterion group, Rainey and Epting (1977) studied the effects of a death education course on TI scores. Although the taking of the death education course did not result in an overall decrease in the group's mean score on the TI, the death class students began and ended the course lower in measured threat than their peers in other courses, suggesting that the students enrolled in the death education course were less threatened by death from the outset. The authors concluded that these findings provided further support for the construct validity for the TI. It should be noted, however, that there were no decreases in group means

on the TI, plus an examination of individual's ratings revealed some increased TI scores, some decreased, and in some no change at all.

Tobacyk and Eckstein (1980-81) also investigated the validity of the TI by contrasting the mean scores of students before and after a thanatology course with the mean scores of a control group. Not only were the thanatology group TI scores lower than the control group scores before and after the course, but there was also a more significant decrease in the scores over time for the thanatology group as compared to the control group. The authors concluded that the sensitivity of the TI to this change provides some evidence for the validity of this instrument.

In summary, then, it can be said that the emerging validity of the TI appears to be good. As Dickstein (1972) points out, however, construct validity is a continuous process, and further research will aid in this validity investigation. Investigations of the TI have demonstrated that the items on this test are relevant to death (Neimeyer, et.al., 1977), and that the splits between self and death can be interpreted as indicating threat (Krieger, 1977; Krieger, et.al., 1979).

In addition to its established reliability and validity, the TI has a number of other strengths worth noting. First, Krieger, et.al. (1979) reported no significant correlation between the TIE or the TIP and social desirability, and Rainey and Epting (1977) found no relationship between the TIP and age. Second, unlike most

death attitude scales, the TI is based on a clear theoretical foundation. Moreover, it assesses personal orientation toward death, relating personality structure to death attitudes. Third, there is little doubt that it is the cognitive components (i.e., the individual's personal constructs) of death attitudes that are being tapped by the TI. This is clearly in agreement with Bell (1975) who emphasized the importance of establishing which facet of an attitude was being investigated by any given instrument in any given study. Fourth, according to the findings of Epting, Rainey, and Weiss (1979) the TI is tapping into more than one level of death concern. It appears to assess not only conscious concerns, but nonconscious as well. Finally, the ease with which the TIP can be administered and scored will make it a valuable tool for future research.

A finding reported throughout the literature on the TI is the positive and significant relationship between the TI and various other measures of death fear and anxiety. More specifically, the greater the degree of integration of the constructs of death with the constructs of self, the less fear of death and less death anxiety (as measured by other scales such as the Collett-Lester, 1969, and Templer's DAS, 1970) was found to be present (Epting, Rainey, and Weiss, 1979; Krieger, 1977; Krieger, et.al., 1974; Neimeyer and Chapman, 1978; Neimeyer and Dingemans, 1980-81; Neimeyer, et.al., 1977).

In related work, Neimeyer and Chapman (1980-81) focussed on a somewhat different aspect of the TI, in which

they investigated the discrepancy between self and ideal self (ideal self being one of the three original sections on the TI and, to a large extent, ignored in much of the recent research) as it related to fear of death and death anxiety. Based on an existential perspective, Neimeyer and Chapman hypothesized that for those people who had not actualized their ideals (i.e., there was a discrepancy between self and ideal self), death would be more highly feared. In contrast, death would be a source of less anxiety for those who had fulfilled their major life goals. Although Neimeyer and Chapman's hypothesis was supported statistically, Wood and Robinson (1981a) argued that a simultaneous consideration of both actualization and the (already established) measure of integration of death into the personal construct system (referred to as integration) would increase the ability to predict fear of death and death anxiety.

Administering the TI, the Collett-Lester (1969), and Templer's Death Anxiety Scale (1970) to 120 introductory psychology students, Wood and Robinson (1981a) attempted to take Neimeyer and Chapman's (1980-81) hypothesis one step further. In addition to finding significant differences between high and low actualizers with regards to fear of death (replicating Neimeyer and Chapman's study), it was found that those who were highly actualized and highly integrated (as measured by the number of congruencies between self and own death on the TI) were significantly less fearful of death and less death anxious than those who

were just as actualized but who had lower levels of integration. The authors argued that to further understand the degree to which a person is afraid of death, one could look at the additive effects of actualization and integration.

In a further test of this additive model Robinson and Wood (1981) compared those people who were both highly actualized and highly integrated to those people who did not demonstrate those high levels (i.e., high actualization-low integration; low actualization-high integration; low actualization-low integration). It was found that those individuals who had integrated the constructs of death with the constructs of self, and who had current self-perceptions which were congruent with their ideals were less death anxious and fearful of death than those individuals who demonstrated any of the other possible actualization-integration combinations. The authors concluded that this additive model merited further investigation, particularly with those populations who may have current concerns about illness, dying, and death.

In the past, research addressing questions of fear of death or death anxiety has typically focussed on healthy populations. Perhaps it would be of value to investigate populations for whom issues of death are a very real concern - the seriously ill - and look at the differences between healthy and ill individuals. The theoretical model presented here not only has significant implications for the management of the seriously ill, it could also be easily

tested using this particular population.

Death Orientation in Seriously Ill Populations

In 1977 Kastenbaum and Costa correctly pointed out that if concerns and fears regarding death were to be investigated, that such investigations would best be carried out with populations for whom death had considerable significance. The physically ill would certainly be one such population. Generally speaking, however, there has been very little research that has systematically investigated the fear of death in patients suffering from different types of life-threatening illnesses (Feifel, Freilich, and Herman, 1973). Moreover, the few studies that have directly investigated death orientation in the physically ill have fallen prey to many of the same methodological difficulties that were found in the general death attitudes literature.

Although there is little known about the relationship between the fear of death and physical illness, some parallels might be drawn by looking at death attitudes in an elderly population. Weisman (1972) stated that "old age is not an illness, nor is it an incurable disease. Nevertheless, the penalties and restrictions imposed by outliving one's contemporaries mean that advanced old age

often does take on the characteristics of a relentless and fatal illness" (p. 137).

In an actual research program, Lieberman and Coplan (1970) investigated the emotional life of 80 elderly people. These individuals were studied for three years, with testing and interviews occurring once each year. Those elderly people who died within 12 months after the last testing session (i.e., after the third year of testing) were compared on 23 variables (eg. emotional state, orientation to emotional life, body imagery, self concept, etc.) to those individuals who had survived at least three years after the last testing session. The findings indicated that the "Death Near" group (i.e., those who died within one year after testing) was more fearful of death than the "Death Far" group (i.e., those who survived for at least three years after the last testing session) as measured by conscious self-report and the projective TAT. From these results the authors postulated that some kind of unconscious awareness of imminent death begins to occur within an individual in the last year of life which, in turn, is related to an increased concern about death and dying. Specifically, Lieberman and Coplan hypothesized that this unconscious "signaling" of imminent death was psychosomatic in nature, i.e., a change in bodily processes was related to growing concern about personal death.

Using a somewhat different approach, Kimsey, Roberts, and Logan (1972) and Rhudick and Dibner (1961) compared groups of physically ill elderly individuals to healthy

elderly individuals. In the Kimsey, et.al. study (1972) it was found that there were no differences on conscious self-report fear of death between nursing home and community active people. On a TAT measure, however, the sick and helpless elderly individuals were found to be more defensive and less emotionally expressive than the healthy, self-sufficient group. Similarly, Rhudick and Dibner (1961) utilized the TAT to assess death concern in 58 healthy, mostly retired elderly people. These authors found that high death concern was related to neurotic tendencies (i.e., more bodily complaints). Specifically, those individuals who reported more somatic complaints (as measured by the Cornell Medical Index) exhibited significantly more death concern. The implication of Rhudick and Dibner's (1961) study, and of the other studies mentioned above, is that poorer health is related to greater concern about death. There have been other studies, however, that have reported results completely opposite to the studies just discussed.

One such study done by Swenson (1961), attempted to objectively evaluate death attitudes in an elderly population by utilizing a check list of death attitudes and a forced-choice rating scale. It was found that those individuals who reported poor physical health were less fearful of death than their healthy counterparts. Nehrke, Bellucci, and Gabriel (1977-78) utilized Templer's DAS (1970) and Boyar's Fear of Death Scale (1964), and found similar results. Those elderly people who were active and living in the community were more death anxious than an

older and more disabled nursing home group. This result led the authors to hypothesize that the people who lived in the nursing home may have been looking forward to death as a release from disability and dependency. These studies by Swenson (1961) and Nehrke, et.al. (1977) suggested that the fear of death was more profound in healthy elderly people than it was in unhealthy individuals.

These confusing and contradictory findings have been added to by studies which have found no relationship between health and fear of death in the aged. For example, Shrut (1958) examined attitudes toward death in an elderly population that lived in the community and an elderly population that lived in an institutional setting. Although he found that the community residents were less fearful of death than the institution residents (as measured by the TAT and a sentence completion task), there was no relationship between self-appraisal of health and fear of death. Templer (1971b) also concluded that the decline of somatic integrity was not a crucial determinant of death anxiety level.

In summary, the research on fear of death in the elderly, while confusing and contradictory, also suffers from many of the problems and inadequacies reported in the more general literature in this area. Direct self-reports of death attitudes are superficial, and the indirect methods, such as the TAT, are too subjective in their administration and scoring to be reliable. The ambiguity of the relationship between physical well-being and fear of

death may be a function of this inadequate methodology. Unfortunately, a review of the research that has specifically examined death orientation in a seriously ill population is no less confusing.

A commonly utilized method for investigating attitudes within a physically ill population is the clinical interview approach. Chandler (1965) worked with cancer patients, multiple sclerosis victims, and chronically ill cardiovascular and cerebrovascular patients in a hospital setting for one year. From weekly group meetings and individual interviews he concluded that the chronically ill (cardiovascular and cerebrovascular) patients had a much greater fear of death than the cancer or multiple sclerosis patients. Chandler suggested that the unpredictability of death in the chronically ill group contributed to their greater fear. It is also possible that Chandler was just detecting more anxiety due to the unpredictability rather than the fear of death.

Using a similar technique, Hinton (1963, 1967) investigated physical and mental distress in people with fatal or non-fatal illnesses. A major proportion of the sample investigated by Hinton (1963) was comprised of patients suffering from various forms of neoplastic disease. Among his many observations, Hinton concluded that those with non-fatal illnesses were typically less threatened or less fearful of death than those suffering from fatal illnesses. He found that about one in four dying patients were mildly anxious about death, and one in eight

obviously so. In a control group of less seriously ill people, there were about one in 20 patients who were concerned about death. Hinton also found that anxiety about death occurred most often in those with a prolonged terminal illness. Undoubtedly, Chandler's (1965) and Hinton's (1963, 1967) clinical approaches have contributed significantly to the understanding of the seriously ill patient. Several researchers, however, emphasize the importance of taking a more systematic approach to the investigation of death attitudes in this special population.

Devins (1979) administered Templer's DAS (1970) to 86 young, non-life-threatened individuals, 62 elderly non-life-threatened individuals, and 63 elderly life-threatened hospitalized patients (stroke, heart attack, and cancer patients). No difference between elderly non-life-threatened and elderly life-threatened individuals on this measure of death anxiety was found. Similar to the conclusions of Shrut (1958) and Templer (1971b), Devins argued that somatic integrity was not related to death anxiety.

Taking a somewhat different approach to the investigation of this relationship, Lucas (1974) studied death anxiety in a population of males who were receiving hemodialysis for chronic renal failure. He assessed death anxiety by using Templer's DAS (1970) and his own questionnaire about death. Compared to a control group of surgical patients, the hemodialysis patients were neither more or less anxious about death, which led Lucas to

conclude that serious physical illness was not related to death anxiety.

Somewhat different results were reported by Gielen and Roche (1979-80), who investigated death anxiety in 13 patients suffering from Huntington's Disease. In addition to Templer's DAS (1970), each patient received extensive psychological and neurological examination. Gielen and Roche found that the group, as a whole, scored in the average range on the DAS. It was also noted, however, that the death anxiety scores were widely dispersed, with very high scoring and very low scoring groups, which led the authors to conclude that the interpretation of an average score was not useful in this particular sample. Moreover, Gielen and Roche found that death anxiety was related to somatic integrity (as measured by the hypochondriasis scale on the MMPI). Contrary to the findings of Lucas (1974), higher death anxiety was related to more bodily complaints.

The relationship between physical illness and death anxiety is confused even further by the findings of Gibbs and Achterberg-Lawlis (1978). From data collected during interviews and from Templer's DAS (1970), the authors concluded that cancer patients were significantly lower in death anxiety than a control group of eye clinic outpatients.

In an attempt to clarify the contradictory findings, Feifel (1974), Feifel and Branscomb (1973), and Feifel, Freilich, and Hermann (1973) investigated the fear of death at a conscious level (primarily by using direct questions

about death), a fantasy or imagery level (a level described by Feifel as independent of formal intellectual conceptions), and at a nonconscious level, in people with cancer or heart disease. These authors have consistently found that there was no difference between the seriously ill and healthy control groups on the conscious or fantasy levels of fear of death. The cancer and heart disease patients while not different from each other, were significantly different from the controls at a nonconscious level of death fear. Nonconscious fear of death was assessed by using a word association test and a colour word interference test. From the work of Feifel and his associates, it can be concluded that seriously ill individuals, regardless of their disease type, are significantly more fearful of death than healthy individuals. Moreover, Feifel's findings suggest that much of the confusion found in the studies cited previously may have been due to the use of direct self-report measures of death attitudes.

Although Feifel has attempted to measure personal meaning of death in a physically ill population, his work has been subjected to some criticism. For example, Kastenbaum and Costa (1977) argued that measures of nonconscious fear of death are subject to conscious influences. Furthermore, these authors stated that it is difficult to be certain that a delayed reaction time to death-related words is indicative of fear of death.

In summary, it is clear that very little can be

concluded about fear of death, in any population, given the methodological inadequacies of past research and the contradictory findings that have been obtained.

The present study was an attempt to assess personal orientation toward death in individuals who were suffering from various illnesses (including cancer, diabetes, and rheumatoid arthritis), those who were worried about their health, and those who were physically well and demonstrated no medical concerns. Death orientation was assessed by the Threat Index (Rigdon, et.al., 1979), the Collett-Lester Fear of Death Scale (Lester, 1974), and Templer's Death Anxiety Scale (Templer, 1970).

Based on the recent findings of Robinson and Wood (1981) and Wood and Robinson (1981a), it was hypothesized that those individuals who were highly actualized and had integrated the constructs of personal death with the constructs of self, would demonstrate the least fear of death and death anxiety, regardless of whether those individuals were healthy or ill, or what type of illness they had. In other words, it would not be the disease type or medical status which related to fear of death or death anxiety, but rather, the additive effects of actualization and integration.

METHOD

Respondents

Respondents were 69 females and 31 males ranging in age from 17 to 79 years, with a mean age of 41.17 years. Recruited from various medical and university facilities in Thunder Bay, Ontario, respondents were included in one of five of the following groups, depending upon their medical status.

Group 1: Well (n=20) - These respondents were recruited from an Introductory Psychology class at Lakehead University, Thunder Bay, Ontario, and stated that they were not suffering from any medical difficulties at that time. There were 15 females and 5 males, ranging in age from 17 to 23 years, with a mean age of 19.6 years.

Group 2: Worried Well (n=20) - These people were suffering from no major medical difficulties but were attending their family physician at the Port Arthur Clinic, in Thunder Bay, for a physical checkup. This group was comprised of 16 females and 4 males, ranging in age from 17 to 79 years, with a mean age of 31.6 years.

Group 3: Rheumatoid Arthritis Patients (n=20) - These people were suffering from rheumatoid arthritis, a chronic connective tissue disease which typically causes pain in the peripheral joints. Members of this group were recruited

while on treatment at the Rheumatic Disease Unit at St. Joseph's General Hospital in Thunder Bay, or while attending their rheumatologist for a checkup at the Port Arthur Clinic, Thunder Bay. There were 11 females and 9 males, ranging in age from 22 to 71 years, with a mean age of 48 years.

Group 4: Diabetes Patients (n=20) - Respondents in this group were suffering from diabetes mellitus. Since diabetes patients are typically routed into education and health-related programs, the people in the present study were recruited from the Diabetes Education Centre at St. Joseph's General Hospital in Thunder Bay, and from a diabetic fitness class being held at Confederation College, also in Thunder Bay. There were 12 females and 8 males, ranging in age from 20 to 74 years, with a mean age of 52.25 years.

Group 5: Cancer Patients (n=20) - These people were suffering from Hodgkin's Disease, melanoma, or cancer of the lung, breast, or colon. They were recruited while attending the Thunder Bay Cancer Clinic for active treatment or a checkup. There were 15 females and 5 males, ranging in age from 34 to 75 years, with a mean age of 54.40 years.

Assessment Materials

Threat Index (TIp40) (see Appendix A). Based on the Psychology of Personal Constructs (Kelly, 1955), and

stemming from the work of Krieger, et.al. (1974), the TIP40 provides 40 bipolar dimensions on which the respondent rates self, ideal self, and own death, thinking about the latter as if it was personally imminent. The number of times the individual places self and own death on the same end of the dimension (for each construct) is tallied up to yield an overall integration score. A higher integration score is indicative of a greater congruency between the constructs of self and the constructs of death. A score of actualization is also derived from this scale by counting the number of congruencies between self and ideal self. The higher the actualization score, the greater the congruency between the constructs of self and preferred self. The highest possible integration or actualization score is 40. Templer Death Anxiety Scale (DAS) (see Appendix B). The DAS requires the respondent to answer True or False to 15 statements dealing with emotional reaction to death and dying. The total score represents the number of times the respondent answered in the direction indicative of death anxiety. Collett-Lester Fear of Death Scale (CL) (see Appendix C). This multidimensional scale is comprised of 36 items about death and dying designed to assess overall fear of death and dying and four separate fears: fear of death of self (DS), fear of death of other (DO), fear of dying of self (DYS), and fear of dying of other (DYO). The respondent is required to indicate, using a six-point Likert-type scale, agreement or disagreement with each of the 36 statements. The four subscales on the CL are each comprised of a different number

of items, therefore, the possible total score for each subscale is different. For this reason it was decided to transform each subscale score such that the scores could range from 0 to 100, giving a sense of the magnitude of death concern associated with each subscale, and to make the scales more directly comparable with one another. A higher score is indicative of an endorsement of the fear-indicating items.

Procedure

The TIP40 (Rigdon, et.al., 1979), the CL (Lester, 1974), and the DAS (Templer, 1970) were administered to respondents in all five groups. For situational and ethical reasons, however, the actual administration of the questionnaires was somewhat different for each of the groups.

The well group (Group 1) was asked to volunteer for the present study during an Introductory Psychology class. Those who volunteered were asked to complete the scales at that time. Members of the worried well group (Group 2) were asked by their family physician to volunteer, and then immediately seen on an individual basis for the actual administration of the questionnaires. The majority of the rheumatoid arthritis patients (Group 3) were also introduced to the study by their physician, immediately followed by individual questionnaire administration. A few of these

patients (in the Rheumatic Disease Unit, specifically) were initially approached by the present author rather than their physician. Although the number of refusals to participate by patients in groups 2 and 3 were not noted, the physicians who approached these patients reported a high compliance rate. There was a similar trend found with the other groups in the sample as well. The diabetes patients (Group 4) were introduced to the study by the present author in both the educational and fitness class settings, with a small group administration immediately following for those who chose to participate. At the request of the Ontario Cancer Foundation, and because of the present author's overall concern for the cancer patients' welfare, the procedure used for recruiting cancer patients (Group 5) was somewhat more elaborate than it was for any of the other four groups.

Since it was thought that issues of death and dying might have been more salient, and potentially more upsetting for those people with cancer, every effort was made to be certain that they experienced no adverse effects from participating in the study. With this in mind, the cancer patients were first contacted by the author's supervisor in order to introduce the study and briefly interview the patient. If the patient agreed to participate, a meeting was then arranged for the actual administration of the questionnaires, which took place at the Thunder Bay Cancer Clinic, or at the patient's home. Several days after the questionnaire administration, the patients then received a follow-up contact from the author's supervisor, at which

time patients were asked for their reactions to participating in the study. Any other issues that arose from having thought and talked about death and dying were also dealt with at this time. If the patient was from outside of Thunder Bay, only at the clinic for one appointment, and agreed to participate in the study, the questionnaire package was mailed to the individual with a request to complete and return it as soon as possible.

Before the actual administration of the questionnaires by the present author, all of the respondents were given a verbal summary regarding the nature of the study, and those people in the medical settings were asked to sign a consent form (Appendix D) stating that they understood the task and had volunteered to participate. Each respondent was then asked to complete a demographic sheet and all three of the scales described above. Any issues that resulted from the respondents participating in the study were discussed and dealt with as these concerns arose during the administration session. Every respondent was also urged to contact the present author in the future if they had any concerns, comments, or questions associated with the present study.

RESULTS

As a first step in analyzing the data, scores were calculated for each respondent on each of the eight variables of interest: actualization (ACT), integration (INT), death anxiety (DAS), overall fear of death and dying (CL), fear of death of self (DS), fear of death of other (DO), fear of dying of self (DYS), and fear of dying of other (DYO). The relationship between these variables and various demographic variables was then investigated using hierarchical multiple regression.

Age

The regression analyses revealed that age was the only demographic variable which accounted for a significant portion of the variance on any of the various measures of fear and anxiety. Specifically, age accounted for 10% of the variability on the DAS [$F(1,74)=11.16, p<.01$], 8% of the variability on the DS subscale [$F(1,74)=9.04, p<.01$], and 16% of the variability on the measure of integration (INT) [$F(1,74)=20.17, p<.001$]. In other words, those respondents who were older, tended to be less death anxious, less fearful of death of self, and demonstrated a greater degree of integration of own death within the constructs of self, than the younger respondents. An analysis of variance also found that the groups were significantly different in age

[$F(4,95)=27.65$, $p=.001$), with a post-hoc student Newman-Keuls multiple comparison indicating that group 1 was significantly younger than any of the other groups, and that group 2 was significantly younger than groups 3, 4, and 5 (which were all comparable in age). Thus, in order to clearly assess the independent effects of medical status, actualization, and integration, the effects of age were partialled out in all subsequent analyses.

Medical Status

Controlling for the effects of age, a hierarchical multiple regression was utilized to test the hypothesis that there would be no difference among the five groups with regards to their fear of death or death anxiety. These analyses are presented in Tables 1 and 2 in appendix E and reveal no significant differences among the five groups on any of the eight variables (see Table 3 for a summary of the means and standard deviations). Thus, it would seem that attitudes toward death and dying are independent of the respondents' medical status. On the other hand, however, when the healthy respondents (groups 1 and 2 combined) were contrasted with the respondents in the remaining groups (groups 3,4, and 5 combined) through the use of contrast coding, a multiple regression procedure essentially equivalent to an a priori comparison (Cohen and Cohen, 1975), it was found that the healthy group scored higher on ACT than the ill group [$F(1,94)=4.29$, $p<.05$]. In other

Table 3

Means and Standard Deviations on All Measures for Each Group and the Entire Sample

	Well (n=20)		Worried Well (n=20)		Rheumatoid Arthritis(n=20)		Diabetes (n=20)		Cancer (n=20)		Entire Sample (n=100)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
ACT	35.05	4.58	36.45	2.70	33.60	4.95	34.50	5.38	35.20	4.76	34.96	4.57
INT	19.25	10.64	20.20	11.71	23.80	9.34	26.75	10.06	26.05	8.87	23.21	10.42
DAS	7.75	2.90	7.45	3.65	6.20	3.00	7.45	2.72	7.05	2.82	7.18	3.02
CL	53.90	14.95	49.10	14.33	49.15	11.25	50.35	9.59	51.75	13.19	50.85	12.69
DS	54.55	26.01	55.10	24.51	42.95	16.37	49.50	16.07	49.00	19.75	50.22	20.99
DO	61.00	16.84	51.65	20.52	48.00	15.94	52.80	13.81	58.00	16.29	54.29	17.13
DYS	56.30	20.27	58.10	16.27	63.10	14.79	56.90	15.86	60.35	15.84	59.49	16.53
DYO	43.00	17.34	31.50	15.15	42.70	14.33	39.50	17.79	39.45	18.48	39.23	16.88

words, and not surprisingly, respondents who were healthy saw themselves as being more like their preferred selves than those who were ill. These contrasts are presented in Tables 1 and 2 in Appendix E.

Actualization and Integration

It was decided to investigate the separate and additive effects of actualization and integration on the entire sample by collapsing across groups. For such a procedure to be valid, however, it was necessary to ensure that no other differences between groups had gone undetected. For this reason the correlations between ACT and INT with each of the various measures of fear and anxiety were calculated. A multiple comparison of correlation coefficients was then performed for each of the groups, according to the statistical technique outlined by Levy (1975). The correlations for each group are presented in Tables 4 to 8 in Appendix F. It was found that the relationship between ACT and DYO for the group of diabetic patients ($r=.38$, n.s.) was significantly different from the ACT-DYO correlation coefficient calculated for the group of cancer patients ($r=-.66$, $p<.01$). In other words, the more actualized the diabetic patient, the more fearful they are of the dying of others, whereas the more actualized the cancer patient, the less fearful of the dying of others. Since this was the only significant difference found, and since the diabetic patients' ACT-DYO correlation was not significantly

different from zero, it was concluded that there were basically no differences between groups with regard to the various variable relationships. Given this finding and the fact that no other group differences were detected using heirarchical multiple regression, analyses investigating the effects of actualization and integration were performed on the entire sample.

The first analysis assessed the separate effects of ACT and INT by calculating the correlations between ACT and INT and the various measures of death concern for the entire sample. These correlations, presented in Table 9, indicate that those who scored high on ACT scored significantly lower on the DAS, the CL, and the subscales, DS and DYS. In addition, these respondents also demonstrated a strong tendency to score lower on the DYO subscale ($r = -.196$, $p = .051$). In other words, the more actualized the respondent, the lower his death anxiety, the lower his fear of death overall, and the lower his fear of the death and dying of the self. It can also be seen from Table 9 that the correlations between INT and the various measures of death concern, although not as strong as those associated with ACT, indicate that INT is significantly correlated with the DAS, the CL and the subscale DYS. Again, such a finding indicates that the more death is integrated into the constructs of self, the less anxious and the less fearful of death the respondent will be.

A second analysis of the separate effects of ACT and INT, in which the effects of age were controlled for, was

Table 9

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death for the Entire Sample (n=100)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.31**	-.30**	-.23*	-.17	-.27**	-.20
INT	-.22*	-.22*	-.16	-.16	-.21*	-.10

* $p < .05$

** $p < .01$

performed using hierarchical multiple regression (Table 10). The regression analysis, which substantiated the results of the correlational analyses, indicated that ACT accounted for a significant portion of the variance on the DAS [$F(1,97)=10.83, p<.01$], the CL [$F(1,97)=9.57, p<.01$], the DS [$F(1,97)=5.41, p<.05$], the DYS [$F(1,97)=7.49, p<.01$], and the DYO [$F(1,97)=3.97, p<.05$]. Those people who were highly actualized, regardless of their age, were significantly less death anxious, less fearful of death and dying overall, less fearful of death of self, and less fearful of dying of self and others. Since the only significant unique contribution made by INT was on DYS [$F(1,97)=6.29, p<.05$], it was concluded that ACT was a much more potent measure for predicting fear of death and death anxiety in the present sample.

The final analysis performed was concerned with the additive effects of ACT and INT and was intended to test the hypothesis that those respondents who were both highly actualized and highly integrated would be the least death anxious and least fearful of death when compared to respondents demonstrating lower levels on one or both of these variables. The regression analyses (Table 11) indicated that after the effects of INT had been taken into consideration, ACT still accounted for a significant proportion of the variance associated with the DAS [$F(1,96)=10.0771, p<.01$], the CL [$F(1,96)=8.6657, p<.01$] and the CL subscales, DS [$F(1,96)=5.1947, p<.05$] and DYS [$F(1,96)=6.4857, p<.05$]. Except for the DYS subscale, INT

Table 10

Separate Hierarchical Multiple Regression Analyses for Actualization (ACT) and Integration (INT) on Various Measures of Death Anxiety and Fear of Death

Criterion	DAS		CL		DS		DO		DYS		DYO	
Variable ^a	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p
Age	.08	.01	.02	n.s.	.10	.01	.04	n.s.	.00	n.s.	.01	n.s.
ACT	.09	.01	.09	.01	.05	.05	.03	n.s.	.07	.01	.04	.05
Age	.08	.01	.02	n.s.	.10	.01	.04	n.s.	.00	n.s.	.01	n.s.
INT	.01	n.s.	.03	n.s.	.00	n.s.	.01	n.s.	.06	.05	.02	n.s.

^a in order of entry into regression equation

Table 11

Heirarchical Multiple Regression Analyses for both Actualization (ACT) and Integration (INT) on Various Measures of Death Anxiety and Fear of Death

Criterion	DAS		CL		DS		DO		DYS		DYO	
Variable ^a	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p	R ² Change	p
Age	.08	.01	.02	n.s.	.10	.01	.04	n.s.	.00	n.s.	.01	n.s.
ACT	.09	.01	.09	.01	.05	.05	.03	n.s.	.07	.01	.04	.05
INT	.01	n.s.	.02	n.s.	.00	n.s.	.01	n.s.	.05	.01	.01	n.s.
Age	.08	.01	.02	n.s.	.10	.01	.04	n.s.	.00	n.s.	.01	n.s.
INT	.01	n.s.	.03	n.s.	.00	n.s.	.01	n.s.	.06	.05	.02	n.s.
ACT	.09	.01	.08	.01	.05	.05	.02	n.s.	.06	.05	.03	n.s.

^a in order of entry into regression equation

contributed essentially nothing to the variance associated with the various measures of death concern and no additive effect was observed. This finding was confirmed when ACT and INT were taken out of the regression equation in the reverse order. When ACT was taken into account first, it was found that INT did not make a significant contribution on any of the measures except DYS [$F(1,96)=5.31, p<.05$]. These findings clearly suggest that virtually nothing can be predicted from both actualization and integration that cannot be predicted from actualization alone.

DISCUSSION

The present study provides strong evidence that as individuals get older, they become less death anxious, less fearful of their own death, and the constructs of death become integrated with the constructs of self. In addition, there is considerable support for the proposition that death anxiety and the fear of death do not differ between those individuals whose life is currently threatened by disease, those whose life has been threatened in the past, and those whose life is not threatened at all. Instead, it would seem that anxiety and fear are much more likely to be influenced by the level of actualization the individual has achieved and, to a lesser degree, the extent that an individual's own death is integrated into his or her personal constructs of self. Surprisingly, and in disagreement with earlier findings, the expected additive effects of actualization and integration did not emerge.

Age

As previously mentioned, the present study revealed that older respondents were less death anxious, less fearful of their own death, and less threatened by death (as indicated by a higher level of integration), than younger respondents. After reviewing the literature, Lester (1967) and Pollak (1979) concluded that age influenced death

attitudes only up to the point of stabilization of cognitive development. Lester went on to argue that after mental development was complete, personality factors and life experiences, rather than age, were the most important determinants of fear of death. The consistent relationship between age and reduced anxiety and fear of death reported in the present study could be attributed, therefore, not so much to age per se, but to increased life experiences and the overall psychological growth that is often associated with the aging process. In any event, the complexity of the relationships between aging, personality change, life experience and death anxiety and fear, make a more definitive explanation of these findings impossible at this time.

Medical Status

In the present study, there were no differences found between any of the groups, regardless of whether the respondents were healthy or ill, or the type of illness that had been diagnosed, on any of the measures of death anxiety or fear of death. These findings are in general agreement with those of Devins (1979), Lucas (1974), Shrut (1958), Templer (1971b), and Feifel and his colleagues (Feifel, 1974; Feifel and Branscomb, 1973; Feifel, Freilich and Hermann, 1973) all of whom reported that no relationship exists between orientation toward death and physical well-being. On the other hand, Kimsey, Roberts, and Logan

(1972) found that poorer health was related to greater concern about death, and conversely, Gibbs and Achterberg-Lawlis (1978) reported that poorer health was associated with less apprehension about death.

Although the results of past research have been, at least to some extent, equivocal in nature, the lack of a relationship between medical status and death concerns in the present study is in agreement with Templer (1971b) who concluded that "death anxiety is usually related more to degree of personality adjustment and subjective state of well-being than to reality-based factors" (p.522). The present findings clearly demonstrated that disease (a reality-based factor) had little to do with the respondents' orientations toward death.

The present findings may be somewhat counter-intuitive considering the myths that are often associated with some serious illnesses. For example, given the stigma often attached to a disease such as cancer (Weisman, 1972, 1979), it is often assumed that the cancer patient's general orientation towards death and dying is one of great fear and anxiety. The present findings clearly argue against this view and provide strong evidence that the diagnosis of a particular disease does not automatically dictate the patient's attitude toward death and dying.

Although there were no differences between healthy and ill individuals on the various measures of fear and anxiety, it was found that the healthy group was significantly more actualized than those people who were classified as ill.

This result was not surprising considering the fact that most people who are ill would see a discrepancy between self (someone who was ill) and preferred self (someone who was healthy). In other words, a possible explanation for the difference between the two groups is that the level of actualization (as measured by the TI) decreases when one becomes ill. Another, and perhaps equally viable, explanation for these findings could be in the way the two groups (Healthy vs. Ill) interpreted some of the items on the TI. It could very well be, for example, that the respondents in the ill group had a mind set which caused them to respond to some of the items in terms of their physical well-being, whereas the healthy respondents may have responded to the same items within the context of a completely different dimension. Such differences in the interpretation of the TI may account for the differences observed on the actualization measure. Whatever the explanation, the investigation of the role of physical well-being in actualization is worthy of further study.

Actualization and Integration

Although there were no differences between the various healthy and ill groups on the measures of fear and anxiety, a strong association did emerge between actualization and death orientation. Thus, respondents who were more actualized were less anxious or fearful of death. This finding suggests that it is what the individual brings to

his illness (i.e. level of actualization, personality factors, etc), rather than the illness itself, that will predict an individual's level of fear of death or death anxiety. Moreover, such a possibility suggests that a better understanding of attitudes toward death and dying within any population would result from a better understanding of those unique factors that contribute to a reduction in fear and anxiety. In turn, as Feifel, Freilich and Hermann (1973) have pointed out, this greater understanding may contribute to more effective support and communication with the seriously ill, especially when that individual is confronted with his own imminent death.

The present findings concerning the effects of actualization are also supported by the work of Neimeyer and Chapman (1980-81) who found that respondents whose self-perception was different from their ideal self-perception were significantly more fearful of death and dying and more death anxious than respondents whose self/ideal self perceptions were congruent. These authors argued, from the perspective of Sartrean existential philosophy, that the closer the individual was to the completion of primary life projects, the more actualized the individual would be, and the less death would be seen as a threat to the completion of those life projects. Thus, actualization adds significantly to our understanding of one possible mechanism by which anxiety and fear may be altered.

These findings are important not only from a theoretical point of view but also from a methodological

perspective. For example, both studies have demonstrated that the TI measure of actualization has the potential to add to the scope and clarity of future thanatological research. Moreover, as Neimeyer and Chapman have pointed out, assessing actualization level from the TI does not add significantly to the time required for administration and scoring and should be included in all future research.

At a more practical level, however, these findings suggest a number of possibilities, especially now with the interest being shown in palliative care, the hospice movement and the growing number of people now working in these fields. For example, exploring the achievements of a patient may, in some cases, make the patient more aware of his accomplishments and perhaps reduce some of his fear and apprehension concerning his ultimate fate. Such a review might help not only the patient but also the caregiver in coming to a better understanding of the patient both emotionally and psychologically, and give both individuals a perspective that was previously impossible.

Although the findings associated with actualization were not unexpected, given the work of Neimeyer and Chapman, what was unexpected was the considerably reduced effect associated with integration. Other researchers (Epting, Rainey, and Weiss, 1979; Krieger, 1977; Krieger, et.al., 1974; Neimeyer and Chapman, 1978; Neimeyer and Dingemans, 1980-81; Neimeyer, et.al., 1977) have all reported a positive relationship between integration and fear of death and death anxiety. That is, those people who had integrated

the constructs of death with the constructs of self were less death anxious and less fearful of death than those with lower levels of integration. Due to the strength and consistency of this finding in the past, the fact that it was not replicated in this study is puzzling.

It is doubtful that these small effects for integration are due to the fact that the TI was originally derived from an undergraduate college population, especially since it has been utilized successfully a number of times with noncollege samples (Krieger, 1977; Neimeyer and Chapman, 1980-81; Neimeyer and Dingemans, 1980-81; Rainey and Epting, 1977). A more likely possibility in explaining the relative unimportance of integration is that it is due to some unidentifiable characteristic unique to the samples involved in the study. Whatever the explanation, it is quite clear that the predictive ability of integration, within the present study, was severely limited.

In addition to the fact that integration was not unique in its ability to predict anything about anxiety or fear of death, it also contributed nothing to the additive model described earlier. Contrary to the findings of Robinson and Wood (1981) and Wood and Robinson (1981a) that individuals who were both highly integrated and highly actualized were the least fearful of death and dying, the present results indicated that essentially no information could be gained from looking at the additive effects of these two variables, that could not be determined by looking at the effects of actualization alone.

CONCLUSIONS

The present study found a significant relationship between actualization and orientation toward death, with a higher level of actualization being associated with less death anxiety and fear of death. Moreover, whether individuals were healthy or suffering from some type of disease had little to do with their overall death attitudes. These findings have implications for the management and understanding of seriously ill and dying patients.

Although the relationship between actualization and death orientation was clearcut in the present investigation, the lack of effects for integration was troublesome and inconsistent with the past literature. Future research with the TI is needed in order to sort out the separate and additive effects of these two variables in various healthy and ill populations.

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APPENDIX A

THE THREAT INDEX

1 Self

Below is a list of dimensions, each of which is made up of a pair of opposites. For each dimension, please CIRCLE the side with which you see YOURSELF or your present life more closely associated. In some cases, you may feel as if both sides describe you to some degree, but please circle only one side of each dimension: the one that describes you better. For example, do you see yourself as more predictable or random?

predictable_____ random
 empty_____ meaningful
 lack of control_____ control
 satisfied_____ dissatisfied
 relating to others_____ not relating to others
 pleasure_____ pain
 feels bad_____ feels good
 objective_____ subjective
 alive_____ dead
 helping others_____ being selfish
 specific_____ general
 kind_____ cruel
 incompetent_____ competent
 insecure_____ secure
 static_____ changing
 unnatural_____ natural
 sad_____ happy
 personal_____ impersonal
 purposeful_____ not purposeful
 responsible_____ not responsible
 bad_____ good
 not caring_____ caring
 crazy_____ healthy

1 Self (continued)

conforming————— not conforming
animate————— inanimate
weak————— strong
useful————— useless
closed————— open
peaceful————— violent
freedom————— restriction
nonexistence————— existence
understanding————— not understanding
calm————— anxious
easy————— hard
productive————— unproductive
learning————— not learning
sick————— healthy
stagnation————— growth
abstract————— concrete
hope————— no hope

2 Preferred Self

For each of the dimensions below, please CIRCLE the side with which you more closely associate your IDEAL SELF or the way you would PREFER to be living. For example, would you prefer to be more predictable or random?

predictable_____ random
 empty_____ meaningful
 lack of control_____ control
 satisfied_____ dissatisfied
 relating to others_____ not relating to others
 pleasure_____ pain
 feels bad_____ feels good
 objective_____ subjective
 alive_____ dead
 helping others_____ being selfish
 specific_____ general
 kind_____ cruel
 incompetent_____ competent
 insecure_____ secure
 static_____ changing
 unnatural_____ natural
 sad_____ happy
 personal_____ impersonal
 purposeful_____ not purposeful
 responsible_____ not responsible
 bad_____ good
 not caring_____ caring
 crazy_____ healthy
 conforming_____ not conforming

2 Preferred Self (continued)

animate	inanimate
weak	strong
useful	useless
closed	open
peaceful	violent
freedom	restriction
nonexistence	existence
understanding	not understanding
calm	anxious
easy	hard
productive	unproductive
learning	not learning
sick	healthy
stagnation	growth
abstract	concrete
hope	no hope

3 Death

For each of the dimensions below, please CIRCLE the side with which you more closely associate YOUR OWN DEATH, thinking of your own death as if it were to occur at this time in your life.

- predictable_____ random
 empty_____ meaningful
 lack of control_____ control
 satisfied_____ dissatisfied
 relating to others_____ not relating to others
 pleasure_____ pain
 feels bad_____ feels good
 objective_____ subjective
 alive_____ dead
 helping others_____ being selfish
 specific_____ general
 kind_____ cruel
 incompetent_____ competent
 insecure_____ secure
 static_____ changing
 unnatural_____ natural
 sad_____ happy
 personal_____ impersonal
 purposeful_____ not purposeful
 responsible_____ not responsible
 bad_____ good
 not caring_____ caring
 crazy_____ healthy
 conforming_____ not conforming

3 Death (continued)

animate _____ inanimate
weak _____ strong
useful _____ useless
closed _____ open
peaceful _____ violent
freedom _____ restriction
nonexistence _____ existence
understanding _____ not understanding
calm _____ anxious
easy _____ hard
productive _____ unproductive
learning _____ not learning
sick _____ healthy
stagnation _____ growth
abstract _____ concrete
hope _____ no hope

APPENDIX B

THE DEATH ANXIETY SCALE

DEATH QUESTIONNAIRE

The following questionnaire is being used to measure people's attitudes towards death and dying. Do NOT write your name on the questionnaire. Answer each item by circling either true (T) or false (F), and try to respond as honestly as you can. Thanks for your help.

Please Circle Answer

- | | | | |
|-----|--|---|---|
| 1. | I am very much afraid to die. | T | F |
| 2. | The thought of death seldom enters my mind. | T | F |
| 3. | It doesn't make me nervous when people talk about death. | T | F |
| 4. | I dread to think about having to have an operation. | T | |
| 5. | I am not at all afraid to die. | T | F |
| 6. | I am not particularly afraid of getting cancer. | T | F |
| 7. | The thought of death never bothers me. | T | F |
| 8. | I am often distressed by the way time flies so very rapidly. | T | F |
| 9. | I fear dying a painful death. | T | F |
| 10. | The subject of life after death troubles me greatly. | T | F |
| 11. | I am really scared of having a heart attack. | T | F |
| 12. | I often think about how short life really is. | T | F |
| 13. | I shudder when I hear people talking about a World War III. | T | |
| 14. | The sight of a dead body is horrifying to me. | T | |
| 15. | I feel that the future holds nothing for me to fear. | T | |

APPENDIX C

THE COLLETT-LESTER
FEAR OF DEATH SCALE

Questionnaire

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 impressions. 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.
- _____ 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.

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

- _____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.

APPENDIX D
INFORMED CONSENT FORM

CONSENT FORM

Lakehead University
Psychology Dept. in
cooperation with the
Port Arthur Clinic

For: A Study On Attitudes Toward Life and Death

I, the undersigned, understand that the research in which I am about to take part is concerned with attitudes toward life and death in people who are physically well and in people who have experienced some medical problems over the last few months. I also understand that it was largely by chance that I was asked to participate in this research and that if, at any time, I wish to discontinue my participation, I will be free to do so.

I further understand that all information collected in this research will be kept confidential, and that any published data from this research will not contain identifying information about individual participants. In addition, I have been provided with the researcher's name and telephone number and am aware that I can call him at any time in the future should I have any questions or concerns arising from my participation in the project. I also know that I am free to ask questions during the session and that all questions will be answered.

The researcher has explained to me the purpose of the study and what possible benefits might arise from the results.

I have read and understood all of the above information.

Signed: _____

Date: _____

APPENDIX E

HEIRARCHICAL MULTIPLE REGRESSION
FOR MEDICAL STATUS GROUPS ON VARIOUS
MEASURES OF DEATH ANXIETY AND
FEAR OF DEATH

Table 1

Heirarchical Multiple Regression Analyses
 For Medical Status Groups on Actualization (ACT),
 Integration (INT), Death Anxiety (DAS), and
 Overall Fear of Death and Dying (CL)

Criterion	ACT		INT		DAS		CL	
	R ² Change	<u>p</u>	R ² Change	<u>p</u>	R ² Change	<u>p</u>	R ² Change	<u>p</u>
Age	.00	n.s.	.16	.001	.08	.01	.02	n.s.
Contrast 1 ^b	.04	.05	.00	n.s.	.01	n.s.	.01	n.s.
Group ^c	.01	n.s.	.00	n.s.	.01	n.s.	.01	n.s.

^a in order of entry into regression equation

^b healthy vs. ill using constrast coding

^c coded using k-1 dummy variables

Table 2

Heirarchical Multiple Regression Analyses
 For Medical Status Groups on
 Fear of Death of Self (DS), Fear of Death of
 Other (DO), Fear of Dying of Self (DYS), Fear
 of Dying of Other (DYO)

Criterion	DS		DO		DYS		DYO	
	R ² Change	<u>p</u>	R ² Change	<u>p</u>	R ² Change	<u>p</u>	R ² Change	<u>p</u>
Variable ^a								
Age	.10	.01	.04	.05	.00	n.s.	.01	n.s.
Contrast 1 ^b	.00	n.s.	.00	n.s.	.01	n.s.	.00	n.s.
Group ^c	.01	n.s.	.02	n.s.	.00	n.s.	.02	n.s.

^a in order of entry into regression equation

^b healthy vs. ill using contrast coding

^c coded using k-1 dummy variables

APPENDIX F

PRODUCT-MOMENT CORRELATIONS
FOR ACTUALIZATION AND INTEGRATION
WITH VARIOUS MEASURES OF DEATH
ANXIETY AND FEAR OF DEATH IN
EACH MEDICAL STATUS GROUP

Table 4

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death in Well People (n=20)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.38	-.53*	-.56**	-.44	-.31	-.23
INT	.09	-.30	.00	-.30	-.20	-.51*

* p < .05

** p < .01

Table 5

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death in Worried Wells (n=20)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.55**	-.28	-.32	-.08	-.35	-.06
INT	-.22	-.26	-.33	.10	-.41	-.13

** p < .01

Table 6

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death in Rheumatoid Arthritis Patients (n=20)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.43	-.41	-.20	-.50*	-.22	-.29
INT	-.61**	-.41	-.21	-.25	-.49*	-.24

* p < .05

**p < .01

Table 7

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death in Diabetes Patients (n=20)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.08	.38	.16	.35	.03	.38
INT	-.33	-.02	.00	-.34	.05	.14

Table 8

Product-Moment Correlations For
 Actualization (ACT) and Integration (INT)
 With Various Measures of Death Anxiety
 and Fear of Death in Cancer Patients (n=20)

	DAS	CL	DS	DO	DYS	DYO
ACT	-.45*	-.64**	-.44*	-.30	-.53*	-.66**
INT	-.02	-.07	-.09	-.08	-.20	-.15

* $p < .05$

** $p < .01$